UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

x **Quarterly report pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934**

For the quarterly period ended September 30, 2018

or

☐ **Transition report pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934**

For the transition period from to

Commission file number: 0-27756

ALEXION PHARMACEUTICALS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**13-3648318**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**

121 Seaport Boulevard, Boston Massachusetts 02210
(Address of Principal Executive Offices) (Zip Code)

475-230-2596
(Registrant's telephone number, including area code)

N/A
(Former name, former address, and former fiscal year, if changed since last report)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. Check One:

Large accelerated filer x Accelerated filer ☐ Non-accelerated filer ☐
Smaller reporting company ☐ Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No x

Common Stock, $0.0001 par value	223,096,632
Class	**Outstanding as of October 22, 2018**

Alexion Pharmaceuticals, Inc.

Contents

Alexion Pharmaceuticals, Inc.

Condensed Consolidated Balance Sheets
(unaudited)
(amounts in millions, except per share amounts)

	September 30, 2018	December 31, 2017
Assets		
Current Assets:		
Cash and cash equivalents	$ 1,228.9	$ 584.4
Marketable securities	306.2	889.7
Trade accounts receivable, net	910.2	726.5
Inventories	432.7	460.4
Prepaid expenses and other current assets	370.4	292.9
Total current assets	3,248.4	2,953.9
Property, plant and equipment, net	1,443.4	1,325.4
Intangible assets, net	3,713.6	3,954.4
Goodwill	5,037.4	5,037.4
Other assets	400.8	312.2
Total assets	$ 13,843.6	$ 13,583.3
Liabilities and Stockholders' Equity		
Current Liabilities:		
Accounts payable	$ 52.2	$ 70.8
Accrued expenses	539.8	639.4
Revolving credit facility	250.0	—
Current portion of long-term debt	61.2	167.4
Current portion of contingent consideration	95.8	—
Other current liabilities	28.4	74.9
Total current liabilities	1,027.4	952.5
Long-term debt, less current portion	2,533.3	2,720.7
Contingent consideration	179.4	168.9
Facility lease obligation	361.2	342.9
Deferred tax liabilities	442.8	365.0
Other liabilities	129.8	140.2
Total liabilities	4,673.9	4,690.2
Commitments and contingencies (Note 18)		
Stockholders' Equity:		
Common stock, $0.0001 par value; 290.0 shares authorized; 235.8 and 234.3 shares issued at September 30, 2018 and December 31, 2017, respectively	—	—
Additional paid-in capital	8,481.8	8,290.3
Treasury stock, at cost, 12.7 and 12.0 shares at September 30, 2018 and December 31, 2017, respectively	(1,689.9)	(1,604.9)
Accumulated other comprehensive income (loss)	6.9	(34.4)
Retained earnings	2,370.9	2,242.1
Total stockholders' equity	9,169.7	8,893.1
Total liabilities and stockholders' equity	$ 13,843.6	$ 13,583.3

The accompanying notes are an integral part of these condensed consolidated financial statements.

Alexion Pharmaceuticals, Inc.

Condensed Consolidated Statements of Operations
(unaudited)
(amounts in millions, except per share amounts)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net product sales	$ 1,026.5	$ 858.8	$ 3,001.6	$ 2,640.1
Other revenue	—	0.3	0.8	1.3
Total revenues	1,026.5	859.1	3,002.4	2,641.4
Cost of sales	90.6	157.0	277.5	309.6
Operating expenses:				
Research and development	174.8	195.7	524.8	613.4
Selling, general and administrative	258.7	270.6	793.1	798.0
Acquired in-process research and development	—	—	803.7	—
Amortization of purchased intangible assets	80.0	80.0	240.1	240.1
Change in fair value of contingent consideration	53.5	3.7	110.9	31.8
Restructuring expenses	10.3	72.0	26.4	98.7
Impairment of intangible assets	—	—	—	31.0
Total operating expenses	577.3	622.0	2,499.0	1,813.0
Operating income	358.6	80.1	225.9	518.8
Other income and expense:				
Investment income	5.9	4.5	119.4	12.9
Interest expense	(24.6)	(25.0)	(73.7)	(73.3)
Other income (expense)	2.2	(1.4)	3.5	0.1
Income before income taxes	342.1	58.2	275.1	458.5
Income tax expense (benefit)	11.2	(19.8)	152.5	45.2
Net income	$ 330.9	$ 78.0	$ 122.6	$ 413.3
Earnings per common share				
Basic	$ 1.48	$ 0.35	$ 0.55	$ 1.84
Diluted	$ 1.47	$ 0.35	$ 0.55	$ 1.83
Shares used in computing earnings per common share				
Basic	222.9	223.3	222.5	224.1
Diluted	224.6	225.0	224.2	225.5

The accompanying notes are an integral part of these condensed consolidated financial statements.

Alexion Pharmaceuticals, Inc.

Condensed Consolidated Statements of Comprehensive Income (Loss)
(unaudited)
(amounts in millions)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net income	$ 330.9	$ 78.0	$ 122.6	$ 413.3
Other comprehensive income (loss), net of tax:				
Foreign currency translation	(1.7)	2.0	(6.0)	8.8
Unrealized gains (losses) on debt securities	0.1	0.2	(0.3)	1.1
Unrealized gains on pension obligation	—	—	0.7	0.3
Unrealized gains (losses) on hedging activities, net of tax of $2.9, $(14.0), $13.4 and $(59.3), respectively	11.4	(25.3)	46.9	(107.6)
Other comprehensive income (loss), net of tax	9.8	(23.1)	41.3	(97.4)
Comprehensive income	$ 340.7	$ 54.9	$ 163.9	$ 315.9

The accompanying notes are an integral part of these condensed consolidated financial statements.

Alexion Pharmaceuticals, Inc.

Condensed Consolidated Statements of Cash Flows
(unaudited)
(amounts in millions)

	Nine months ended September 30,	
	2018	2017
Cash flows from operating activities:		
Net income	$ 122.6	$ 413.3
Adjustments to reconcile net income to net cash flows from operating activities:		
Depreciation and amortization	306.9	311.6
Impairment of assets	13.5	112.6
Change in fair value of contingent consideration	110.9	31.8
Payments of contingent consideration	—	(18.0)
Share-based compensation expense	150.9	172.3
Non-cash expense for acquired IPR&D	86.6	—
Deferred taxes	79.1	(57.3)
Unrealized foreign currency loss (gain)	8.6	(5.7)
Unrealized (gain) loss on forward contracts	(9.9)	8.1
Unrealized gain on equity investments	(100.5)	—
Other	(3.0)	4.4
Changes in operating assets and liabilities:		
Accounts receivable	(197.4)	(34.6)
Inventories	26.7	(69.1)
Prepaid expenses and other assets	(85.1)	(94.5)
Accounts payable, accrued expenses and other liabilities	(167.3)	82.6
Net cash provided by operating activities	342.6	857.5
Cash flows from investing activities:		
Purchases of available-for-sale debt securities	(771.4)	(1,580.0)
Proceeds from maturity or sale of available-for-sale debt securities	1,356.4	932.3
Purchases of mutual funds related to nonqualified deferred compensation plan	(9.0)	(8.1)
Proceeds from sale of mutual funds related to nonqualified deferred compensation plan	9.3	5.8
Purchases of property, plant and equipment	(170.6)	(268.8)
Other	3.6	0.1
Net cash provided by (used in) investing activities	418.3	(918.7)
Cash flows from financing activities:		
Debt issuance costs	(7.6)	—
Proceeds from revolving credit facility	250.0	—
Payments on term loan	(293.8)	(131.3)
Repurchases of common stock	(85.0)	(298.5)
Net proceeds from issuance of common stock under share-based compensation arrangements	41.4	76.0
Payments of contingent consideration	—	(7.0)
Other	(10.5)	(10.4)
Net cash used in financing activities	(105.5)	(371.2)
Effect of exchange rate changes on cash and cash equivalents and restricted cash	(10.6)	16.5
Net change in cash and cash equivalents and restricted cash	644.8	(415.9)
Cash and cash equivalents and restricted cash at beginning of period	586.3	966.0
Cash and cash equivalents and restricted cash at end of period	$ 1,231.1	$ 550.1
Supplemental cash flow disclosures from investing and financing activities:		
Capitalization of construction costs related to facility lease obligations	$ 44.3	$ 109.6
Accrued expenses for purchases of property, plant and equipment	$ 10.2	$ 32.6

The accompanying notes are an integral part of these condensed consolidated financial statements.

1. Business

Alexion Pharmaceuticals, Inc. (Alexion, the Company, we, our or us) is a global biopharmaceutical company focused on serving patients and families affected by rare diseases through the innovation, development and commercialization of life-changing therapies.

We are the global leader in complement inhibition and have developed and commercialize the first and only approved complement inhibitor to treat patients with paroxysmal nocturnal hemoglobinuria (PNH), atypical hemolytic uremic syndrome (aHUS), and anti-acetylcholine receptor (AChR) antibody-positive generalized myasthenia gravis (gMG). In addition, Alexion has two highly innovative enzyme replacement therapies for patients with life-threatening and ultra-rare metabolic disorders, hypophosphatasia (HPP) and lysosomal acid lipase deficiency (LAL-D).

As the leader in complement biology for over 20 years, Alexion focuses its research efforts on novel molecules and targets in the complement cascade, and its development efforts on the core therapeutic areas of hematology, nephrology, neurology, and metabolic disorders. We were incorporated in 1992 under the laws of the State of Delaware.

2. Basis of Presentation and Principles of Consolidation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by accounting principles generally accepted in the United States for complete financial statements. These accounting principles were applied on a basis consistent with those of the consolidated financial statements contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2017. In our opinion, the accompanying unaudited condensed consolidated financial statements include all adjustments, consisting of normal recurring accruals, necessary for a fair presentation of our financial statements for interim periods in accordance with accounting principles generally accepted in the United States. The condensed consolidated balance sheet data as of December 31, 2017 was derived from audited financial statements but does not include all disclosures required by accounting principles generally accepted in the United States. These interim financial statements should be read in conjunction with the audited financial statements for the year ended December 31, 2017 included in our Annual Report on Form 10-K for the year ended December 31, 2017. The results of operations for the three and nine months ended September 30, 2018 are not necessarily indicative of the results to be expected for the full year or any other future periods. In the current year, the Company’s rounding presentation of reported amounts have changed. The current year rounding presentation has been applied to all prior year amounts presented and, in certain circumstances, this change may adjust previously reported balances.

The financial statements of our subsidiaries with functional currencies other than the U.S. dollar are translated into U.S. dollars using period-end exchange rates for assets and liabilities, historical exchange rates for stockholders' equity and weighted average exchange rates for operating results. Translation gains and losses are included in accumulated other comprehensive income (loss), net of tax, in stockholders' equity. Foreign currency transaction gains and losses are included in the results of operations in other income and expense.

The accompanying unaudited condensed consolidated financial statements include the accounts of Alexion Pharmaceuticals, Inc. and its subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Our significant accounting policies are described in Note 1 of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the year ended December 31, 2017. Updates to our accounting policies, including impacts from the adoption of new accounting standards, are discussed within Note 8, *Marketable Securities*, Note 9, *Derivative Instruments and Hedging Activities*, Note 10, *Other Investments*, and Note 14, *Revenue Recognition*.

Reclassifications

Certain items in the prior period’s condensed consolidated financial statements have been reclassified to conform to the current presentation.

New Accounting Pronouncements

In February 2016, the Financial Accounting Standards Board (FASB) issued a new standard requiring that the rights and obligations arising from leases be recognized on the balance sheet by recording a right-of-use (ROU) asset and corresponding lease liability. The new standard also requires qualitative and quantitative disclosures to understand the amount, timing, and uncertainty of cash flows arising from leases, as well as significant management estimates utilized. The standard is effective for interim and annual periods beginning after December 15, 2018 and requires a modified retrospective adoption. In July 2018, the FASB issued an update with an optional transition method when adopting the new leases standard. Under this new transition method, an entity initially applies the new leases standard at the adoption date and recognizes a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption rather than recast the comparative periods presented in the year of adoption. We plan to elect this optional method. We have substantially completed the process of collecting and continue to analyze the Company's lease contracts and during the third quarter 2018, we started implementing our leasing software, including data upload and test procedures. Our lease accounting software implementation efforts are ongoing. While our assessment of the standard remains open, the standard may have a material impact on the Company's Condensed Consolidated Balance Sheets due to the requirement to recognize lease ROU assets and corresponding liabilities related to leases on the Company's Condensed Consolidated Balance Sheets.

In June 2016, the FASB issued a new standard intended to improve reporting requirements specific to loans, receivables and other financial instruments. The new standard requires that credit losses be reported based on expected losses compared to the current incurred loss model. The new standard also requires enhanced disclosure of credit risk associated with respective assets. The standard is effective for interim and annual periods beginning after December 15, 2019 with early adoption permitted. We are currently assessing the impact of this standard on our financial condition and results of operations.

In February 2018, the FASB issued a new standard that would permit entities to make a one time reclassification from accumulated other comprehensive income (AOCI) to retained earnings for the stranded tax effects resulting from the newly enacted corporate tax rates under the Tax Cuts and Jobs Act (the Tax Act), that was effective for the year ended December 31, 2017. The amount of the reclassification is calculated on the basis of the difference between the historical tax rate and newly enacted tax rate. The standard is effective for interim and annual periods beginning after December 15, 2018 with early adoption permitted. We are currently assessing the impact of this standard on our financial condition.

In August 2018, the FASB issued a new standard on a customer's accounting for implementation, set-up, and other upfront costs incurred in a cloud computing arrangement (CCA). Under the new guidance, customers will assess if a CCA includes a software license and if a CCA does include a software license, implementation and set-up costs will be accounted for consistent with existing internal-use software implementation guidance. Implementation costs associated with a CCA that does not include a software license would be expensed to operating expenses. The standard also provides classification guidance on these implementation costs as well as additional quantitative and qualitative disclosures. The standard is effective for public business entities for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted, including adoption in any interim periods. Entities can choose to adopt the new guidance prospectively or retrospectively. We are still assessing the impact this standard will have on our statement of financial condition and results of operations.

Recently Adopted Accounting Pronouncements

In May 2014, the FASB issued a comprehensive new standard which amends revenue recognition principles and provides a single set of criteria for revenue recognition among all industries. The new standard provides a five-step framework whereby revenue is recognized when promised goods or services are transferred to a customer at an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. We adopted the new standard on January 1, 2018.

In January 2017, the FASB issued a new standard that clarifies the definition of a business and determines when an integrated set of assets and activities is not a business. This framework requires that if substantially all of the fair value of gross assets acquired or disposed of is concentrated in a single asset or group of similar identifiable assets, the assets would not represent a business. We adopted the new standard on January 1, 2018 and will apply the new guidance prospectively to transactions occurring after adoption. We anticipate that the adoption of this new standard will likely result in more transactions, to the extent that such transactions are undertaken by the Company, being accounted for as asset acquisitions.

In January 2016, the FASB issued a new standard that changes accounting for equity investments, financial liabilities under the fair value option, and presentation and disclosure requirements for financial instruments. In addition, the FASB clarified guidance related to the valuation allowance assessment when recognizing deferred tax assets resulting from unrealized losses on available-for-sale debt securities. Equity investments with readily determinable fair values will be measured at fair value with changes in fair value recognized in net income. Companies have the option to either measure equity investments without readily determinable fair values at fair value, or at cost adjusted for changes in observable prices minus impairment. We adopted the new standard on January 1, 2018, and have elected to measure our current equity investments without readily determinable fair values at cost adjusted for changes in observable prices minus impairment. In connection with the adoption of the new standard, we reclassified an immaterial amount of unrealized gains on equity securities from other comprehensive income to retained earnings. The guidance related to equity investments without readily determinable fair values was applied prospectively to equity investments that existed as of the date of adoption. We will assess our equity investments without readily determinable fair values for observable price changes and impairment on a quarterly basis. Refer to Note 10, *Other Investments*, for further details.

In March 2017, the FASB issued a new standard that improves the presentation of net periodic pension cost and net periodic post retirement benefit cost by requiring the bifurcation of net benefit cost. Under the new standard, the service cost component of net benefit cost will be presented with other employee costs in operating expenses; while other components will be reported separately in other income and expense. We adopted the new standard on January 1, 2018. The adoption of this standard did not have a material impact on our condensed consolidated statements of operations.

In November 2016, the FASB issued a new standard that clarifies how entities should present restricted cash in the statement of cash flows. Under the new standard, changes in total cash, inclusive of restricted cash, should be reflected in the statement of cash flows. As a result, transfers between cash and restricted cash will no longer be reflected as activity within the statement of cash flows. We adopted the new standard on January 1, 2018. The adoption of this standard did not have a material impact on our condensed consolidated statements of cash flows.

In August 2017, the FASB issued a new standard intended to improve and simplify certain aspects of the accounting for hedges. The new standard is intended to more closely align hedge accounting with companies' risk management strategies, simplify the application of hedge accounting, and increase transparency as to the scope and results of hedging programs. It also amends the presentation and disclosure requirements and changes how companies assess effectiveness. The standard is effective for interim and annual periods beginning after December 15, 2018 with early adoption permitted. We early adopted the new standard in the second quarter 2018 using the modified retrospective method. The adoption of this standard did not have a material impact on our condensed consolidated financial statements.

Impacts of the New Revenue Standard

We adopted the new revenue standard by applying the modified retrospective method to all contracts that were not completed as of January 1, 2018. Results for reporting periods beginning after January 1, 2018 are presented under the new standard, while prior period amounts are not adjusted and continue to be reported under the accounting standards in effect for the prior period. We recorded a net increase to opening equity of $6.0 as of January 1, 2018 due to the cumulative impact of adopting this new standard.

The impact to net product sales for the three and nine months ended September 30, 2018 was an increase of $6.7 and $20.5, respectively, as a result of adopting the new standard. The resulting impact to net income for the three and nine months ended September 30, 2018 was an increase of $4.8 and $16.6, respectively. The impact of adopting the new standard for the three and nine months ended September 30, 2018 is due primarily to the earlier recognition of revenue associated with customer arrangements for which control of the product has transferred to the customer prior to the shipment clearing customs in the respective country. Under prior revenue guidance, these amounts would have been deferred until risk of loss had transferred to the customer following customs clearance.

The new standard also resulted in a decrease of $32.2 in deferred revenue and an increase of $22.7 in retained earnings as of September 30, 2018. The adoption of the new revenue standard did not have a material impact on any other balances within the condensed consolidated financial statements as of and for the three and nine months ended September 30, 2018.

(amounts in millions, except per share amounts)

3. Acquisitions

Wilson Therapeutics AB

On May 25, 2018, we completed the acquisition of Wilson Therapeutics AB (publ), a biopharmaceutical company based in Stockholm, Sweden (Wilson Therapeutics) that develops a novel therapy for patients with rare copper-mediated disorders, pursuant to a recommended public cash offer of SEK 232 for each share of stock of Wilson Therapeutics. As a result of the acquisition, we added WTX101, a highly innovative drug candidate that is currently in the early stages of Phase III clinical trials for the treatment of patients with Wilson disease, to our clinical pipeline.

The acquisition of Wilson Therapeutics is accounted for as an asset acquisition, as substantially all of the fair value of the gross assets acquired is concentrated in a single asset, WTX101. As of September 30, 2018, Alexion had acquired 99.8% of the outstanding shares of Wilson Therapeutics.

The following table summarizes the total consideration for the acquisition and the value of assets acquired and liabilities assumed:

Consideration	
Cash paid for acquisition of Wilson Therapeutics outstanding shares	$ 749.3
Transaction costs	15.1
Total consideration	$ 764.4
Assets Acquired and Liabilities Assumed	
Cash	$ 45.1
In-process research & development	803.7
Employee related liabilities	(71.4)
Other assets and liabilities	(13.0)
Total net assets acquired	$ 764.4

The acquired in-process research and development asset relates to WTX101, an early Phase III asset in development for the treatment of Wilson Disease. Due to the stage of development of this asset, significant risk remains and it is not yet probable that there is future economic benefit from this asset. Absent successful clinical results and regulatory approval for the asset, there is no alternative future use associated with WTX101. Accordingly, the value of this asset of $803.7 was expensed during the nine months ended September 30, 2018.

Employee related liabilities include the value of outstanding employee equity incentive awards that were accelerated in connection with the Wilson Therapeutics acquisition that have been settled in cash. Also included in this amount are employer tax obligations associated with the employee equity incentive awards.

In connection with rights to WTX101 that were previously acquired by Wilson Therapeutics from third parties, we could be required to pay up to approximately $19.0 if certain development, regulatory and commercial milestones are met over time, as well as royalties on commercial sales.

Syntimmune, Inc.

In September 2018, we entered into a definitive agreement to acquire Syntimmune, Inc. (Syntimmune), a clinical-stage biotechnology company developing an antibody therapy targeting the neonatal Fc receptor (FcRn). Syntimmune's lead candidate, SYNT001, is a monoclonal antibody that inhibits the interaction of FcRn with Immunoglobulin G (IgG) and IgG immune complexes, and is being studied in Phase 1b/2a trials for the treatment of IgG-mediated autoimmune diseases. Under the terms of the agreement, Alexion will acquire Syntimmune for an upfront payment of $400.0, with the potential for additional milestone-dependent payments of up to $800.0, for a total value of up to $1,200.0. The acquisition of Syntimmune, which is subject to the satisfaction of customary closing conditions (including approval from relevant regulatory agencies), is expected to close in the fourth quarter of 2018. We intend to finance the acquisition through cash on hand and account for the transaction as an asset acquisition.

(amounts in millions, except per share amounts)

4. Inventories

The components of inventory are as follows:

	September 30, 2018	December 31, 2017
Raw materials	$ 10.8	$ 4.7
Work-in-process	107.8	148.6
Finished goods	314.1	307.1
	$ 432.7	$ 460.4

5. Intangible Assets and Goodwill

The following table summarizes the carrying amount of our intangible assets and goodwill, net of accumulated amortization:

		September 30, 2018			December 31, 2017		
	Estimated Life (years)	Cost	Accumulated Amortization	Net	Cost	Accumulated Amortization	Net
Licensing rights	5-8	$ 31.0	$ (29.1)	$ 1.9	$ 31.0	$ (28.5)	$ 2.5
Patents	7	10.5	(10.5)	—	10.5	(10.5)	—
Purchased technology	6-16	4,710.5	(999.0)	3,711.5	4,710.5	(758.9)	3,951.6
Other intangibles	5	0.4	(0.2)	0.2	0.4	(0.1)	0.3
Total		$ 4,752.4	$ (1,038.8)	$ 3,713.6	$ 4,752.4	$ (798.0)	$ 3,954.4
Goodwill	Indefinite	$ 5,040.3	$ (2.9)	$ 5,037.4	$ 5,040.3	$ (2.9)	$ 5,037.4

Amortization expense for the three months ended September 30, 2018 and 2017 was $80.2 and $80.0, respectively. Amortization expense for the nine months ended September 30, 2018 and 2017 was $240.8 and $240.1, respectively. Assuming no changes in the gross cost basis of intangible assets, the total estimated amortization expense for finite-lived intangible assets is $80.2 for the three months ending December 31, 2018, and approximately $320.0 for each of the years ending December 31, 2019 through December 31, 2023.

In the second quarter 2017, we recognized an impairment charge of $31.0 related to our SBC-103 acquired in-process research and development asset due to clinical results.

6. Debt

On June 7, 2018, we entered into an Amended and Restated Credit Agreement (the Credit Agreement), with Bank of America, N.A. as Administrative Agent. The Credit Agreement amends and restates our credit agreement dated as of June 22, 2015 (the Prior Credit Agreement).

The Credit Agreement provides for a $1,000.0 revolving credit facility and a $2,612.5 term loan facility. The revolving credit facility and the term loan facility mature on June 7, 2023. Beginning with the quarter ending June 30, 2019, we are required to make amortization payments of 5.00% of the aggregate principal amount of the term loan facility annually, payable in equal quarterly installments.

Loans under the Credit Agreement bear interest, at our option, at either a base rate or a Eurodollar rate, in each case plus an applicable margin. Under the Credit Agreement, the applicable margins on base rate loans range from 0.25% to 1.00% and the applicable margins on Eurodollar loans range from 1.25% to 2.00%, in each case based on our consolidated net leverage ratio (as calculated in accordance with the Credit Agreement). Our obligations under the Credit Agreement are guaranteed by certain of Alexion Pharmaceuticals, Inc.'s foreign and domestic subsidiaries and secured by liens on certain of our subsidiaries' equity interests, subject to certain exceptions. Under the terms of the Credit Agreement, we must maintain a ratio of total net debt to EBITDA of 3.50 to 1.00 (subject to certain limited adjustments) and EBITDA to cash interest expense ratio of at least 3.50 to 1.00, in each case as calculated in accordance with the Credit Agreement.

(amounts in millions, except per share amounts)

The Credit Agreement contains certain representations and warranties, affirmative and negative covenants and events of default. The negative covenants in the Credit Agreement restrict Alexion's and its subsidiaries' ability, subject to certain baskets and exceptions, to (among other things) incur liens or indebtedness, make investments, enter into mergers and other fundamental changes, make dispositions or pay dividends. The restriction on dividend payments includes an exception that permits us to pay dividends and make other restricted payments regardless of dollar amount so long as, after giving pro forma effect thereto, we have a consolidated net leverage ratio, as defined in the Credit Agreement, within predefined ranges, subject to certain increases following designated material acquisitions.

In connection with entering into the Credit Agreement and the Prior Credit Agreement, we paid an aggregate of $53.1 in financing costs. Financing costs are amortized as interest expense over the life of the debt. Amortization expense associated with deferred financing costs for the three months ended September 30, 2018 and 2017 was $1.3 and $2.3, respectively, and amortization of deferred financing costs for the nine months ended September 30, 2018 and 2017 was $6.7 and $7.0 respectively. Remaining unamortized deferred financing costs as of September 30, 2018 and December 31, 2017 were $22.1 and $21.0, respectively.

As of September 30, 2018, we had $2,612.5 outstanding on the term loan and $250.0 of borrowings outstanding under the revolving credit facility. The $250.0 of proceeds on the revolving credit facility was used to refinance amounts outstanding under the Prior Credit Agreement. As of September 30, 2018, we had open letters of credit of $1.7 that offset our availability in the revolving facility.

The fair value of our long term debt, which is measured using Level 2 inputs of the fair value hierarchy, approximates book value.

7. Earnings Per Common Share

Basic earnings per common share (EPS) is computed by dividing net income by the weighted-average number of shares of common stock outstanding during the applicable period. For purposes of calculating diluted EPS, the denominator reflects the potential dilution that could occur if stock options, unvested restricted stock units or other contracts to issue common stock were exercised or converted into common stock, using the treasury stock method.

The following table summarizes the calculation of basic and diluted EPS for the three and nine months ended September 30, 2018 and 2017:

	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Net income used for basic and diluted calculation	$ 330.9	$ 78.0	$ 122.6	$ 413.3
Shares used in computing earnings per common share—basic	222.9	223.3	222.5	224.1
Weighted-average effect of dilutive securities:				
Stock awards	1.7	1.7	1.7	1.4
Shares used in computing earnings per common share—diluted	224.6	225.0	224.2	225.5
Earnings per common share:				
Basic	$ 1.48	$ 0.35	$ 0.55	$ 1.84
Diluted	$ 1.47	$ 0.35	$ 0.55	$ 1.83

We exclude from EPS the weighted-average number of securities whose effect is anti-dilutive. Excluded from the calculation of EPS for the three months ended September 30, 2018 and 2017 were 2.5 and 3.9 shares of common stock because their effect was anti-dilutive. Similarly, we excluded 2.9 and 4.1 shares of common stock from the calculation of EPS for the nine months ended September 30, 2018 and 2017 because their effect was anti-dilutive.

(amounts in millions, except per share amounts)

8. Marketable Securities

We invest our excess cash balances in marketable securities of highly rated financial institutions and investment-grade debt instruments. We classify these marketable securities as available-for-sale and, accordingly, record such securities at fair value. Unrealized gains and losses that are deemed temporary are included in accumulated other comprehensive income (loss) as a separate component of stockholders' equity in the accompanying balance sheets.

The amortized cost, gross unrealized holding gains, gross unrealized holding losses and fair value of available-for-sale debt securities by type of security as of September 30, 2018 and December 31, 2017 were as follows:

	September 30, 2018			
	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Fair Value
Commercial paper	$ 196.1	$ —	$ —	$ 196.1
Corporate bonds	136.0	—	—	136.0
Other government-related obligations:				
U.S.	9.7	—	—	9.7
Foreign	2.6	—	—	2.6
Bank certificates of deposit	43.4	—	—	43.4
Total available-for-sale debt securities	$ 387.8	$ —	$ —	$ 387.8

	December 31, 2017			
	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Fair Value
Commercial paper	$ 16.0	$ —	$ —	$ 16.0
Repurchase agreements	27.0	—	—	27.0
Corporate bonds	432.2	0.5	(0.2)	432.5
Other government-related obligations:				
U.S.	—	—	—	—
Foreign	426.3	0.2	(0.2)	426.3
Bank certificates of deposit	11.8	—	—	11.8
Total available-for-sale debt securities	$ 913.3	$ 0.7	$ (0.4)	$ 913.6

The aggregate fair value of available-for-sale debt securities in an unrealized loss position as of September 30, 2018 and December 31, 2017 was $92.8 and $436.2, respectively. Investments that have been in a continuous unrealized loss position for more than 12 months were zero as of September 30, 2018 and $12.0 as of December 31, 2017. As of September 30, 2018, we believe that the cost basis of our available-for-sale debt securities is recoverable.

The fair values of available-for-sale debt securities by classification in the condensed consolidated balance sheet were as follows:

	September 30, 2018	December 31, 2017
Cash and cash equivalents	$ 100.5	$ 42.7
Marketable securities	287.3	870.9
	$ 387.8	$ 913.6

(amounts in millions, except per share amounts)

The fair values of available-for-sale debt securities at September 30, 2018, by contractual maturity, are summarized as follows:

	September 30, 2018
Due in one year or less	$ 372.7
Due after one year through three years	15.1
	$ 387.8

We sponsor a nonqualified deferred compensation plan which allows certain highly-compensated employees to elect to defer income to future periods. Participants in the plan earn a return on their deferrals based on several investment options, which mirror returns on underlying mutual fund investments. We choose to invest in the underlying mutual fund investments to offset the liability associated with our nonqualified deferred compensation plan. These mutual fund investments are valued at net asset value per share and are carried at fair value with gains and losses included in investment income. The changes in the underlying liability to the employee are recorded in operating expenses. As of September 30, 2018 and December 31, 2017, the fair value of these investments was $18.9 and $18.5, respectively.

We utilize the specific identification method in computing realized gains and losses. Realized gains and losses on our marketable securities were not material for the three and nine months ended September 30, 2018 and 2017.

9. Derivative Instruments and Hedging Activities

We operate internationally and, in the normal course of business, are exposed to fluctuations in foreign currency exchange rates. The exposures result from portions of our revenues, as well as the related receivables, and expenses that are denominated in currencies other than the U.S. dollar, primarily the Euro and Japanese Yen. We are also exposed to fluctuations in interest rates on outstanding borrowings under our revolving credit facility and term loan facility. We manage these exposures within specified guidelines through the use of derivatives. All of our derivative instruments are utilized for risk management purposes, and we do not use derivatives for speculative trading purposes.

We enter into foreign exchange forward contracts, with durations of up to 60 months, to hedge exposures resulting from portions of our forecasted revenues, including intercompany revenues, and certain forecasted expenses that are denominated in currencies other than the U.S. dollar. The purpose of these hedges is to reduce the volatility of exchange rate fluctuations on our operating results. These hedges are designated as cash flow hedges upon contract inception. As of September 30, 2018, we had open revenue related foreign exchange forward contracts with notional amounts totaling $994.4 that qualified for hedge accounting. As of September 30, 2018, we had open expense related foreign exchange forward contracts with notional amounts totaling $22.0 that qualified for hedge accounting.

To achieve a desired mix of floating and fixed interest rates on our term loan, we enter into interest rate swap agreements that qualify for and are designated as cash flow hedges. These contracts convert the floating interest rate on a portion of our debt to a fixed rate, plus a borrowing spread.

The following table summarizes our interest rate swap contracts as of September 30, 2018:

Type of Interest Rate Swap	Notional Amount	Effective Date	Termination Date	Fixed Interest Rate or Rate Range
Floating to Fixed	2,031.3	December 2016 - January 2018	December 2018 - December 2019	0.98% - 1.62%
Floating to Fixed	250.0	December 2018	December 2022	2.79%
Floating to Fixed	300.0	January 2019	December 2019	2.08%
Floating to Fixed	900.0	December 2019	December 2022	2.79% - 2.83%

(amounts in millions, except per share amounts)

During the second quarter 2018, we adopted the new standard for accounting for hedges that is designed to simplify the application of hedge accounting and increase transparency as to the scope and results of hedging programs. The updated guidance no longer requires the separate measurement and reporting of hedge ineffectiveness. Following adoption, all unrealized gains and losses on derivatives that are designated and qualify for hedge accounting are reported in other comprehensive income (loss) and recognized in our condensed consolidated statements of operations when the underlying hedged transaction affects earnings.

The amount of gains and losses recognized in the condensed consolidated statements of operations for the three and nine months ended September 30, 2018 and 2017 from foreign exchange and interest rate swap contracts that qualified as cash flow hedges were as follows:

	Three months ended September 30, 2018		Three months ended September 30, 2017	
	Net Product Sales	Interest Expense	Net Product Sales	Interest Expense
Financial Statement Line Item in which the Effects of Cash Flow Hedges are Recorded	*$ 1,026.5*	*$ (24.6)*	*$ 858.8*	*$ (25.0)*
Impact of cash flow hedging relationships:				
Foreign Exchange Forward Contracts	$ 3.3	$ —	$ (1.3)	$ —
Interest Rate Swap Contracts	$ —	$ 4.0	$ —	$ (0.3)

	Nine months ended September 30, 2018		Nine months ended September 30, 2017	
	Net Product Sales	Interest Expense	Net Product Sales	Interest Expense
Financial Statement Line Item in which the Effects of Cash Flow Hedges are Recorded	*$ 3,001.6*	*$ (73.7)*	*$ 2,640.1*	*$ (73.3)*
Impact of cash flow hedging relationships:				
Foreign Exchange Forward Contracts	$ (11.5)	$ —	$ 30.7	$ —
Interest Rate Swap Contracts	$ —	$ 8.5	$ —	$ (1.6)

The impact on accumulated other comprehensive income (AOCI) from foreign exchange and interest rate swap contracts that qualified as cash flow hedges, for the three and nine months ended September 30, 2018 and 2017 were as follows:

	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Foreign Exchange Forward Contracts:				
Gain (loss) recognized in AOCI, net of tax	$ 9.8	$ (27.6)	$ 26.3	$ (89.3)
Gain (loss) reclassified from AOCI to net product sales, net of tax	$ 2.5	$ (0.8)	$ (8.9)	$ 19.8
Interest Rate Contracts:				
Gain (loss) recognized in AOCI, net of tax	$ 7.2	$ 1.2	$ 18.4	$ 0.4
Gain (loss) reclassified from AOCI to interest expense, net of tax	$ 3.1	$ (0.2)	$ 6.7	$ (1.0)

Assuming no change in foreign exchange rates from market rates at September 30, 2018, $7.5 of gains recognized in AOCI will be reclassified to revenue over the next 12 months. The amount of gains recognized in AOCI that will be reclassified to interest expense over the next 12 months is $22.6. Amounts recognized in AOCI for expense related foreign exchange forward contracts was not material at September 30, 2018.

(amounts in millions, except per share amounts)

We enter into foreign exchange forward contracts, with durations up to seven months, designed to limit the balance sheet exposure of monetary assets and liabilities. We enter into these hedges to reduce the impact of fluctuating exchange rates on our operating results. Hedge accounting is not applied to these derivative instruments as gains and losses on these hedge transactions are designed to offset gains and losses on underlying balance sheet exposures. As of September 30, 2018, the notional amount of foreign exchange contracts where hedge accounting is not applied was $794.2.

We recognized a gain (loss) of $6.8 and $(2.5), in other income and expense, for the three months ended September 30, 2018 and 2017, respectively, associated with the foreign exchange contracts not designated as hedging instruments. We recognized a gain (loss) of $17.1 and $(11.7), for the nine months ended September 30, 2018 and 2017, respectively, associated with the foreign exchange contracts not designated as hedging instruments. These amounts were partially offset by gains or losses on monetary assets and liabilities.

The following tables summarize the fair value of outstanding derivatives as of September 30, 2018 and December 31, 2017:

	September 30, 2018			
	Derivative Assets		Derivative Liabilities	
	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
Derivatives designated as hedging instruments:				
Foreign exchange forward contracts	Prepaid expenses and other current assets	$ 16.9	Other current liabilities	$ 10.0
Foreign exchange forward contracts	Other assets	0.7	Other liabilities	5.8
Interest rate contracts	Prepaid expenses and other current assets	22.6	Other current liabilities	—
Interest rate contracts	Other assets	14.1	Other liabilities	—
Derivatives not designated as hedging instruments:				
Foreign exchange forward contracts	Prepaid expenses and other current assets	10.1	Other current liabilities	3.9
Total fair value of derivative instruments		**$ 64.4**		**$ 19.7**

(amounts in millions, except per share amounts)

	December 31, 2017			
	Derivative Assets		Derivative Liabilities	
	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
Derivatives designated as hedging instruments:				
Foreign exchange forward contracts	Prepaid expenses and other current assets	$ 12.9	Other current liabilities	$ 34.8
Foreign exchange forward contracts	Other assets	4.1	Other liabilities	26.0
Interest rate contracts	Prepaid expenses and other current assets	9.3	Other current liabilities	—
Interest rate contracts	Other assets	12.5	Other liabilities	—
Derivatives not designated as hedging instruments:				
Foreign exchange forward contracts	Prepaid expenses and other current assets	10.0	Other current liabilities	13.7
Total fair value of derivative instruments		**$ 48.8**		**$ 74.5**

Although we do not offset derivative assets and liabilities within our condensed consolidated balance sheets, our International Swap and Derivatives Association agreements provide for net settlement of transactions that are due to or from the same counterparty upon early termination of the agreement due to an event of default or other termination event. The following tables summarize the potential effect on our condensed consolidated balance sheets of offsetting our foreign exchange forward contracts and interest rate contracts subject to such provisions:

	September 30, 2018					
				Gross Amounts Not Offset in the Condensed Consolidated Balance Sheet		
Description	Gross Amounts of Recognized Assets/Liabilities	Gross Amounts Offset in the Condensed Consolidated Balance Sheet	Net Amounts of Assets/Liabilities Presented in the Condensed Consolidated Balance Sheet	Derivative Financial Instruments	Cash Collateral Received (Pledged)	Net Amount
Derivative assets	$ 64.4	$ —	$ 64.4	$ (16.7)	$ —	$ 47.7
Derivative liabilities	(19.7)	—	(19.7)	16.7	—	(3.0)

	December 31, 2017					
				Gross Amounts Not Offset in the Condensed Consolidated Balance Sheet		
Description	Gross Amounts of Recognized Assets/Liabilities	Gross Amounts Offset in the Condensed Consolidated Balance Sheet	Net Amounts of Assets/Liabilities Presented in the Condensed Consolidated Balance Sheet	Derivative Financial Instruments	Cash Collateral Received (Pledged)	Net Amount
Derivative assets	$ 48.8	$ —	$ 48.8	$ (26.3)	$ —	$ 22.5
Derivative liabilities	(74.5)	—	(74.5)	26.3	—	(48.2)

(amounts in millions, except per share amounts)

10. Other Investments

We invest in companies with securities that are not publicly traded and where fair value is not readily available. We have historically recorded these investments at cost, less impairments. As of January 1, 2018, we will continue to record these investments at cost, less impairments; however, we will also adjust the investment for any changes resulting from an observable price change in an orderly transaction for identical or similar investments of the same issuer. We assess relevant transactions that occur on or before the balance sheet date to identify observable price changes, and we regularly monitor these investments to evaluate whether there is an indication that the investment is impaired, based on the implied value of recent company financings, public market prices of comparable companies, and general market conditions.

During 2014, we purchased $37.5 of preferred stock of the non-public entity Moderna Therapeutics, Inc. (Moderna). During the first quarter 2018, Moderna announced the completion of a new round of financing. We considered this transaction and the rights of the preferred shares issued in the new round, compared to the rights of the preferred equity that we hold, and concluded that Moderna's new round of financing represents an observable price change in an orderly transaction for a similar investment. We further concluded, based on the respective rights of the stock and consideration of potential liquidity events, that the value of our preferred stock is equivalent to the value of the newly issued preferred stock. As a result, we recognized an unrealized gain of $100.8 in investment income during the first quarter 2018 to adjust our investment in Moderna to fair value as of the date of the observable price change, based on the per share price in Moderna's new round of financing. The carrying value of this investment was $138.3 and $37.5 as of September 30, 2018 and December 31, 2017, respectively. The carrying value of this investment was not impaired as of September 30, 2018.

11. Stockholders' Equity

In February 2017, our Board of Directors authorized the future acquisition of shares with an aggregate value of up to $1,000.0 under our existing share repurchase program. The repurchase program does not have an expiration date, and we are not obligated to acquire a particular number of shares. The repurchase program may be discontinued at any time at our discretion. Under the program, for the three months ended September 30, 2017, we repurchased 0.5 shares at a cost of $59.6. During the nine months ended September 30, 2018 and 2017, we repurchased 0.7 and 2.6 shares of our common stock at a cost of $85.0 and $298.5, respectively. The Company did not repurchase any shares during the three months ended September 30, 2018. As of October 24, 2018, there is a total of $451.5 remaining for repurchases under the repurchase program.

12. Other Comprehensive Income and Accumulated Other Comprehensive Income

The following tables summarize the changes in AOCI, by component, for the nine months ended September 30, 2018 and 2017:

	Defined Benefit Pension Plans	Unrealized Gains (Losses) from Debt Securities	Unrealized Gains (Losses) from Hedging Activities	Foreign Currency Translation Adjustment	Total Accumulated Other Comprehensive Income (Loss)
Balances, December 31, 2017	$ (4.8)	$ 0.2	$ (13.9)	$ (15.9)	$ (34.4)
Other comprehensive income (loss) before reclassifications	1.2	0.2	44.7	(6.0)	40.1
Amounts reclassified from other comprehensive income	(0.5)	(0.5)	2.2	—	1.2
Net other comprehensive income (loss)	0.7	(0.3)	46.9	(6.0)	41.3
Balances, September 30, 2018	$ (4.1)	$ (0.1)	$ 33.0	$ (21.9)	$ 6.9

(amounts in millions, except per share amounts)

	Defined Benefit Pension Plans	Unrealized Gains (Losses) from Debt Securities	Unrealized Gains (Losses) from Hedging Activities	Foreign Currency Translation Adjustment	Total Accumulated Other Comprehensive Income (Loss)
Balances, December 31, 2016	$ (6.7)	$ (0.4)	$ 91.9	$ (24.3)	$ 60.5
Other comprehensive income (loss) before reclassifications	0.2	0.4	(88.9)	8.8	(79.5)
Amounts reclassified from other comprehensive income	0.1	0.8	(18.8)	—	(17.9)
Net other comprehensive income (loss)	0.3	1.2	(107.7)	8.8	(97.4)
Balances, September 30, 2017	$ (6.4)	$ 0.8	$ (15.8)	$ (15.5)	$ (36.9)

The table below provides details regarding significant reclassifications from AOCI during the three and nine months ended September 30, 2018 and 2017:

Details about Accumulated Other Comprehensive Income Components	Amount Reclassified From Accumulated Other Comprehensive Income during the three months ended September 30, 2018	Amount Reclassified From Accumulated Other Comprehensive Income during the three months ended September 30, 2017	Amount Reclassified From Accumulated Other Comprehensive Income during the nine months ended September 30, 2018	Amount Reclassified From Accumulated Other Comprehensive Income during the nine months ended September 30, 2017	Affected Line Item in the Condensed Consolidated Statements of Operations
Unrealized Gains (Losses) from Hedging Activity					
Foreign exchange forward contracts	$ 3.3	$ (1.3)	$ (11.5)	$ 30.7	Net product sales
Interest rate swap contracts	4.0	(0.3)	8.5	(1.6)	Interest expense
	7.3	(1.6)	(3.0)	29.1	
	(1.7)	0.6	0.8	(10.3)	Income tax expense (benefit)
	$ 5.6	$ (1.0)	$ (2.2)	$ 18.8	

13. Fair Value Measurement

Authoritative guidance establishes a valuation hierarchy for disclosure of the inputs to the valuation used to measure fair value. This hierarchy prioritizes the inputs into three broad levels as follows. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument. Level 3 inputs are unobservable inputs based on our own assumptions used to measure assets and liabilities at fair value.

The following tables present information about our assets and liabilities that are measured at fair value on a recurring basis as of September 30, 2018 and December 31, 2017, and indicate the fair value hierarchy of the valuation techniques we utilized to determine such fair value.

(amounts in millions, except per share amounts)

Balance Sheet Classification	Type of Instrument	Fair Value Measurement at September 30, 2018			
		Total	Level 1	Level 2	Level 3
Cash equivalents	Money market funds	$ 503.2	$ —	$ 503.2	$ —
Cash equivalents	Commercial paper	$ 96.1	$ —	$ 96.1	$ —
Cash equivalents	Bank certificates of deposit	$ 1.6	$ —	$ 1.6	$ —
Cash equivalents	Other government-related obligations	$ 2.8	$ —	$ 2.8	$ —
Marketable securities	Mutual funds	$ 18.9	$ 18.9	$ —	$ —
Marketable securities	Commercial paper	$ 100.0	$ —	$ 100.0	$ —
Marketable securities	Corporate bonds	$ 136.0	$ —	$ 136.0	$ —
Marketable securities	Other government-related obligations	$ 9.5	$ —	$ 9.5	$ —
Marketable securities	Bank certificates of deposit	$ 41.8	$ —	$ 41.8	$ —
Prepaid expenses and other current assets	Foreign exchange forward contracts	$ 27.0	$ —	$ 27.0	$ —
Other assets	Foreign exchange forward contracts	$ 0.7	$ —	$ 0.7	$ —
Other current liabilities	Foreign exchange forward contracts	$ 13.9	$ —	$ 13.9	$ —
Other liabilities	Foreign exchange forward contracts	$ 5.8	$ —	$ 5.8	$ —
Prepaid expenses and other current assets	Interest rate contracts	$ 22.6	$ —	$ 22.6	$ —
Other assets	Interest rate contracts	$ 14.1	$ —	$ 14.1	$ —
Current portion of contingent consideration	Acquisition-related contingent consideration	$ 95.8	$ —	$ —	$ 95.8
Contingent consideration	Acquisition-related contingent consideration	$ 179.4	$ —	$ —	$ 179.4

(amounts in millions, except per share amounts)

Balance Sheet Classification	Type of Instrument	Fair Value Measurement at December 31, 2017			
		Total	Level 1	Level 2	Level 3
Cash equivalents	Commercial paper	$ 9.5	$ —	$ 9.5	$ —
Cash equivalents	Reverse repurchase agreements	$ 27.0	$ —	$ 27.0	$ —
Cash equivalents	Corporate bonds	$ 1.2	$ —	$ 1.2	$ —
Cash equivalents	Other government-related obligations	$ 5.0	$ —	$ 5.0	$ —
Marketable securities	Mutual funds	$ 18.5	$ 18.5	$ —	$ —
Marketable securities	Commercial paper	$ 6.5	$ —	$ 6.5	$ —
Marketable securities	Corporate bonds	$ 431.3	$ —	$ 431.3	$ —
Marketable securities	Other government-related obligations	$ 421.3	$ —	$ 421.3	$ —
Marketable securities	Bank certificates of deposit	$ 11.8	$ —	$ 11.8	$ —
Marketable securities	Equity securities	$ 0.3	$ 0.3	$ —	$ —
Prepaid expenses and other current assets	Foreign exchange forward contracts	$ 22.9	$ —	$ 22.9	$ —
Other assets	Foreign exchange forward contracts	$ 4.1	$ —	$ 4.1	$ —
Other current liabilities	Foreign exchange forward contracts	$ 48.5	$ —	$ 48.5	$ —
Other liabilities	Foreign exchange forward contracts	$ 26.0	$ —	$ 26.0	$ —
Prepaid expenses and other current assets	Interest rate contracts	$ 9.3	$ —	$ 9.3	$ —
Other assets	Interest rate contracts	$ 12.5	$ —	$ 12.5	$ —
Contingent consideration	Acquisition-related contingent consideration	$ 168.9	$ —	$ —	$ 168.9

There were no securities transferred between Level 1, 2 and 3 during the nine months ended September 30, 2018.

Valuation Techniques

We classify mutual fund investments and equity securities, which are valued based on quoted market prices in active markets with no valuation adjustment, as Level 1 assets within the fair value hierarchy.

Cash equivalents and marketable securities classified as Level 2 within the valuation hierarchy consist of commercial paper, reverse repurchase agreements, U.S. and foreign government-related debt, corporate debt securities and certificates of deposit. We estimate the fair values of these marketable securities by taking into consideration valuations obtained from third-party pricing sources. These pricing sources utilize industry standard valuation models, including both income and market-based approaches, for which all significant inputs are observable, either directly or indirectly, to estimate fair value. These inputs include market pricing based on real-time trade data for similar securities, issuer credit spreads, benchmark yields, and other observable inputs. We validate the prices provided by our third-party pricing sources by understanding the models used, obtaining market values from other pricing sources and analyzing pricing data in certain instances.

Our derivative assets and liabilities include foreign exchange and interest rate derivatives that are measured at fair value using observable market inputs such as forward rates, interest rates, our own credit risk as well as an evaluation of our counterparties' credit risks. Based on these inputs, the derivative assets and liabilities are classified within Level 2 of the valuation hierarchy.

Contingent consideration liabilities related to acquisitions are classified as Level 3 within the valuation hierarchy and are valued based on various estimates, including probability of success, discount rates and amount of time until the conditions of the milestone payments are met.

(amounts in millions, except per share amounts)

As of September 30, 2018, there has not been any impact to the fair value of our derivative liabilities due to our own credit risk. Similarly, there has not been any significant adverse impact to our derivative assets based on our evaluation of our counterparties' credit risks.

Contingent Consideration

In connection with prior business combinations, we may be required to pay future consideration that is contingent upon the achievement of specified development, regulatory approvals or sales-based milestone events. We determine the fair value of these obligations using various estimates that are not observable in the market and represent a Level 3 measurement within the fair value hierarchy. The resulting probability-weighted cash flows were discounted using a cost of debt of 4.2% for developmental milestones and a weighted average cost of capital ranging from 9.0% to 21.0% for sales-based milestones.

Each reporting period, we adjust the contingent consideration to fair value with changes in fair value recognized in operating earnings. Changes in fair values reflect new information about the probability and timing of meeting the conditions of the milestone payments. In the absence of new information, changes in fair value will only reflect the interest component of contingent consideration related to the passage of time.

As of September 30, 2018, estimated future contingent milestone payments related to prior business combinations range from zero if no milestone events are achieved, to a maximum of $702.0 if all development, regulatory and sales-based milestones are reached. As of September 30, 2018, the fair value of acquisition-related contingent consideration was $275.2. The following table represents a roll-forward of our acquisition-related contingent consideration:

	Nine months ended September 30, 2018
Balance at December 31, 2017	$ 168.9
Amounts derecognized upon sale of asset	(4.6)
Changes in fair value	110.9
Balance at September 30, 2018	$ 275.2

In September 2018, we sold all our assets, rights and obligations related to the ALXN1101 program to a third party and, as a result, in the quarter ended September 30, 2018, derecognized $4.6 of contingent consideration due under our prior purchase agreement with Orphatec Pharmaceuticals GmbH, dated February 8, 2011. The definitive agreement related to our sale of ALXN1101 provides for contingent consideration payments to Alexion upon the achievement of various regulatory and commercial milestones and other events, as well as royalties on commercial sales. The amount of contingent consideration related to these contingent payments is deemed to be fully constrained as of September 30, 2018, and therefore has not been included in the transaction price. For the three and nine months ended September 30, 2018, we recognized an immaterial gain on the sale of ALXN1101 within operating income.

In September 2018, we amended the terms of certain contingent milestone payments due under our prior merger agreement with Enobia Pharma Corp., dated December 28, 2011. The amendment removed our obligations with respect to a regulatory milestone and redistributed the contingent payment associated with this milestone to various sales milestones. As a result of this amendment and the probability of achieving the various sales milestones, our contingent consideration liability increased by $48.7 in the quarter ended September 30, 2018.

14. Revenue Recognition

In May 2014, the FASB issued a comprehensive new standard which amends revenue recognition principles. We adopted the new standard on January 1, 2018 by applying the modified retrospective method to all contracts that were not completed as of that date. Under the new guidance, revenue is recognized when a customer obtains control of promised goods or services, in an amount that reflects the consideration expected to be received in exchange for those goods or services. Revenue is recognized through a five-step process: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) a performance obligation is satisfied. The Company only applies the five-step model to contracts when it is probable

that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, the Company assesses the goods or services promised within each contract, and determines those that are performance obligations. Revenue is recognized for the applicable performance element when each distinct performance obligation is satisfied.

While results for reporting periods beginning after January 1, 2018 are presented under the new guidance, prior period amounts are not adjusted and continue to be reported under the accounting standards in effect for the prior period. The accounting policy for revenue recognition for periods prior to January 1, 2018 is described in Note 1 of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the year ended December 31, 2017.

Nature of Products

Our principal source of revenue is product sales. Our contracts with customers generally contain a single performance obligation and we recognize revenue from product sales when we have satisfied our performance obligation by transferring control of the product to our customers. Control of the product generally transfers to the customer upon delivery. In certain countries, we sell to distributors on a consignment basis and record revenue when control of the product transfers to the customer upon sale to the end user.

Our customers are primarily comprised of distributors, pharmacies, hospitals, hospital buying groups, and other healthcare providers. In some cases, we may also sell to governments and government agencies. In addition to sales in countries where our products are commercially available, we have also recorded revenue on sales for patients receiving treatment through named-patient programs. The relevant authorities or institutions in those countries have agreed to reimburse for product sold on a named-patient basis where our products have not received final approval for commercial sale.

Revenue is recognized at the amount to which we expect to be entitled in exchange for the sale of our products. This amount includes both fixed and variable consideration and excludes amounts that are collected from customers and remitted to governmental authorities, such as value-added taxes in foreign jurisdictions. Shipping and handling costs associated with outbound freight after control of a product has transferred to our customers are accounted for as a fulfilment cost and are included in operating expenses. The cost for any shipping and handling activities (including customs clearance activities) associated with transactions for which revenue has been recognized are accrued if not completed before the respective period end.

The timing between the recognition of revenue for product sales and the receipt of payment is not significant. Our standard credit terms, which vary based on the country of sale, range from 30 to 120 days and all arrangements are payable within one year of the transfer of the product. We do not assess whether a contract has a significant financing component if the expectation at contract inception is such that the period between the transfer of the promised good to the customer and receipt of payment will be one year or less.

We evaluate the creditworthiness of customers on a regular basis. In certain European countries, sales by us are subject to payment terms that are statutorily determined. This is primarily the case in countries where the payer is government-owned or government-funded, which we consider to be creditworthy. The length of time from sale to receipt of payment in certain countries exceeds our credit terms. In countries in which collections from customers extend beyond normal payment terms, we seek to collect interest. We record interest on customer receivables as interest income when collected. Subsequent adjustments for further declines in credit rating are recorded as bad debt expense as a component of selling, general and administrative expense. We also use judgments as to our ability to collect outstanding receivables and provide allowances for the portion of receivables if and when collection becomes doubtful, and we also assess on an ongoing basis whether collectibility is probable at the time of sale. As of September 30, 2018 and December 31, 2017, allowances on receivables were not material.

Variable Consideration

We pay distribution fees to our distributors and offer rebates and/or discounts, or enter into volume-based reimbursement arrangements with certain customers. We reduce the transaction price on our sales for these amounts. For variable amounts, we estimate the amount of consideration to which we expect to be entitled based on all available historic, current and forecast information. We primarily use the expected value method to estimate variable payments and, in limited circumstances, will apply the most likely method based on the type of variable consideration and what method better predicts the amount of consideration we expect to be entitled to. Consideration that is received from a customer that we expect will need to be refunded in the future is recorded as a refund liability to the customer within accrued expenses. Actual amounts of consideration ultimately received or

refunded may differ from our estimates. If actual results in the future vary from our estimates, we adjust these estimates, which would affect net product sales and earnings in the period such variances become know.

Variability in the transaction price for our products pursuant to our contracts with customers primarily arises from the following:

Discounts and Rebates: We offer discounts and rebates to certain distributors and customers under our arrangements. In many cases, these amounts are fixed at the time of sale and the transaction price is reduced accordingly. We also provide for rebates under certain governmental programs, including Medicaid in the U.S. and other programs outside the U.S. which are payable based on actual claim data. We estimate these rebates based on an analysis of historical claim patterns and estimates of customer mix to determine which sales will be subject to rebates and the amount of such rebates. We update our estimates and assumptions each period and record any necessary adjustments, which may have an impact on revenue in the period in which the adjustment is made. Generally, the length of time between product sale and the processing and reporting of the rebates is three to six months.

Volume-Based Arrangements: We have entered into volume-based arrangements with governments in certain countries and other customers in which reimbursement is limited to a contractual amount. Under this type of arrangement, amounts billed in excess of the contractual limitation are repaid to the customer as a rebate. We estimate incremental discounts resulting from these contractual limitations, based on forecasted sales during the limitation period, and we apply the discount percentage to product shipments as a reduction of revenue. Our calculations related to these arrangements require estimation of sales during the limitation period, and adjustments in these estimates may have a material impact in the period in which these estimates change.

Distribution & Other Fees: We pay distribution and other fees to certain customers in connection with the sales of our products. We record distribution and other fees paid to our customers as a reduction of revenue, unless the payment is for a distinct good or service from the customer and we can reasonably estimate the fair value of the goods or services received. If both conditions are met, we record the consideration paid to the customer as an operating expense. These costs are typically known at the time of sale, resulting in minimal adjustments subsequent to the period of sale.

Product Returns: Our contracts with customers generally provide for returns only if the product is damaged or defective upon delivery. We assess our sales transactions and arrangements with customers and monitor inventory within our sales channels to determine whether a provision for returns is warranted and a resulting adjustment to the transaction price is necessary. This assessment is based on historical experience and assumptions as of the date of sale and changes in these estimates could have an impact in the period in which the change occurs. Because of factors such as the price of our products, the limited number of patients, the short period from product sale to patient infusion and limited contractual return rights, our customers often carry limited inventory.

The amount of variable consideration included in the transaction price is constrained by the amount that is probable will not result in a significant reversal of revenue. We consider our experience with similar transactions and expectations regarding the contract in estimating the amount of variable consideration to which we expect to be entitled, and determining whether the estimated variable consideration should be constrained. We do not have any material constraints on the variable consideration included within the transaction price of our current revenue arrangements.

(amounts in millions, except per share amounts)

Disaggregation of Revenue

The Company disaggregates revenue from contracts with customers into product and geographical regions as summarized below.

	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Soliris				
United States	$ 404.5	$ 307.6	$ 1,136.3	$ 913.5
Europe	262.1	248.4	766.3	738.3
Asia Pacific	98.2	81.8	277.3	241.4
Rest of World	123.2	117.6	406.4	459.0
Total	$ 888.0	$ 755.4	$ 2,586.3	$ 2,352.2
Strensiq				
United States	$ 86.6	$ 70.6	$ 275.7	$ 203.9
Europe	16.6	9.6	47.0	23.3
Asia Pacific	7.2	5.2	19.2	13.3
Rest of World	2.8	1.6	7.1	3.7
Total	$ 113.2	$ 87.0	$ 349.0	$ 244.2
Kanuma				
United States	$ 13.7	$ 11.4	$ 38.6	$ 31.2
Europe	4.7	3.6	16.4	8.7
Asia Pacific	0.8	0.7	2.9	1.8
Rest of World	6.1	0.7	8.4	2.0
Total	$ 25.3	$ 16.4	$ 66.3	$ 43.7

Contract Balances and Receivables

Contract liabilities relate to consideration received and/or billed for goods that have not been delivered to the customer and for which the performance obligation has not yet been completed. These amounts are included within other current liabilities in the condensed consolidated statements of operations.

The following table provides information about receivables and contract liabilities from our contracts with customers.

	September 30, 2018	December 31, 2017
Receivables, which are included in "Trade accounts receivable, net"	$ 910.2	$ 726.5
Contract liabilities, which are included in "Other current liabilities"	$ 3.2	$ 15.9

Upon adoption of the new revenue recognition standard, on January 1, 2018, we reduced our deferred revenue balance by $10.4, with an offsetting increase of $6.0 in retained earnings due to the cumulative impact of adopting this new standard. The adjusted deferred revenue balance, as of January 1, 2018, was $5.5. We recognized this amount in revenue in the first quarter of 2018.

(amounts in millions, except per share amounts)

15. Income Taxes

The following table provides a comparative summary of our income tax expense and effective income tax rate for the three and nine months ended September 30, 2018 and 2017:

	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Income tax expense	$ 11.2	$ (19.8)	$ 152.5	$ 45.2
Effective tax rate	3.3%	(34.0)%	55.4%	9.9%

The income tax expense for the three and nine months ended September 30, 2018 and 2017 is attributable to the U.S. federal, state and foreign income taxes on our profitable operations. The increase in the effective tax rate for the three months ended September 30, 2018 as compared to the same period in the prior year is primarily attributable to the benefit of settling a routine Internal Revenue Service (IRS) examination in the prior year, offset by U.S. tax reform measurement period adjustments of $(53.1). The increase in the effective tax rate for the nine months ended September 30, 2018 as compared to the same period in the prior year is primarily attributable to the acquisition of Wilson Therapeutics, offset by U.S. tax reform measurement period adjustments and the benefit of settling a routine IRS examination in the prior year. Absent successful clinical results and regulatory approval, there is no alternative future use of the WTX101 asset acquired. Accordingly, the value of the asset of $803.7 was expensed in acquired in-process research and development for the nine months ended September 30, 2018. No tax benefit has been recognized for this expense, which resulted in an increase to the effective tax rate of 41.3%. Also included in the nine months ended September 30, 2018 is a U.S. tax reform measurement period adjustment to deferred taxes of $(14.7). This deferred tax benefit decreased the effective tax rate for the nine months ended September 30, 2018 by approximately 1.4%.

In December 2017, the Tax Act was enacted into law. The Tax Act decreased the U.S. federal corporate tax rate to 21.0%, imposed a minimum tax on foreign earnings related to intangible assets (GILTI), a one-time transition tax on previously unremitted foreign earnings, and modified the taxation of other income and expense items. With regard to the GILTI minimum tax, foreign earnings are reduced by the profit attributable to tangible assets and a deductible allowance of up to 50.0%, subject to annual limitations. We have elected to account for the impact of the minimum tax in deferred taxes.

We incorporated the impact of the Tax Act in our results or calculated provisional amounts for the tax effects of the Tax Act for the year ended December 31, 2017. As of September 30, 2018 we have concluded our accounting for the Tax Act as follows:

(a) We calculated a reasonable estimate of the one-time transition tax on previously unremitted earnings, which resulted in an increase to U.S. Federal tax expense of $177.9 and an increase to taxes payable, net of tax credits, of $28.0 in the period ended December 31, 2017. Our initial accounting for the transition tax was not complete as of December 31, 2017 because there was uncertainty regarding the calculation of the amounts subject to the tax. We completed our analysis of the transition tax and related interpretive guidance during the third quarter 2018. No significant measurement period adjustment to our initial accounting was required.

(b) We calculated a reasonable estimate of the Tax Act's limits on deductions for employee remuneration, including remuneration in kind, which resulted in an insignificant impact to tax expense, taxes payable, and deferred taxes in the period ended December 31, 2017. Our initial accounting for these limits was incomplete because there was uncertainty regarding the value of the deduction-limited remuneration. We completed our analysis of the relevant employee remuneration arrangements during the third quarter 2018. No measurement period adjustment to our initial accounting was required.

As of September 30, 2018, our initial accounting for the Tax Act is incomplete as follows:

(a) We calculated a reasonable estimate of the impact of the Tax Act to U.S. state income taxes, which resulted in an increase to tax expense, taxes payable, and deferred taxes of $2.9, $2.2, and $0.7, respectively, in the period ended December 31, 2017. We interpreted the effect of the Tax Act's changes to federal law on each U.S. state's system of taxation as of the date of enactment. However, additional analysis is required to determine the effect of modifications to federal deductions and income inclusions on these systems. No measurement period adjustment to our initial accounting was recorded for the three and nine months ended September 30, 2018.

(b) We calculated a reasonable estimate of the impact of the GILTI minimum tax on deferred taxes in the period ended December 31, 2017, which resulted in an increase to U.S. Federal tax expense and the deferred tax liability of $236.9. Our initial accounting for the minimum tax is incomplete because there is uncertainty regarding the calculation of the temporary differences that will be subject to the minimum tax. Additional analysis regarding the computation of these temporary differences and the expected timing and manner of their realization is required to complete our accounting. During the three months ended September 30, 2018 the Company recorded a measurement period adjustment of $(57.8) to income tax (benefit) as a result of analyzing the deductible allowance in deferred taxes.

(c) We calculated the deferred tax liability related to our foreign captive partnership in the period ended December 31, 2017 consistent with our calculation in periods prior to enactment of the Tax Act. As a result, the deferred tax liability we recorded as of December 31, 2017 of $533.4 related to our foreign captive partnership is provisional. Additional analysis of the direct and indirect effects of the Tax Act is required to complete our accounting for this item. We recorded a measurement period adjustment of $4.7 in U.S. state income tax expense and deferred taxes to this provisional estimate for the three months ended September 30, 2018.

In 2017, the IRS commenced an examination of our U.S. income tax returns for 2015. We anticipate this audit will conclude within the next twelve months. We have not been notified of any significant adjustments proposed by the IRS.

We have recorded tax on the undistributed earnings of our controlled foreign corporation (CFC) subsidiaries. To the extent CFC earnings may not be repatriated to the U.S. as a dividend distribution due to limitations imposed by law, we have not recorded the related potential withholding, foreign local, and U.S. state income taxes.

We continue to maintain a valuation allowance against certain deferred tax assets where realization is not certain.

16. Defined Benefit Plans

We maintain defined benefit plans for employees in certain countries outside the U.S., including retirement benefit plans required by applicable local law. The plans are valued by independent actuaries using the projected unit credit method. The liabilities correspond to the projected benefit obligations of which the discounted net present value is calculated based on years of employment, expected salary increases, and pension adjustments. The total net periodic benefit cost for the three and nine months ended September 30, 2018 and 2017 was not material.

17. Facility Lease Obligations

New Haven Facility Lease Obligation

In November 2012, we entered into a lease agreement for office and laboratory space to be constructed in New Haven, Connecticut. The term of the lease commenced in 2015 and will expire in 2030, with a renewal option of ten years. Although we do not legally own the premises, we are deemed to be the owner of the building due to the substantial improvements directly funded by us during the construction period based on applicable accounting guidance for build-to-suit leases. Accordingly, the landlord's costs of constructing the facility during the construction period are required to be capitalized, as a non-cash transaction, offset by a corresponding facility lease obligation in our consolidated balance sheets.

Construction of the facility was completed and the building was placed into service in the first quarter 2016. For each of the three and nine months ended September 30, 2018 and 2017, we recognized $3.5 and $10.6, respectively, of interest expense associated with this arrangement. As of September 30, 2018 and December 31,

2017, our total facility lease obligation was $134.0 and $134.6, respectively, recorded within other current liabilities and facility lease obligation on our condensed consolidated balance sheets.

Lonza Facility Lease Obligation

During the third quarter 2015, we entered into a new agreement with Lonza Group AG and its affiliates (Lonza) whereby Lonza will construct a new manufacturing facility dedicated to Alexion at one of its existing facilities. The agreement requires us to make certain payments during the construction of the new manufacturing facility and annual payments for ten years thereafter. As a result of our contractual right to full capacity of the new manufacturing facility, a portion of the payments under the agreement are considered to be lease payments and a portion as payment for the supply of inventory. Although we will not legally own the premises, we are deemed to be the owner of the manufacturing facility during the construction period based on applicable accounting guidance for build-to-suit leases due to our involvement during the construction period. Accordingly, the landlord's costs of constructing the facility during construction period are required to be capitalized, as a non-cash transaction, offset by a corresponding facility lease obligation in our consolidated balance sheets. The completion of the facility, including obtaining regulatory approval, is expected in 2019. As of September 30, 2018 and December 31, 2017, we recorded a construction-in-process asset of $203.4 and $180.6, respectively, and an offsetting facility lease obligation of $156.1 and $159.1, respectively, within other current liabilities and facility lease obligation on our condensed consolidated balance sheets.

Payments to Lonza under the agreement are allocated to the purchases of inventory and the repayment of the facility lease obligation on a relative fair value basis. During the nine months ended September 30, 2018, we incurred $53.7 of payments to Lonza under this agreement, of which $7.0 was applied against the outstanding facility lease obligation and $46.7 was recognized as a prepayment of inventory. See Note 18 for minimum fixed payments due under Lonza agreements.

Boston Facility Lease Obligation

In September 2017, we entered into a lease agreement for approximately 150,000 square feet of office space that was constructed in Boston, Massachusetts. The term of the lease commenced upon the landlord's substantial completion of our premises in the second quarter of 2018 and will expire on the thirteenth anniversary of commencement, with an option to renew for up to an additional ten years. Although we will not legally own the premises, due to our involvement during the construction period, we are deemed to be the owner of the portion of the building that we will lease based on applicable accounting guidance for build-to-suit leases. Accordingly, the landlord's costs of constructing the facility during the construction period were capitalized, as a non-cash transaction, offset by a corresponding facility lease obligation in our condensed consolidated balance sheets.

Construction of the facility was completed and the building was placed into service in the second quarter 2018. As of September 30, 2018 and December 31, 2017, our total facility lease obligation was $82.3 and $59.6, respectively, within facility lease obligation on our condensed consolidated balance sheets.

18. Commitments and Contingencies

Commitments

License Agreements

We have entered into a number of license agreements in order to advance and obtain technologies and services related to our business. License agreements generally require us to pay an initial fee and certain agreements call for future payments upon the attainment of agreed upon development and/or commercial milestones. These agreements may also require minimum royalty payments based on sales of products developed from the applicable technologies, if any.

Manufacturing Agreements

We have various manufacturing development and license agreements to support our clinical and commercial product needs.

We rely on Lonza, a third party manufacturer, to produce a portion of commercial and clinical quantities of our commercial products and product candidates. We have various manufacturing and license agreements with Lonza, with remaining total non-cancellable future commitments of approximately $1,174.7. If we terminate certain supply

agreements with Lonza without cause, we will be required to pay for product scheduled for manufacture under our arrangement. Under an existing arrangement with Lonza, we also pay Lonza a royalty on sales of Soliris that was manufactured at the Alexion Rhode Island Manufacturing Facility (ARIMF) prior to its sale and a payment with respect to sales of Soliris manufactured at Lonza facilities.

In addition to Lonza, we have non-cancellable commitments of approximately $63.6 through 2020 with other third party manufacturers.

Contingent Liabilities

We are currently involved in various claims, lawsuits and legal proceedings. On a quarterly basis, we review the status of each significant matter and assess its potential financial exposure. If the potential loss from any claim, asserted or unasserted, or legal proceeding is considered probable and the amount can be reasonably estimated, we accrue a liability for the estimated loss. Because of uncertainties related to claims and litigation, accruals are based on our best estimates based on information available at the time of the assessment. On a periodic basis, as additional information becomes available, or based on specific events such as the outcome of litigation or settlement of claims (and offers of settlement), we may reassess the potential liability related to these matters and may revise these estimates, which could result in a material adverse adjustment to our operating results.

We have received, and may in the future receive, notices from third parties claiming that their patents may be infringed by the development, manufacture or sale of our products. Under the guidance of ASC 450, *Contingencies*, we record a royalty accrual based on our best estimate of the fair value percent of net sales of our products that we could be required to pay the owners of patents for technology used in the manufacture and sale of our products. A costly license, or inability to obtain a necessary license, could have a material adverse effect on our financial results.

In May 2015, we received a subpoena in connection with an investigation by the Enforcement Division of the Securities and Exchange Commission (SEC) requesting information related to our grant-making activities and compliance with the Foreign Corrupt Practices Act (FCPA) in various countries. In addition, in October 2015, we received a request from the Department of Justice (DOJ) for the voluntary production of documents and other information pertaining to Alexion’s compliance with FCPA. The SEC and DOJ also seek information related to Alexion’s recalls of specific lots of Soliris and related securities disclosures. Alexion is cooperating with these investigations.

The investigations have focused on operations in various countries, including Brazil, Colombia, Japan, Russia and Turkey, and Alexion's compliance with the FCPA and other applicable laws.

At this time, Alexion is unable to predict the duration, scope or outcome of these investigations. While it is possible that a loss related to these matters may be incurred, given the ongoing nature of these investigations, management cannot reasonably estimate the potential magnitude of any such loss or range of loss, or the cost of the ongoing investigation. Any determination that our operations or activities are not or were not in compliance with existing laws or regulations could result in the imposition of fines, civil and criminal penalties, equitable remedies, including disgorgement, injunctive relief, and/or other sanctions against us, and remediation of any such findings could have an adverse effect on our business operations.

Alexion is committed to strengthening its compliance program and is currently implementing a comprehensive company-wide transformation plan to enhance and remediate its business processes, structures, controls, training, talent and systems across Alexion’s global operations. For information concerning the risks associated with the investigation, see our Risk Factor - "If we fail to comply with laws or regulations, we may be subject to investigations and civil or criminal penalties and our business could be adversely affected."

As previously reported, on December 29, 2016, a shareholder filed a putative class action against the Company and certain former employees in the U.S. District Court for the District of Connecticut, alleging that defendants made misrepresentations and omissions about Soliris. On April 12, 2017, the court appointed a lead plaintiff. On July 14, 2017, the lead plaintiff filed an amended putative class action complaint against the Company and seven current or former employees. The complaint alleges that defendants made misrepresentations and omissions about Soliris, including alleged misrepresentations regarding sales practices, management changes, and related investigations, between January 30, 2014 and May 26, 2017, and that the Company's stock price dropped upon the purported disclosure of the misrepresentations. Defendants moved to dismiss the amended complaint on September 12, 2017. Plaintiffs filed an opposition to defendants’ motion to dismiss on November 13, 2017, and defendants’ filed

a reply brief in further support of their motion on December 28, 2017. Defendants' motion to dismiss is now fully briefed and pending before the court. Given the early stages of this litigation, an estimate of the possible loss or range of loss cannot be made at this time.

In December 2016, we received a subpoena from the U.S. Attorney's Office for the District of Massachusetts requesting documents relating generally to our support of 501(c)(3) organizations that provide financial assistance to Medicare patients taking drugs sold by Alexion, Alexion's provision of free drug to Medicare patients, and Alexion compliance policies and training materials concerning the anti-kickback statute or payments to any 501(c)(3) organization that provides financial assistance to Medicare patients. We understand that the U.S. Attorney's Office and the DOJ are coordinating its inquiry with the Office of Inspector General (OIG) of the U.S. Department of Health and Human Services. Other companies have disclosed similar inquiries. We are cooperating with this inquiry. We are engaged in discussions with the DOJ about a potential resolution of this matter. There can be no assurance that any current or future discussions with the government to resolve these matters will be successful or that any potential settlement terms or amount will be agreed to or finalized. We are unable to predict when these matters will be resolved or what further action, if any, the government will take in connection with them.

In May 2017, Brazilian authorities seized records and data from our Sao Paulo, Brazil offices as part of an investigation being conducted into Alexion's Brazilian operations. We are cooperating with this inquiry.

In June 2017, we received a demand to inspect certain of our books and records pursuant to Section 220 of the General Corporation Law of the State of Delaware on behalf of a purported stockholder. Among other things, the demand sought to determine whether to institute a derivative lawsuit against certain of the Company's directors and officers in relation to the investigation by our Audit and Finance Committee announced in November 2016 and the investigations instituted by the SEC, DOJ, U.S. Attorney's Office for the District of Massachusetts, and Brazilian law enforcement officials that are described above. We have responded to the demand. Given the early stages of this matter, an estimate of the possible loss or range of loss cannot be made at this time.

On September 27, 2017, a hearing panel of the Canadian Patented Medicine Prices Review Board (PMPRB) issued a decision in a previously pending administrative pricing matter that we had excessively priced Soliris in a manner inconsistent with the Canadian pricing rules and guidelines. In its decision, the PMPRB ordered Alexion to decrease the price of Soliris to an upper limit based upon pricing in certain other countries, and to forfeit excess revenues for the period between 2009 and 2017. The amount of excess revenues was not determined to be a material amount. In October 2017, Alexion filed an application for judicial review of the PMPRB's decision in the Federal Court of Canada. A hearing is scheduled to take place in November 2018. At this time, we cannot predict the outcome of these judicial review proceedings or any appeals that may follow and cannot reasonably estimate the amount of any forfeitures that will be required to be made or the potential impact to future Soliris revenues in Canada relating to any potential future price reduction.

In October 2018, the Japanese Ministry of Health, Labor and Welfare conducted an administrative inspection of Alexion's Japanese operations. The MHLW inquiry has been primarily focused on our communication efforts regarding the proper use of Soliris in Japan for aHUS, among other matters. We have cooperated, and will continue to cooperate, with this inquiry. Given the early stages of this matter, an estimate of the possible loss or range of loss, or what further action, if any, the MHLW will take in connection with this matter, cannot be made at this time.

19. Restructuring and Related Expenses

In the first quarter of 2017, we initiated a company-wide restructuring designed to help position the Company for sustainable, long-term growth that we believe will further allow us to fulfill our mission of serving patients and families with rare diseases. The initial restructuring activities primarily focused on a reduction of the Company's global workforce. In September 2017, we committed to an operational plan to re-align the global organization with its refocused corporate strategy. The re-alignment focuses investments in priority growth areas to maximize leadership in complement and grow the rare disease business. The re-alignment also included the relocation of the Company's headquarters to Boston, Massachusetts which was completed in the second quarter of 2018. Our New Haven, Connecticut site continues to support employees working in the research and process development laboratories, the clinical supply and quality teams, nurse case management and a number of important enterprise business services. The plan also reduced the Company's global workforce by approximately 20.0%. The restructuring is designed to result in cost savings by focusing the development portfolio, simplifying business structures and processes across the Company's global operations, and closing of multiple Alexion sites, including ARIMF and certain regional and country-based offices.

(amounts in millions, except per share amounts)

The following table summarizes the total expenses recorded related to the restructuring activities by the type of activity and the locations recognized within the consolidated statements of operations:

	Three months ended September 30, 2018				Three months ended September 30, 2017			
	Employee Separation Costs	Asset-Related Charges	Other	Total	Employee Separation Costs	Asset-Related Charges	Other	Total
Cost of Sales	$ —	$ —	$ —	$ —	$ —	$ 83.0	$ —	$ 83.0
Research and Development	—	—	—	—	—	1.0	—	1.0
Selling, General and Administrative	—	7.9	—	7.9	—	6.4	—	6.4
Restructuring Expense	2.8	—	7.5	10.3	66.2	—	5.8	72.0
Other (Income) Expense	—	—	—	—	—	—	2.3	2.3
	$ 2.8	$ 7.9	$ 7.5	$ 18.2	$ 66.2	$ 90.4	$ 8.1	$ 164.7

	Nine months ended September 30, 2018				Nine months ended September 30, 2017			
	Employee Separation Costs	Asset-Related Charges	Other	Total	Employee Separation Costs	Asset-Related Charges	Other	Total
Cost of Sales	$ —	$ 5.8	$ —	$ 5.8	—	83.0	—	$ 83.0
Research and Development	—	0.1	—	0.1	—	1.0	—	$ 1.0
Selling, General and Administrative	—	18.0	—	18.0	—	6.4	—	$ 6.4
Restructuring Expense	6.9	—	19.5	26.4	86.3	—	12.4	$ 98.7
Other (Income) Expense	—	—	(0.1)	(0.1)	—	—	2.3	$ 2.3
	$ 6.9	$ 23.9	$ 19.4	$ 50.2	$ 86.3	$ 90.4	$ 14.7	$ 191.4

The following table presents a reconciliation of the restructuring reserve recorded within accrued expenses on the Company's condensed consolidated balance sheet for the three and nine months ended September 30, 2018:

	Three months ended September 30, 2018				Nine months ended September 30, 2018			
	Employee Separation Costs	Asset Charges	Other Costs	Total	Employee Separation Costs	Asset Charges	Other Costs	Total
Liability, beginning of period	$ 17.5	$ —	$ 2.6	$ 20.1	$ 53.8	$ —	$ 4.4	$ 58.2
Restructuring and Related Expenses	1.1	7.9	7.0	16.0	5.9	23.9	19.7	49.5
Cash settlements	(9.8)	—	(6.3)	(16.1)	(50.2)	—	(20.0)	(70.2)
Adjustments to previous estimates	1.7	—	0.5	2.2	1.0	—	(0.3)	0.7
Asset impairments	—	(7.9)	—	(7.9)	—	(23.9)	—	(23.9)
Liability, end of period	$ 10.5	$ —	$ 3.8	$ 14.3	$ 10.5	$ —	$ 3.8	$ 14.3

The restructuring reserve of $14.3 and $58.2 is recorded in accrued expenses on the Company's condensed consolidated balance sheet as of September 30, 2018 and December 31, 2017, respectively. We currently estimate incurring up to an additional $125.0 in restructuring and related expenses primarily related to contract termination and related charges. We expect approximately half of the remaining restructuring and related expenses will result in cash outlays and we expect to pay all accrued amounts related to this restructuring during the next fiscal year.

20. Subsequent Events

In October 2018, we entered into a collaboration agreement with Dicerna Pharmaceuticals, Inc. (Dicerna) that provides us with exclusive worldwide licenses and development and commercial rights for two pre-clinical RNA interference (RNAi) subcutaneously delivered molecules for complement-mediated diseases, as well as an exclusive option for other pre-clinical RNAi molecules for two additional targets within the complement pathway. In addition to the collaboration agreement, we made an equity investment in Dicerna. Under the terms of the agreements, we will make an upfront payment of $37.0 for the exclusive licenses and the equity investment. We could also be required to pay up to approximately $625.0 for option exercise fees and amounts due upon the achievement of specified research, development, regulatory and commercial milestones, as well as royalties on commercial sales.

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

Note Regarding Forward-Looking Statements

This quarterly report on Form 10-Q contains forward-looking statements that are being made pursuant to the provisions of the Private Securities Litigation Reform Act of 1995. Words such as "anticipates," "expects," "intends," "plans," "believes," "seeks," "estimates," "committed," variations of such words and similar expressions are intended to identify such forward-looking statements, although not all forward-looking statements contain these identifying words. Forward-looking statements are not guarantees of future performance and are subject to certain risks, uncertainties, and assumptions that are difficult to predict; therefore, actual results may differ materially from those expressed or forecasted in any such statements. Such forward-looking statements are based on current expectations, estimates and projections about our industry, management's beliefs, and certain assumptions made by our management, and may include, but are not limited to, statements regarding:

- the potential benefits and commercial potential of Soliris®, Strensiq® and Kanuma® for approved indications and any expanded uses, timing and effect of sales of our products in various markets worldwide, pricing for our products, level of insurance coverage and reimbursement for our products, timing regarding development and regulatory approvals for additional indications or in additional territories;
- the medical and commercial potential of ALXN 1210, as well as Soliris for additional indications;
- Soliris will continue to contribute a significant percentage of total revenue for the next several years and that demand for Soliris will increase;
- future costs, expenses and capital requirements, interest rates, cash outflows, operating expenses, capital investment, cash from operations, investment in certain facilities, status of reimbursement, price approval and funding processes in various countries worldwide;
- adequacy of cash resources to fund operations, fund acquisitions, as well as pay future contingent consideration obligations and payments under license agreements (and expected impact on liquidity), acquisition agreements and to make principal and interest payments under our debt agreement;
- the safety and efficacy of our products and our product candidates;
- the date of completion of construction and the regulatory approval of certain manufacturing and fill/finish facilities;
- expected impact of delay in collecting accounts receivable;
- the planned closing of acquisitions and the timing of the completion of acquisitions;
- impact of currency fluctuations;
- the expected impact of regulatory and legislative programs and government reimbursement and coverage;
- status of our ongoing clinical trials for eculizumab, ALXN1210 and our other product candidates, commencement dates for new clinical trials, clinical trial results, evaluation of our clinical trial results by regulatory agencies, the adequacy of our pharmacovigilance and drug safety reporting processes, anticipated filing and prospects for regulatory approval of our products and our product candidates, need for additional research and testing, the uncertainties involved in the drug development process and manufacturing;
- performance and reliance on third party service providers;
- our future research and development activities, plans for acquired programs, business development actions, our ability to develop and commercialize products with our collaborators;
- assessment of competitors and potential competitors;
- anticipated completion of tax audits;
- recoverability of the cost basis of certain debt securities;
- periods of patent, regulatory and market exclusivity for our products;
- estimated amortization expense for certain intangible assets;
- the scope of our intellectual property and the outcome of any challenges or opposition to our intellectual property;
- assertion or potential assertion by third parties that the manufacture, use or sale of our products infringes their intellectual property;
- the impact of new accounting standards and the Tax Act on the Company's results of operations;

- compliance program transformation and improvements;
- estimates of the capacity of manufacturing and other service facilities to support our products and our product candidates;
- the expected benefits and the estimates of additional restructuring and related expenses and the timing of the payment of such amounts; and
- potential costs resulting from product liability or other third party claims.

Such risks and uncertainties include, but are not limited to, the possibility that expected tax benefits will not be realized, assessment of impact of recent accounting pronouncements, potential declines in sovereign credit ratings or sovereign defaults in countries where we sell our products, delay of collection or reduction in reimbursement due to adverse economic conditions or changes in government and private insurer regulations and approaches to reimbursement, uncertainties surrounding legal proceedings, company investigations and government investigations, including our Securities and Exchange Commission (SEC) and U.S. Department of Justice (DOJ) investigations, the securities class action litigation filed in December 2016, the inquiry by the U.S. Attorney's Office for the District of Massachusetts requesting documents relating generally to our support of patient assistance programs, the investigation of our Brazilian operations by Brazilian authorities and the inspection of our Japanese operations by the MHLW, risks related to challenges to our intellectual property portfolio or claims that we infringe third party intellectual property rights, the short and long-term effects of other government healthcare measures, and the effect of shifting foreign exchange rates, as well as those risks and uncertainties discussed later in this report under the section entitled “Risk Factors.” Unless required by law, we undertake no obligation to update publicly any forward-looking statements, whether because of new information, future events or otherwise. However, readers should carefully review the risk factors set forth in this and other reports or documents we file from time to time with the SEC.

Overview

Alexion Pharmaceuticals, Inc. (Alexion, the Company, we, our or us) is a global biopharmaceutical company focused on serving patients and families affected by rare diseases through the innovation, development and commercialization of life-changing therapies.

We are the global leader in complement inhibition and have developed and commercialize the first and only approved complement inhibitor to treat patients with paroxysmal nocturnal hemoglobinuria (PNH), atypical hemolytic uremic syndrome (aHUS), and anti-acetylcholine receptor (AChR) antibody-positive generalized myasthenia gravis (gMG). In addition, Alexion has two highly innovative enzyme replacement therapies for patients with life-threatening and ultra-rare metabolic disorders, hypophosphatasia (HPP) and lysosomal acid lipase deficiency (LAL-D).

As the leader in complement biology for over 20 years, Alexion focuses its research efforts on novel molecules and targets in the complement cascade, and its development efforts on the core therapeutic areas of hematology, nephrology, neurology, and metabolic disorders.

Recent Developments

In the second quarter 2018, we completed the acquisition of more than 99% of the equity interests of Wilson Therapeutics AB (publ), a biopharmaceutical company based in Stockholm, Sweden (Wilson Therapeutics), pursuant to a recommended public cash offer to all Wilson Therapeutics AB shareholders. Wilson Therapeutics develops a novel therapy for patients with rare copper-mediated disorders and, pursuant to the acquisition, we added WTX101, a highly innovative drug candidate that is currently in the early stages of Phase III clinical trials for the treatment of patients with Wilson disease, to our clinical pipeline.

In June 2018, we submitted a Biologics License Application (BLA) to the U.S. Food and Drug Administration (FDA) for approval of Ultomiris™ (also referred to as ALXN1210), our investigational long-acting C5 complement inhibitor, for the treatment of patients with paroxysmal nocturnal hemoglobinuria (PNH) as well as a Marketing Authorization Application to the European Medicines Agency (EMA) for Ultomiris for the treatment of patients with PNH. In September 2018, ALXN1210 (PNH) was designated as an orphan drug in Japan. In September 2018, we also filed an application with Japan's Pharmaceuticals and Medical Devices Agency (PDMA) for the approval of Ultomiris for PNH.

On June 7, 2018, we entered into an Amended and Restated Credit Agreement (the Credit Agreement), with Bank of America, N.A. as Administrative Agent. The Credit Agreement amends and restates our credit agreement dated as of June 22, 2015 (the Prior Credit Agreement). The Credit Agreement amended the Prior Credit Agreement to, among other things, increase the amount available under the revolving credit facility from $500.0 to $1,000.0 and extend the maturity date of the revolving credit facility and the term loan facility to June 7, 2023.

In September 2018, we entered into a definitive agreement to acquire Syntimmune, Inc. (Syntimmune), a clinical-stage biotechnology company developing an antibody therapy targeting the neonatal Fc receptor (FcRn). Syntimmune's lead candidate, SYNT001, is a monoclonal antibody that inhibits the interaction of FcRn with Immunoglobulin G (IgG) and IgG immune complexes, and is being studied in Phase 1b/2a trials for the treatment of IgG-mediated autoimmune diseases. Under the terms of the agreement, Alexion will acquire Syntimmune for an upfront payment of $400.0, with the potential for additional milestone-dependent payments of up to $800.0, for a total value of up to $1,200.0. The acquisition of Syntimmune, which is subject to the satisfaction of customary closing conditions (including approval from relevant regulatory agencies), is expected to close in the fourth quarter of 2018. We intend to finance the acquisition through cash on hand and account for the transaction as an asset acquisition.

Products and Development Programs

We focus our product development programs on life-transforming therapeutics for rare diseases for which current treatments are either non-existent or inadequate.

Marketed Products

Our marketed products consist of the following:

Product	Development Area	Indication
SOLIRIS® (eculizumab) Injection for Intravenous Use	Hematology	Paroxysmal Nocturnal Hemoglobinuria (PNH)
	Hematology/Nephrology	Atypical Hemolytic Uremic Syndrome (aHUS)
	Neurology	Generalized Myasthenia Gravis (gMG)
Strensiq® (asfotase alfa) for injection	Metabolic Disorders	Hypophosphatasia (HPP)
Kanuma® sebelipase alfa intravenous infusion	Metabolic Disorders	Lysosomal Acid Lipase Deficiency (LAL-D)

Soliris (eculizumab)

Soliris is designed to inhibit a specific aspect of the complement component of the immune system and thereby treat inflammation associated with chronic disorders in several therapeutic areas, including hematology, nephrology and neurology. Soliris is a humanized monoclonal antibody that effectively blocks terminal complement activity at the doses currently prescribed. The initial indication for which we received approval for Soliris is PNH.

Paroxysmal Nocturnal Hemoglobinuria (PNH)

PNH is a debilitating and life-threatening, ultra-rare genetic blood disorder defined by chronic uncontrolled complement activation leading to the destruction of red blood cells (hemolysis). The chronic hemolysis in patients with PNH may be associated with life-threatening thrombosis, recurrent pain, kidney disease, disabling fatigue, impaired quality of life, severe anemia, pulmonary hypertension, shortness of breath and intermittent episodes of dark-colored urine (hemoglobinuria). We continue to work with researchers to expand the base of knowledge in PNH and the utility of Soliris to treat patients with PNH. Soliris is approved for the treatment of PNH in the U.S., Europe, Japan and in several other countries. We are sponsoring a multinational registry to gather information regarding the natural history of patients with PNH and the longer term outcomes during Soliris treatment. In addition, Soliris has been granted orphan drug designation for the treatment of PNH in the U.S., Europe, Japan and several other countries.

Atypical Hemolytic Uremic Syndrome (aHUS)

aHUS is a severe and life-threatening, ultra-rare genetic disease characterized by chronic uncontrolled complement activation and thrombotic microangiopathy (TMA), the formation of blood clots in small blood vessels throughout the body, causing a reduction in platelet count (thrombocytopenia) and life-threatening damage to the kidney, brain, heart and other vital organs. Soliris is approved for the treatment of pediatric and adult patients with aHUS in the U.S., Europe, Japan and in several other countries. We are sponsoring a multinational registry to gather information regarding the natural history of patients with aHUS and the longer-term outcomes during Soliris treatment. In addition, the U.S. Food and Drug Administration (FDA) and European Commission (EC) have granted Soliris orphan drug designation for the treatment of patients with aHUS.

Generalized Myasthenia Gravis (gMG)

Myasthenia Gravis (MG) is a debilitating, complement-mediated neuromuscular disease in which patients suffer profound muscle weakness throughout the body, resulting in slurred speech, impaired swallowing and choking, double vision, upper and lower extremity weakness, disabling fatigue, shortness of breath due to respiratory muscle weakness and episodes of respiratory failure. Soliris has received orphan drug designation for the treatment of patients with MG in the U.S. and Europe, and for the treatment of patients with refractory gMG, a subset of MG, in Japan.

In August 2017, we announced that the EC approved the extension of the indication for Soliris to include the treatment of refractory gMG in adults who are anti-acetylcholine receptor (AChR) antibody-positive. In October 2017, the FDA approved the Company's supplemental Biologics License Application to extend the indication for Soliris as a potential treatment for adult patients with gMG who are AChR antibody-positive. In December 2017, the Ministry of Health, Labour and Welfare (MHLW) in Japan approved Soliris as a treatment for patients with gMG who are AChR antibody-positive and whose symptoms are difficult to control with high-dose intravenous immunoglobulin therapy or plasmapheresis.

Strensiq (asfotase alfa)

Hypophosphatasia (HPP)

HPP is an ultra-rare genetic and progressive metabolic disease in which patients experience devastating effects on multiple systems of the body, leading to debilitating or life-threatening complications. HPP is characterized by defective bone mineralization that can lead to deformity of bones and other skeletal abnormalities, as well as systemic complications such as profound muscle weakness, seizures, pain, and respiratory failure leading to premature death in infants.

Strensiq, a targeted enzyme replacement therapy, is the first and only approved therapy for patients with HPP and is designed to directly address underlying causes of HPP by aiming to restore the genetically defective metabolic process, thereby preventing or reversing the severe and potentially life-threatening complications in patients with HPP. In 2015, the FDA approved Strensiq for patients with perinatal-, infantile- and juvenile-onset HPP, the EC granted marketing authorization for Strensiq for the treatment of patients with pediatric-onset HPP, and the MHLW approved Strensiq for the treatment of patients with HPP. We are sponsoring a multinational registry to gather information regarding the natural history of patients with HPP and the longer-term outcomes during Strensiq treatment.

Kanuma (sebelipase alfa)

Lysosomal Acid Lipase Deficiency (LAL Deficiency or LAL-D)

LAL-D is a serious, life-threatening ultra-rare disease associated with premature mortality and significant morbidity. LAL-D is a chronic disease in which genetic mutations result in decreased activity of the LAL enzyme that leads to marked accumulation of lipids in vital organs, blood vessels, and other tissues, resulting in progressive and systemic organ damage including hepatic fibrosis, cirrhosis, liver failure, accelerated atherosclerosis, cardiovascular disease, and other devastating consequences.

Kanuma, a recombinant form of the human LAL enzyme, is the only enzyme-replacement therapy that is approved for the treatment for patients with LAL-D. In 2015, the FDA approved Kanuma for the treatment of patients with LAL-D and the EC granted marketing authorization of Kanuma for long-term enzyme replacement therapy in patients of all ages with LAL-D. In 2016, the MHLW approved Kanuma for the treatment of patients of all ages in Japan with LAL-D. We are sponsoring a multinational registry to gather information regarding the natural history of patients with LAL-D and the longer-term outcomes during Kanuma treatment.

(amounts in millions, except per share amounts)

Clinical Development Programs

Our clinical development programs include the following:

Product	Development Area	Indication	Phase I	Phase II	Phase III	Filed
ALXN1210 (IV)	Hematology	Paroxysmal Nocturnal Hemoglobinuria (PNH)				1
	Hematology/Nephrology	Atypical Hemolytic Uremic Syndrome (aHUS)			1	
	Neurology	Generalized Myasthenia Gravis (gMG)			1	
ALXN1210 (Subcutaneous)	Hematology/Nephrology	PNH/aHUS			1	
ALXN1810 *(Subcutaneous)*	Next Generation Subcutaneous Complement Inhibitor		1			
Soliris (eculizumab)	Neurology	Relapsing Neuromyelitis Optica Spectrum Disorder (NMOSD)			1	
WTX101	Metabolics	Wilson disease			1	

ALXN1210

ALXN1210 is an innovative, long-acting C5 inhibitor discovered and developed by Alexion that works by inhibiting the C5 protein in the terminal complement cascade. In early studies, ALXN1210 demonstrated rapid, complete, and sustained reduction of free C5 levels.

Paroxysmal Nocturnal Hemoglobinuria (PNH)

Chronic hemolysis in patients with PNH may be associated with life-threatening thrombosis, recurrent pain, kidney disease, disabling fatigue, impaired quality of life, severe anemia, pulmonary hypertension, shortness of breath and intermittent episodes of dark-colored urine (hemoglobinuria).

In May 2016 and January 2017, the Committee for Orphan Medicinal Products and the FDA, respectively, granted orphan drug designation to ALXN1210, for the treatment of patients with PNH.

In February 2018, we began enrolling in a Phase III, open-label, single-arm multicenter study to evaluate the PK/PD, safety, and efficacy of ALXN1210 administered by IV infusion to pediatric patients with PNH, including patients who have never received treatment with a complement inhibitor and those who enter the study stabilized on Soliris.

In March 2018, we announced that the pivotal Phase III, open-label, randomized, active-controlled multicenter study to evaluate the safety and efficacy of ALXN1210 versus Soliris administered by intravenous (IV) infusion every 8 weeks to adult patients with PNH who have never received treatment with a complement inhibitor demonstrated non-inferiority to Soliris in complement inhibitor treatment-naïve patients with PNH based on the co-primary endpoints of transfusion avoidance and normalization of LDH levels, a direct marker of complement-mediated hemolysis in PNH. The study also demonstrated non-inferiority on all four key secondary endpoints: percentage change from baseline in LDH levels, change from baseline in quality of life as assessed by the Functional Assessment of Chronic Illness Therapy (FACIT)-Fatigue scale, proportion of patients with breakthrough hemolysis, and proportion of patients with stabilized hemoglobin levels. In addition, numeric results for all six endpoints favored ALXN1210. There were no notable differences in the safety profiles for ALXN1210 and Soliris in the study.

In April 2018, we announced the results of a Phase III study of ALXN1210 to evaluate the safety and efficacy of ALXN1210 versus Soliris in patients with PNH who have been treated with Soliris for at least the past 6 months. The study demonstrated non-inferiority of ALXN1210 to Soliris in patients with PNH who had been stable on Soliris based on the primary endpoint of change in LDH levels, a direct marker of complement-mediated hemolysis in PNH. The study also demonstrated non-inferiority on all four key secondary endpoints: the proportion of patients with breakthrough hemolysis, the change from baseline in quality of life as assessed via the FACIT-Fatigue Scale, the proportion of patients avoiding transfusion, and the proportion of patients with stabilized hemoglobin levels. In addition, numeric results for all five endpoints favored ALXN1210. In the study, ALXN1210 had a safety profile that is consistent with that for Soliris.

In June 2018, we submitted a BLA to the FDA for approval of ALXN1210 for the treatment of patients with PNH. The submission uses a rare disease priority review voucher, which designates the BLA for an expedited eight-month review by the FDA instead of the standard twelve-month review. The FDA set a Prescription Drug User Fee Act (PDUFA) date of

February 18, 2019, as part of this expedited eight-month review.

In June 2018, we submitted an MAA to the EMA for approval of ALXN1210 for the treatment of patients with PNH and in July 2018 the MAA was accepted in the EU and the review procedure started.

In September 2018, ALXN1210 (PNH) was designated as an orphan drug in Japan and we also filed an application with the PDMA for the approval of ALXN1210 for PNH.

Atypical Hemolytic Uremic Syndrome (aHUS)

In patients with aHUS, complement-mediated TMA leads to life-threatening damage to the kidney, brain, heart and other vital organs.

Enrollment was completed in late May 2018 in a Phase III, single arm, multicenter study to evaluate the safety and efficacy of ALXN1210 administered by IV infusion every 8 weeks to adult patients with aHUS who have never been treated with a complement inhibitor. A second Phase III, single arm, multicenter study to evaluate the safety, efficacy, pharmacokinetics (PK), and pharmacodynamics of ALXN1210 administered by IV infusion every 8 weeks in pediatric patients (including adolescents) with aHUS who have never been treated with a complement inhibitor is ongoing.

Generalized Myasthenia Gravis (gMG)

Myasthenia Gravis (MG) is a debilitating, complement-mediated neuromuscular disease in which patients suffer profound muscle weakness throughout the body, resulting in slurred speech, impaired swallowing and choking, double vision, upper and lower extremity weakness, disabling fatigue, shortness of breath due to respiratory muscle weakness and episodes of respiratory failure.

Alexion plans to initiate a study with ALXN1210 administered by intravenous (IV) infusion every 8 weeks to adult patients for the treatment of gMG, a debilitating, chronic and progressive autoimmune neuromuscular disease, in 2019.

Subcutaneous (SC) Delivery

In late 2018, Alexion plans to initiate a single, PK-based Phase III study of ALXN1210 delivered subcutaneously once per week to PNH patients to support registration in both PNH and aHUS.

In October 2017, the FDA granted orphan drug designation to the subcutaneous formulation of ALXN1210 for the treatment of aHUS.

ALXN1810 Subcutaneous (SC) Delivery

ALXN1810 combines ALXN1210 with recombinant human hyaluronidase enzyme (rHuPH20) from Halozyme Therapeutics, Inc. to potentially further extend the dosing interval for ALXN1210 SC to once every two weeks or once per month. A SC healthy volunteer study with ALXN1810 was initiated in August 2018.

Soliris (eculizumab)

Relapsing Neuromyelitis Optica Spectrum Disorder (NMOSD)

Relapsing NMOSD is a severe and ultra-rare autoimmune disease of the central nervous system that primarily affects the optic nerves and spinal cord. Each relapse of the disorder results in a stepwise accumulation of disability, including blindness and paralysis, and sometimes premature death. In September 2018, we announced the results of the Phase III global, randomized, double-blind, placebo-controlled study to evaluate eculizumab as a treatment for patients with relapsing NMOSD. The study met its primary endpoint of time to first adjudicated on-trial relapse, demonstrating that treatment with Soliris reduced the risk of NMOSD relapse by 94.2 percent compared to placebo. At 48 weeks, 97.9 percent of patients receiving Soliris were free of relapse compared to 63.2 percent of patients receiving placebo. Soliris had a safety profile consistent with that seen in previous clinical studies. The FDA, EC, and MHLW have each granted orphan designation for eculizumab as a treatment for patients with relapsing NMOSD.

WTX101

Wilson's Disease

Wilson disease is a rare disorder that can lead to severe liver disease, including cirrhosis and acute liver failure, as well as debilitating neurological morbidities such as impaired movement, gait, speech, swallowing, and psychiatric disorders. WTX101, an innovative product candidate that addresses the underlying cause of Wilson disease, is a first-in-class oral copper-binding agent with a unique mechanism of action and ability to access and bind copper from serum and promote its removal from the liver.

WTX101 is in Phase III development as a treatment for Wilson disease. In addition, WTX101 has received Fast Track designation in the U.S. and Orphan Drug Designation for the treatment of Wilson disease in the U.S. and EU.

Manufacturing

We currently rely on internal manufacturing facilities and third party contract manufacturers, including Lonza Group AG and its affiliates (Lonza), to supply clinical and commercial quantities of our commercial products and product candidates. Our internal manufacturing facilities include our Ireland manufacturing facilities, and facilities in Massachusetts and Georgia. We also utilize third party contract manufacturers for other manufacturing services including purification, product filling, finishing, packaging, and labeling.

We have various agreements with Lonza through 2028, with remaining total non-cancellable commitments of approximately $1,174.7. If we terminate certain supply agreements with Lonza without cause, we will be required to pay for product scheduled for manufacture under our arrangements. Under an existing arrangement with Lonza, we also pay Lonza a royalty on sales of Soliris that was manufactured at our Rhode Island Manufacturing Facility (ARIMF) and a payment with respect to sales of Soliris manufactured at Lonza facilities. During 2015, we entered into a new supply agreement with Lonza whereby Lonza will construct a new manufacturing facility dedicated to Alexion manufacturing at one of its existing facilities. While we sold the ARIMF facility in the third quarter of 2018, we continue to pay royalties to Lonza as the product manufactured at the facility while we were owner is still being sold.

In addition, we have non-cancellable commitments of approximately $63.6 through 2020 with other third party manufacturers.

In April 2014, we purchased a fill/finish facility in Athlone, Ireland, which has been refurbished to become our first company-owned fill/finish facility. In July 2016, we announced plans to construct a new biologics manufacturing facility at this site, which is expected to be completed and receive regulatory approval in 2019.

In May 2015, we announced plans to construct a new biologics manufacturing facility on our existing property in Dublin, Ireland, which is expected to be completed and receive regulatory approval in 2020.

Critical Accounting Policies and the Use of Estimates

The significant accounting policies and basis of preparation of our consolidated financial statements are described in Note 1, “Business Overview and Summary of Significant Accounting Policies” of the Consolidated Financial Statements included in our Form 10-K for the year ended December 31, 2017. Under accounting principles generally accepted in the U.S., we are required to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and disclosure of contingent assets and liabilities in our financial statements. Actual results could differ materially from those estimates.

We believe the judgments, estimates and assumptions associated with the following critical accounting policies have the greatest potential impact on our consolidated financial statements:

- Revenue recognition;
- Contingent liabilities;
- Inventories;
- Share-based compensation;
- Valuation of goodwill, acquired intangible assets and in-process research and development;
- Valuation of contingent consideration; and
- Income taxes.

For a complete discussion of these critical accounting policies, refer to “Critical Accounting Policies and Use of Estimates” within “Item 7 - Management's Discussion and Analysis of Financial Condition and Results of Operations” included within our Form 10-K for the year ended December 31, 2017. Updates to our critical accounting policy for revenue recognition, including impacts from the adoption of the new revenue accounting standard, are discussed within Note 14, *Revenue Recognition*.

New Accounting Pronouncements

In February 2016, the Financial Accounting Standards Board (FASB) issued a new standard requiring that the rights and obligations arising from leases be recognized on the balance sheet by recording a right-of-use (ROU) asset and corresponding lease liability. The new standard also requires qualitative and quantitative disclosures to understand the amount, timing, and uncertainty of cash flows arising from leases, as well as significant management estimates utilized. The standard is effective for interim and annual periods beginning after December 15, 2018 and requires a modified retrospective adoption. In July 2018, the FASB issued an update with an optional transition method when adopting the new leases standard. Under this new transition method, an entity initially applies the new leases standard at the adoption date and recognizes a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption rather than recast the comparative periods presented in the year of adoption. We plan to elect this optional method. We have substantially completed the process of collecting and continue to analyze the Company's lease contracts and during the third quarter 2018, we started implementing our leasing software, including data upload and test procedures. Our lease accounting software implementation efforts are ongoing. While our assessment of the standard remains open, the standard may have a material impact on the Company's Condensed Consolidated Balance Sheets due to the requirement to recognize lease ROU assets and corresponding liabilities related to leases on the Company's Condensed Consolidated Balance Sheets.

In June 2016, the FASB issued a new standard intended to improve reporting requirements specific to loans, receivables and other financial instruments. The new standard requires that credit losses be reported based on expected losses compared to the current incurred loss model. The new standard also requires enhanced disclosure of credit risk associated with respective assets. The standard is effective for interim and annual periods beginning after December 15, 2019 with early adoption permitted. We are currently assessing the impact of this standard on our financial condition and results of operations.

In February 2018, the FASB issued a new standard that would permit entities to make a one time reclassification from accumulated other comprehensive income (AOCI) to retained earnings for the stranded tax effects resulting from the newly enacted corporate tax rates under the Tax Cuts and Jobs Act (the Tax Act), that was effective for the year ended December 31, 2017. The amount of the reclassification is calculated on the basis of the difference between the historical tax rate and newly enacted tax rate. The standard is effective for interim and annual periods beginning after December 15, 2018 with early adoption permitted. We are currently assessing the impact of this standard on our financial condition.

In August 2018, the FASB issued a new standard on a customer's accounting for implementation, set-up, and other upfront costs incurred in a cloud computing arrangement (CCA). Under the new guidance, customers will assess if a CCA includes a software license and if a CCA does include a software license, implementation and set-up costs will be accounted for consistent with existing internal-use software implementation guidance. Implementation costs associated with a CCA that does not include a software license would be expensed to operating expenses. The standard also provides classification guidance on these implementation costs as well as additional quantitative and qualitative disclosures. The standard is effective for public business entities for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted, including adoption in any interim periods. Entities can choose to adopt the new guidance prospectively or retrospectively. We are still assessing the impact this standard will have on our statement of financial condition and results of operations.

Recently Adopted Accounting Pronouncements

In May 2014, the FASB issued a comprehensive new standard which amends revenue recognition principles and provides a single set of criteria for revenue recognition among all industries. The new standard provides a five-step framework whereby revenue is recognized when promised goods or services are transferred to a customer at an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. We adopted the new standard on January 1, 2018.

In January 2017, the FASB issued a new standard that clarifies the definition of a business and determines when an integrated set of assets and activities is not a business. This framework requires that if substantially all of the fair value of gross assets acquired or disposed of is concentrated in a single asset or group of similar identifiable assets, the assets would not represent a business. We adopted the new standard on January 1, 2018 and will apply the new guidance prospectively to transactions occurring after adoption. We anticipate that the adoption of this new standard will likely result in more transactions, to the extent that such transactions are undertaken by the Company, being accounted for as asset acquisitions.

In January 2016, the FASB issued a new standard that changes accounting for equity

investments, financial liabilities under the fair value option, and presentation and disclosure requirements for financial instruments. In addition, the FASB clarified guidance related to the valuation allowance assessment when recognizing deferred tax assets resulting from unrealized losses on available-for-sale debt securities. Equity investments with readily determinable fair values will be measured at fair value with changes in fair value recognized in net income. Companies have the option to either measure equity investments without readily determinable fair values at fair value, or at cost adjusted for changes in observable prices minus impairment. We adopted the new standard on January 1, 2018, and have elected to measure our current equity investments without readily determinable fair values at cost adjusted for changes in observable prices minus impairment. In connection with the adoption of the new standard, we reclassified an immaterial amount of unrealized gains on equity securities from other comprehensive income to retained earnings. The guidance related to equity investments without readily determinable fair values was applied prospectively to equity investments that existed as of the date of adoption. We will assess our equity investments without readily determinable fair values for observable price changes and impairment on a quarterly basis. Refer to Note 10, *Other Investments*, for further details.

In March 2017, the FASB issued a new standard that improves the presentation of net periodic pension cost and net periodic post retirement benefit cost by requiring the bifurcation of net benefit cost. Under the new standard, the service cost component of net benefit cost will be presented with other employee costs in operating expenses; while other components will be reported separately in other income and expense. We adopted the new standard on January 1, 2018. The adoption of this standard did not have a material impact on our condensed consolidated statements of operations.

In November 2016, the FASB issued a new standard that clarifies how entities should present restricted cash in the statement of cash flows. Under the new standard, changes in total cash, inclusive of restricted cash, should be reflected in the statement of cash flows. As a result, transfers between cash and restricted cash will no longer be reflected as activity within the statement of cash flows. We adopted the new standard on January 1, 2018. The adoption of this standard did not have a material impact on our condensed consolidated statements of cash flows.

In August 2017, the FASB issued a new standard intended to improve and simplify certain aspects of the accounting for hedges. The new standard is intended to more closely align hedge accounting with companies' risk management strategies, simplify the application of hedge accounting, and increase transparency as to the scope and results of hedging programs. It also amends the presentation and disclosure requirements and changes how companies assess effectiveness. The standard is effective for interim and annual periods beginning after December 15, 2018 with early adoption permitted. We early adopted the new standard in the second quarter 2018 using the modified retrospective method. The adoption of this standard did not have a material impact on our condensed consolidated financial statements.

(amounts in millions, except per share amounts)

Results of Operations

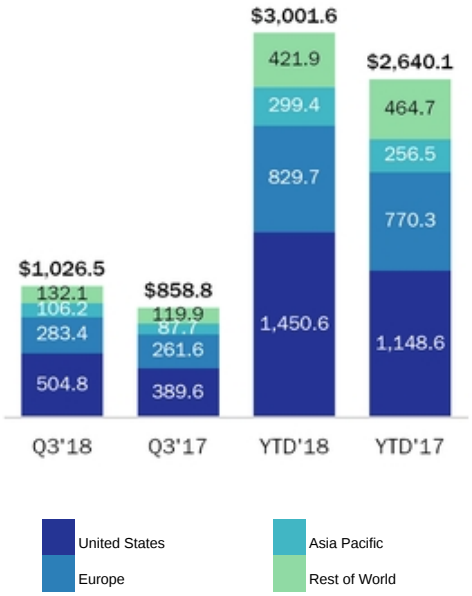
Net Product Sales

Net product sales by significant geographic region for the three and nine months ended September 30, 2018 and 2017 are as follows:

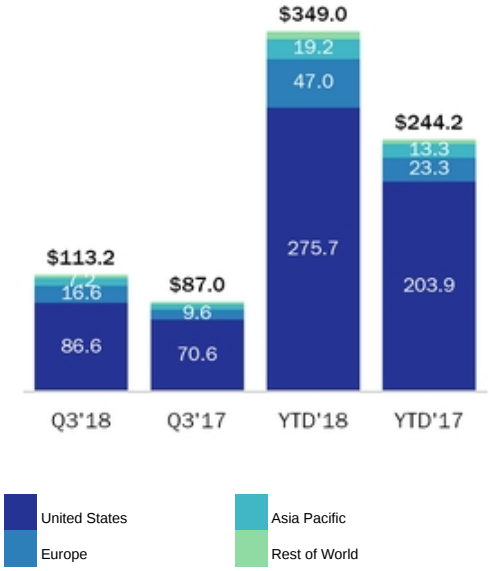
	Three months ended September 30,		%	Nine months ended September 30,		%
	2018	2017	Change	2018	2017	Change
Soliris						
United States	$ 404.5	$ 307.6	31.5%	$ 1,136.3	$ 913.5	24.4 %
Europe	262.1	248.4	5.5%	766.3	738.3	3.8 %
Asia Pacific	98.2	81.8	20.0%	277.3	241.4	14.9 %
Rest of World	123.2	117.6	4.8%	406.4	459.0	(11.5)%
Total	$ 888.0	$ 755.4	17.6%	$ 2,586.3	$ 2,352.2	10.0 %
Strensiq						
United States	$ 86.6	$ 70.6	22.7%	$ 275.7	$ 203.9	35.2 %
Europe	16.6	9.6	72.9%	47.0	23.3	101.7 %
Asia Pacific	7.2	5.2	38.5%	19.2	13.3	44.4 %
Rest of World	2.8	1.6	75.0%	7.1	3.7	91.9 %
Total	$ 113.2	$ 87.0	30.1%	$ 349.0	$ 244.2	42.9 %
Kanuma						
United States	13.7	11.4	20.2%	38.6	31.2	23.7 %
Europe	4.7	3.6	30.6%	16.4	8.7	88.5 %
Asia Pacific	0.8	0.7	14.3%	2.9	1.8	61.1 %
Rest of World	6.1	0.7	**	8.4	2.0	**
Total	$ 25.3	$ 16.4	54.3%	$ 66.3	$ 43.7	51.7 %
Total Net Product Sales	$ 1,026.5	$ 858.8	19.5%	$ 3,001.6	$ 2,640.1	13.7 %

** Percentages not meaningful

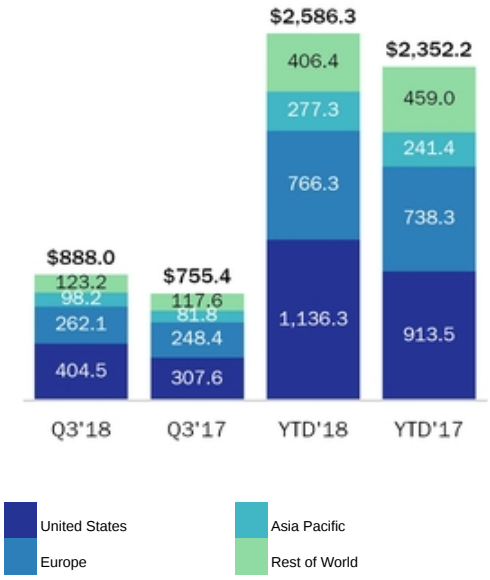
Net Product Sales



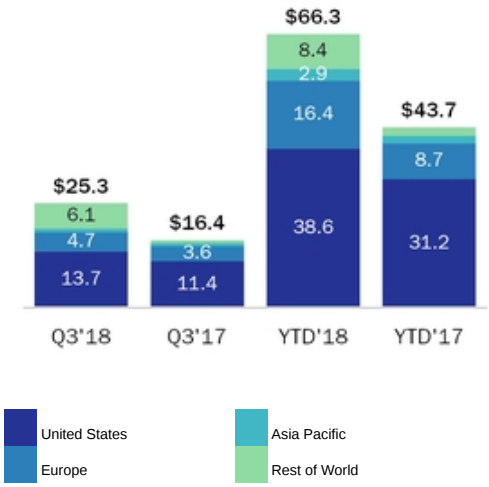
Strensiq net product sales



Soliris net product sales



Kanuma net product sales



The components of the increase in revenues are as follows:

The increase in net product sales for the three and nine months ended September 30, 2018, as compared to the same periods in 2017, was primarily due to an increase in unit volumes of 25.8% and 16.4%, respectively. This increase in unit volumes is primarily due to increased global demand for Soliris therapy including sales to patients with gMG, which received regulatory approval in the second half of 2017. Additional unit volume increases were due to increased sales of Strensiq and Kanuma during 2018 as a result of our continuing efforts to identify and reach more patients with HPP and LAL-D globally.

The volume increase for the three months ended September 30, 2018 was also driven by an increase within rest of world for Soliris therapy for patients in Latin America related to the timing of ordering patterns in the third quarter 2018 as compared to the same period in 2017.

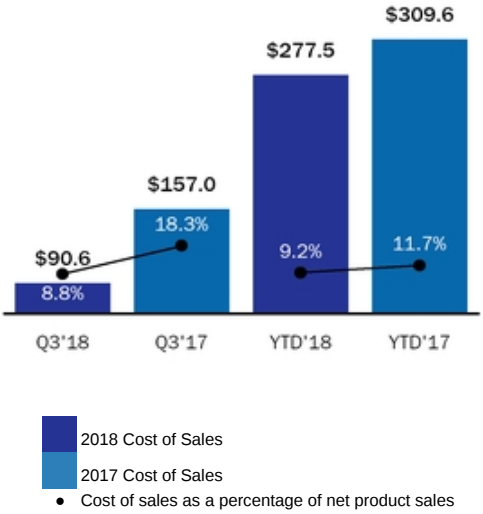
The increase in net product sales for the three and nine months ended September 30, 2018, as compared to the same periods in 2017, was offset by price decreases of 5.3% and 3.2%, respectively, resulting primarily from price changes in Turkey and Brazil resulting from formalized reimbursement agreements, subsequent to marketing authorization, in the third quarter of 2018 and the fourth quarter of 2017, respectively.

As discussed above, we adopted the new revenue recognition guidance in the first quarter of 2018. The adoption of this standard did not have a material impact on the sales recognized in the three and nine months ended September 30, 2018 as compared to the three and nine months ended September 30, 2017.

Cost of Sales

Cost of sales includes manufacturing costs as well as actual and estimated royalty expenses associated with sales of our products.

The following table summarizes cost of sales and cost of sales as a percent of net product sales for the three and nine months ended September 30, 2018 and 2017:



The decrease in cost of sales as a percentage of net product sales for the three and nine months ended September 30, 2018 is primarily attributable to charges of $83.0 in the third quarter 2017 associated with the closure of the ARIMF facility that was announced in the third quarter of 2017 as part of our restructuring activities.

Exclusive of these charges, cost of sales as a percentage of net product sales were 8.8% and 8.6% for the three months ended September 30, 2018 and 2017, respectively and 9.2% and 8.6% for the nine months ended September 30, 2018 and 2017, respectively.

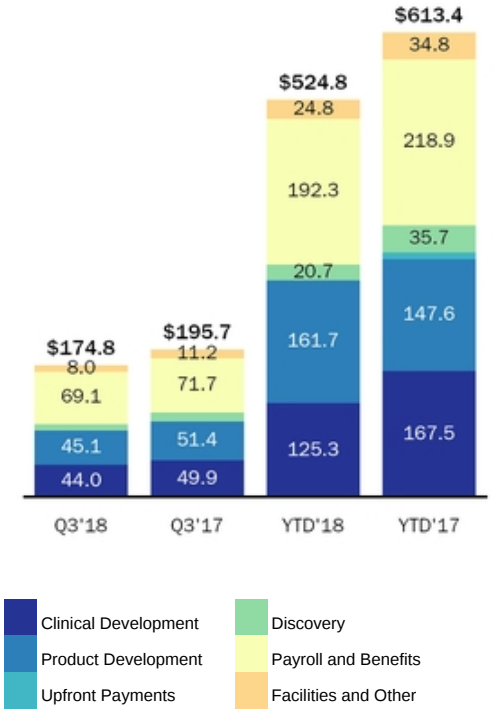
Research and Development Expense

Our research and development expense includes personnel, facility and direct costs associated with the research and development (R&D) of our product candidates, as well as product development costs.

R&D expenses are comprised of costs paid for clinical development, product development and discovery research, as well as costs associated with certain strategic licensing agreements we have entered into with third parties. Clinical development costs are comprised of costs to conduct and manage clinical trials related to eculizumab, ALXN1210 and other product candidates. Product development costs are those incurred in performing duties related to manufacturing development and regulatory functions, including manufacturing of material for clinical and research activities, milestone expenses related to our licensing agreements and collaborations and other administrative costs incurred during product development. Discovery research costs are incurred in conducting laboratory studies and performing preclinical research for other uses of our products and other product candidates. Upfront payments include upfront payments related to licenses and collaborations. Clinical development costs have been accumulated and allocated to each of our programs, while product development and discovery research costs have not been allocated.

Other R&D expenses consist of costs to compensate personnel, to maintain our facilities and equipment, and other occupancy costs associated with our research and development efforts. These costs relate to efforts on our clinical and preclinical products, our product development and our discovery research efforts. These costs have not been allocated directly to each program.

The following graph provides information regarding research and development expenses:



For the three months ended September 30, 2018, the decrease of $20.9 in R&D expense, as compared to the same period in the prior year, was primarily related to the following:

- Decrease of $5.9 in external clinical development expenses related primarily to decreases in various eculizamab clinical studies (see graph below).
- Decrease of $6.3 in external product development expenses driven by de-prioritized programs as a result of the September 2017 restructuring activities and a decrease in costs associated with the manufacturing of material for ALXN1210 as compared to the same period in 2017.

For the nine months ended September 30, 2018, the decrease of $88.6 in research and development expense, as compared to the same period in the prior year, was primarily related to the following:

- Decrease of $42.2 in external clinical development expenses related primarily to decreases in various eculizamab clinical studies, partially offset by an expansion of clinical studies for ALXN1210 (see graph below).
- Decrease of $26.6 in payroll and benefits primarily related to headcount reductions

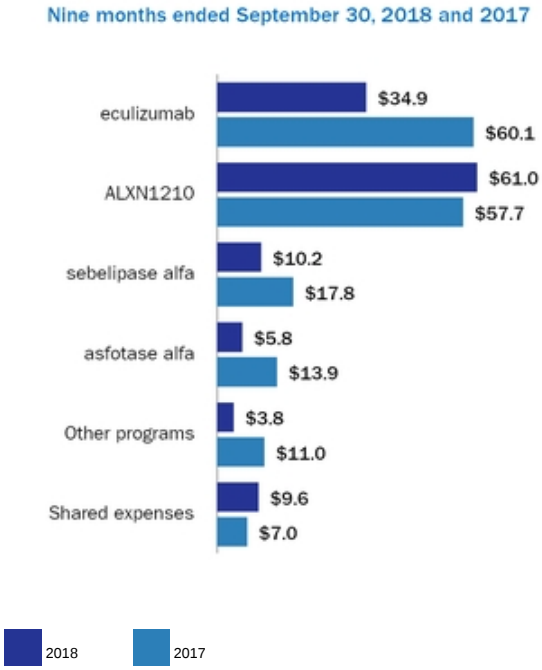
resulting from restructuring activities initiated in 2017.

- Decrease of $15.0 in discovery primarily related to decreases in external research expenses associated with our collaboration agreements.
- Decrease of $10.0 in facilities and other related expenses primarily related to decreased facilities expenses resulting from restructuring activities initiated in 2017.
- Decrease of $8.9 in upfront payment expenses due to the upfront payments on licensing arrangements made in the second quarter 2017. No upfront payments related to licensing arrangements were made for the nine months ended 2018.

Partially offset by the following:

- Increase of $14.1 in external product development expenses related primarily to an increase in costs associated with the manufacturing of material for ALXN1210 further driven by an increase in costs associated with milestone expenses.

The following graph summarizes R&D expenses related to our clinical development programs. Please refer to "Clinical Development Programs" above for a description of each of these programs:

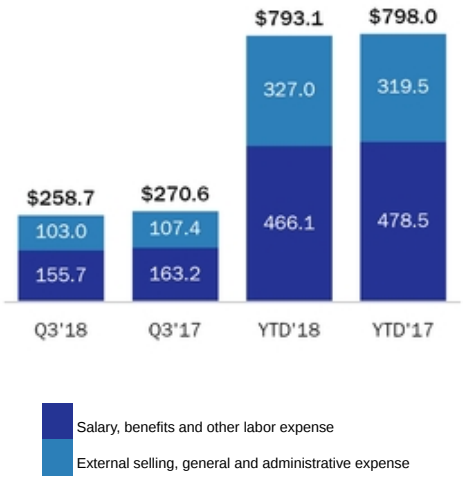


The successful development of our drug candidates is uncertain and subject to a number of risks. We cannot guarantee that results of clinical trials will be favorable or sufficient to support regulatory approvals for our development programs, even after we expend significant technical and financial resources. We could decide to abandon development or be required to spend considerable resources not otherwise contemplated. For additional discussion regarding the risks and uncertainties regarding our development programs, please refer to Item 1A "Risk Factors" in this Form 10-Q.

Selling, General and Administrative Expense

Our selling, general and administrative expense includes commercial and administrative personnel, corporate facility and external costs required to support the marketing and sales of our commercialized products. These selling, general and administrative costs include: corporate facility operating expenses and depreciation; marketing and sales operations in support of our products; human resources; finance, legal, information technology and support personnel expenses; and other corporate costs such as telecommunications, insurance, audit, government affairs and our global corporate compliance program.

The graph below provides information regarding selling, general and administrative expense:



For the three months ended September 30, 2018, the decrease of $11.9 in selling, general and administrative expense, as compared to the same period in the prior year, was primarily related to the following:

- Decrease in salary, benefits and other labor expenses of $7.5. The decrease was primarily related to headcount reductions resulting from restructuring activities initiated in 2017. These decreases were partially offset by an increase in commercial activities to support the launch of Soliris for gMG.

For the nine months ended September 30, 2018, the decrease of $4.9 in selling, general and administrative expense, as compared to the same period in the prior year, was primarily related to the following:

- Decrease in salary, benefits and other labor expenses of $12.4. The decrease was primarily related to headcount reductions resulting from restructuring activities initiated in 2017. These decreases were partially offset by an increase in commercial activities to support the launch of Soliris for gMG.

Partially offset by the following:

- Increase in net external selling, general and administrative expenses of $7.5. The increase was primarily due to an increase in professional services and asset related charges associated with the previously announced restructuring programs. These increases were offset by decreased distribution expenses as compared to the same period in 2017 and gain on sale of intangibles.

Acquired In-Process Research and Development

For the nine months ended September 30, 2018 we recorded acquired in-process research and development (IPR&D) expense of $803.7. The increase in acquired IPR&D for the nine months ended September 30, 2018, as compared to 2017, is due to the Wilson Therapeutics acquisition completed in the second quarter of 2018. The IPR&D asset associated with the Wilson Therapeutics acquisition has not reached technological feasibility and had no alternative future use as of the acquisition date and was therefore expensed during the second quarter 2018.

Amortization of Purchase Intangible Assets

For both the three and nine months ended September 30, 2018 and 2017 we recorded amortization expense of $80.0 and $240.1, respectively, related to purchased intangible assets. Amortization expense is primarily associated with intangible assets related to Strensiq and Kanuma, for which we received regulatory approval in the third quarter 2015.

Change in Fair Value of Contingent Consideration

For the three and nine months ended September 30, 2018, the change in fair value of contingent consideration expense associated with our prior business combinations was $53.5 and $110.9, respectively, as compared to $3.7 and $31.8 for the three and nine months ended September 30, 2017, respectively.

In September 2018, we amended the terms of certain contingent milestone payments due under our prior merger agreement with Enobia Pharma Corp., dated December 28, 2011. The amendment removed our obligations with respect to a regulatory milestone and redistributed the contingent payment associated with this milestone to various sales milestones. As a result of this amendment and the probability of achieving the various sales milestones, our contingent consideration liability increased by $48.7 in the third quarter 2018.

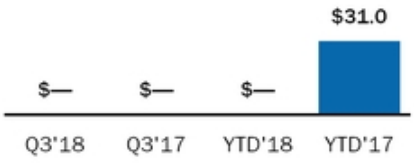
The remaining change in the expense associated with the fair value of contingent consideration for the three and nine months ended September 30, 2018, as compared the same periods in 2017, was primarily due to increases in the likelihood and anticipated timing of payments for contingent consideration.

Restructuring Expenses

In the first quarter of 2017, we initiated a company-wide restructuring designed to help position the Company for sustainable, long-term growth that we believe will further allow us to fulfill our mission of serving patients and families with rare diseases. The initial restructuring activities primarily focused on a reduction of the Company's global workforce. In September 2017, we committed to an operational plan to re-align the global organization with its refocused corporate strategy. The re-alignment focuses investments in priority growth areas. The re-alignment also included the relocation of the Company's headquarters to Boston, Massachusetts in 2018 which was completed in the second quarter of 2018. Our New Haven, Connecticut site continues to support employees working in the research and process development laboratories, the clinical supply and quality teams, nurse case management and a number of important enterprise business services. The plan also reduced the Company's global workforce by approximately 20.0%. The restructuring is designed to result in cost savings by focusing the development portfolio, simplifying business structures and processes across the Company's global operations, and closing multiple Alexion sites, including ARIMF and certain regional and country-based offices.

For the three and nine months ended September 30, 2018, we recorded $10.3 and $26.4 of restructuring expenses, respectively, compared to $72.0 and $98.7 for the three and nine months ended, September 30, 2017, respectively. The decrease in restructuring expenses for the three and nine months ended September 30, 2018 as compared to the same time periods in 2017 was primarily related to the decrease in employee separation costs associated with the 2017 restructuring activities period over period. We currently estimate incurring up to an additional $125.0 in restructuring and related expenses primarily related to contract termination and related charges. We expect approximately half of the remaining restructuring and related expenses will result in cash outlays.

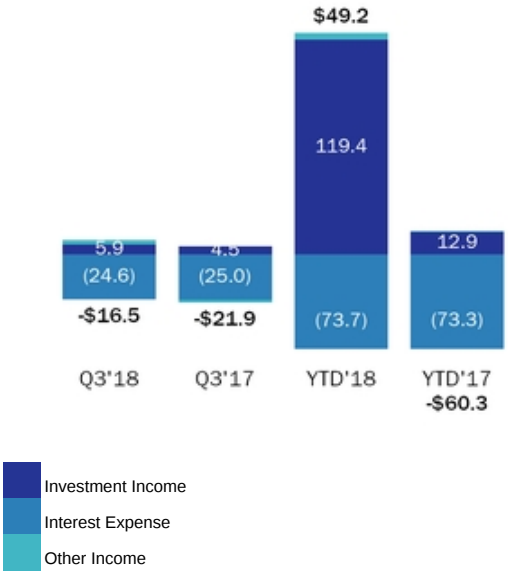
Impairment of Intangible Assets



In the second quarter 2017, we recognized an impairment charge of $31.0 related to our SBC-103 acquired IPR&D asset due to clinical results. No impairments of acquired in-process research and development were recognized for the three and nine months ended September 30, 2018.

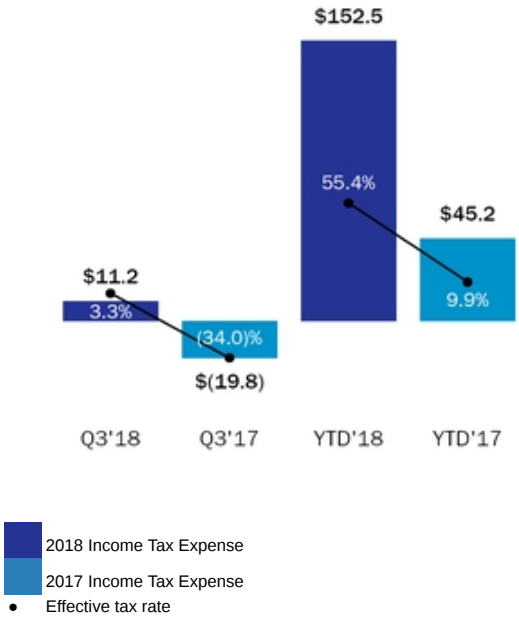
Other Income and Expense

The following table provides information regarding other income and expense:



For the nine months ended September 30, 2018 and 2017, we recognized investment income of $119.4 and $12.9, respectively. The increase in investment income in 2018 results from the recognition in the first quarter 2018 of an unrealized gain of $100.8 on our investment in Moderna Therapeutics, Inc. following it's completion of a new round of equity financing.

Income Taxes



During the three and nine months ended September 30, 2018, we recorded income tax expense of $11.2 and $152.5 and had an effective tax rate of 3.3% and 55.4%, respectively, compared to income tax expense of $(19.8) and $45.2 and an effective tax rate of (34.0)% and 9.9% for the three and nine months ended September 30, 2017, respectively.

The increase in the effective tax rate for the three months ended September 30, 2018 as compared to the same period in the prior year is primarily attributable to the benefit of settling a routine IRS examination in the prior year, offset by U.S. tax reform measurement period adjustments of $(53.1). The increase in the effective tax rate for the nine months ended September 30, 2018 as compared to the same period in the prior year is primarily attributable to the acquisition of Wilson Therapeutics, offset by U.S. tax reform measurement period adjustments and the benefit of settling a routine IRS examination in the prior year. Absent successful clinical results and regulatory approval, there is no alternative future use of the WTX101 asset acquired. Accordingly, the value of the asset of $803.7 was expensed in acquired IPR&D during the nine months ended September 30, 2018. No tax benefit has been recognized for this expense, which resulted in an increase to the effective tax rate of 41.3%. Also included in the nine months ended September 30, 2018 is a U.S. tax reform

measurement period adjustment to deferred taxes of $(14.7). This deferred tax (benefit) decreased the effective tax rate for the nine months ended September 30, 2018 by approximately 1.4%.

In addition, we continue to benefit from a reduced tax rate as a result of our centralized global supply chain and technical operations in Ireland.

We continue to maintain a valuation allowance against certain other deferred tax assets where realization is not certain. We periodically evaluate the likelihood of realizing deferred tax assets and reduce the carrying amount of these deferred tax assets by a valuation allowance to the extent we believe a portion will not be realized.

(amounts in millions, except per share amounts)

Financial Condition, Liquidity and Capital Resources

The following table summarizes the components of our financial condition as of September 30, 2018 and December 31, 2017:

	September 30, 2018	December 31, 2017	$ Change
Cash and cash equivalents	$ 1,228.9	$ 584.4	$ 644.5
Marketable securities	$ 306.2	889.7	(583.5)
Long-term debt (includes current portion & revolving credit facility)	$ 2,862.5	2,906.3	(43.8)
Current assets	$ 3,248.4	2,953.9	294.5
Current liabilities	1,027.4	952.5	74.9
Working capital	$ 2,221.0	2,001.4	219.6

The aggregate increase in cash and cash equivalents and marketable securities as compared to December 31, 2017 was primarily attributable lower repurchases of shares, payments on our credit facility, and purchases of property, plant. This increase was offset primarily by cash utilized for the purchase of Wilson Therapeutics in the second quarter of 2018.

Excluding the impact of our asset acquisitions, we expect our annual operating expenses to decrease as a percentage of sales in 2018. We also expect reduced capital investment in 2018 as compared to 2017. We anticipate that cash generated from operations and our existing available cash, cash equivalents and marketable securities should provide us adequate resources to fund our operations as currently planned for at least the next twelve months.

We have financed our operations and capital expenditures primarily through positive cash flows from operations. We expect to continue to be able to fund our operations, including principal and interest payments on our credit facility and contingent payments from our acquisitions principally through our cash flows from operations. We may, from time to time, also seek additional funding through a combination of equity or debt financings or from other sources, if necessary for future acquisitions or other strategic purposes. New sources of financing through equity and/or debt financing(s) may not always be available on acceptable terms, or at all, and we may be required to obtain certain consents in connection with completing such financings.

In connection with the pending acquisition of Syntimmune, we expect to make an upfront payment of $400.0 in the fourth quarter 2018, with the potential for additional milestone-dependent payments of up to $800.0. We intend to finance the acquisition through cash on hand.

In October 2018, we entered into a collaboration agreement and equity investment with Dicerna Pharmaceuticals, Inc. (Dicerna). Under the terms of the agreements, we will make an upfront payment of $37.0 for the exclusive licenses and the equity investment. We could also be required to pay up to an additional $625.0 for option exercise fees and amounts due upon the achievement of specified development, regulatory and commercial milestones, as well as royalties on commercial sales.

Financial Instruments

Until required for use in the business, we may invest our cash reserves in money market funds, bank deposits, reverse repurchase agreements, and marketable securities in accordance with our investment policy. The stated objectives of our investment policy are to preserve capital, provide liquidity consistent with forecasted cash flow requirements, maintain appropriate diversification and generate returns relative to these investment objectives and prevailing market conditions.

Financial instruments that potentially expose us to concentrations of credit risk are cash equivalents, marketable securities, accounts receivable and our derivative contracts. As of September 30, 2018, three customers accounted for an aggregate of 47.0% of our accounts receivable balance, with these individual customers ranging from 13.2% to 18.8% of the accounts receivable balance. At December 31, 2017, four customers accounted for an aggregate of 57.7% of the accounts receivable balance, with these individual customers ranging from 10.2% to 18.9% of the accounts receivable balance. For the three months ended September 30, 2018, three customers accounted for 41.1% of our net product sales and for the nine months ended September 30, 2018, four customers accounted for 49.9% of our net product sales, with these individual customers accounting for 11.3% to 16.7% and 10.0% to 16.3% of our net product sales, respectively. For the three and nine months ended September 30, 2017, three customers accounted for 39.0% and 36.7% of our net product sales, respectively, with these individual customers accounting for 11.2% to 15.4% and 10.8% to 14.8% of our net product sales, respectively.

We continue to monitor economic conditions, including volatility associated with international economies and the associated impacts on the financial markets and our business. Substantially all of our accounts receivable are due from wholesale distributors, public hospitals and other government entities. We monitor the financial performance of our customers so that we can appropriately respond to

changes in their credit worthiness. We operate in certain jurisdictions where weakness in economic conditions can result in extended collection periods. We continue to monitor these conditions and assess their possible impact on our business. To date, we have not experienced any significant losses with respect to collection of our accounts receivable.

We manage our foreign currency transaction risk and interest rate risk within specified guidelines through the use of derivatives. All of our derivative instruments are utilized for risk management purposes, and we do not use derivatives for speculative trading purposes. As of September 30, 2018, we had foreign exchange forward contracts with notional amounts totaling $1,810.6. These outstanding foreign exchange forward contracts had a net fair value of $8.0, of which $27.7 is included in other current assets and noncurrent assets and $19.7 included in other current liabilities and noncurrent liabilities. As of September 30, 2018, we had interest rate swap contracts with notional amounts totaling $3,481.3. These outstanding interest rate swap contracts had a net fair value of $36.7 which is included in other current assets and noncurrent assets. The counterparties to these contracts are large domestic and multinational commercial banks, and we believe the risk of nonperformance is not material.

As of September 30, 2018, our financial assets and liabilities were recorded at fair value. We have classified our financial assets and liabilities as Level 1, 2 or 3 within the fair value hierarchy. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Our Level 1 assets consist of mutual fund investments and equity securities. Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, but substantially the full term of the financial instrument. Our Level 2 assets consist primarily of commercial paper, reverse repurchase agreements, U.S. and foreign government-related debt, corporate debt securities, certificates of deposit and derivative contracts. Our Level 2 liabilities consist also of derivative contracts. Level 3 inputs are unobservable inputs based on our own assumptions used to measure assets and liabilities at fair value. Our Level 3 liabilities consist of contingent consideration related to acquisitions.

Business Combinations and Contingent Consideration Obligations

The purchase agreements for our business combinations include contingent payments totaling up to $702.0 that will become payable if and when certain development and commercial milestones are achieved. Of these milestone amounts, $367.0 and $335.0 of the contingent payments relate to development and commercial milestones, respectively. As of September 30, 2018, we do not expect these amounts to have an impact on our liquidity in the near-term, and, during the next 12 months, we expect to make milestone payments of approximately $100.0, associated with our prior business combinations. As additional future payments become probable, we will evaluate methods of funding payments, which could be made from available cash and marketable securities, cash generated from operations or proceeds from other financing.

License Agreements

Our license agreements include contingent payments that will become payable if and when certain development, regulatory and commercial milestones are achieved. As of September 30, 2018, we do not expect the payments associated with these milestones to have a significant impact on our liquidity in the near-term. During the next 12 months, we expect to make milestone payments related to our license agreements of approximately $21.5.

Financing Lease Obligations

In November 2012, we entered into a lease agreement for office and laboratory space to be constructed in New Haven, Connecticut. The term of the lease commenced in 2015 and will expire in 2030, with a renewal option of ten years. Although we do not legally own the premises, we are deemed to be the owner of the building due to the substantial improvements directly funded during the construction period based on applicable accounting guidance for build-to-suit leases. Accordingly, the landlord's costs of constructing the facility during the construction period are required to be capitalized, as a non-cash transaction, offset by a corresponding facility lease obligation in our condensed consolidated balance sheets. Construction of the new facility was completed and the building was placed into service in the first quarter 2016. For each of the three and nine months ended September 30, 2018 and 2017, we recognized $3.5 and $10.6, respectively, of interest expense associated with this arrangement. As of September 30, 2018 and December 31, 2017, our total facility lease obligation was $134.0 and $134.6, respectively, recorded within other current liabilities and facility lease obligation on our condensed consolidated balance sheets.

During the third quarter 2015, we entered into an agreement with Lonza whereby Lonza will construct a new manufacturing facility dedicated to Alexion at one of its existing facilities. As a result of our contractual right to full capacity of the new manufacturing facility, a portion of the payments under the agreement are considered to be lease payments and a portion as payment for the supply of

inventory. Although we will not legally own the premises, we are deemed to be the owner of the manufacturing facility during the construction period based on applicable accounting guidance for build-to-suit leases due to our involvement during the construction period. Accordingly, the landlord's costs of constructing the facility during the construction period are required to be capitalized, as a non-cash transaction, offset by a corresponding facility lease obligation in our condensed consolidated balance sheets. The completion of the facility, including obtaining regulatory approval, is expected in 2019. As of September 30, 2018 and December 31, 2017, we recorded a construction-in-process asset of $203.4 and $180.6 respectively, and an offsetting facility lease obligation of $156.1 and $159.1 respectively, within other current liabilities and facility lease obligation on our condensed consolidated balance sheets.

In September 2017, we entered into a lease agreement for approximately 150,000 square feet of office space in Boston, Massachusetts. The term of the lease commenced upon the landlord's substantial completion of our premises in the second quarter of 2018 and will expire on the thirteenth anniversary of commencement, with an option to renew for up to an additional ten years. Although we will not legally own the premises, due to our involvement during the construction period, we are deemed to be the owner of the portion of the building that we will lease based on applicable accounting guidance for build-to-suit leases. Accordingly, the landlord's costs of constructing the facility during the construction period are required to be capitalized, as a non-cash transaction, offset by a corresponding facility lease obligation in our condensed consolidated balance sheets. Construction of the facility was completed and the building was placed into service in the second quarter 2018. As of September 30, 2018 and December 31, 2017, our total facility lease obligation was $82.3 and $59.6, respectively, within facility lease obligation on our condensed consolidated balance sheets.

Long-term Debt

On June 7, 2018, we entered into an Amended and Restated Credit Agreement (the Credit Agreement) with Bank of America, N.A. as Administrative Agent. The Credit Agreement amends and restates our credit agreement dated as of June 22, 2015 (the Prior Credit Agreement).

The Credit Agreement provides for a $1,000.0 revolving credit facility and a $2,612.5 term loan facility. The revolving credit facility and the term loan facility mature on June 7, 2023. Borrowings can be used for working capital requirements, acquisitions and other general corporate purposes.

As of September 30, 2018, we had $2,612.5 outstanding on the term loan and $250.0 of borrowings outstanding under the revolving credit facility. The $250.0 of proceeds on the revolving credit facility was used to refinance amounts outstanding under the Prior Credit Agreement. As of September 30, 2018, we had open letters of credit of $1.7 that offset our availability in the revolving facility.

Manufacturing Obligations

We have supply agreements with Lonza relating to the manufacture of Soliris and Strensiq, which requires payments to Lonza at the inception of contract and upon the initiation and completion of product manufactured. On an ongoing basis, we evaluate our plans for future levels of manufacturing by Lonza, which depends upon our commercial requirements, the progress of our clinical development programs and the sale of any remaining product manufactured at ARIMF prior to its sale in the third quarter of 2018.

We have various agreements with Lonza, with remaining total non-cancellable commitments of approximately $1,174.7 through 2028. Certain commitments may be canceled only in limited circumstances. If we terminate certain supply agreements with Lonza without cause, we will be required to pay for product scheduled for manufacture under our arrangement. Under an existing arrangement with Lonza, we also pay Lonza a royalty on sales of Soliris that was manufactured at ARIMF and a payment with respect to sales of Soliris manufactured at Lonza facilities.

In addition to Lonza, we have non-cancellable commitments of approximately $63.6 through 2020 with other third party manufacturers.

Taxes

We have recorded tax on the undistributed earnings of our controlled foreign corporation (CFC) subsidiaries. To the extent CFC earnings may not be repatriated to the U.S. as a dividend distribution due to limitations imposed by law, we have not recorded the related potential tax.

Common Stock Repurchase Program

In February 2017, our Board of Directors authorized the future acquisition of shares with an aggregate value of up to $1,000.0 under our existing share repurchase program. The repurchase program does not have an expiration date, and we are not obligated to acquire a particular number of shares. The repurchase program may be discontinued at any time at our discretion. Under the program, for the three months ended September 30, 2017, we repurchased 0.5 shares at a cost of $59.6. For the nine months ended September 30, 2018 and 2017,

(amounts in millions, except per share amounts)

we repurchased 0.7 and 2.6 shares of our common stock at a cost of $85.0 and $298.5, respectively. The Company did not repurchase any shares during the third quarter 2018. As of October 24, 2018, there is a total of $451.5 remaining for repurchases under the repurchase program.

Cash Flows

The following summarizes our net change in cash and cash equivalents:

	Nine months ended September 30, 2018		$
	2018	2017	Change
Net cash provided by operating activities	$ 342.6	$ 857.5	$ (514.9)
Net cash provided by (used in) investing activities	418.3	(918.7)	1,337.0
Net cash used in financing activities	(105.5)	(371.2)	265.7
Effect of exchange rate changes on cash	(10.6)	16.5	(27.1)
Net change in cash and cash equivalents	$ 644.8	$ (415.9)	$ 1,060.7

Operating Activities

Cash flows provided by operations for the nine months ended September 30, 2018 was $342.6 compared to $857.5 for the nine months ended September 30, 2017. The decrease in cash provided by operating activities was primarily due to the acquisition of Wilson Therapeutics and higher cash payments for restructuring and incentive compensation, as well as the impact of the timing of cash receipts and other payments for the nine months ended September 30, 2018 as compared to the same period in the prior year. This decrease was partially offset by an increase in operating income, excluding the impact of the IPR&D change associated with the Wilson acquisition.

We expect increases in cash flows from operations, if any, which will be highly dependent on sales levels and the related cash collections from sales of our products.

Investing Activities

Cash provided by (used in) investing activities for the nine months ended September 30, 2018 was $418.3 compared to $(918.7) for the nine months ended September 30, 2017. The increase in cash provided by investing activities was primarily attributable to purchases and sales of available-for-sale debt securities, which resulted in a net cash inflow of $585.0 for the nine months ended September 30, 2018, compared to net cash outflow of $647.7 for the nine months ended September 30, 2017. We utilized some of the cash received from the sale of available-for-sale debt securities during the nine months ended September 30, 2018 to fund the acquisition of Wilson Therapeutics.

Purchases of property, plant and equipment also decreased $98.2 during the nine months ended September 30, 2018 as compared to the same period in the prior year.

Financing Activities

Cash used for financing activities for the nine months ended September 30, 2018 was $105.5 compared to $371.2 for the nine months ended September 30, 2017. The decrease in cash used for financing activities was primarily due to a decrease in share repurchase activity of $213.5. There was an additional decrease in cash used of $87.5 due to lower net payments against our credit facility, as well as a reduction in proceeds received from the issuance of stock for share-based compensation arrangements of $34.6.

Contractual Obligations

There have been no significant changes to the disclosure of payments we have committed to make under our contractual obligations as summarized in our Annual Report on Form 10-K for the twelve months ended December 31, 2017, in the section titled “Management's Discussion and Analysis of Financial Condition and Results of Operations” under the caption “Contractual Obligations.”

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

(amounts in millions, except percentages)

Interest Rate Risk

As of September 30, 2018, we invested our cash in a variety of financial instruments, principally money market funds, corporate bonds, commercial paper and government-related obligations. Most of our interest-bearing securities are subject to interest rate risk and could decline in value if interest rates fluctuate. Our investment portfolio is comprised of marketable securities of highly rated financial institutions and investment-grade debt instruments, and we have guidelines to limit the term-to-maturity of our investments. Based on the type of securities we hold, we do not believe a change in interest rates would have a material impact on our financial statements. If interest rates were to increase or decrease by 1%, the fair value of our investment portfolio would increase (decrease) by approximately $(1.1) and $1.1, respectively.

On June 7, 2018, we entered into the Credit Agreement, which bears interest at a rate per annum equal to either a base rate or a Eurodollar rate plus, in each case, an applicable margin. The applicable margins on base rate loans range from 0.25% to 1.00% and the applicable margins on Eurodollar loans range from 1.25% to 2.00%, in each case based on Alexion's consolidated net leverage ratio (as calculated in accordance with the Credit Agreement). Changes in interest rates related to the Credit Agreement could have a material effect on our financial statements.

To achieve a desired mix of floating and fixed interest rates on our term loan, we entered into a number of interest rate swap agreements through December 31, 2022 that qualified for and are designated as cash flow hedges. We currently have cash flow hedges with aggregate notional amounts of approximately 79.0% of our current outstanding term loan covering periods over the next twelve months. If interest rates were to increase or decrease by 1%, interest expense over the next year would increase or decrease by $5.3, based on the unhedged portion of our outstanding term loan during that period.

Foreign Exchange Market Risk

Our operations include activities in many countries outside the U.S. As a result, our financial results are impacted by factors such as changes in foreign currency exchange rates or weak economic conditions in the foreign markets where we operate. We have exposure to movements in foreign currency exchange rates, the most significant of which are the Euro, the Ruble and Japanese Yen, against the U.S. dollar. We are a net receiver of many foreign currencies, and our consolidated financial results benefit from a weaker U.S. dollar and are adversely impacted by a stronger U.S. dollar relative to foreign currencies in which we sell our product.

Our monetary exposures on our balance sheet arise primarily from cash, accounts receivable, and payables denominated in foreign currencies. Approximately 48.0% and 49.0% of our net product sales were denominated in foreign currencies for the three and nine months ended September 30, 2018, respectively, and our revenues are also exposed to fluctuations in the foreign currency exchange rates over time. In certain foreign countries, we may sell in U.S. dollar, but our customers may be impacted adversely in fluctuations in foreign currency exchange rates which may also impact the timing and amount of our revenue.

Both positive and negative impacts to our international product sales from movements in foreign currency exchange rates are only partially mitigated by the natural, opposite impact that foreign currency exchange rates have on our international operating expenses. Additionally, we have operations based in Europe and accordingly, our expenses are impacted by fluctuations in the value of the Euro against the U.S. dollar.

We currently have a derivative program in place to achieve the following: 1) limit the foreign currency exposure of our monetary assets and liabilities on our balance sheet, using contracts with durations of approximately 7 months and 2) hedge a portion of our forecasted product sales (in some currencies), including intercompany sales, using contracts with durations of up to 60 months. The objective of this program is to reduce the volatility of our operating results due to fluctuation of foreign exchange. This program utilizes foreign exchange forward contracts intended to reduce, not eliminate, the volatility of operating results due to fluctuations in foreign exchange rates.

As of September 30, 2018 and December 31, 2017, we held foreign exchange forward contracts with notional amounts totaling $1,810.6 and $2,708.1, respectively. As of September 30, 2018 and December 31, 2017, our outstanding foreign exchange forward contracts had a net fair value of $8.0 and $(47.5), respectively.

We do not use derivative financial instruments for speculative trading purposes. The counterparties to these foreign exchange forward contracts are large domestic and multinational commercial banks. We believe the risk of counterparty nonperformance is not material.

Based on our foreign currency exchange rate exposures as of September 30, 2018, a hypothetical

10% adverse fluctuation in exchange rates would decrease the fair value of our foreign exchange forward contracts that are designated as cash flow hedges by approximately $101.6 as of September 30, 2018. The resulting loss on these forward contracts would be offset by the gain on the underlying transactions and therefore would have minimal impact on future anticipated earnings and cash flows. Similarly, adverse fluctuations in exchange rates that would decrease the fair value of our foreign exchange forward contracts that are not designated as hedge instruments would be offset by a positive impact of the underlying monetary assets and liabilities.

Credit Risk

As a result of our foreign operations, we are exposed to changes in the general economic conditions in the countries in which we conduct business. The majority of our receivables are due from wholesale distributors, public hospitals and other government entities. We monitor the financial performance and creditworthiness of our large customers so that we can properly assess and respond to changes in their credit profile. We continue to monitor these conditions, including the volatility associated with international economies and the relevant financial markets, and assess their possible impact on our business. Although collection of our accounts receivables from certain countries may extend beyond our standard credit terms, we do not expect any such delays to have a material impact on our financial condition or results of operations.

Item 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the under the Securities Exchange Act of 1934, as amended (Exchange Act), as of September 30, 2018. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of September 30, 2018, our disclosure controls and procedures were effective to provide reasonable assurance that information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure, and ensure that information required to be disclosed in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms.

Changes in Internal Control over Financial Reporting

There has been no change in our internal control over financial reporting that occurred during the quarter ended September 30, 2018 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. LEGAL PROCEEDINGS.

In May 2015, we received a subpoena in connection with an investigation by the Enforcement Division of the SEC requesting information related to our grant-making activities and compliance with the FCPA in various countries. In addition, in October 2015, we received a request from the DOJ for the voluntary production of documents and other information pertaining to Alexion's compliance with FCPA. The SEC and DOJ also seek information related to Alexion's recalls of specific lots of Soliris and related securities disclosures. Alexion is cooperating with these investigations.

The investigations have focused on operations in various countries, including Brazil, Colombia, Japan, Russia and Turkey, and Alexion's compliance with the FCPA and other applicable laws.

At this time, Alexion is unable to predict the duration, scope or outcome of these investigations. While it is possible that a loss related to these matters may be incurred, given the ongoing nature of these investigations, management cannot reasonably estimate the potential magnitude of any such loss or range of loss, or the cost of the ongoing investigation. Any determination that our operations or activities are not or were not in compliance with existing laws or regulations could result in the imposition of fines, civil and criminal penalties, equitable remedies, including disgorgement, injunctive relief, and/or other sanctions against us, and remediation of any such findings could have an adverse effect on our business operations.

Alexion is committed to strengthening its compliance program and is currently implementing a comprehensive company-wide transformation plan to enhance and remediate its business processes, structures, controls, training, talent and systems across Alexion's global operations. For information concerning the risks associated with the investigation, see our Risk Factor - "If we fail to comply with laws or regulations, we may be subject to investigations and civil or criminal penalties and our business could be adversely affected."

As previously reported, on December 29, 2016, a shareholder filed a putative class action against the Company and certain former employees in the U.S. District Court for the District of Connecticut, alleging that defendants made misrepresentations and omissions about Soliris. On April 12, 2017, the court appointed a lead plaintiff. On July 14, 2017, the lead plaintiff filed an amended putative class action complaint against the Company and seven current or former employees. The complaint alleges that defendants made misrepresentations and omissions about Soliris, including alleged misrepresentations regarding sales practices, management changes, and related investigations, between January 30, 2014 and May 26, 2017, and that the Company's stock price dropped upon the purported disclosure of the misrepresentations. Defendants moved to dismiss the amended complaint on September 12, 2017. Plaintiffs filed an opposition to defendants' motion to dismiss on November 13, 2017, and defendants' filed a reply brief in further support of their motion on December 28, 2017. Defendants' motion to dismiss is now fully briefed and pending before the court. Given the early stages of this litigation, an estimate of the possible loss or range of loss cannot be made at this time.

In December 2016, we received a subpoena from the U.S. Attorney's Office for the District of Massachusetts requesting documents relating generally to our support of 501(c)(3) organizations that provide financial assistance to Medicare patients taking drugs sold by Alexion, Alexion's provision of free drug to Medicare patients, and Alexion compliance policies and training materials concerning the anti-kickback statute or payments to any 501(c)(3) organization that provides financial assistance to Medicare patients. We understand that the U.S. Attorney's Office and the DOJ are coordinating its inquiry with the Office of Inspector General (OIG) of the U.S. Department of Health and Human Services. Other companies have disclosed similar inquiries. We are cooperating with this inquiry. We are engaged in discussions with the DOJ about a potential resolution of this matter. There can be no assurance that any current or future discussions with the government to resolve these matters will be successful or that any potential settlement terms or amount will be agreed to or finalized. We are unable to predict when these matters will be resolved or what further action, if any, the government will take in connection with them.

In May 2017, Brazilian authorities seized records and data from our Sao Paulo, Brazil offices as part of an investigation being conducted into Alexion's Brazilian operations. We are cooperating with this inquiry.

In June 2017, we received a demand to inspect certain of our books and records pursuant to Section 220 of the General Corporation Law of the State of Delaware on behalf of a purported stockholder. Among other things, the demand sought to determine whether to institute a derivative lawsuit against certain of the Company's directors and officers in relation to the investigation by our Audit and Finance Committee announced in November 2016 and the

investigations instituted by the SEC, DOJ, U.S. Attorney's Office for the District of Massachusetts, and Brazilian law enforcement officials that are described above. We have responded to the demand. Given the early stages of this matter, an estimate of the possible loss or range of loss cannot be made at this time.

On September 27, 2017, a hearing panel of the Canadian Patented Medicine Prices Review Board (PMPRB) issued a decision in a previously pending administrative pricing matter that we had excessively priced Soliris in a manner inconsistent with the Canadian pricing rules and guidelines. In its decision, the PMPRB ordered Alexion to decrease the price of Soliris to an upper limit based upon pricing in certain other countries, and to forfeit excess revenues for the period between 2009 and 2017. The amount of excess revenues was not determined to be a material amount. In October 2017, Alexion filed an application for judicial review of the PMPRB's decision in the Federal Court of Canada. A hearing is scheduled to take place in November 2018. At this time, we cannot predict the outcome of these judicial review proceedings or any appeals that may follow and cannot reasonably estimate the amount of any forfeitures that will be required to be made or the potential impact to future Soliris revenues in Canada relating to any potential future price reduction.

In October 2018, the Japanese Ministry of Health, Labor and Welfare conducted an administrative inspection of Alexion's Japanese operations. The MHLW inquiry has been primarily focused on our communication efforts regarding the proper use of Soliris in Japan for aHUS, among other matters. We have cooperated, and will continue to cooperate, with this inquiry. Given the early stages of this matter, an estimate of the possible loss or range of loss, or what further action, if any, the MHLW will take in connection with this matter, cannot be made at this time.

Item 1A. Risk Factors.

(amounts in millions, except percentages)

You should carefully consider the following risk factors before you decide to invest in Alexion securities and our business because these risk factors may have a material impact on our business, operating results, financial condition, and cash flows. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations. If any of the following risks actually occurs, our business, financial condition and results of operations could be materially and adversely affected.

Risks Related to Our Products

We depend heavily on the success of our lead product, Soliris. If sales of Soliris are adversely affected, our business may be materially harmed.

Currently, our ability to generate revenues depends primarily on the commercial success of Soliris and whether physicians, patients and healthcare payers view Soliris as therapeutically effective and safe relative to cost. Since we launched Soliris in the U.S. in 2007, substantially all of our revenue has been attributed to sales of Soliris. In 2015, we received marketing approval in the U.S., the EU and Japan, of our second marketed product, Strensiq, for the treatment of HPP. We also received marketing approval in 2015 in the U.S. and the EU for our third product, Kanuma, for the treatment of LAL-D. However, we anticipate that Soliris product sales will continue to contribute a significant percentage of our total revenue over the next several years.

The commercial success of Soliris and our ability to generate revenues depends on several factors, as discussed in greater detail below, including safety and efficacy of Soliris, coverage or reimbursement by government or third-party payers, pricing, manufacturing and uninterrupted supply, the introduction of and success of competing products, the size of patient populations and the number of patients diagnosed who may be treated with Soliris, adverse legal, administrative, regulatory or legislative developments, and our ability to develop, register and commercialize Soliris for new indications.

While Soliris has been studied for indications beyond PNH, aHUS and gMG there is no guarantee that we can obtain regulatory approve or achieve any commercial sales of Soliris for other indications. For example, in September 2018, we announced positive topline results from the Phase 3 PREVENT study of Soliris in patients with anti-aquaporin-4 (AQP4) auto antibody-positive neuromyelitis optica spectrum disorder (NMOSD). NMOSD is a rare, devastating, complement-mediated disorder of the central nervous system characterized by relapses. Despite these positive results, we may not be able to obtain regulatory approval to sell Soliris as a treatment for NMOSD due to, among other potential issues, the failure of our clinical studies to meet regulatory requirements, failure of our manufacturing facilities to meet regulatory requirements or other reasons. Additionally, even if we were to obtain regulatory approval, physicians and patients may not accept Soliris as a treatment for NMOSD. In these instances, we may generate limited or no revenue from Soliris as a potential treatment of NMOSD.

If we are not able to maintain revenues from sales of Soliris, or our Soliris revenues do not grow, our results of operations and stock price could be adversely affected.

If we do not obtain marketing approval for our ALXN1210 product or if ALXN1210 is not broadly accepted by the market, our future operating results may be adversely impacted and, if ALXN1210 is approved for use and accepted by the market, we expect our Soliris revenues may be adversely impacted.

We recently submitted applications to the U.S. Food and Drug Administration (FDA), European Medicines Agency (EMA) and the Ministry of Health, Labour and Welfare (MHLW) in Japan for approval of ALXN1210 in the U.S., EU and Japan, respectively, for patients with PNH. There is no guarantee that the FDA, the EMA or the MHLW will timely approve the use of ALXN1210 in PNH patients or that they will approve the use of ALXN1210 in PNH patients at all. The FDA, EMA or MHLW could reject our applications for many reasons, including due to a finding of inadequate safety, tolerability, potency or efficacy profiles. Additionally, these and other regulatory agencies may request that we provide additional safety or efficacy data, which may require significant additional time and money to generate prior to a decision on approval. We anticipate that, in the future, we will seek approval of ALXN1210 in other jurisdictions and for other indications.

If ALXN1210 is not approved for use in the U.S., the EU, Japan or elsewhere, if approval is delayed, or if use is not approved for PNH or indications in addition to PNH, we would expect that our future business and results of operations may be harmed. If the use of ALXN1210 is authorized in the U.S., EU, Japan and elsewhere and for indications beyond PNH, we anticipate that certain customers currently on Soliris may transition to ALXN1210, which would result in a reduction of Soliris revenue. Alternatively, patients and providers may determine that ALXN1210 is not a preferred alternative to Soliris for PNH (or other potential indications) and our ALXN1210 revenues and operating results may be adversely

impacted and we may not gain any return in our investment in the ALXN1210 development program.

Our future commercial success depends on gaining regulatory approval for new products and obtaining approvals for existing products for new indications.

Our long-term success and revenue growth will depend upon the successful development and commercialization of new products and technologies from our research and development activities, including ALXN1210, those licensed or acquired from third parties and approval of additional indications for our existing products and products under development. Product development is very expensive and involves a high degree of risk. Only a small number of research and development programs result in the commercialization of a product. The process for obtaining regulatory approval to market a biologic is expensive, often takes many years, and can vary substantially based on the type, complexity, the novelty of the product candidates involved and the indications to be treated. Our ability to maintain or grow revenues would be adversely affected if we are delayed or unable to successfully develop the products in our pipeline, including ALXN1210 for PNH and additional indications, Soliris for additional indications, obtain marketing approval for Strensiq and Kanuma in additional territories, obtain approval for additional delivery systems for our therapies (such as subcutaneous delivery), obtain marketing approval for ALXN1210 or acquire or license products and technologies from third parties.

We dedicate significant resources to the worldwide development, manufacture and commercialization of our products. We cannot guarantee that any marketing application for our product candidates, including ALXN1210 for PNH or Soliris for NMOSD, will be approved or maintained in any country where we seek marketing authorization. If we do not obtain regulatory approval of new products or additional indications for existing products or additional delivery systems, or are significantly delayed or limited in doing so, our revenue will be adversely affected, we may experience surplus inventory, be required to write down certain assets, our business may be materially harmed and we may need to significantly curtail operations.

Because the target patient populations of Kanuma and Strensiq are small and have not been definitively determined, we must be able to successfully identify patients in order to maintain growth.

Kanuma and Strensiq are currently approved to treat ultra-rare diseases with small patient populations that have not been definitively determined. There can be no guarantee that any of our programs will be effective at identifying patients and the number of patients in the United States, Japan and Europe and elsewhere may turn out to be lower than expected, may not be otherwise amenable to treatment with Kanuma and Strensiq, or new patients may become increasingly difficult to identify, all of which would adversely affect our results of operations and our business. In addition, even in instances where we do add patients, the number may be less than the number of patients that discontinue use of the applicable product.

Sales of our products depend on reimbursement by government health administration authorities, private health insurers and other organizations. If we are unable to obtain, or maintain at anticipated levels, reimbursement for our products, or coverage is reduced, our pricing may be affected or our product sales, results of operations or financial condition could be harmed.

We may not be able to sell our products on a profitable basis or our profitability may be reduced if we are required to sell our products at lower than anticipated prices or reimbursement is unavailable or limited in scope or amount. Our products are significantly more expensive than traditional drug treatments and almost all patients require some form of third party coverage to afford their cost. We depend, to a significant extent, on governmental payers, such as Medicare and Medicaid in the U.S. or country specific governmental organizations in foreign countries, and private third-party payers to defray the cost of our products to patients. These entities may refuse to provide coverage and reimbursement, determine to provide a lower level of coverage and reimbursement than anticipated, or reduce previously approved levels of coverage and reimbursement, including in the form of higher mandatory rebates or modified pricing terms.

In certain countries where we sell or are seeking or may seek to commercialize our products, pricing, coverage and level of reimbursement or funding of prescription drugs are subject to governmental control. We may be unable to timely or successfully negotiate coverage, pricing and reimbursement on terms that are favorable to us (or at all), or such coverage, pricing, and reimbursement may differ in separate regions in the same country. In some foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country, which may include a combination of distinct potential payers, including private insurance and governmental payers as well as a HTA assessment of medicinal products for pricing and reimbursement methodologies. Therefore, we may not successfully conclude the necessary processes and commercialize our products in every, or even most countries in which we seek to sell our products.

A significant reduction in the amount of reimbursement or pricing for our products in one or

more countries may reduce or eliminate our profitability and adversely affect our financial condition. Certain countries establish pricing and reimbursement amounts by reference to the price of the same or similar products in other countries. Therefore, if coverage or the level of reimbursement is limited in one or more countries, we may be unable to obtain or maintain anticipated pricing or reimbursement in other countries or in new markets. In Canada, for example, the Patented Medicine Prices Review Board (PMPRB) issued a decision in an administrative pricing matter that we had excessively priced Soliris in a manner inconsistent with the Canadian pricing rules and guidelines and ordered that the price be decreased to no higher than the lowest price in seven comparator countries (we filed an application for judicial review of the PMPRB's decision in the Federal Court of Canada, but we are unable to determine the outcome of this review). In the U.S., the EU Member States, and elsewhere, there have been, and we expect there will continue to be, efforts to control and reduce healthcare costs. In the U.S. for example, the price of drugs has come under intense scrutiny by the presidential administration and U.S. Congress. Third party payers decide which drugs they will pay for and establish reimbursement and co-payment levels. Government and other third-party payers are increasingly challenging the prices charged for healthcare products, examining the cost effectiveness of drugs in addition to their safety and efficacy, and limiting or attempting to limit both coverage and the level of reimbursement for prescription drugs. See additional discussion below under the heading "Changes in healthcare laws and implementing regulations, as well as changes in healthcare policy, may affect coverage and reimbursement of our products in ways that we cannot currently predict and these changes could adversely affect our business and financial condition."

The potential increase in the number of patients receiving Soliris may cause third-party payers to modify or limit coverage or reimbursement for Soliris for the treatment of PNH, aHUS, gMG or all indications (including NMOSD, if approved by regulatory authorities). In 2017, Soliris was approved in the U.S., EU and Japan as a treatment for adult patients with gMG who are anti-acetylcholine receptor antibody-positive and we intend to request regulatory approval for Soliris as a treatment for NMOSD. The potential increase in the number of patients receiving Soliris may cause third-party payers to refuse or limit coverage or reimbursement for Soliris for the treatment of PNH, aHUS or gMG (or, potentially NMOSD if approved for such indication by the regulatory authorities), or provide a lower level of coverage or reimbursement than anticipated or currently in effect. We are subject to the same risks with respect to Strensiq and Kanuma.

Health insurance programs may restrict coverage of some products by using payer formularies under which only selected drugs are covered, variable co-payments that make drugs that are not preferred by the payer more expensive for patients, and by using utilization management controls, such as requirements for prior authorization or failure first on another type of treatment. Payers may especially impose these obstacles to coverage for higher-priced drugs, and consequently our products may be subject to payer-driven restrictions. Additionally, U.S. payers are increasingly considering new metrics as the basis for reimbursement rates and if our products do not meet or surpass these metrics, these payers may not reimburse for use of our products and we expect revenue from such product would decrease.

In countries where patients have access to insurance, their insurance co-payment amounts or other benefit limits may represent a barrier to obtaining or continuing Soliris or adoption of new treatment options, such as ALXN1210. We have financially supported non-profit organizations that assist patients in accessing treatment for PNH and aHUS, including Soliris. Such organizations assist patients whose insurance coverage imposes prohibitive co-payment amounts or other expensive financial obligations. Such organizations' ability to provide assistance to patients is dependent on funding from external sources, and we cannot guarantee that such funding will be provided at adequate levels, if at all. We have also provided our products without charge to patients who have no insurance (or limited insurance) coverage for drugs through related charitable purposes. We are not able to predict the financial impact of the support we may provide for these and other charitable purposes; however, substantial support could have a material adverse effect on our profitability in the future.

Our commercial success depends on obtaining and maintaining reimbursement at anticipated levels for our products. It may be difficult to project the impact of evolving reimbursement mechanics on the willingness of payers to cover our products. If we are unable to obtain or maintain coverage for our products, or coverage is reduced in one or more countries, our pricing may be affected or our product sales, results of operations or financial condition could be harmed.

We may not be able to maintain market acceptance of our products among the medical community or patients, or gain market acceptance of our products in the future, which could prevent us from maintaining profitability or growth.

We cannot be certain that our products will maintain market acceptance in a particular country among physicians, patients, healthcare payers, and others. Although we have received regulatory approval

for certain of our products in certain territories, such approvals do not guarantee future revenue. We cannot predict whether physicians, other healthcare providers, government agencies or private insurers will determine or continue to accept that our products are safe and therapeutically effective relative to their cost. Nor can we predict whether patients, physicians or payers will continue use of Soliris or elect to switch to ALXN1210 (if and when approved for use by appropriate regulatory authorities) or alternative treatments that may be available. Physicians' willingness to prescribe, and patients' willingness to accept, our products, depends on many factors, including prevalence and severity of adverse side effects in both clinical trials and commercial use, the timing of the market introduction of competitive drugs, lower demonstrated clinical safety and efficacy compared to other drugs, perceived lack of cost-effectiveness and negative evaluations in health technology assessments, pricing and lack of availability of reimbursement from third-party payers, convenience and ease of administration, effectiveness of our marketing strategy, publicity concerning the product, our other product candidates and availability of alternative treatments, including bone marrow transplant as an alternative treatment for PNH. The likelihood of physicians to prescribe Soliris for patients with aHUS may also depend on how quickly Soliris can be delivered to the hospital or clinic and our distribution methods may not be sufficient to satisfy this need. In addition, we are aware that medical doctors have determined not to continue Soliris treatment for some patients with aHUS.

If our products fail to achieve or maintain market acceptance among the medical community or patients in a particular country, we may not be able to market and sell our products successfully in such country, which would limit our ability to generate revenue and could harm our overall business.

Manufacturing issues at our facilities or the facilities of our third party service providers could cause product shortages, stop or delay commercialization of our products, disrupt or delay our clinical trials or regulatory approvals, and adversely affect our business.

The manufacture of our products and our product candidates is highly regulated, complex and difficult, requiring multi-step controlled processes and even minor problems or deviations could result in defects or failures. We have limited experience manufacturing commercial quantities of Strensiq and Kanuma, and we have no experience manufacturing commercial quantities of ALXN1210 (if approved for use in PNH patients in the U.S., EU, Japan and other jurisdictions). Only a small number of companies have the ability and capacity to manufacture our products for our development, clinical and commercialization needs. Due to the highly technical requirements of manufacturing our products and the strict quality and control specifications, we and our third party providers may be unable to manufacture or supply our products despite our and their efforts. Failure to produce sufficient quantities of our products and product candidates could result in lost revenue, diminish our profitability, delay the development of our product candidates, delay regulatory approval or result in the rejection of our product candidates (including ALXN1210) or result in supply shortages for our patients, which may lead to lawsuits, loss of revenue or could accelerate introduction of competing products to the market.

The manufacture of our products and product candidates is at high risk of product loss due to contamination, equipment malfunctions, human error, or raw material shortages. Deviations from established manufacturing processes could result in reduced production yields, product defects and other supply disruptions. If microbial, viral or other contaminations are discovered in our products or manufacturing facilities, we may need to close our manufacturing facilities for an extended period of time to investigate and remediate the contaminant. The occurrence of any such event could adversely affect our ability to satisfy demand for any of our products, which could materially and adversely affect our operating results.

Many additional factors could cause production interruptions at our facilities or at the facilities of our third party providers, including natural disasters, labor disputes, acts of terrorism or war. The occurrence of any such event could adversely affect our ability to satisfy demand for Soliris and our other products, and due to the fact that we rely on a limited number of facilities to produce our products and product candidates (as noted below), any of the foregoing could materially and adversely affect our operating results.

We expect that the demand for Soliris will increase. We may underestimate demand for Soliris or any of our products, or experience product interruptions at Alexion's internal manufacturing facilities or a facility of a third party provider, including as a result of risks and uncertainties described in this report.

We and our third party providers are required to maintain compliance with current good manufacturing practice regulations (cGMP) and other stringent operation and manufacturing requirements and are subject to inspections by the FDA and comparable agencies in other jurisdictions to confirm such compliance. Any delay, interruption or other issues that arise in the manufacture, fill-finish, packaging, or storage of our products as a result of a failure of our

facilities or the facilities or operations of third parties to pass any regulatory agency inspection could significantly impair our ability to supply our products and product candidates. Significant noncompliance could also result in the imposition of monetary penalties or other civil or criminal sanctions and damage our reputation.

We rely on one to two facilities to manufacture each of our products. We are authorized to sell Soliris that is manufactured by Lonza in the U.S., the EU, Japan and certain other territories. In September 2017, we announced our intention to close ARIMF which has now been closed and no longer performs any manufacturing operations for us. Manufacturing Soliris for commercial sale in certain other territories may only be performed at a single facility in some cases until such time as we have received the required regulatory approval for an additional facility, if ever, however in certain territories only a single manufacturing facility may be registered and we will continue to rely on a single manufacturing facility in such instances. Governmental authorities will generally not permit products manufactured at any facility that is not registered by the applicable government agency to enter into the country and such products may be returned for this reason, which may decrease or delay sales and result in the loss of inventory. We also depend entirely on one facility to manufacture Strensiq and on one facility for the purification of Kanuma for commercial sale. Regarding Kanuma, we rely on two animal facilities to produce the starting material, and a single manufacturing facility to manufacture the drug product. Any interruption or halt in manufacturing at any one of these facilities may, therefore, have a material adverse impact on our operations.

We depend on a very limited number of third party providers for supply chain services with respect to our clinical and commercial product requirements, including product filling, finishing, packaging, and labeling. Our third party providers operate as independent entities and we do not have control over any third party provider's compliance with our internal or external specifications or the rules and regulations of regulatory agencies, including the FDA, competent authorities of the EU Member States, or any other applicable regulations or standards.

Any difficulties or delays in our third party manufacturing, or any failure of our third party providers to comply with our internal and external specifications or any applicable rules, regulations and standards could increase our costs, constrain our ability to satisfy demand for our products from customers, cause us to lose revenue or incur penalties for failure to deliver product, make us postpone or cancel clinical trials, or cause our products to be recalled or withdrawn, such as the voluntary recalls that we initiated in 2013 and 2014 due to the presence of visible particles in a limited number of vials in specific Soliris lots. Even if we are able to find alternatives, they may ultimately be insufficient for our needs. No guarantee can be made that regulators will approve additional third party providers in a timely manner or at all, or that any third party providers will be able to perform services for sufficient product volumes for any country or territory. Further, due to the nature of the current market for third-party commercial manufacturing, many arrangements require substantial penalty payments by the customer for failure to use the manufacturing capacity for which it contracted. Penalty payments under these agreements typically decrease over the life of the agreement, and may be substantial initially and de minimis or non-existent in the final period. The payment of a substantial penalty could harm our financial condition and may restrict our ability to transition to internal manufacturing or manufacturing by other third parties.

It can take longer than five years to build and validate a new manufacturing facility and it can take longer than three years to qualify and validate a new contract manufacturer. We have completed the build-out of a fill-finish facility in Ireland to support global drug product manufacture or vial fill finish of Soliris and Alexion's other clinical and commercial products. We cannot guarantee that this facility will receive all the necessary global regulatory approvals in a timely manner and we will continue to rely on appropriate third parties to supplement our fill finish operations until that time. We also completed construction of a new facility in Dublin, Ireland in the fourth quarter of 2015, which is comprised of laboratories, packaging and warehousing operations and we intend to make significant further investment in this facility for the manufacture of our products. We cannot guarantee that we will be able to successfully and timely complete the appropriate validation processes or obtain the necessary regulatory approvals, or that we will be able to perform the intended supply chain services at either of these facilities for commercial or clinical use.

Certain of the raw materials required in the manufacture and the formulation of our products are derived from biological sources. Such raw materials are difficult to procure and may be subject to contamination or recall. Access to and supply of sufficient quantities of raw materials which meet the technical specifications for the production process is challenging, and often limited to single-source suppliers. Finding an alternative supplier could take a significant amount of time and involve significant expense due to the nature of the products and the need to obtain regulatory approvals. The failure of these single-source suppliers to supply adequate quantities of raw materials for the production process

in a timely manner may impact our ability to produce sufficient quantities of our products for clinical or commercial requirements. A material shortage, contamination, recall, or restriction on the use of certain biologically derived substances or any raw material used in the manufacture of our products could adversely impact or disrupt manufacturing.

In addition, Kanuma is a transgenic product. It is produced in the egg whites of genetically modified chickens who receive copies of the human lysosomal acid lipase gene to produce recombinant human lysosomal acid lipase. The facilities on which we rely to produce raw material for recombinant lysosomal acid lipase are the only animal facilities in the world that produces the necessary egg whites from transgenic chickens. Natural disasters, disease, such as exotic Newcastle disease or avian influenza, or other catastrophic events could have a significant impact on the supply of unpurified Kanuma, or destroy Alexion's animal operations altogether. If our animal operations are disrupted or destroyed, it will be extremely difficult to set up another animal facility to supply the unpurified Kanuma. This would adversely affect our ability to satisfy demand for Kanuma, which could materially and adversely affect our operating results.

Any adverse developments affecting our manufacturing operations or the operations of our third-party providers could result in a product shortage of clinical or commercial requirements, withdrawal of our product candidates or any approved products, shipment delays, lot failures, or recalls. We may also have to write-off inventory and incur other charges and expenses for products that fail to meet specifications, undertake costly remediation efforts or seek more costly manufacturing alternatives. Each of these could have adverse material impact on our business individually or in the aggregate. Such manufacturing issues could increase our cost of goods, cause us to lose revenue, reduce our profitability or damage our reputation.

We operate in a highly regulated industry and if we or our third party providers fail to comply with U.S. and foreign regulations, we or our third party providers could lose our approvals to market our products or our product candidates, and our business would be seriously harmed.

We and our current and future partners, contract manufacturers and suppliers are subject to rigorous and extensive regulation by governmental authorities around the world, including the FDA, EMA, the competent authorities of the EU Member States, and MHLW. If we or a regulatory agency discover previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, or in the case of Kanuma, problems with animal operations, a regulatory agency may impose restrictions on that product, the manufacturing facility or us. For example, in March 2013, we received a Warning Letter from the FDA relating to compliance with FDA's cGMP requirements at ARIMF. In October 2017, the FDA notified Alexion that the Warning Letter has been resolved. If we had failed to address the FDA's concerns or if we were to receive another Warning Letter in the future relating to cGMP or other applicable regulations, the FDA or other regulatory authorities could take regulatory action, including fines, civil penalties, recalls, seizure of product, suspension of manufacturing operations, operating restrictions, injunctions, withdrawal of FDA approval, and/or criminal prosecution.

If we or our third-party providers, including our product fill-finish providers, packagers and labelers, fail to comply fully with applicable regulations, then we may be required to initiate a recall or withdrawal of our products. Like our contract manufacturers' manufacturing operations, our animal operations will also be subject to FDA inspection to evaluate whether our animal husbandry, containment, personnel, and record keeping practices are sufficient to ensure safety and security of our transgenic chickens and animal products (*e.g.,* eggs, waste, etc.). Our animal operations may also be subject to inspection by the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA APHIS), the agency responsible for administering the Animal Welfare Act. Any failure to ensure safety and security of our transgenic chickens and/or animal products could result in regulatory action by the FDA or another regulatory body, including USDA APHIS.

The safety profile of any product continues to be closely monitored by the FDA and other foreign regulatory authorities after approval. Regulations continue to apply after product approval, and cover, among other things, testing, manufacturing, quality control, finishing, filling, labeling, advertising, promotion, risk mitigation, adverse event reporting requirements, and export of biologics. For example, the risk management program established in 2007 upon the FDA's approval of Soliris for the treatment of PNH was replaced with a Risk Evaluation and Mitigation Strategy (REMS) program, approved by the FDA in 2010, and further revised in December 2015 concerning prescribing information regarding the level of fever needed to seek medical attention and reporting adverse events. Future changes to the Soliris REMS could be costly and burdensome to implement.

We are required to report any serious and unexpected adverse experiences and certain quality problems with our products to the FDA, the EMA, the MHLW and other health agencies. Non-compliance with safety reporting requirements could result in

regulatory action that may include civil action or criminal penalties. Regulatory agencies inspect our pharmacovigilance processes, including our adverse event reporting. If regulatory agencies determine that we or other parties whom we do not control, including clinical trial investigators, have not complied with the applicable reporting or other pharmacovigilance requirements, we may become subject to additional inspections, warning letters or other enforcement actions, including monetary fines, marketing authorization withdrawal and other penalties.

As a condition of approval for marketing our products, governmental authorities may require us to conduct additional studies. In connection with the approval of Soliris in the U.S., EU and Japan, for the treatment of PNH, we agreed to establish a PNH Registry, monitor immunogenicity, monitor compliance with vaccination requirements, and determine the effects of anticoagulant withdrawal among PNH patients receiving eculizumab, and, specifically in Japan, we agreed to conduct a trial in a limited number of Japanese PNH patients to evaluate the safety of a meningococcal vaccine. In connection with the approval of Soliris in the U.S. for the treatment of aHUS, we agreed to establish an aHUS Registry and complete additional human clinical studies in adult and pediatric patients. Furthermore, in connection with the approval of Strensiq in the U.S., we agreed to conduct a prospective observational study in treated patients to assess the long-term safety of Strensiq therapy and to develop complementary assays. Similarly, in connection with the approval of Kanuma in the U.S., we have agreed to conduct a long-term observational study of treated patients, either as a standalone study or as a component of the existing LAL Registry. In the EU, in connection with the grant of authorization for Strensiq, we agreed to conduct a multicenter, randomized, open-label, Phase 2a study of Strensiq in patients with HPP and to extend the studies ENB-008-10 and ENB-009-10 to provide efficacy data in patients 13 to 18 years of age, which we have commenced.

We also agreed to set up an observational, longitudinal, prospective, long-term registry of patients with HPP to collect information on the epidemiology of the disease, including clinical outcomes and quality of life, and to evaluate safety and effectiveness data in patients treated with Strensiq.

In the U.S., the FDA can also propose to withdraw approval for a product if it determines that such additional studies are inadequate or if new clinical data or information shows that a product is not safe for use in an approved indication.

In addition, similar or more stringent post-approval requirements and obligations may be imposed by the FDA and/or other regulatory agencies with respect to our future products (such as ALXN1210 for the treatment of PNH or Soliris for the treatment of NMOSD, in each case, if approved for use by the FDA and such agencies).

Failure to comply with the laws and requirements, including statutes and regulations, administered by the FDA, the EC, the competent authorities of the EU Member States, the MHLW or other agencies, could result in:

- a product recall;
- a product withdrawal;
- significant administrative and judicial sanctions, including, warning letters or untitled letters;
- significant fines and other civil penalties;
- suspension, variation or withdrawal of a previously granted approval for our products;
- interruption of production;
- operating restrictions, such as a shutdown of production facilities or production lines, or new manufacturing requirements;
- suspension or termination of ongoing clinical trials;
- delays in approving or refusal to approve our products including pending BLAs or BLA supplements for our products or a facility that manufactures our products;
- seizing or detaining product;
- requiring us or our partners to enter into a consent decree, which can include imposition of various fines, reimbursements for inspection costs, required due dates for specific actions and penalties for noncompliance;
- injunctions; and/or
- criminal prosecution.

If the use of our products harms people, or is perceived to harm patients even when such harm is unrelated to our products, our regulatory approvals could be revoked or otherwise negatively impacted and we could be subject to costly and damaging product liability claims.

The testing, manufacturing, marketing and sale of drugs for use in humans exposes us to product liability risks. Side effects and other problems from using our products could include, among others, (1) decrease in the frequency with which physicians decide to prescribe our products, (2) encouraging physicians to stop prescribing our products to their patients who previously had been prescribed our products, (3) causing serious adverse events and give rise to product liability claims against us, and (4) result in our need to withdraw or recall our products from the marketplace. Some of these risks are unknown at this time.

Our products and our product candidates treat patients with rare diseases. We generally test our

products in only a small number of patients. For example, the FDA marketing approval for the treatment of patients with aHUS was based on two prospective studies in a total of 37 adult and adolescent patients, together with a retrospective study that included 19 pediatric patients. As more patients use our products, including more children and adolescents, new risks and side effects may be discovered, the rate of known risks or side effects may increase, and risks previously viewed as less significant could be determined to be significant. Previously unknown risks and adverse effects may also be discovered in connection with unapproved uses of our products, which may include administration of our products under acute emergency conditions, such as the Enterohemorrhagic E. coli health crisis in Europe, primarily Germany, which began in May 2011. We have instituted procedures that are designed to ensure that we do not promote, or in any way support or encourage the promotion of our products for unapproved uses in violation of applicable law, but physicians are permitted to use products for unapproved purposes and we are aware of such uses of Soliris. In addition, we are studying and expect to continue to study Soliris in diseases other than PNH, aHUS and gMG in controlled clinical settings (for example, we recently completed a Phase III trial for Soliris as a treatment for NMOSD), and independent investigators are doing so as well. We are also studying and expect to continue to study ALXN1210 in diseases other than PNH (for which we have not yet received regulatory approval in any jurisdiction) in controlled clinical settings and we are also reviewing a subcutaneous delivery method. In the event of any new risks or adverse effects discovered as new patients are treated for approved indications, or as our products are studied in or used by patients for other indications, regulatory authorities may delay or revoke their approvals, we may be required to conduct additional clinical trials and safety studies, make changes in labeling, reformulate our products or make changes and obtain new approvals for our and our suppliers' manufacturing facilities. We may also experience a significant drop in potential sales, experience harm to our reputation and the reputation of our products in the marketplace or become subject to lawsuits, including class actions. Any of these results could decrease or prevent any sales or substantially increase the costs and expenses of commercializing and marketing our products.

We may be sued by people who use our products, whether as a prescribed therapy, during a clinical trial, during an investigator initiated study, or otherwise. Many patients who use our products are already very ill. Any informed consents or waivers obtained from people who enroll in our trials or use our products may not protect us from liability or litigation. Our product liability insurance may not cover all potential types of liabilities or may not cover certain liabilities completely. Moreover, we may not be able to maintain our insurance on acceptable terms, or at all. In addition, negative publicity relating to the use of our products or a product candidate, or to a product liability claim, may make it more difficult, or impossible, for us to market and sell our products. As a result of these factors, a product liability claim, even if successfully defended, could have a material adverse effect on our business, financial condition or results of operations.

Patients who use our products already often have severe and advanced stages of disease and known as well as unknown significant pre-existing and potentially life-threatening health risks. During the course of treatment, patients may suffer adverse events, including death, for reasons that may or may not be related to our products. Some patients treated with our products, including patients who have participated in our clinical trials, have died or suffered potentially life-threatening diseases either during or after ending their treatments. Patients who delay or miss a dose or discontinue treatment may also experience complications, including death. Such events could subject us to costly litigation, require us to pay substantial amounts of money to injured patients, delay, negatively impact or end our opportunity to receive or maintain regulatory approval to market our products, or require us to suspend or abandon our commercialization efforts. Even in a circumstance in which we do not believe that an adverse event is related to our products, the investigation into the circumstance may be time consuming or inconclusive. These investigations may interrupt our sales efforts, delay or result in the withdrawal or revocation of our regulatory approval process in other countries, or impact and limit the type of regulatory approvals that our products receive or maintain.

For example, use of C5 Inhibitors, such as Soliris, is associated with an increased risk for certain types of infection, including meningococcal infection. Under controlled settings, patients in our eculizumab trials all receive vaccination against meningococcal infection prior to first administration of Soliris and patients who are prescribed Soliris in most countries are required by prescribing guidelines to be vaccinated prior to receiving their first dose. A physician may not have the opportunity to timely vaccinate a patient in the event of an acute emergency episode, such as in a patient presenting with aHUS or during the health crisis that began in May 2011 in Europe, principally in Germany, due to the epidemic of infections from Enterohemorrhagic E. coli. Vaccination does not, however, eliminate all risk of meningococcal infection. Additionally, in some countries there may not be any vaccine approved for general use or approved for use in infants and

children. Some patients treated with Soliris who had been vaccinated have nonetheless experienced meningococcal infection, including patients who have suffered serious illness or death. Each such incident is required to be reported to appropriate regulatory agencies in accordance with relevant regulations.

Clinical evaluations of outcomes in the post-marketing setting are required to be reported to appropriate regulatory agencies in accordance with relevant regulations. Determination of significant complications associated with the delay or discontinuation of our products could have a material adverse effect on our ability to sell our products.

If we are unable to establish and maintain effective sales, marketing and distribution capabilities, or to enter into agreements with third parties to do so, we will be unable to successfully commercialize our products.

We are marketing and selling our products ourselves in the U.S., Europe, Japan and several other territories. Strensiq and Kanuma were approved in 2015 and are the second and third product launches in Alexion's history. Soliris for the treatment of gMG was approved in 2017 and is in the early stages of commercial launch. If we are unable to establish and/or expand our capabilities to sell, market and distribute our products, either through our own capabilities or by entering into agreements with others, or to maintain such capabilities in countries where we have already commenced commercial sales, we will not be able to successfully sell our products. In that event, we will not be able to maintain or increase revenues. We cannot guarantee that we will be able to establish and maintain our own capabilities or enter into and maintain any marketing or distribution agreements with third-party providers on acceptable terms, if at all. Even if we hire the qualified sales and marketing personnel we need to support our objectives, or enter into marketing and distribution agreements with third parties on acceptable terms, we may not do so in an efficient manner or on a timely basis. We may not be able to correctly judge the size and experience of the sales and marketing force and the scale of distribution capabilities necessary to successfully market and sell our products. Establishing and maintaining sales, marketing and distribution capabilities are competitive, expensive and time-consuming. In addition, if and when the products we acquire in connection with acquisitions and development agreements with third parties move closer to regulatory approval, we will likely have a larger product portfolio and the foregoing risks will continue to apply and may even increase.Our expenses associated with building up and maintaining the sales force and distribution capabilities around the world may be disproportionate compared to the revenues we may be able to generate on sales. We cannot guarantee that we will be successful in commercializing any of our products for the above referenced or other reasons.

If we fail to comply with laws or regulations, we may be subject to investigations and civil or criminal penalties and our business could be adversely affected.

In addition to FDA and related regulatory requirements, we are subject to healthcare "fraud and abuse" laws, such as the False Claim Act (FCA), the anti-kickback provisions of the federal Social Security Act, and other related federal and state laws and regulations. The federal Anti-Kickback Statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving any remuneration, directly or indirectly, in cash or in kind to induce, or reward the purchasing, leasing, ordering or arranging for or recommending the purchase, lease or order of any healthcare item or service reimbursable under Medicare, Medicaid, or other federal healthcare programs. Liability may be established without a person or entity having actual knowledge of the federal Anti-Kickback Statute or specific intent to violate it. A conviction for violation of the Anti-kickback Statute requires mandatory exclusion from participation in federal healthcare programs. The majority of states also have statutes similar to the federal Anti-Kickback Statute and false claims laws that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payer. We seek to comply with the anti-kickback laws and with the available statutory exemptions and safe harbors. However, our practices may not in all cases fit within the safe harbors, and our practices may therefore be subject to scrutiny on a case-by-case basis. The FCA prohibits any person from knowingly presenting, or causing to be presented, a false or fraudulent claim for payment of government funds, or knowingly making, using or causing to be made or used, a false record or statement material to a false or fraudulent claim. Pharmaceutical companies have been investigated and have reached substantial financial settlements with the Federal government under the FCA for a variety of alleged promotional and marketing activities, such as allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product; providing consulting fees and other benefits to physicians to induce them to prescribe products; engaging in promotion for uses that the FDA has not approved, or "off-label" uses; and submitting inflated best price information to the Medicaid Rebate Program. We seek to comply with the FCA laws, but we cannot assure that our compliance program, policies and procedures will always protect Alexion from acts committed by its employees or third-party distributors or service

providers. Other related federal and state laws and regulations that may affect our ability to operate include, among others, the federal False Statements Statute, the federal Civil Monetary Penalties Law, HIPAA, the federal Open Payments program, state anti-kickback and false claims acts, and state and local disclosure requirements and marketing restrictions. Additional information about the scope of these requirements is offered in the “Fraud and Abuse” section of our Annual Report on Form 10-K for the year ended December 31, 2017.

Violations of U.S. federal and state fraud and abuse laws (and comparable laws in foreign jurisdictions) may result in criminal, civil and administrative sanctions, including fines, damages, civil monetary penalties (which may be material in amount) and exclusion from federal healthcare programs (including Medicare and Medicaid). Any action against us for violation of these laws, even if we successfully defend against it, could require the expenditure of significant resources and generate negative publicity, which could materially adversely affect our ability to operate our business and our financial results.

Although physicians in the U.S. are permitted to, based on their medical judgment, prescribe products for indications other than those cleared or approved by the FDA, manufacturers are prohibited from promoting their products for such off-label uses. In the U.S., we market our products for their approved uses. Although we believe our marketing materials and training programs for physicians do not constitute improper promotion, the FDA, the U.S. Justice Department, or other federal or state government agencies may disagree. If the FDA or other government agencies determine that our promotional materials, training or other activities constitute improper promotion of any of our products, it could request that we modify our training or promotional materials or other activities or subject us to regulatory enforcement actions, including the issuance of a warning letter, injunction, seizure, civil fine and criminal penalties. It is also possible that other federal or state enforcement authorities might take action if they believe that the alleged improper promotion led to the submission and payment of claims for an unapproved use, which could result in significant fines or penalties under other statutory authorities, such as laws prohibiting false or fraudulent claims for payment of government funds.

The EU and EU Member States and the MHLW impose similar strict restrictions on the promotion and marketing of drug products. The off-label promotion of medicinal products is prohibited in the EU, Japan and in other territories. The promotion of medicinal products that are not subject to a marketing authorization is also prohibited in the EU and other jurisdictions. Violations of the rules governing the promotion of medicinal products in the EU, Japan and in other territories could be penalized by administrative measures, fines and imprisonment. For information regarding a recent MHLW inspection, see "Legal Proceedings" elsewhere in this Quarterly Report on Form 10-Q.

We are subject to FCPA, the U.K. Bribery Act, and other anti-corruption laws and regulations that generally prohibit companies and their intermediaries from making improper payments to government officials and/or other persons for the purpose of obtaining or retaining business and we operate in countries that are recognized as having a greater potential for governmental and commercial corruption. We cannot assure that our compliance program, policies and procedures will always protect Alexion from acts committed by its employees or third-party distributors or service providers.

In May 2015, we received a subpoena in connection with an investigation by the Enforcement Division of the SEC requesting information related to our grant-making activities and compliance with the FCPA in various countries. The SEC also seeks information related to Alexion’s recalls of specific lots of Soliris and related securities disclosures. In addition, in October 2015, Alexion received a request from the DOJ for the voluntary production of documents and other information pertaining to Alexion’s compliance with the FCPA, and in December 2016, we received a subpoena from the U.S. Attorney’s Office for the District of Massachusetts requesting documents relating generally to our support of 501(c)(3) organizations that provide financial assistance to Medicare patients, Alexion’s provision of free drug to Medicare patients and Alexion’s related compliance policies and training materials. We understand that the U.S. Attorney's Office is coordinating its inquiry with the Office of Inspector General (OIG) of the U.S. Department of Health and Human Services. In May 2017, Brazilian authorities seized records and data from our Sao Paulo, Brazil offices as part of an investigation being conducted into Alexion's Brazilian operations. In October 2018, the MHLW conducted an inspection of the Company's Japanese operations. Alexion is cooperating with these investigations. At this time, Alexion is unable to predict the duration, scope or outcome of these investigations.

Any determination that our operations or activities are not, or were not, in compliance with existing U.S. or foreign laws or regulations, including by the ongoing investigations of our compliance with the FCPA, Medicare patient assistance rules, regulations in Brazil or Japan, and other matters, could result in the imposition of a broad range of civil and criminal sanctions against Alexion and certain of

our directors, officers and/or employees, including injunctive relief, disgorgement, substantial fines or penalties, imprisonment, and other legal or equitable sanctions, including exclusion from Medicare, Medicaid, and other governmental healthcare programs. Any attempts to resolve some or all of these matters may not be successful and/or may result in monetary or other penalties materially stricter or greater than the terms or amounts that we proposed in discussions. Additionally, remediation of any such findings resulting from these and any future investigations could have an adverse effect on our business operations, and we could experience interruptions of business, harm to our reputation, debarment from government contracts, loss of supplier, vendor or other third-party relationships, and necessary licenses and permits could be terminated. Other internal or government investigations or legal or regulatory proceedings, including lawsuits brought by private litigants, may also follow as a consequence. Cooperating with and responding to requests for information in connection with these ongoing investigations, as well as responding to any future U.S. or foreign governmental investigation or whistleblower lawsuit, has resulted and could continue to result in substantial expenses, and could divert management's attention from other business concerns and could have a material adverse effect on our business and financial condition and growth prospects.

Completion of preclinical studies or clinical trials does not guarantee advancement to the next phase of development.

Completion of preclinical studies or clinical trials does not guarantee that we will initiate additional studies or trials for our product candidates, that if further studies or trials are initiated what the scope and phase of the trial will be or that they will be completed, or that if these further studies or trials are completed, that the design or results will provide a sufficient basis to apply for or receive regulatory approvals or to commercialize products. Results of clinical trials could be inconclusive, requiring additional or repeat trials. Data obtained from preclinical studies and clinical trials are subject to varying interpretations that could delay, limit or prevent regulatory approval. If the design or results achieved in our clinical trials are insufficient to proceed to further trials or to regulatory approval of our product candidates, Alexion could be materially adversely affected. Failure of a clinical trial to achieve its pre-specified primary endpoint generally increases the likelihood that additional studies or trials will be required if we determine to continue development of the product candidate, reduces the likelihood of timely development of and regulatory approval to market the product candidate, and may decrease the chances for successfully achieving the primary endpoint in scientifically similar indications.

Our clinical studies may be costly and lengthy, and there are many reasons why drug testing could be delayed or terminated.

For human trials, patients must be recruited and each product candidate must be tested at various doses and formulations for each clinical indication. In addition, to ensure safety and effectiveness, the effect of drugs often must be studied over a long period of time, especially for the chronic diseases that we are studying. Many of our programs focus on diseases with small patient populations making patient enrollment difficult. Insufficient patient enrollment in our clinical trials could delay or cause us to abandon a product development program. We may decide to abandon development of a product candidate or a study at any time due to unfavorable results or other reasons. We may have to spend considerable resources repeating clinical trials or conducting additional trials, either of which would increase costs and delay any revenue from those product candidates, if any. We may open clinical sites and enroll patients in countries where we have little experience.

We rely on a small number of clinical research organizations to carry out our clinical trial related activities, and one contract research organization (CRO) is responsible for many of our studies. We rely on such parties to accurately report their results. Our reliance on CROs may impact our ability to control the timing, conduct, expense and quality of our clinical trials. In addition, we may be responsible for any errors in clinical trials by a CRO as a result of the performance of services in connection with a clinical trial on our behalf.

Additional factors that can cause delay, impairment or termination of our clinical trials or our product development efforts include:

- delay or failure in obtaining institutional review board (IRB) approval or the approval of other reviewing entities to conduct a clinical trial at each site;
- delay or failure in reaching agreement on acceptable terms with prospective CROs, and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- withdrawal of clinical trial sites from our clinical trials as a result of changing standards of care or the ineligibility of a site to participate in our clinical trials;
- clinical sites and investigators deviating from trial protocol, failing to conduct the trial in

accordance with regulatory requirements, or dropping out of a trial;
- slow patient enrollment, including, for example, due to the rarity of the disease being studied;
- delay or failure in having patients complete a trial or return for post-treatment follow-up;
- long treatment time required to demonstrate effectiveness;
- lack of sufficient supplies of the product candidate;
- disruption of operations at the clinical trial sites;
- adverse medical events or side effects in treated patients, and the threat of legal claims and litigation alleging injuries;
- failure of patients taking the placebo to continue to participate in our clinical trials;
- insufficient clinical trial data to support safety and effectiveness of the product candidates;
- lack of effectiveness or safety of the product candidate being tested;
- lack of sufficient funds;
- inability to meet required specifications or to manufacture sufficient quantities of the product candidate for development or commercialization activities in a timely and cost-efficient manner;
- decisions by regulatory authorities, the IRB, ethics committee, or us, or recommendation by a data safety monitoring board, to suspend or terminate clinical trials at any time for safety issues or for any other reason;
- failure to obtain the necessary regulatory approvals for the product candidate or the approvals for the facilities in which such product candidate is manufactured; and
- decisions by competent authorities, IRBs or ethics committees to demand variations in protocols or conduct of clinical trials.

Risks Related to Intellectual Property

If we cannot obtain new patents, maintain our existing patents and protect the confidentiality and proprietary nature of our trade secrets and other intellectual property, our business and competitive position will be harmed.

Our success will depend in part on our ability to obtain and maintain patent and regulatory protections for our products and investigational compounds, to preserve our trade secrets and other proprietary rights, to operate without infringing the proprietary rights of third parties, and to prevent third parties from circumventing our rights. Due to the time and expense of bringing new products through development and regulatory approval to the marketplace, there is particular importance in obtaining patent and trade secret protection for significant new technologies, products and processes.

We have and may in the future obtain patents or the right to practice patents through ownership or license. Our patent applications may not result in the issue of patents in the U.S. or other countries. Even in our patents are issued, those patents may not afford adequate protection for our products. Third parties may challenge our patents, and have challenged our patents in the past. If any of our patents are narrowed, invalidated or become unenforceable, competitors may develop and market products similar to ours that do not conflict with or infringe our patents rights, which could have a material adverse effect on our financial condition. We may also finance and collaborate in research conducted by government organizations, hospitals, universities or other educational or research institutions. Such research partners may be unwilling to grant us exclusive rights to technology or products developed through such collaborations. There is also a risk that disputes may arise as to the rights to technology or products developed in collaboration with other parties. Our products and product candidates are expensive and time-consuming to test and develop. Even if we obtain and maintain patents, our business may be significantly harmed if the patents are not broad enough to protect our products from copycat products.

Significant legal questions exist concerning the extent and scope of patent protection for biopharmaceutical products and processes in the U.S. and elsewhere. Accordingly, there is no certainty that patent applications owned or licensed by us will issue as patents, or that our issued patents will afford meaningful protection against competitors. Once issued, patents are subject to challenge through both administrative and judicial proceedings in the U.S. and other countries. Such proceedings include re-examinations, inter partes reviews, post-grant reviews and interference proceedings before the U.S. Patent and Trademark Office, as well as opposition proceedings before the European Patent Office and other non-U.S. patent offices. Certain countries have laws that provide stronger bases for challenging third party patent rights than are available to challenge patents in other countries. Therefore, we may be able to defend our patents against a third party claim in one country but counterpart patents may be invalidated in other countries and we may be able to invalidate a third-party patent in one country but not invalidate its counterpart patents in other countries. Litigation may be required to enforce, defend or obtain our patent and other intellectual property rights. Any administrative proceeding or litigation could require a significant commitment of our resources and, depending on outcome, could adversely affect the

scope, validity or enforceability of certain of our patent or other proprietary rights.

In addition, our business requires using sensitive technology, techniques and proprietary compounds that we protect as trade secrets. However, we may also rely heavily on collaboration with, or discuss the potential for collaboration with, suppliers, outside scientists and other biopharmaceutical companies. Collaboration and discussion of potential collaboration present a strong risk of exposing our trade secrets. If our trade secrets were exposed, we may lose the protection and potential exclusive rights afforded by trade secret law, and such exposure would likely help our competitors and adversely affect our business prospects.

If we are found to be infringing on patents owned by others, we may be forced to pay damages to the patent owner and/or obtain a license to continue the manufacture, sale or development of our products. If we cannot obtain a license, we may be prevented from the manufacture, sale or development of our products or product candidates, which would adversely affect our business.

Parts of our technology, techniques, proprietary compounds and potential product candidates, including those which are or may be in-licensed, may be found to infringe patents owned by or granted to others. We previously reported that certain third parties filed civil lawsuits against us claiming infringement of their intellectual property rights. Each of those matters was resolved. However, additional third parties may claim that the manufacture, use or sale of our products or product candidates infringes patents owned or granted to such third parties. We have received, and may in the future receive, notices from third parties claiming that their patents may be infringed by the development, manufacture or sale of our products or product candidates. We are aware of patents owned by third parties that might be claimed by such third parties to be infringed by the development and commercialization of our products or investigational compounds. In respect to some of these patents, we have obtained licenses, or expect to obtain licenses. However, with regard to other patents, we have determined in our judgment that:

- our products and investigational compounds do not infringe the patents; and/or
- the patents are not valid or enforceable; and/or
- we have identified and are testing various alternatives that should not infringe the patents and which should permit continued development and commercialization of our products and investigational compounds.

Any holder of these patents or other patents covering similar technology could sue us for damages and seek to prevent us from manufacturing, selling or developing our products. Intellectual property disputes can be costly and time consuming to defend. Prior to launch of a new product (or an existing product for a new indication), for various reasons, a patent owner may not be able to assert its patent rights so it is likely that any potential challenges to our products will be made after a product has been commercialized and not while the product is in development, in clinical trials or during the regulatory review process. If we cannot successfully defend against any future actions or conflicts, if they arise, we may incur substantial legal costs and may be liable for damages, be required to obtain costly licenses or need to stop manufacturing, using or selling our products, which would adversely affect our business. We may seek to obtain a license prior to or during legal actions in order to reduce the risks in connection with product launches and to reduce further costs and the risk of a court determination that our technology, techniques, proprietary compounds or potential product candidates infringe the third party's patents. A required license may be costly or may not be available on acceptable terms, if at all. A costly license, or inability to obtain a necessary license, could have a material adverse effect on our business. In addition, even if we obtained a license, it would likely be non-exclusive and any competitive advantage resulting from the licensed technology would be of limited value and the same technology could be utilized by competitors.

There can be no assurance that we would prevail in a patent infringement action or that we would be able to obtain a license to any third-party patent on commercially reasonable terms or any terms at all; successfully develop non-infringing alternatives on a timely basis; or license alternative non-infringing technology, if any exists, on commercially reasonable terms or at all. Any impediment to our ability to manufacture, use or sell approved forms of our products or our product candidates could have a material adverse effect on our business and prospects.

It is possible that we could lose market exclusivity for a product earlier than expected, which would harm our competitive position.

In our industry, much of an innovative product's commercial value is realized while it has market exclusivity. When market exclusivity expires and biosimilar or generic versions of the product are approved and marketed, there can be substantial decline in the innovative product's sales.

Market exclusivity for our products is based upon patent rights and certain regulatory forms of exclusivity. The scope of our product patent rights vary from country to country and is dependent on the availability of meaningful legal remedies in each country. The failure to obtain patent and other

intellectual property rights, or limitations on the use, or loss of such rights, could be material to our business. In some countries, patent protections for our products may not exist because certain countries did not historically offer the right to obtain specific types of patents or we did not file patents in those markets. Also, the patent environment is unpredictable and the validity and enforceability of patents cannot be predicted with certainty. Absent relevant patent protection for a product, once regulatory exclusivity periods expire, biosimilar or generic versions of the product can be approved and marketed. Even prior to the expiration of regulatory exclusivity, a competitor could seek to obtain marketing approval by submitting its own clinical trial data.

The market exclusivity of our products may be impacted by competitive products that are either innovative or biosimilar or generic copies. In our industry, the potential for biosimilar challenges has been an increasing risk to product market exclusivity. U.S. law includes an approval pathway for biosimilar versions of innovative biological products. Under the pathway, the FDA may approve products that are similar to (but not generic copies of) innovative biologics on the basis of less extensive data than is required for a full biologic license application. After an innovator has marketed its product for four years, other manufacturers may apply for approval of a biosimilar version of the innovator product. However, qualified innovative biological products will receive 12 years of regulatory exclusivity, meaning that the FDA may not actually approve a biosimilar version until 12 years after the innovative product received its approval. The law also provides a mechanism for innovators to enforce their patents that protect their products and for biosimilar applicants to challenge the patents. Such litigation may begin as early as four years after the innovative biological product is first approved by the FDA. Pathways for biosimilar products also exist in many other markets, including Europe and Japan. Competition, including from biosimilars approved for marketing, would likely result in a decrease in prices, increased promotion efforts and lower margins for our products. In addition, approval of a biosimilar that is substitutable for one of our products would increase the risk of accelerated market penetration by that biosimilar.

Risks Related to Our Operations

***We may not accurately forecast demand for our products, including our new products, which may cause our operating results to fluctuate, and we cannot guarantee that we will achieve our financial goals, including our ability to maintain profitability on a quarterly or annual basis in the future*.**

From June 30, 2008 to June 30, 2018, we had maintained profitability on a consecutive quarterly basis and we have maintained profitability on an annual basis beginning with the year ended December 31, 2008. Our quarterly revenues, expenses and net income (loss) may fluctuate, even significantly, due to the risks described in these “Risk Factors” as well as the timing of charges and expenses that we may take and acquisitions (such as the Wilson Therapeutics acquisition and the proposed acquisition of Syntimmmune). We believe that we formulate our annual operating budgets with reasonable assumptions and targets, however we may not generate sufficient revenues or control expenses to achieve our financial goals, including continued profitability. We may not be able to sustain or increase profitability on a quarterly or annual basis. You should not consider our financial performance, including our revenue growth, in recent periods as indicative of our future performance. We may not accurately forecast demand for our products, especially Strensiq, Kanuma, Soliris for the treatment of gMG and ALXN1210 for PNH (if ALXN1210 is approved by the regulatory authorities for patients with PNH in the U.S., EU and Japan). Strensiq and Kanuma are in the early stages of commercial launch having each received marketing approval in 2015, and both products treat rare diseases for which there was no existing therapy in a new therapeutic area. Soliris for the treatment of gMG was approved in 2017 and we intend to file for regulatory approval for Soliris as a treatment for NMOSD in the near future). Product demand is dependent on a number of factors. Our investors and investment analysts may have widely varying expectations that may be materially higher or lower than actual revenues and if our revenues are different from these expectations, our stock price may experience significant volatility. Our revenues are also subject to foreign exchange rate fluctuations due to the global nature of our operations and our results of operations could be adversely affected due to unfavorable foreign exchange rates. Although we use derivative instruments to manage foreign currency risk, our efforts to reduce currency exchange losses may not be successful.

In addition, we have provided financial guidance for future periods and if our operating results fail to meet or exceed the guidance that we have previously provided to our investors, our stock price could drop suddenly and significantly.

We have significant debt service obligations as a result of the debt we incurred to finance the acquisition of Synageva. Changes in interest rates related to this debt could significantly increase our annual interest expense. As we attempt to advance our pipeline and continue to launch our second and third products and our third indication for Soliris worldwide and as we seek to obtain regulatory approval for ALXN1210 as a treatment for PNH in the U.S., EU and Japan, and as we move towards filing for

regulatory approval for Soliris as a treatment for NMOSD, we will have substantial expenses as we continue our research and development efforts, continue to conduct clinical trials and continue to develop manufacturing, sales, marketing and distribution capabilities worldwide, some of which could be delayed, scaled-back or eliminated to achieve our financial objectives.

We have also recorded, or may be required to record, charges that include inventory write-downs for failed quality specifications or recalls, impairments with respect to investments and acquisitions, fixed assets and long-lived assets, outcomes of litigation and other legal or administrative proceedings, regulatory matters and tax matters, and payments in connection with acquisitions and other business development activities, such as milestone payments.

Other than Soliris for the treatment of gMG, each of our products is currently the only approved drug for the disease(s) the product treats. If a competitive product is approved for sale, including a biosimilar or generic product, our market share and our revenues could decline, particularly if the competitive product is perceived to be more effective or is less expensive than our product.

We operate in a highly competitive environment. Soliris is currently the only approved therapy for the treatment of PNH and aHUS, and is the only approved complement inhibition therapy for the treatment of AChR antibody-positive gMG. If ALXN1210 is approved as a treatment for PNH, it would be the second approved therapy for PNH (in addition to Soliris). We have completed Phase III clinical studies of Soliris for the treatment of NMOSD, and there are currently no approved drugs for this indication. Strensiq is currently the only product approved to treat HPP and Kanuma is the only product approved to treat LAL-D. In the future, Soliris and ALXN1210 (if approved by the FDA, EMA and MHLW for use in the U.S., EU and Japan for PNH patients) may compete with new drugs currently in development, and Strensiq and Kanuma may also experience competition. Other companies have initiated clinical studies for the treatment of PNH, aHUS, MG and NMOSD, and we are aware of companies that are planning to initiate studies for diseases that we are also targeting. Our revenues could be negatively affected if patients or potential patients enroll in our clinical trials or clinical trials of other companies with respect to diseases that we also target with approved therapies.

Pharmaceutical companies have publicly announced intentions to establish or develop rare disease programs and these companies may introduce products that are competitive with ours. These and other companies, many of which have significantly greater financial, technical and marketing resources than us, may commercialize products that are cheaper, more effective, safer, or easier to administer than our products. In the future, our products may also compete with biosimilars or generics. We experience competition in drug development from universities and other research institutions, and pharmaceutical companies compete with us to attract universities and academic research institutions as drug development partners, including for licensing their proprietary technology. If our competitors successfully enter into such arrangements with academic institutions, we will be precluded from pursuing those unique opportunities and may not be able to find equivalent opportunities elsewhere.

If a company announces successful clinical trial results for a product that may be competitive with one of our products or product candidates, receives marketing approval of a competitive product, or gets to the market before we do with a competitive product, our business may be harmed or our stock price may decline.

If we fail to achieve the expected financial and operating benefits of our corporate restructuring, our business and financial results may be harmed.

We undertook broad corporate restructuring activities in 2017 to re-align our global organization with the Company's re-focused strategy, reduce costs, and realize operational efficiencies. These activities, including a work force reduction of more than 20.0% and plans to close certain operational sites, subject the Company to many risks, including loss of business continuity, unanticipated costs, and higher than usual employee turnover. The expected cost savings and operational efficiencies from the restructuring activities are based on assumptions and expectations, which were reasonable in our judgment at the time made but may not be achieved due to unforeseen difficulties and challenges that are beyond our control. If these assumptions and expectations are incorrect or if we experience delays or unforeseen events in realizing the benefits of the restructuring activities, our business operations and financial results may be harmed.

As we implement the restructuring, we must execute on our re-focused strategy, including growing and maximizing our rare disease business and pursuing disciplined business development to expand our pipeline. If we are unable to effectively execute with fewer human resources and/or attract, retain or motivate key employees, our business may be adversely affected.

If we fail to attract and retain highly qualified personnel, we may not be able to successfully develop, manufacture or commercialize our products or products candidates.

The success of our business is dependent in large part on our continued ability to attract and retain our senior management, and other highly qualified personnel in our scientific, clinical, manufacturing and commercial organizations. There is intense competition in the biopharmaceutical industry for these types of personnel. In March 2017, our Board appointed a new Chief Executive Officer (CEO) and we have experienced other recent management changes. In addition, in the second quarter of 2018, we completed the relocation of our global headquarters from New Haven, Connecticut to Boston, Massachusetts and in 2017 we began a company-wide restructuring to re-align our global organization with the Company's re-focused strategy. We continue to fill many open positions as a result of employees who did not relocate to Boston. The relocation and restructuring have the potential to adversely impact our ability to recruit and/or retain key employees as well as to disrupt our business operations, financial conditions, programs, plans and strategies.

Our business is specialized and global and we must attract and retain highly qualified individuals across many geographies. We may not be able to continue to attract and retain the highly qualified personnel necessary for developing, manufacturing and commercializing our products and product candidates. If we are unsuccessful in our recruitment and retention efforts, or if our recruitment efforts take longer than anticipated, our business may be harmed.

If we fail to satisfy our debt service obligations or obtain the capital necessary to fund our operations, we may be unable to commercialize our products or continue or complete our product development.

In June 2015, we acquired Synageva and used a substantial portion of our cash on hand and incurred significant debt under the terms of a senior secured credit facility to finance the acquisition. In June 2018 we amended and restated this credit facility to, among other things, increase the amount available under the revolving credit facility from $500.0 to $1,000.0 and extend the maturity date of the revolving credit facility and the term loan facility to June 7, 2023.

In addition, we have substantial contingent liabilities, including milestone and royalty obligations under acquisitions and strategic transactions, and we are currently engaged in disputes with certain counterparties regarding potential milestone and royalty obligations. Our increased indebtedness, including increased interest expense, together with our significant contingent liabilities, could, among other things:

- make us more vulnerable to economic or industry downturns and competitive pressures;
- make it difficult for us to make payments on the credit facilities and require us to use cash flow from operations to satisfy our debt obligations, which would reduce the availability of our cash flow for other purposes, including business development efforts, research and development and mergers and acquisitions;
- limit our ability to incur additional debt or access the capital markets; and
- limit our flexibility in planning for, or reacting to changes in, our business.

The Amended and Restated Credit Agreement requires us to comply with certain financial covenants and additional negative covenants, restricting or limiting our ability and the ability of our subsidiaries to, among other things, incur additional indebtedness, grant liens, and engage in certain investment, acquisition and disposition transactions, subject to limited exceptions. If an event of default occurs, the interest rate would increase and the administrative agent would be entitled to take various actions, including the acceleration of amounts due under the Amended and Restated Credit Agreement. If some or all of the amounts outstanding under the Amended and Restated Credit Agreement were to be accelerated by the lenders, we may not have sufficient cash on hand to pay the amounts due, we may not be able to refinance such debt on terms acceptable to us (or at all) and we may be required to sell certain assets on terms that are unfavorable to us.

Our ability to satisfy our obligations under the Amended and Restated Credit Agreement and meet our debt service obligations will depend upon our future performance, which will be subject to financial, business and other factors affecting our operations, many of which are beyond our control.

We may not be able to access the capital and credit markets on terms that are favorable to us or at all.

We may need to raise additional capital to supplement our existing funds and cash generated from operations for working capital, capital expenditure and debt service requirements, and other business activities. Funding needs may shift and the amount of capital we may need depends on many factors, including, the cost of any acquisition or any new collaborative, licensing or other commercial relationships that we may establish, the time and cost necessary to build our manufacturing facilities or enhance our manufacturing operations, the cost of obtaining and maintaining the necessary regulatory approvals for our manufacturing facilities, and the progress, timing and scope of our preclinical studies, clinical trials and product development and

commercialization efforts. The capital and credit markets have experienced extreme volatility and disruption. We may not receive additional funding when we need it or funding may only be available on unfavorable terms. If we cannot raise adequate funds to satisfy our capital requirements and debt repayment obligations, we may have to delay, scale-back or eliminate certain research, development, manufacturing, acquisition or commercial activities.

Our business involves environmental risks and potential exposure to environmental liabilities.

As a biopharmaceutical company, our business involves the use of certain hazardous materials in our research, development, manufacturing, and other activities. We and our third party providers are subject to various federal, state and local and foreign environmental laws and regulations concerning the handling and disposal of non-hazardous and hazardous wastes, such as medical and biological wastes, and emissions and discharges into the environment, such as air, soils and water sources. We also are subject to laws and regulations that impose liability and clean-up responsibility for releases of hazardous substances into the environment and a current or previous owner or operator of property may be liable for the costs of remediating its property or locations, without regard to whether the owner or operator knew of or caused the contamination. If an accident or environmental discharge occurs, or if we discover contamination caused by prior owners and operators of properties we acquire, we could be liable for remediation obligations, damages and fines that could exceed our insurance coverage and financial resources. Such obligations and liabilities, which to date have not been material, could have a material impact on our business and financial condition. Additionally, the cost of compliance with environmental and safety laws and regulations may increase in the future, and we may be required dedicate more resources, including substantial financial resources, to comply with such developments or purchase supplemental insurance coverage, which may not be available on acceptable terms or at all.

In order to meet one of our key business objectives of advancing and rebuilding our product pipeline, we plan to expand our business and product offerings through strategic initiatives. Our efforts to identify opportunities or complete transactions that satisfy our strategic criteria may not be successful, and we may not realize the anticipated benefits of any completed acquisition or other strategic transaction.

As noted above, we currently rely on one product for a substantial portion of our revenue and we expect that there may be potential increased competition to Soliris from, among other products and therapies, biosimilars. As a result, we have identified rebuilding our product pipeline as a key strategic objective and, in order to achieve this objective, we expect we will purchase businesses and acquire, co-develop or license technologies from third parties in the future. We anticipate that we will regularly evaluate potential merger, acquisition, partnering and in-license opportunities in an effort to expand our pipeline or product offerings, and enhance our research platforms. Acquisitions of new businesses or products and in-licensing of new technologies and products, including Wilson Therapeutics and Complement Pharma, Dicerna and the pending acquisition of Syntimmune, may involve numerous risks, including:

- substantial cash expenditures;
- potentially dilutive issuance of equity securities;
- incurrence of debt and contingent liabilities, some of which may be difficult or impossible to identify at the time of acquisition;
- difficulties in assimilating the operations of the acquired companies;
- failure of any acquired businesses or products or in-licensed products or technologies to achieve the scientific, medical, commercial or other results anticipated;
- diverting our management’s attention away from other business opportunities and concerns;
- the potential loss of our key employees or key employees of the acquired companies; and
- risks of entering markets in which we have limited or no direct experience.

A substantial portion of our strategic efforts are focused on opportunities for rare disorders and life-saving therapies, but the availability of such opportunities is limited. We may not be able to identify opportunities that satisfy our strategic criteria or are acceptable to us or our stockholders. Several companies have publicly announced intentions to establish or develop rare disease programs and we may compete with these companies for the same opportunities. For these and other reasons, we may not be able to acquire the rights to additional product

candidates or approved products on terms that we or our stockholders find acceptable, or at all. In such event, we may not be able to rebuild our product pipeline and any future revenue would remain largely dependent on our existing products which, as noted above, may be subject to increasing competition from biosimilars and other therapies.

Even if we are able to successfully identify and complete acquisitions and other strategic transactions, we may not be able to integrate them or take full advantage of them. An acquisition or other strategic transaction may not result in short-term or long-term benefits to us. We may also incorrectly judge the value or worth of an acquired company or business or an acquired or in-licensed product.

To effectively manage our current and future potential growth, we must continue to effectively enhance and develop our global employee base, and our operational and financial processes. Supporting our growth strategy will require significant capital expenditures and management resources, including investments in research, development, sales and marketing, manufacturing and other areas of our operations. The development or expansion of our business, any acquired business or any acquired or in-licensed products may require a substantial capital investment by us. We may not have the necessary funds or they might not be available to us on acceptable terms or at all. We may also seek to raise funds by selling shares of our capital stock, which could dilute current stockholders' ownership interest in our company, or securities convertible into our capital stock, which could dilute current stockholders' ownership interest in Alexion upon conversion.

We may be required to recognize impairment charges for our goodwill and other intangible assets, and such charges may be material in amount and have an adverse impact on our financial results in the period such charges are incurred.

As of September 30, 2018, the net carrying value of our goodwill and other intangible assets, net totaled $8,751.0. As required by generally accepted accounting principles, we periodically assess these assets to determine if there are indicators of impairment. Impairment of intangible assets may be triggered by developments both within and outside our control. Deteriorating economic conditions, technological changes, disruptions to our business, inability to effectively integrate acquired businesses, unexpected significant changes or planned changes in the use of the assets, intensified competition, divestitures, market capitalization declines and other factors may impair our goodwill and other intangible assets. Any charges relating to such impairments could adversely affect our results of operations in the periods in which an impairment is recognized.

As part of our standard quarterly procedures, we reviewed the Kanuma asset as of September 30, 2018 and determined that there were no indicators of impairment. We will continue to review the related valuation and accounting of this asset in future quarters as new information becomes available to us. Changes to assumptions used in our net cash flow projections may result in impairment charges in subsequent periods. The net book value of the Kanuma intangible asset as of September 30, 2018 is $3,317.7.

Our business could be affected by litigation, government investigations and enforcement actions.

We operate in many jurisdictions in a highly regulated industry and we could be subject to litigation, government investigation and enforcement actions on a variety of matters in the U.S. or foreign jurisdictions, including, without limitation, intellectual property, regulatory, product liability, environmental, whistleblower, Qui Tam, false claims, privacy, anti-kickback, anti-bribery, securities, commercial, employment, and other claims and legal proceedings which may arise from conducting our business. As previously disclosed, in May 2015, we received a subpoena in connection with an investigation by the Enforcement Division of the SEC requesting information related to our grant-making activities and compliance with the FCPA in various countries. The SEC also seeks information related to Alexion's recalls of specific lots of Soliris and related securities disclosures. In October 2015, Alexion received a request from the DOJ for the voluntary production of documents and other information pertaining to Alexion's compliance with the FCPA. Any determination that our operations or activities are not in compliance with existing laws or regulations could result in the imposition of fines, civil and criminal penalties, equitable remedies, including disgorgement, injunctive relief, and/or other sanctions against us, and remediation of any such findings could have an adverse effect on our business operations. In addition, we are subject to other government investigations and litigation including those described in PART II - Item 1. Legal Proceedings elsewhere in this Quarterly Report on Form 10-Q. Legal proceedings, government investigations, including the SEC and DOJ investigations, and enforcement actions have been and we expect will continue to be expensive and time consuming. Any future litigation or investigation would also likely be expensive and time consuming. An adverse outcome on any current of future matter could result in significant damages awards, fines, penalties, exclusion from the federal healthcare programs, healthcare debarment, injunctive relief, product recalls, reputational damage and modifications of our business practices, which could have a material adverse effect on our business and results of operations.

The efficiency of our corporate structure depends on the application of the tax laws and regulations in the countries where we operate and we may have exposure to additional tax liabilities or our effective tax rate could increase, which could have a material impact on our results of operations and financial position.

As a company with international operations, we are subject to income taxes, as well as non-income based taxes, in both the U.S. and various foreign jurisdictions. Significant judgment is required in determining our worldwide tax liabilities. Although we believe our estimates are reasonable at the time made, the final taxes we owe may differ from the amounts recorded in our financial statements (and such differences may be material). If the IRS, or other taxing authority, disagrees with the positions we take, we could have additional tax liability, and this could have a material impact on our results of operations and financial position. Our effective tax rate could be adversely affected by changes in the mix of earnings in countries with different statutory tax rates, changes in the valuation of deferred tax assets and liabilities, changes in tax laws and regulations, changes in interpretations of tax laws, including pending tax law changes, changes in our manufacturing activities and changes in our future levels of research and development spending.

We have designed our corporate structure, the manner in which we develop and use our intellectual property, and our intercompany transactions between our affiliates in a way that is intended to enhance our operational and financial efficiency and increase our overall profitability. The application of the tax laws and regulations of various countries in which we operate and to our global operations is subject to interpretation. We also must operate our business in a manner consistent with our corporate structure to realize such efficiencies. The tax authorities of the countries in which we operate may challenge our methodologies for valuing developed technology or for transfer pricing. If tax authorities determine that the manner in which we operate results in our business not achieving the intended tax consequences, our effective tax rate could increase (and such increase may be material) and harm our financial position and results of operations.

In addition, certain governments are considering and may adopt tax reform measures that significantly increase our worldwide tax liabilities. The Organization for Economic Co-operation and Development and other government bodies have focused on issues related to the taxation of multinational corporations, including, in the area of “base erosion and profit shifting,” where payments are made from affiliates in jurisdictions with high tax rates to affiliates in jurisdictions with lower tax rates. It is possible that these reform measures could increase our effective tax rate (and such increase may be material) and harm our financial position and results of operations over the next several years.

Our sales and operations are subject to a variety of risks relating to the conduct and planned expansion of our international business.

We have increased our international presence, including in emerging markets. Our operations in foreign countries subject us to a variety of risks, including:

- difficulties or the inability to obtain necessary foreign regulatory or reimbursement approvals of our products in a timely manner or at all;
- political or economic determinations that adversely impact pricing or reimbursement policies;
- economic problems or political instability;
- fluctuations in currency exchange rates;
- difficulties or inability to obtain financing in markets;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- customs and tax officials in foreign jurisdictions may disagree with the value we set when we import our products and we may be required to pay additional duties or fines;
- difficulties enforcing contractual and intellectual property rights;
- compliance with complex import and export control laws;
- trade restrictions and restrictions on direct investments by foreign entities;
- compliance with tax, employment and labor laws;
- costs and difficulties in recruiting and retaining qualified managers and employees to manage and operate the business in local jurisdictions;
- costs and difficulties in managing and monitoring international operations; and
- longer payment cycles.

Additionally, our business and marketing methods are subject to the laws and regulations of the countries in which we operate, which may differ significantly from country to country and may conflict with U.S. laws and regulations. The FCPA and anti-bribery laws and regulations in the locations in which we operate our business are extensive and far-reaching, and we must maintain accurate records and control over the activities of our distributors and third party service providers in countries where we operate. We have policies and procedures, and we are currently implementing an enhanced company-wide compliance program and effort, designed to help ensure that we and our representatives, including our employees and

our vendors and distributors, comply with such laws, however we cannot guarantee that these policies and procedures will protect us against liability under the FCPA or other anti-bribery laws for actions taken by our representatives. Any determination that our operations or activities are not in compliance with existing laws or regulations, including the FCPA and the UK Anti-Bribery Act, could result in the imposition of fines, civil and criminal penalties, equitable remedies, including disgorgement, injunctive relief, and/or other sanctions against us, and remediation of such findings could have an adverse effect on our business operations. In addition, as our international operations expand, we are likely to become subject to new anti-corruption/anti-bribery laws or existing laws may govern our activities in new jurisdictions in which we operate. Failure to comply with the laws and regulations of the countries in which we operate, or will operate in the future, could materially harm our business.

Currency fluctuations and changes in exchange rates could adversely affect our revenue, increase our costs and negatively affect our profitability.

We conduct a substantial portion of our business in currencies other than the U.S. dollar. We are exposed to fluctuations in foreign currency exchange rates and such fluctuations affect our operating results. The exposures result from portions of our revenues, as well as the related receivables, and expenses that are denominated in currencies other than the U.S. dollar, including the Euro, Japanese Yen, British Pound, Swiss Franc, and Russian Ruble. As the U.S. dollar strengthens against these foreign currencies, the relative value of sales made in the respective foreign currencies decrease. When the U.S. dollar weakens against these currencies, the relative value of such sales increase. We manage a portion of our foreign currency transaction risk within specified guidelines through the use of derivatives. All of our derivative instruments are utilized for risk management purposes, and we do not use derivatives for speculative trading purposes. We enter into foreign exchange forward contracts to hedge exposures resulting from portions of our forecasted revenues, including intercompany revenues that are denominated in currencies other than the U.S. dollar. The purpose of the hedges of revenue is to reduce the volatility of exchange rate fluctuations on our operating results and to increase the visibility of the foreign exchange impact on forecasted revenues. Further, we enter into foreign exchange forward contracts, with durations of approximately 30 days, designed to limit the balance sheet exposure of monetary assets and liabilities. We enter into these hedges to reduce the impact of fluctuating exchange rates on our operating results. Gains and losses on these hedge transactions are designed to offset gains and losses on underlying balance sheet exposures. While we attempt to hedge certain currency risks, currency fluctuations between the U.S. dollar and the currencies in which we do business have, in the past, caused foreign currency transaction gains and losses and have also impacted the amounts of revenues and expenses calculated in U.S. dollars and will do so in the future. Likewise, past currency fluctuations have at times resulted in foreign currency transaction gains, and there can be no assurance that these gains can be reproduced. Any significant foreign currency exchange rate fluctuations could adversely affect our financial condition and results of operations.

Changes in healthcare laws and implementing regulations, as well as changes in healthcare policy, may affect coverage and reimbursement of our products in ways that we cannot currently predict and these changes could adversely affect our business and financial condition.

In the U.S., there have been a number of legislative and regulatory initiatives focused on containing the cost of healthcare. The Patient Protection and Affordable Care Act (PPACA) was enacted in the U.S. in March 2010. This law substantially changes the way healthcare is financed by both governmental and private insurers in the U.S., and significantly impacts the pharmaceutical industry. PPACA contains a number of provisions that are expected to impact our business and operations, in some cases in ways we cannot currently predict. Changes that may affect our business include those governing enrollment in federal healthcare programs, reimbursement changes, rules regarding prescription drug benefits under health insurance exchanges, expansion of the 340B program, expansion of state Medicaid programs, fraud and abuse enforcement and rules governing the approval of biosimilar products. These changes will impact existing government healthcare programs and will result in the development of new programs, including Medicare payment for performance initiatives and improvements to the physician quality reporting system and feedback program. In early 2016, the Centers for Medicare and Medicaid Services (CMS) issued final regulations to implement the changes to the Medicaid Drug Rebate Program under PPACA. These regulations became effective on April 1, 2016. Moreover, in the future, Congress could enact legislation that further increases Medicaid drug rebates or other costs and charges associated with participating in the Medicaid Drug Rebate Program. The issuance of regulations and coverage expansion by various governmental agencies relating to the Medicaid Drug Rebate Program has and will continue to increase our costs and the complexity of compliance, has been and will be time-consuming, and could have a material adverse effect on our results of operations.

Certain legislative changes to and regulatory changes under PPACA have occurred in the 115th U.S. Congress and under the Trump Administration. For example, the Tax Act enacted on December 22, 2017, eliminated the shared responsibility payment for individuals who fail to maintain minimum essential coverage under section 5000A of the Internal Revenue Code, commonly referred to as the individual mandate, beginning in 2019. Additional legislative changes to and regulatory changes under PPACA remain possible.

Governments in countries where we operate have adopted or have also shown significant interest in pursuing legislative initiatives to reduce costs of healthcare. We expect that the implementation of current laws and policies, the amendment of those laws and policies in the future, as well as the adoption of new laws and policies, could have a material adverse effect on our industry generally and on our ability to maintain or increase our product sales or successfully commercialize our product candidates, or could limit or eliminate our future spending on development projects. In many cases, these government initiatives, even if enacted into law, are subject to future rulemaking by regulatory agencies. Although we have evaluated these government initiatives and the expected impact on our business, we cannot know with certainty whether any such law, rule or regulation will adversely affect coverage and reimbursement of our products, or to what extent, until such laws, rules and regulations are promulgated, implemented and enforced, which could sometimes take many years. The announcement or adoption of regulatory or legislative proposals could delay or prevent our entry into new markets, affect our reimbursement or sales in the markets where we are already selling our products and materially harm our business, financial condition and results of operations.

If we fail to comply with our reporting and payment obligations under the Medicaid Drug Rebate Program, Medicare, or other governmental pricing programs, we could be subject to additional reimbursement requirements, penalties, sanctions and fines which could have a material adverse effect on our business, financial condition, results of operations and prospects.

We participate in and have certain price reporting obligations to the Medicaid Drug Rebate Program and we have obligations to report the average sales price under the Medicare program. Under the Medicaid Drug Rebate Program, we are required to pay a rebate to each state Medicaid program for quantities of our products that are dispensed to Medicaid beneficiaries and paid for by a state Medicaid program as a condition of having federal funds being made available to the states for our products under Medicaid and Medicare Part B. Those rebates are based on pricing data reported by us on a monthly and quarterly basis to CMS. These data include the average manufacturer price and, in the case of innovator products, the best price for each drug. Any failure to comply with these price reporting and rebate payment obligations could negatively impact our financial results.

Federal law requires that any company that participates in the Medicaid Drug Rebate Program also participate in the Public Health Service's 340B drug pricing program in order for federal funds to be available for the manufacturer's drugs under Medicaid and Medicare Part B. The 340B pricing program requires participating manufacturers to agree to charge statutorily-defined covered entities no more than the 340B "ceiling price" for the manufacturer's covered outpatient drugs. These 340B covered entities include a variety of community health clinics and other entities that receive health services grants from the Public Health Service, as well as hospitals that serve a disproportionate share of low-income patients. PPACA expanded the 340B program to include additional types of covered entities but exempts "orphan drugs"-those designated under section 526 of the Federal Food, Drug, and Cosmetic Act, such as our products-from the ceiling price requirements for these newly-eligible entities. The 340B ceiling price is calculated using a statutory formula, which is based on the average manufacturer price and rebate amount for the covered outpatient drug as calculated under the Medicaid Drug Rebate Program, and in general, products subject to Medicaid price reporting and rebate liability are also subject to the 340B ceiling price calculation and discount requirement. Any changes to the definition of average manufacturer price and the Medicaid rebate amount also could affect our 340B ceiling price calculation for our products and could negatively impact our results of operations.

PPACA obligates the Secretary of the Health and Human Services (HHS) to update the agreement that manufacturers must sign to participate in the 340B pricing program to obligate a manufacturer to offer the 340B price to covered entities if the manufacturer makes the drug available to any other purchaser at any price and to report to the government the ceiling prices for its drugs. The Health Resources and Services Administration (HRSA) recently updated the agreement with participating manufacturers. PPACA also obligates the Secretary of HHS to create regulations and processes to improve the integrity of the 340B program. On January 5, 2017, HRSA issued a final regulation regarding the calculation of 340B ceiling price and the imposition of civil monetary penalties on manufacturers that knowingly and intentionally overcharge covered entities. The effective date of the regulation has been delayed until July 1, 2019. Implementation of this final rule and the issuance of any other final regulations and guidance

could affect our obligations under the 340B pricing program in ways we cannot anticipate. In addition, legislation may be introduced that, if passed, would further expand the 340B pricing program to additional covered entities or would require participating manufacturers to agree to provide 340B discounted pricing on drugs used in an inpatient setting.

Pricing and rebate calculations vary among products and programs. The calculations are complex and are often subject to interpretation by us, governmental or regulatory agencies and the courts. We cannot assure you that our submissions will not be found by CMS to be incomplete or incorrect. Governmental agencies may also make changes in program interpretations, requirements or conditions of participation, some of which may have implications for amounts previously estimated or paid. If we become aware that our reporting for a prior quarter was incorrect, or has changed as a result of recalculation of the pricing data, we are obligated to resubmit the corrected data for a period not to exceed twelve quarters from the quarter in which the data originally were due, and CMS may request or require restatements for earlier periods as well. Such restatements and recalculations increase our costs for complying with the laws and regulations governing the Medicaid Drug Rebate Program. Any corrections to our rebate calculations could result in an overage or underage in our rebate liability for past quarters, depending on the nature of the correction. Price recalculations also may affect the ceiling price at which we are required to offer our products to certain covered entities, such as safety-net providers, under the 340B pricing program.

We are liable for errors associated with our submission of pricing data. In addition to retroactive rebates and the potential for 340B program refunds, civil monetary penalties can be applied if we are found to have knowingly submitted any false pricing information to the government, if we are found to have made a misrepresentation in the reporting of our average sales price, or if we fail to submit the required pricing data on a timely basis. Such conduct also could be grounds for CMS to terminate our Medicaid drug rebate agreement, pursuant to which we participate in the Medicaid program. In the event that CMS terminates our rebate agreement, federal payments may not be available under Medicaid or Medicare Part B for our covered outpatient drugs.

Federal law requires that a company must participate in the Department of Veterans Affairs Federal Supply Schedule (FFS) pricing program to be eligible to have its products paid for with federal funds. If we overcharge the government in connection with our FSS contract or Section 703 Agreement, whether due to a misstated FCP or otherwise, we are required to refund the difference to the government. Failure to make necessary disclosures and/or to identify contract overcharges can result in allegations against us under the FCA and other laws and regulations. Unexpected refunds to the government, and responding to a government investigation or enforcement action, would be expensive and time-consuming, and could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

We may be subject to numerous and varying privacy and security laws, and our failure to comply could result in penalties and reputational damage.

We are subject to laws and regulations covering data privacy and the protection of personal information including health information. The legislative and regulatory landscape for privacy and data protection continues to evolve, and there has been an increasing focus on privacy and data protection issues which may affect our business. In the U.S., numerous federal and state laws and regulations, including state security breach notification laws, state health information privacy laws, and federal and state consumer protection laws, govern the collection, use, disclosure, and protection of personal information. Each of these laws is subject to varying interpretations by courts and government agencies, creating complex compliance issues for us. If we fail to comply with applicable laws and regulations we could be subject to penalties or sanctions, including criminal penalties if we knowingly obtain or disclose individually identifiable health information from a covered entity in a manner that is not authorized or permitted by HIPAA.

Numerous other countries have, or are developing, laws governing the collection, use and transmission of personal information as well. EU Member States and other jurisdictions have adopted data protection laws and regulations, which impose significant compliance obligations. For example, the EC adopted the EU Data Protection Directive, as implemented into national laws by the EU Member States, which imposes strict obligations and restrictions on the ability to collect, analyze, and transfer personal data, including health data from clinical trials and adverse event reporting. Data protection authorities from different EU Member States have interpreted the privacy laws differently, which adds to the complexity of processing personal data in the EU, and guidance on implementation and compliance practices are often updated or otherwise revised. Any failure to comply with the rules arising from the EU Data Protection Directive and related national laws of EU Member States could lead to government enforcement actions and significant penalties against us, and adversely impact our operating results.

In May 2016, the EU formally adopted the General Data Protection Regulation, which applies in all EU Member States and went into effect on May 25, 2018 and replaced the EU Data Protection Directive on that date. The regulation introduces new data protection requirements in the EU and substantial fines for breaches of the data protection rules. It increases our responsibility and liability in relation to personal data that we process and we may be required to put in place additional mechanisms ensuring compliance with the new EU data protection rules.

Security breaches, cyber-attacks, or other disruptions could expose us to liability and affect our business and reputation.

We are increasingly dependent on our information technology systems and infrastructure for our business. We collect, store, and transmit sensitive information including intellectual property, proprietary business information and personal information in connection with business operations. The secure maintenance of this information is critical to our operations and business strategy. Some of this information could be an attractive target of criminal attack by third parties with a wide range of motives and expertise, including organized criminal groups, “hacktivists,” patient groups, disgruntled current or former employees, and others. Cyber-attacks are of ever-increasing levels of sophistication, and despite our security measures, our information technology and infrastructure may be vulnerable to such attacks or may be breached, including due to employee error or malfeasance. We have implemented information security measures to protect patients’ personal information against the risk of inappropriate and unauthorized external use and disclosure. However, despite these measures, and due to the ever changing information cyber-threat landscape, we may be subject to data breaches through cyber-attacks. Any such breach could compromise our networks and the information stored there could be accessed, publicly disclosed, lost or stolen. If our systems become compromised, we may not promptly discover the intrusion. Like other companies in our industry, we have experienced attacks to our data and systems, including malware and computer viruses. If our systems failed or were breached or disrupted, we could lose product sales, and suffer reputational damage and loss of customer confidence. Such incidents would result in notification obligations to affected individuals and government agencies, legal claims or proceedings, and liability under foreign, federal and state laws that protect the privacy and security of personal information. Any one of these events could cause our business to be materially harmed and our results of operations would be adversely impacted.

Negative public opinion and increased regulatory scrutiny of recombinant and transgenic products, genetically modified products, and genetically modified animals generally may damage public perception of our current and future products or adversely affect our ability to conduct our business and obtain regulatory approvals we may seek.

Kanuma is a transgenic product produced in the egg whites of genetically modified chickens who receive copies of the human lysosomal acid lipase gene to produce recombinant human lysosomal acid lipase. The success of Kanuma will depend in part on public attitudes of the use of genetic engineering. Public attitudes may be influenced by claims and perceptions that these types of activities or products are unsafe, and our products may not gain sufficient acceptance by, or fall out of favor with, the public or the medical community. Negative public attitudes to genetic engineering activities in general could result in more restrictive legislation or regulations and could impede our ability to conduct our business, delay preclinical or clinical studies, or otherwise prevent us from commercializing our product.

Risks Related to Our Common Stock

Our stock price is extremely volatile.

The trading price of our common stock has been extremely volatile and may continue to be volatile in the future. Many factors could have an impact on our stock price, including fluctuations in our or our competitors’ operating results, clinical trial results or adverse events associated with our products, product development by us or our competitors, changes in laws, including healthcare, tax or intellectual property laws, intellectual property developments, changes in reimbursement or drug pricing, the existence or outcome of litigation or government proceedings, including the SEC/DOJ investigation, acquisitions or other strategic transactions, and the perceptions of our investors that we are not performing or meeting expectations. The trading price of the common stock of many biopharmaceutical companies, including ours, has experienced extreme price and volume fluctuations, which have at times been unrelated to the operating performance of the companies whose stocks were affected.

Anti-takeover provisions in our charter and bylaws and under Delaware law could make a third-party acquisition of us difficult and may frustrate any attempt to remove or replace our current management.

Our corporate charter and by-law provisions may discourage certain types of transactions involving an actual or potential change of control that might be beneficial to us or our stockholders. Our bylaws provide that special meetings of our stockholders may be called only by the Chairman of the Board of

Directors, the President, the Secretary, or a majority of the Board of Directors, or upon the written request of stockholders who together own of record 25.0% of the outstanding stock of all classes entitled to vote at such meeting. Our bylaws also specify that the authorized number of directors may be changed only by resolution of the Board of Directors. Our charter does not include a provision for cumulative voting for directors, which may have enabled a minority stockholder holding a sufficient percentage of a class of shares to elect one or more directors. Under our charter, our Board of Directors has the authority, without further action by stockholders, to designate up to 5 shares of preferred stock in one or more series. The rights of the holders of common stock will be subject to, and may be adversely affected by, the rights of the holders of any class or series of preferred stock that may be issued in the future.

Because we are a Delaware corporation, the anti-takeover provisions of Delaware law could make it more difficult for a third party to acquire control of us, even if the change in control would be beneficial to stockholders. We are subject to the provisions of Section 203 of the Delaware General Laws, which prohibits a person who owns in excess of 15.0% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15.0% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Item 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS.

ISSUER PURCHASE OF EQUITY SECURITIES *(amounts in millions, except per share amounts)*

The following table summarizes our common stock repurchase activity during the third quarter of 2018:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Programs	Maximum Dollar Value of Shares that May Yet Be Purchased Under the Program
July 1-31, 2018	—	$ —	—	$ 451.5
August 1-31, 2018	—	$ —	—	$ 451.5
September 1-30, 2018	—	$ —	—	$ 451.5
Total	—	$ —	—	

In February 2017, our Board of Directors authorized the future acquisition of shares with an aggregate value of up to $1,000.0 under our existing share repurchase program. The repurchase program does not have an expiration date, and we are not obligated to acquire a particular number of shares. The repurchase program may be discontinued at any time at our discretion. The Company did not repurchase any shares during the third quarter 2018.

Item 5. OTHER INFORMATION.

None.

Item 6. EXHIBITS.

(a) **Exhibits:**

10.1	Agreement and Plan of Merger, dated as of September 25, 2018, by and among Alexion Pharmaceuticals, Inc., Syracuse Merger Sub, Inc., Syntimmune, Inc. and Shareholder Representative Services LLC *
10.2	Agreement, dated as of September 7, 2018, by and between Alexion Pharma Holding Unlimited Company, Shareholder Representative Services LLC, Fonds de Solidarité des Travailleurs du Québec F.T.Q, Capital Régional et Coopératif Desjardins, CTI Life Sciences Fund, L.P., OrbiMed Private Investments III, LP and OrbiMed Associates III, LP (in connection with the Agreement and Plan of Merger, dated December 28, 2011 pursuant to which Alexion acquired Enobia Pharma Corp.)
10.3	Alexion Pharmaceuticals, Inc. Amended and Restated 2015 Employee Stock Purchase Plan **
31.1	Certificate of Chief Executive Officer pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 Sarbanes Oxley Act of 2002.
31.2	Certificate of Chief Financial Officer pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of Sarbanes Oxley Act of 2002.
32.1	Certificate of Chief Executive Officer pursuant to Section 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes Oxley Act.
32.2	Certificate of Chief Financial Officer pursuant to Section 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes Oxley Act.
101	The following materials from the Alexion Pharmaceuticals, Inc. Quarterly Report on Form 10-Q for the quarter ended September 30, 2018 formatted in eXtensible Business Reporting Language (XBRL): (i) the Condensed Consolidated Balance Sheets as of September 30, 2018 and December 31, 2017, (ii) the Condensed Consolidated Statements of Operations for the three and nine months ended September 30, 2018 and 2017, (iii) the Condensed Consolidated Statements of Comprehensive Income for the three and nine months ended September 30, 2018 and 2017, (iv) the Condensed Consolidated Statements of Cash Flows for the nine months ended September 30, 2018 and 2017, and (v) Notes to Condensed Consolidated Financial Statements.

* Alexion has applied for confidential treatment of certain provisions of this exhibit with the Securities and Exchange Commission (SEC). The confidential portions of this exhibit are marked by an asterisk and have been omitted and filed separately with the SEC pursuant to Alexion's request for confidential treatment.

** Indicates a management contract or compensatory plan or arrangement required to be filed pursuant to Item 6 of Form 10-Q.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ALEXION PHARMACEUTICALS, INC.

By: /s/ Ludwig N. Hantson, Ph.D.

Date: October 24, 2018

Ludwig N. Hantson, Ph.D.
Chief Executive Officer (principal executive officer)

By: /s/ Paul J. Clancy

Date: October 24, 2018

Paul J. Clancy
Executive Vice President and Chief Financial Officer
(principal financial officer)

AGREEMENT AND PLAN OF MERGER

BY AND AMONG

ALEXION PHARMACEUTICALS, INC.,

SYRACUSE MERGER SUB, INC.,

SYNTIMMUNE, INC.

AND

SHAREHOLDER REPRESENTATIVE SERVICES LLC,
AS THE STOCKHOLDERS' REPRESENTATIVE

Dated as of September 25, 2018

* Omitted information is the subject of a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934 and has been filed separately with the Securities and Exchange Commission.

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* Omitted information is the subject of a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934 and has been filed separately with the Securities and Exchange Commission.

AGREEMENT AND PLAN OF MERGER

This AGREEMENT AND PLAN OF MERGER (this "*Agreement*"), dated as of September 25, 2018, by and among ALEXION PHARMACEUTICALS, INC., a Delaware corporation ("*Buyer*"), SYRACUSE MERGER SUB, INC., a Delaware corporation and a wholly-owned subsidiary of Buyer ("*Merger Sub*"), SYNTIMMUNE, INC., a Delaware corporation (the "*Company*"), and SHAREHOLDER REPRESENTATIVE SERVICES LLC, a Colorado limited liability company, solely in its capacity as representative of the Securityholders (the "*Stockholders' Representative*").

RECITALS

A. The respective Boards of Directors of each of Buyer, Merger Sub and the Company have unanimously (i) approved, and declared advisable and in the best interests of Buyer, Merger Sub and the Company and their respective stockholders the merger of Merger Sub with and into the Company, with the Company continuing as the surviving entity (the "*Merger*") in accordance with the provisions of the General Corporation Law of the State of Delaware, as amended (the "*DGCL*"), upon the terms and subject to the conditions of this Agreement, and (ii) approved this Agreement.

B. Concurrently with the execution and delivery of this Agreement by the parties hereto, (i) each of the Principal Stockholders is entering into a Voting Agreement, dated as of the date hereof, with Buyer, substantially in the form attached hereto as Exhibit A (the "*Voting Agreement*"), pursuant to which, among other things, such Principal Stockholders shall deliver to the Company a written consent in lieu of a meeting of stockholders to adopt this Agreement and approve the Merger in accordance with the DGCL and the Company Charter (the "*Written Consent*"), which Written Consent shall constitute the Required Stockholder Approval; (ii) each of the Principal Stockholders is entering into a Joinder Agreement, dated as of the date hereof, with Buyer, substantially in the form attached hereto as Exhibit B (the "*Joinder Agreement*"), pursuant to which, among other things, such Principal Stockholders are agreeing to certain agreements, undertakings, representations, warranties, releases and waivers set forth therein; and (iii); each of the Restricted Sellers is entering into a non-competition agreement with Buyer, to be effective as of the Closing, substantially in the form attached hereto as Exhibit C (collectively, the "*Non-Competition Agreements*").

C. The right of Stockholders and Option Holders to receive any merger consideration under this Agreement shall be subject to the indemnification obligations of such parties set forth in this Agreement, and a portion of the applicable merger consideration will be held by the Escrow Agent as security for the indemnification obligations of such parties under this Agreement.

D. Certain capitalized terms used herein have the meanings set forth in Section 1.1.

* Omitted information is the subject of a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934 and has been filed separately with the Securities and Exchange Commission.

In consideration of the mutual representations, warranties, covenants and other agreements set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

* Omitted information is the subject of a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934 and has been filed separately with the Securities and Exchange Commission.

Article I

DEFINED TERMS; INTERPRETATION

Section 1.1 Defined Terms. As used in this Agreement, the terms set forth below shall have the following meanings:

"*2016 BWH Agreement*" has the meaning set forth in the definition of Transaction Expenses in Section 1.1.

"*401(k) Plan(s)*" has the meaning specified in Section 6.13(a).

"*Acquisition Transaction*" has the meaning specified in Section 6.9.

"*Actual Fraud*" means (a) common law fraud with a specific intent to deceive or (b) other intentional misrepresentation of a material fact, in each case of (a) or (b), in connection with or relating to this Agreement, the Other Transaction Documents and the transactions contemplated hereby.

"*Adjustment Amount*" has the meaning specified in Section 3.3(f).

"*Adjustment Deficit Amount*" has the meaning specified in Section 3.3(f).

"*Adjustment Surplus Amount*" has the meaning specified in Section 3.3(f).

"*Affiliate*" of a Person means any other Person who directly or indirectly through one or more intermediaries Controls, is Controlled by or is under common Control with such Person.

"*Aggregate Liquidation Preference Amount*" means the amount equal to the sum of (a) the Series A Per Share Liquidation Preference Amount multiplied by the number of shares of Series A Preferred Stock outstanding immediately prior to the Effective Time and (b) the Series B Per Share Liquidation Preference Amount multiplied by the number of shares of Series B Preferred Stock outstanding immediately prior to the Effective Time.

"*Agreement*" has the meaning specified in the Preamble.

"*BLA*" has the meaning set forth in the definition of NDA in Section 1.1.

"*Business Day*" means a day other than Saturday or Sunday or a day on which banks are required or authorized to close in the Commonwealth of Massachusetts.

"*Buyer*" has the meaning specified in the Preamble.

"*Buyer Indemnified Party*" or "*Buyer Indemnified Parties*" has the meaning specified in Section 8.1.

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"*Buyer Material Adverse Effect*" means a material adverse effect on (i) the ability of Buyer and Merger Sub to consummate the Merger and the other transactions contemplated by this Agreement or (ii) the enforceability of this Agreement against Buyer or Merger Sub.

"*BWH*" has the meaning set forth in the definition of Transaction Expenses in Section 1.1.

"*Cancelled Option*" has the meaning specified in Section 3.1(b)(i).

"*Capital Structure Certificate*" means a certificate executed by an officer of the Company setting forth the ownership of the number of Shares and Options that are outstanding immediately prior to the Effective Time, and the other information described in Section 6.12.

"*Carve-Out Transaction*" means any transaction (including a sale of assets, merger, consolidation, share exchange, scheme of arrangement, sale of stock or other equity interests, spin-off, split-off or licensing transaction), other than a Change of Control, pursuant to which the rights to the Product are sold, licensed, assigned or transferred, directly or indirectly, or a substantial portion of the Intellectual Property (including without limitation any data, marketing authorizations and applications for marketing authorization) and/or Contracts relating to the Product are sold, licensed, assigned or transferred, directly or indirectly, including through sale of or license by Buyer or the Surviving Company.

"*Cash*" shall mean the consolidated cash, cash equivalents, marketable securities and short term investments held by the Company and its Subsidiaries, computed as of the applicable date and in accordance with GAAP. Cash shall (i) be calculated net of issued but uncleared checks and drafts, (ii) include checks and drafts deposited for the account of the Company and its Subsidiaries, including deposits in transit, and (iii) be calculated net of overdrawn accounts.

"*Certificate of Merger*" has the meaning specified in Section 2.2.

"*Certificates*" has the meaning specified in Section 3.5(a).

"*Change of Control*" means an event or series of events by which any "person" or "group" (as such terms are used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, but excluding any employee benefit plan of such person or its subsidiaries, and any person or entity acting in its capacity as trustee, agent or other fiduciary or administrator of any such plan) becomes the "beneficial owner" (as defined in Rules 13d-3 and 13d-5 under the Securities Exchange Act of 1934, except that a person or group shall be deemed to have "beneficial ownership" of all securities that such person or group has the immediate right to acquire, directly or indirectly, of 50% or more of the equity securities of Buyer or the Surviving Company entitled to vote for members of the board of directors or equivalent governing body of Buyer or the Surviving Company (as applicable) on a fully-diluted basis (and taking into account all such securities that such person or group has the right to acquire pursuant to any derivative securities).

* Omitted information is the subject of a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934 and has been filed separately with the Securities and Exchange Commission.

"*Clinical Trial*" means a clinical study of a pharmaceutical product conducted on human subjects.

"*Closing*" has the meaning specified in Section 2.2.

"*Closing Balance Sheet*" has the meaning specified in Section 3.3(a).

"*Closing Cash*" shall mean the amount of the Cash as of the Closing.

"*Closing Date*" has the meaning specified in Section 2.2.

"*Closing Indebtedness*" means the sum, without duplication and with respect to the Company and its Subsidiaries, of all (i) outstanding principal and accrued and unpaid interest as of the Closing owing by the Company or its Subsidiaries with respect to all indebtedness for borrowed money of the Company and its Subsidiaries, plus any premium, fee or penalty paid or payable in connection with the prepayment, repurchase or defeasance of such indebtedness to the extent that such premiums, fees or penalties are incurred and unpaid at or before the Closing, and relate to that portion, if any, of such indebtedness that is repaid at the Closing, (ii) obligations evidenced by notes, bonds, debentures or other similar instruments, (iii) amounts owing as deferred purchase price for property or services, (iv) obligations under any interest rate, currency swap or other hedging agreement or arrangement, (v) capital lease obligations, (vi) amounts outstanding and owed in respect of commitments or obligations by which the Company or any Subsidiary assures a creditor against Loss (including contingent reimbursement obligations with respect to letters of credit, bank guarantees or bankers' acceptances), (vii) obligations or commitments to repay deposits or other amounts advanced by and owing to third parties, or (viii) amounts outstanding and owed in respect of guarantees or other contingent liabilities with respect to any indebtedness, obligation, claim or liability of any other Person of a type described in clauses (i) through (vii) above.

"*COBRA*" has the meaning specified in Section 4.16(l).

"*Code*" means the United States Internal Revenue Code of 1986, as amended.

"*Commercially Reasonable Efforts*" means, with respect to the Product, using such efforts and resources [*] for the development and commercialization of similar products at similar development stages taking into account, as applicable, the Product's advantages and disadvantages, efficacy, safety, regulatory authority-approved labeling and pricing, the competitiveness in the marketplace, the status as an orphan product, the patent coverage and proprietary position of the Product, the likelihood of development success or Regulatory Approval, the regulatory structure involved, the anticipated profitability of the Product, and other relevant scientific, technical and commercial factors typically considered [*] in connection with such similar products. The obligation to use such efforts and resources, however, does not require that Buyer or its Affiliates act in a manner which would otherwise be contrary to prudent business judgment and, furthermore, the fact that the objective is not actually accomplished is not dispositive evidence that Buyer or any of its Affiliates did not in fact utilize its Commercially Reasonable Efforts in attempting to accomplish the objective.

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"*Common Stock*" means the common stock, par value $0.001 per share, of the Company.

"*Company*" has the meaning specified in the Preamble.

"*Company Charter*" means the Second Amended and Restated Certificate of Incorporation of the Company.

"*Company Financial Statements*" has the meaning specified in Section 4.5(a).

"*Company Indemnification Provisions*" has the meaning specified in Section 6.15(a).

"*Company Indemnified Parties*" has the meaning specified in Section 6.15(a).

"*Company Intellectual Property*" shall mean all (i) Company Owned Intellectual Property, (ii) Intellectual Property exclusively licensed to the Company or any of its Subsidiaries, or (iii) Intellectual Property non-exclusively licensed to the Company or any of its Subsidiaries, in each case ((i)-(iii)) that is held for use or used in the conduct of their respective business.

"*Company Material Adverse Effect*" means any change, event, development or effect that has been, is, or would reasonably be expected to be, individually or in the aggregate with all other changes, events, developments and effects, materially adverse to (i) the business, assets (including the Product), financial condition or results of operations of the Company and its Subsidiaries, taken as a whole or (ii) the ability of the Company or any of its Subsidiaries to consummate the transactions contemplated hereby, other than, in the case of clauses (i) and (ii), any change, event, development or effect to the extent resulting from any of the following: (A) changes in the general economic, regulatory or political conditions or the securities, credit or financial markets in the United States or any foreign jurisdiction, (B) general changes or developments in the industries in which the Company and its Subsidiaries operate, (C) changes in Law or GAAP or other applicable accounting standards or the interpretation thereof, (D) changes resulting from compliance with the terms of, or the taking of any actions required by, this Agreement, any of the other agreements contemplated hereunder or the transactions contemplated hereby or thereby, (E) any matters disclosed in the Disclosure Schedule (excluding any material changes in the facts or circumstances relating to such matters arising after the date of this Agreement), (F) the failure of the Company to meet any financial forecast, projection, estimate, prediction or models (but not the underlying cause of such failure), (G) the execution and delivery of this Agreement or the Other Transaction Documents, the performance by any Party of its obligations hereunder or thereunder or the public announcement (including the identity of, or any facts or circumstances relating to, Buyer, Merger Sub or their respective Affiliates) or the pendency of any of the transactions contemplated hereby or thereby, including the impact thereof on the relationships, contractual or otherwise, of the Company or any Subsidiary with its employees or with any other third party, or (H) any earthquakes, hurricanes, tsunamis, tornadoes, floods, mudslides, wild fires or other natural disasters, weather conditions and other force majeure events in the United States or any other country or region in the world, terrorism, military action or war (whether or not declared) or other geopolitical conditions,

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except, in the case of the foregoing clauses (A) through (C) and (H), to the extent such changes or developments referred to therein would reasonably be expected to have a materially disproportionate impact on the Company and its Subsidiaries, taken as a whole, relative to other Persons operating in the industry sector or sectors in which the Company and/or its Subsidiaries operate in the ordinary course of business.

"*Company Owned Intellectual Property*" shall mean all Intellectual Property owned by the Company or any of its Subsidiaries.

"*Company Privacy Policies*" has the meaning specified in Section 4.22(a).

"*Company Registered IP*" has the meaning specified in Section 4.14(b).

"*Company Systems*" has the meaning specified in Section 4.14(g).

"*Confidential Information*" has the meaning specified in Section 6.11(b).

"*Confidentiality Agreement*" means the Confidentiality Agreement, dated as of May 22, 2018 between the Company and Buyer.

"*Continuation Period*" has the meaning specified in Section 6.14(a).

"*Continuing Employee*" has the meaning specified in Section 6.14(a).

"*Contract*" means any written or oral contract, agreement, binding arrangement, lease, license, mortgage, indenture, security agreement, franchise or other binding instrument of any kind, including amendments thereto.

"*Control*" means the direct or indirect possession of the power to elect at least a majority of the Board of Directors or other governing body of a Person through the ownership of voting securities, ownership or partnership interests, by contract or otherwise or, if no such governing body exists, the direct or indirect ownership of 50% or more of the equity interests of a Person.

"*Copyrights*" has the meaning set forth in the definition of Intellectual Property in Section 1.1.

"*Deemed Exercise Price*" has the meaning specified in Section 4.3(e).

"*Determination Date*" has the meaning specified in Section 3.3(e).

"*DGCL*" has the meaning specified in the Recitals.

"*Direct Claim*" has the meaning specified in Section 8.3(d).

"*Disclosure Schedule*" has the meaning specified in the first paragraph of Article IV.

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"*Disclosure Statement*" has the meaning specified in Section 6.3(b).

"*Disputed Amounts*" has the meaning specified in Section 3.3(c).

"*Dissenting Shares*" has the meaning specified in Section 3.12(a).

"*Earn-Out Payment*" has the meaning specified in Section 3.8(a).

"*Effective Time*" has the meaning specified in Section 2.2.

"*EMA*" means the European Medicines Agency or any successor agency thereto.

"*End Date*" has the meaning specified in Section 6.9.

"*Environment*" means soil, surface waters, natural resources, groundwater, land, stream sediments, surface or subsurface strata and ambient air.

"*Environmental Laws*" means all applicable Laws relating to protection and clean-up of the Environment and activities or conditions related thereto, including those relating to the generation, handling, disposal, transportation or Release of Hazardous Substances into the Environment, the exposure of any Person to Hazardous Substances and the protection of human health or endangered or threatened species.

"*Equity Plan*" means the Syntimmune, Inc. 2013 Stock Incentive Plan.

"*ERISA*" means the Employee Retirement Income Security Act of 1974, as amended, and all Laws promulgated pursuant thereto or in connection therewith.

"*ERISA Affiliate*" means, with respect to any Person, (i) a member of any "controlled group" (as defined in Section 414(b) of the Code) of which that Person is also a member, (ii) a trade or business, whether or not incorporated, under common control (within the meaning of Section 414(c) of the Code) with that Person or (iii) a member of any affiliated service group (within the meaning of Section 414(m) of the Code) of which that Person is also a member.

"*Escrow Account*" means the account established pursuant to the Escrow Agreement to hold the Escrow Amount.

"*Escrow Account Addition*" has the meaning specified in Section 8.9(d).

"*Escrow Agent*" has the meaning specified in Section 3.7(a).

"*Escrow Agreement*" has the meaning specified in Section 3.7(a).

"*Escrow Amount*" means an amount equal to [*].

"*Escrow Consideration*" has the meaning specified in Section 3.7(a).

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"*Escrow Fund*" has the meaning specified in Section 3.7(a).

"*Escrow Fund Release Amount*" has the meaning specified in Section 3.7(c).

"*Estimated Aggregate Closing Merger Consideration*" means the Upfront Purchase Price, *minus* (i) the Estimated Closing Indebtedness, *plus* (ii) the Estimated Closing Cash, *minus* (iii) the Estimated Transaction Expenses, *plus* (iv) the Estimated Net Closing Working Capital Adjustment, *minus* (v) the Escrow Amount, *minus* (vi) the Stockholders' Representative Expense Amount, *plus* (vii) the aggregate exercise prices (including the Deemed Exercise Prices) of all Cancelled Options *plus* (viii) the Promissory Note Balance, using the estimated amounts for each of components (i), (ii), (iii) and (iv) pursuant to Section 3.2.

"*Estimated Closing Cash*" has the meaning specified in Section 3.2.

"*Estimated Closing Indebtedness*" has the meaning specified in Section 3.2.

"*Estimated Net Closing Working Capital Adjustment*" has the meaning specified in Section 3.2.

"*Estimated Per Common Share Closing Merger Consideration*" means the quotient obtained by dividing the (i) difference of the Estimated Aggregate Closing Merger Consideration *minus* the Aggregate Liquidation Preference Amount, by (ii) the Fully Diluted Common Share Count.

"*Estimated Transaction Expenses*" has the meaning specified in Section 3.2.

"*Excluded Indication*" has the meaning specified in Section 3.8(f).

"*FDA*" means the United States Food and Drug Administration, or any successor agency thereto.

"*FDCA*" means the Federal Food, Drug, and Cosmetic Act, as amended.

"*Final Aggregate Closing Merger Consideration*" means the Upfront Purchase Price, *minus* (i) the Closing Indebtedness, *plus* (ii) the Closing Cash, *minus* (iii) the Transaction Expenses, *plus* (iv) Net Closing Working Capital *minus* (v) the Target Net Working Capital, *minus* (vi) the Escrow Amount, *minus* (vii) the Stockholders' Representative Expense Amount, *plus* (viii) the aggregate exercise prices (including the Deemed Exercise Prices) of all Cancelled Options, using the finally determined amounts for each of components (i), (ii), (iii) and (iv) above pursuant to Section 3.3.

"*First Escrow Fund Release Amount*" has the meaning specified in Section 3.7(c).

"*First Escrow Release Date*" shall mean the [*] anniversary of the Closing Date.

"*First Indication*" has the meaning specified in Section 3.8(f).

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"*Fully Diluted Common Share Count*" means the sum of (i) the total number of shares of Common Stock outstanding as of immediately prior to the Effective Time (including, for the avoidance of doubt, shares of Restricted Stock, and excluding any shares held by the Company as treasury stock), (ii) the total number of shares of Common Stock into which shares of Preferred Stock outstanding as of immediately prior to the Effective Time are convertible as of the Effective Time, (iii) the total number of shares of Common Stock issuable upon exercise of the Options outstanding immediately prior to the Effective Time that become Cancelled Options pursuant to Section 3.1(b)(i), and (iv) the total number of shares of Common Stock issuable upon exercise of the Ungranted Options that become Cancelled Options pursuant to Section 3.1(b)(i).

"*Fundamental Representations*" shall mean the representations or warranties contained in Section 4.1 (Organization, Standing and Power), Section 4.2 (Authorization), Section 4.3 (Capitalization), Section 4.13 (Regulatory), Section 4.14 (Intellectual Property) and Section 4.18 (Brokers).

"*GAAP*" means United States generally accepted accounting principles in effect from time to time.

"*Goodwin*" has the meaning specified in Section 11.11.

"*Governmental Entity*" means any United States or other national, state, provincial, prefect, municipal or local government, domestic or foreign, any subdivision, agency, entity, court, official, commission or authority thereof, or any quasi-governmental or private body exercising any regulatory, taxing, importing or other governmental or quasi-governmental authority.

"*Governmental Permits*" shall have the meaning specified in Section 4.12.

"*Grossed-Up Expense Amount Contribution*" means, with respect to each Stockholder and each Option Holder, the sum of (i) such holder's Pro Rata Share of the Stockholders' Representative Expense Amount, plus (ii) an additional amount equal to any withholding Taxes applicable to the total amount transferred to fund the Stockholders' Representative Expense Amount on behalf of such holder such that, after taking into account any such withholding Taxes applicable to the amounts described in (i) and this (ii), such holder has contributed an amount equal to its Pro Rata Share of the Stockholders' Representative Expense Amount.

"*Hazardous Substance*" means any pollutant, toxic substance, hazardous waste, hazardous material, hazardous substance, biological material, petroleum or petroleum-containing product as listed or regulated under any applicable Environmental Law.

"*HSR Act*" has the meaning specified in Section 4.4.

"*IND*" means an Investigational New Drug Application filed with the FDA with respect to the Product pursuant to 21 C.F.R. § 312 (or any equivalent filing with any regulatory

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authority outside the United States) before the commencement of clinical trials involving the Product, including all amendments and supplements to such application.

"*Indemnified Party*" has the meaning specified in Section 8.3(a).

"*Indemnifying Party*" has the meaning specified in Section 8.3(a).

"*Independent Accountant*" has the meaning specified in Section 3.3(d).

"*Indication*" means an individual, separate and distinct disease or medical condition for which clinical results for such disease or condition and an NDA, or supplement (or other addition) to an existing NDA, would be required for Regulatory Approval in the United States.

"*Intellectual Property*" shall mean all intellectual property rights anywhere in the world, including all rights in and to the following:

(a) all issued patents, reissued or reexamined patents, continuations, continuations-in-part, requests for continued examinations, divisions, revivals of patents, utility models, certificates of invention, industrial design registrations, registrations of patents and extensions thereof, regardless of country or formal name (collectively, "*Issued Patents*");

(b) all published or unpublished nonprovisional and provisional patent applications, reissue applications, reexamination proceedings, invention disclosures and records of invention, continuations, continuations-in-part, applications for industrial design registrations and requests for continued examination and divisionals (collectively, "*Patent Applications*," and, with Issued Patents, "*Patents*");

(c) all copyrights, copyrightable works, database rights, semiconductor topography and mask work rights, whether the applicable works are published or unpublished, including all rights of authorship, use, publication, reproduction, distribution, performance, transformation, moral rights and rights of ownership of copyrightable works, mask works, and all rights to register and obtain renewals and extensions of registrations, together with all other interests accruing by reason of international copyright, semiconductor topography and mask work conventions, including all such rights in software, user and training manuals, marketing and promotional materials, websites, internal reports, business plans and any other expressions, mask works, firmware and videos, whether registered or unregistered, and all registrations or applications for registration thereof (collectively, "*Copyrights*");

(d) all trademarks, registered trademarks, applications for registration of trademarks, service marks, registered service marks, applications for registration of service marks, trade dress, registered trade dress and applications for registrations of trade dress, trade names, registered trade names and applications for registrations of trade names (collectively, "*Trademarks*") and domain name registrations; and

(e) all technologies, ideas, inventions, designs, proprietary information, confidential information, manufacturing and operating specifications, lab notes, notebooks and other records, know-how, formulae, Trade Secrets, technical data, computer programs, hardware, software, plans, drawings, blueprints and processes, whether tangible or intangible and whether stored, compiled, or memorialized physically, electronically, photographically, or otherwise.

"*Interested Party*" means any officer or director of the Company or any of its Subsidiaries, any holder of more than 5% of the Shares (on an as-converted to Common Stock basis) or, in the case of any such holder of Shares that is an individual, any parent, sibling, descendant or spouse of any such holder of Shares.

"*Issued Patents*" has the meaning set forth in the definition of Intellectual Property in Section 1.1.

"*Joinder Agreement*" has the meaning specified in the Recitals.

"*Joint Release*" has the meaning specified in Section 6.5.

"*knowledge of the Company*" or "*to the Company's knowledge*" or similar words means the actual knowledge of any of the individuals listed in Section 1.1 of the Disclosure Schedule, after reasonable inquiry; provided that, solely for purposes of Section 4.14, "*knowledge of the Company*" or "*to the Company's knowledge*" means the actual knowledge of any of the individuals listed in Section 1.1 of the Disclosure Schedule and [*].

"*Laws*" means all foreign, federal, state and local statutes, laws, ordinances, regulations, rules, resolutions, orders, determinations, writs, injunctions, awards (including, without limitation, awards of any arbitrator), judgments and decrees applicable to the specified Persons.

"*Leased Real Property*" has the meaning specified in Section 4.8(a).

"*Leases*" has the meaning specified in Section 4.8(a).

"*Legal Proceedings*" has the meaning specified in Section 4.11.

"*Letter of Transmittal*" means (i) the letter of transmittal with respect to Shares (which shall specify that delivery shall be effected, and risk of loss and title to Certificates shall pass, only upon proper delivery by a Stockholder, as the case may be, of his, her or its Certificates (or affidavit of loss with respect thereto) in accordance with the instructions thereto), together with (ii) the instructions thereto for use in effecting the surrender of the Certificates (or affidavit of loss with respect thereto) in exchange for the consideration contemplated to be paid pursuant to this Agreement, each in substantially the form attached hereto as Exhibit D.

"*Lien*" means, with respect to any property or other assets of any Person, any mortgage, pledge, lien, security interest, conditional or installment sale agreement or other charge or encumbrance of any kind thereupon or in respect thereof.

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"*Loss*" or "*Losses*" has the meaning specified in Section 8.1.

"*Material Contracts*" has the meaning specified in Section 4.9(a).

"*Merger*" has the meaning specified in the Recitals.

"*Merger Sub*" has the meaning specified in the Preamble.

"*Milestone Event*" has the meaning specified in Section 3.8(a).

"*Most Recent Balance Sheet*" has the meaning specified in Section 4.5(a).

"*Most Recent Balance Sheet Date*" has the meaning specified in Section 4.5(a).

"*NDA*" means a new drug application or a biologics license application (a "*BLA*"), including all supplements and amendments thereto and all necessary documents, data, and other information concerning a product, required for Regulatory Approval of the product as a pharmaceutical product by the FDA or an equivalent application to the equivalent agency in any other country or group of countries (*e.g.* the marketing authorization application (MAA) in the European Union).

"*Net Closing Working Capital*" means (a) the consolidated current assets of the Company and its Subsidiaries as of 5:00 PM (Eastern time) on the Business Day immediately preceding the Closing Date, *minus* (b) the consolidated current liabilities of the Company and its Subsidiaries as of 5:00 PM (Eastern time) on the Business Day immediately preceding the Closing Date, in each case as determined in accordance with GAAP and using the same accounting principles, practices, policies and methodologies used in the preparation of the Company Financial Statements; *provided*, that Net Closing Working Capital shall exclude, without duplication, (i) any asset or liability related to or included in the determination of Closing Indebtedness, the Option Cancellation Payments or Transaction Expenses, (ii) any and all assets or liabilities for federal, state, local and foreign income Taxes, and (iii) any deferred Tax assets or deferred Tax liabilities, each to the extent they reflect temporary differences between GAAP and Tax accounting. For the avoidance of doubt, Net Closing Working Capital shall include accrued liabilities, if any, for the prorated portion of annual employee bonuses for 2018.

"*Net Closing Working Capital Adjustment*" shall mean (i) if the Net Closing Working Capital is greater than the Net Closing Working Capital Upper Target, an amount equal to the Net Closing Working Capital *minus* the Net Closing Working Capital Upper Target and (ii) if the Net Closing Working Capital is less than the Net Closing Working Capital Lower Target, an amount equal to the Net Closing Working Capital *minus* the Net Closing Working Capital Lower Target. For the avoidance of doubt, the "Net Closing Working Capital Adjustment" may be a positive or negative number. For the further avoidance of doubt, if the Net Closing Working Capital is greater than the Net Working Capital Lower Target but less than the Net Closing Working Capital Upper Target, the "Net Working Capital Adjustment" shall be deemed to equal zero.

"*Net Sales*" shall mean, in a particular period of time, the sum of (i) and (ii) below:

(i) net sales amounts reported by Buyer (or its Affiliates) for sales of the Product to third parties, calculated in a manner consistent with Buyer's calculations of net product sales across its product portfolio generally and as such net product sales are reported in externally published audited financial statements for the Product for that period (excluding sales to any sublicensee or Affiliate) (provided that if for any reason Buyer does not have externally published audited financial statements for the Product, then net sales amounts for any period that would not be covered by an externally published audited financial statement shall be calculated in accordance with GAAP, provided that such amount reflects the gross invoice price at which the Product was sold or otherwise disposed of by Buyer and its Affiliates (excluding sales by any sublicensee) to third parties in that period reduced by gross-to-net deductions, the fair-market-value amounts reasonably attributable to other components (other than the Product) of any combination product or bundled product but only if such other components are therapeutically active compounds that are sold separately, and amounts from a prior period which are not collected and are written off by Buyer or its Affiliates (including bad debts), if not previously deducted from such invoiced amount, taken in accordance with GAAP; and

(ii) net sales amounts reported by each sublicensee (excluding amounts received by distributors for sales of Products sold to such distributor, if the sale amounts for such sales to such distributor are otherwise included by this definition of Net Sales) for sales of the Products to third parties as determined in accordance with GAAP.

The calculations described in clauses (i) and (ii) above shall exclude hedging gains or losses. In the case of sales of the Products for consideration other than cash, such as barter or counter trade, Net Sales shall be calculated on the fair market value of the consideration received. For the avoidance of doubt, the supply of Product for compassionate use, commercial samples, or for administration to patients enrolled in Clinical Trials or to Third Parties as samples for evaluation purposes, in each case free of charge, shall not be included in Net Sales.

"*Net Working Capital Lower Target*" shall mean an amount equal to the Target Net Working Capital *minus* [*].

"*Net Working Capital Upper Target*" shall mean an amount equal to the Target Net Working Capital *plus* [*].

"*Non-Competition Agreement*" has the meaning specified in the Recitals.

"*Notice of Objection*" has the meaning specified in Section 3.3(c).

"*Option*" means any outstanding option issued by the Company to purchase Common Stock from the Company, whether or not issued under the Equity Plan.

"*Option Cancellation Payment*" means, with respect to each Cancelled Option, an amount equal to the product of (i) the number of shares of Common Stock subject to such Cancelled Option, multiplied by (ii) the excess of the Estimated Per Common Share Closing

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Merger Consideration over the per share exercise price of such Option (or the per share Deemed Exercise Price in the case of an Ungranted Option).

"*Option Holder*" means a Person holding any Options and a Specified Person holding any Ungranted Options.

"*Other Transaction Documents*" means any document, certificate or agreement to be executed and delivered by any of the Parties in connection with the transactions contemplated hereby.

"*Paid Purchase Price*" means (a) the Upfront Purchase Price, *plus* (b) the Earn-Out Payments (if any), in each case prior to any reductions, set-offs or adjustments. For the avoidance of doubt, the total Paid Purchase Price shall increase upon the achievement of each Milestone Event, up to the maximum amount of $1,200,000,000.

"*Parties*" has the meaning set forth in Section 1.2.

"*Patent Applications*" has the meaning set forth in the definition of Intellectual Property in Section 1.1.

"*Patents*" has the meaning set forth in the definition of Intellectual Property in Section 1.1.

"*Paying Agent*" means Wilmington Trust Corporation or such other financial institution that is reasonably acceptable to Buyer and the Stockholders' Representative and which has been appointed to act as agent for the Stockholders and Option Holders in connection with the Merger and to receive the funds to which such Persons shall become entitled pursuant to Article III.

"*Paying Agent Agreement*" means the Paying Agent Agreement in substantially the form attached hereto as Exhibit E and entered into at the Closing among Buyer, the Stockholders' Representative and the Paying Agent.

"*Payoff Letters*" has the meaning specified in Section 6.10.

"*Per Common Share Merger Consideration*" means, with respect to each share of Common Stock, the amount that the holder of such Share has the right to receive from time to time as a result of the Merger pursuant to Section 3.1.

"*Per Share Adjustment Surplus Amount*" means the quotient obtained by dividing (i) the Adjustment Surplus Amount, if positive, by (ii) the Fully Diluted Common Share Count.

"*Per Share Earn-Out Amount*," with respect to each Earn-Out Payment, if any, means the quotient obtained by dividing (i) the amount of such Earn-Out Payment by (ii) the Fully Diluted Common Share Count.

* Omitted information is the subject of a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934 and has been filed separately with the Securities and Exchange Commission.

"*Per Share Escrow Fund Release Amount*" means the quotient obtained by dividing (i) the applicable Escrow Fund Release Amount, if any, by (ii) the Fully Diluted Common Share Count.

"*Per Share Representative Expense Fund Release Amount*" means the quotient obtained by dividing (i) the Representative Expense Fund Release Amount, if any, by (ii) the Fully Diluted Common Share Count.

"*Permitted Liens*" means, with respect to the property or other assets of any Person (or any revenues, income or profits of that Person therefrom): (i) statutory Liens for Taxes if the same are not at the time due and delinquent or are being diligently contested in good faith through appropriate proceedings and for which an adequate reserve has been established on the books of the Company or any applicable Subsidiary; (ii) Liens of carriers, warehousemen, mechanics, laborers and materialmen for sums not yet due or that are being contested in good faith; (iii) Liens incurred in the ordinary course of that Person's business in connection with worker's compensation, unemployment insurance and other social security legislation (other than pursuant to ERISA or Section 412(n) of the Code); (iv) Liens incurred in the ordinary course of that Person's business in connection with deposit accounts or to secure the performance of bids, tenders, trade contracts, statutory obligations, surety and appeal bonds, performance and return of money bonds and other obligations of like nature; (v) easements, rights of way, reservations, restrictions and other similar encumbrances incurred in the ordinary course of that Person's business or existing on property and not materially interfering with the ordinary conduct of that Person's business or the use of that property; (vi) defects or irregularities in that Person's title to its real properties which do not materially (A) diminish the value of the surface estate, or (B) interfere with the ordinary conduct of that Person's business or the use of any such properties; and (vii) any interest or title of a lessor of assets that Person is leasing pursuant to any capital lease or synthetic lease or any lease (other than a synthetic lease) that is accounted for as an operating lease.

"*Person*" means any individual, corporation, partnership, joint venture, limited partnership, limited liability company, trust, association, entity or Governmental Entity.

"*Personal Property Leases"* has the meaning specified in Section 4.8(b).

"*Personally Identifiable Information*" means the following information: (i) a person's first name or first initial, and last name, in combination with any one or more of the following data elements that relate to that person: address; phone number; fax number; email address; IP address; driver's license number or state-issued identification card number; financial account number, or credit or debit card number; or Social Security number; or (ii) Individually Identifiable Health Information, as that term is defined in the Health Information Portability and Accountability Act of 1996. "Personally Identifiable Information" shall not include information that is lawfully obtained from publicly available information, or from federal, state or local government records lawfully made available to the general public.

* Omitted information is the subject of a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934 and has been filed separately with the Securities and Exchange Commission.

"*Phase I Clinical Trial*" shall mean a Clinical Trial that is intended to satisfy the requirements of 21 C.F.R. § 312.21(a), as amended from time to time, or the equivalent regulation in a foreign jurisdiction.

"*Pivotal Clinical Trial*" means a Clinical Trial that is intended to satisfy or otherwise acknowledged by the FDA or its foreign counterpart (a) to satisfy the requirements of 21 C.F.R. §312.21(c), as amended, or the equivalent regulation or definition in a foreign jurisdiction, or (b) to establish sufficient data for submission of an application for Regulatory Approval of a product in the U.S. or another country.

"*Plan*" has the meaning specified in Section 4.16(b).

"*Pre-Closing Tax Period*" means any Tax period ending on or prior to the Closing Date.

"*Preferred Stock*" means (i) the Series A Preferred Stock and (ii) the Series B Preferred Stock.

"*Principal Stockholders*" means each of (i) Apple Tree Partners IV, L.P., (ii) Partners Innovation Fund LLC, (iii) AFB-2 Fund, LLC, (iv) Laurence Blumberg, (v) Richard Blumberg, and (vi) Franklin Berger.

"*Privacy Commitments"* has the meaning specified in Section 4.22(b).

"*Privacy Matters*" means all matters relating to the collection, use, and security of Personally Identifiable Information gathered or maintained in the course of the operations of the Company or any of its Subsidiaries.

"*Privileged Information*" has the meaning specified in Section 11.11.

"*Pro Rata Distribution*" means, with respect to any amount to be distributed to the Stockholders and Option Holders after the Merger, a distribution to such Stockholders and Option Holders in accordance with their respective Pro Rata Share of such amount, as set forth in the Capital Structure Certificate, which distribution is to be paid in accordance with the procedures set forth in Sections 3.4 and 3.5.

"Pro Rata Share" means, with respect to each Stockholder and Option Holder, (a) the sum of (i) the total number of shares of Common Stock owned by such Person as of immediately prior to the Effective Time, (ii) the total number of shares of Common Stock into which shares of Preferred Stock owned by such Person as of immediately prior to the Effective Time are convertible as of the Effective Time, (iii) the total number of shares of Common Stock issuable upon exercise of the Options held by such Person immediately prior to the Effective Time that become Cancelled Options pursuant to Section 3.1(b)(i), and (iv) the total number of shares of Common Stock issuable upon exercise of the Ungranted Options held by such Specified Person that become Cancelled Options pursuant to Section 3.1(b)(i) divided by (b) the Fully Diluted Common Share Count.

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"*Product*" means any product, in any dosage form, formulation, presentation or package configuration, which comprises or contains the monoclonal antibody described in Exhibit H, including its peptide and nucleic acid sequence[*].

"*Product Candidates*" has the meaning specified in Section 4.13(a).

"*Promissory Note Balance*" means the aggregate principal and interest accrued as of the Closing Date with respect to the De Graaf Note, the L. Blumberg Note and the R. Blumberg Note (as such terms are defined in the Company Disclosure Schedule).

"*Property Taxes*" has the meaning specified in Section 6.8(c).

"*Regulatory Approval*" means any and all licenses, registrations, authorizations and approvals (including approvals of NDA or BLA, as applicable, in the United States and including pricing and third party reimbursement approvals in the EMA, but only to the extent such pricing and third party reimbursement approvals are required to market or sell or obtain reimbursement for a product as described in Section 3.8(c)) of any Governmental Entity, necessary for the commercialization of a pharmaceutical or medicinal product in a regulatory jurisdiction.

"*Regulatory Submission*" has the meaning specified in Section 4.13(b).

"*Release*" means any releasing, disposing, discharging, injecting, spilling, leaking, pumping, dumping, emitting, escaping or emptying of any Hazardous Substance into the Environment.

"*Representative Expense Fund Release Amount*" means the amount of the Stockholders' Representative Expense Amount to be released on any given date as determined by the Stockholders' Representative.

"*Representative Losses*" has the meaning specified in Section 9.1(b).

"*Representatives*" means, with respect to any Person, such Person's directors, managers, partners, officers, employees, agents and representatives (including legal counsel and independent accountants).

"*Required Stockholder Approval*" has the meaning specified in Section 4.2(c).

"*Reserve Escrow Account*" has the meaning specified in Section 8.9(a).

"*Reserve Escrow Account Agreement*" has the meaning specified in Section 8.9(a).

"*Restricted Sellers*" means each of [*].

"*Restricted Stock*" means any outstanding award of restricted Common Stock with respect to which any restriction on transfer or requirement of forfeiture has not previously expired or terminated, whether issued under the Equity Plan or otherwise.

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"*Sales Earn-Out Goal*" has the meaning specified in Section 3.8(a)(viii).

"*Sales Earn-Out Payment*" has the meaning specified in Section 3.8(a)(viii).

"*SC Formulation*" means a subcutaneous formulation of the Product that meets the criteria set forth on Exhibit I.

"*Second Escrow Fund Release Amount*" has the meaning specified in Section 3.7(c).

"*Second Escrow Release Date*" shall mean the [*] anniversary of the Closing Date.

"*Second Indication*" has the meaning specified in Section 3.8(f).

"*Securities Act*" means the Securities Act of 1933, as amended, and all Laws promulgated pursuant thereto or in connection therewith.

"*Securityholde*r" has the meaning specified in Section 6.12(a).

"*Securityholder Indemnified Party*" or "*Securityholder Indemnified Parties*" has the meaning specified in Section 8.2.

"*Series A Per Share Liquidation Preference Amount*" means, with respect to each share of Series A Preferred Stock (except as otherwise provided in Section 3.1(a)(ii) and except with respect to Dissenting Shares), $0.98774.

"*Series A Preferred Stock*" means preferred stock, par value $0.001 per share, of the Company designated as Series A Preferred Stock.

"*Series B Per Share Liquidation Preference Amount*" means, with respect to each share of Series B Preferred Stock (except as otherwise provided in Section 3.1(a)(ii) and except with respect to Dissenting Shares), $1.72855.

"*Series B Preferred Stock*" means preferred stock, par value $0.001 per share, of the Company designated as Series B Preferred Stock.

"*Shares*" means shares of Common Stock and Preferred Stock.

"*Specified Person*" has the meaning specified in Section 4.3(e).

"*Stockholder*" means any holder of record of Shares immediately prior to the Effective Time.

"*Stockholders' Representative*" has the meaning specified in the Preamble.

"*Stockholders' Representative Expense Amount*" means $400,000.

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"*Stockholders' Representative Group*" has the meaning specified in Section 9.1(b).

"*Straddle Period*" has the meaning specified in Section 6.8(c).

"*Subsidiary*" of any Person means another Person under the Control of such Person.

"*Surviving Company*" has the meaning specified in Section 2.1.

"*Target Net Working Capital*" means an amount equal to $[*].

"*Tax*" (and, with correlative meaning, "*Taxes*" and "*Taxable*") means any federal, state, local or foreign income, gross receipts, franchise, estimated, alternative minimum, add-on minimum, sales, use, license, transfer, registration, value added, ad valorem, excise, natural resources, environmental, severance, stamp, occupation, premium, windfall profit, environmental, customs, duties, special assessment, real property, personal property, escheat or unclaimed property, withholding, production, capital stock, social security, employment, unemployment, disability, national insurance, payroll, government pension plan premiums or any other tax, custom, duty, governmental fee or other like assessment or charge of any kind whatsoever, in each case, in the nature of a tax, together with any interest, penalty or addition thereto, imposed by any Governmental Entity.

"*Tax Claim*" has the meaning specified in Section 8.3(c).

"*Tax Proceedings*" has the meaning specified in Section 4.15(a).

"*Tax Return*" means any return, declaration, report, estimate, information return or other document (including any documents, statements or schedules attached thereto), and any amendment thereof, filed or required to be filed with any federal, state, local or foreign Governmental Entity with respect to Taxes.

"*Termination Date*" has the meaning specified in Section 10.2(b).

"*Third Party Claim*" has the meaning specified in Section 8.3(a).

"*Threshold*" has the meaning specified in Section 8.4(a).

"*Trade Secrets*" has the meaning specified in Section 4.14(f).

"*Trademarks*" has the meaning set forth in the definition of Intellectual Property in Section 1.1.

"*Transaction Expenses*" means, without duplication, and to the extent unpaid as of the open of business on the Closing Date, the aggregate amount of liabilities payable by the Company or any of its Subsidiaries for which the Company or Buyer (or any of its Affiliates) could become liable on or after the Closing, in connection with the negotiation and consummation of the transactions contemplated by this Agreement or the Merger, including (i)

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fees and expenses of any brokers, finders, consultants, agents and other advisors incurred by the Company or any of its Subsidiaries in connection with the negotiation and consummation of the transactions contemplated by this Agreement, (ii) any change of control or similar compensatory payments, which, for the avoidance of doubt, shall include severance payments, in each case that become payable to directors, officers or employees, including Continuing Employees, of the Company or any of its Subsidiaries solely as a result of the consummation of the transactions contemplated by this Agreement (including any termination of employment on or prior to the conclusion of the Continuation Period) pursuant to any contract or arrangement entered into by the Company or any of its Subsidiaries with such Person prior to the Closing (excluding any payments made in respect of Cancelled Options pursuant to Section 3.1(b)(i)), (iii) the amount of the employer's share of any employment or payroll (including, for avoidance of doubt, Medicare and social security) Taxes with respect to the amounts set forth in clause (ii) of this definition, any payments from the Escrow Fund or the Reserve Escrow Account, and any payments made in respect of Cancelled Options pursuant to Section 3.1(b)(i), (iv) amounts owed as a result of the Closing (and, for the sake of clarity, not as a result of Earn-Out Payments (if any)) to The Brigham and Women's Hospital, Inc. ("*BWH*") pursuant to that certain Exclusive Patent License Agreement, dated as of September 21, 2016, by and between BWH and the Company (the "*2016 BWH Agreement*") and/or that certain Exclusive Patent License Agreement, dated as of December 14, 2017, by and between BWH and the Company, in each case including any "Change of Control Fee" as defined therein, and (v) [*]% of all fees and all other payments required to be paid to any Governmental Entity pursuant to Section 6.4(b).

"*Transaction Tax Deductions*" has the meaning specified in Section 6.8(i)(v).

"*Transfer Taxes*" has the meaning specified in Section 6.8(a).

"*Ungranted Option*" has the meaning specified in Section 4.3(e).

"*Unresolved Claim*" has the meaning specified in Section 8.9(a).

"*Unresolved Claim Amount*" has the meaning specified in Section 8.9(a).

"*Upfront Purchase Price*" means an amount equal to $400,000,000.

"*Voting Agreement*" has the meaning specified in the Recitals.

"*Written Consent*" has the meaning specified in the Recitals.

Section 1.2 Interpretation. For purposes of this Agreement: (i) the table of contents and headings contained in this Agreement are for reference purposes only and shall in no way modify or restrict any of the terms or provisions hereof, (ii) except as expressly provided herein, the terms "include," "includes" or "including" are deemed to be followed by the words "without limitation", and "or" and "either" are not exclusive, (iii) the words "hereof" and "herein" and words of similar import shall, unless otherwise stated, be construed to refer to this Agreement as a whole and not to any particular provision of this Agreement, (iv) article, section, paragraph, Preamble, Recital, exhibit and schedule references are to the articles, sections, paragraphs,

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Preamble, Recitals, exhibits and schedules of this Agreement unless otherwise specified, (v) the meaning assigned to each term defined herein shall be equally applicable to both the singular and the plural forms of such term, and words denoting any gender shall include all genders, and the definitions contained in this Agreement are applicable to the other grammatical forms of such terms, (vi) a reference to any party to this Agreement or any other agreement or document shall include such party's successors and permitted assigns, (vii) a reference to any Laws or other legislation or to any provision of any Law or legislation shall include any amendment to, and any modification or re-enactment thereof, any provision substituted therefor and all regulations and statutory instruments issued thereunder or pursuant thereto, (viii) all references to "$" or "dollars" shall be deemed references to United States dollars, (ix) capitalized terms used and not defined in the exhibits and schedules attached to this Agreement shall have the respective meanings set forth in this Agreement, (x) the word "or" is not exclusive, unless the context clearly dictates otherwise, (xi) if any action is to be taken by any Party pursuant to this Agreement on a day that is not a Business Day, such action will be taken on the next Business Day following such day and (x) Buyer, Merger Sub, the Stockholders' Representative, the Surviving Company (following the Closing) and the Company (prior to the Closing) shall be collectively referred to herein as the "Parties" and each, individually, as a "Party".

ARTICLE II

THE MERGER

Section 2.1 The Merger. At the Effective Time, upon the terms and subject to the conditions of this Agreement and in accordance with the DGCL, (i) Merger Sub shall be merged with and into the Company, (ii) the separate corporate existence of Merger Sub shall cease, and (iii) the Company shall be the surviving entity (the "*Surviving Company*") and shall continue its legal existence under the DGCL as a wholly-owned subsidiary of Buyer.

Section 2.2 Effective Time; Closing Date. Upon the terms and subject to the conditions of this Agreement, the Company and Merger Sub shall cause the Merger to be consummated by filing a certificate of merger with the Secretary of State of the State of Delaware in substantially the form attached hereto as Exhibit F (the "*Certificate of Merger*") and all other filings or recordings required by the DGCL in connection with the Merger. The Merger shall become effective at such time as the Certificate of Merger is duly filed in accordance with the provisions of Section 251 of the DGCL, or at such later time as may be stated in the Certificate of Merger (the "*Effective Time*"). The closing of the Merger (the "*Closing*") shall take place at the offices of Foley Hoag LLP, Seaport West, 155 Seaport Boulevard, Boston, Massachusetts 02210, at 10:00 a.m., local time, on the date that is no later than two Business Days after the date on which the last of the conditions set forth in Article VII shall have been satisfied or waived (other than any such conditions that by their nature cannot be satisfied until the Closing, which shall be satisfied or (to the extent permitted by applicable Law) waived at the Closing), or on such other date, time and place as the Company and Buyer may mutually agree (the "*Closing Date*").

Section 2.3 Effect of the Merger. At the Effective Time, the effect of the Merger shall be as provided in this Agreement, the Certificate of Merger and the applicable provisions of the

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DGCL. Without limiting the generality of the foregoing, and subject thereto, at the Effective Time, all the property, rights, privileges, powers, franchises and assets of the Company and Merger Sub shall vest in the Surviving Company, and all debts, liabilities, obligations and duties of the Company and Merger Sub shall become the debts, liabilities, obligations and duties of the Surviving Company.

Section 2.4 Certificate of Incorporation; Bylaws. At the Effective Time, (i) the certificate of incorporation of the Surviving Company shall be amended and restated to be in the form of the certificate of incorporation of Merger Sub as in effect immediately prior to the Effective Time, except that the name of the Surviving Company shall be "Syntimmune, Inc.", until thereafter amended as provided by the DGCL, and (ii) the bylaws of the Surviving Company shall be amended and restated to be in the form of the bylaws of Merger Sub as in effect immediately prior to the Effective Time, until thereafter amended as provided by the DGCL and the certificate of incorporation of the Surviving Company.

Section 2.5 Board of Directors and Officers. The Board of Directors and officers of Merger Sub immediately prior to the Effective Time shall, from and after the Effective Time, be the Board of Directors and officers, respectively, of the Surviving Company, each to hold office until his or her respective successors are duly elected or appointed and qualified or until their earlier death, resignation or removal in accordance with applicable Law and the certificate of incorporation and bylaws of the Surviving Company.

Section 2.6 Further Assurances. If at any time after the Effective Time the Surviving Company shall consider or be advised that any deeds, bills of sale, assignments or assurances or any other acts or things are necessary, desirable or proper (a) to vest, perfect or confirm, of record or otherwise, in the Surviving Company, its right, title or interest in, to or under any of the properties, rights, privileges, powers, franchises or assets of either the Company or Merger Sub, or (b) otherwise to carry out the purposes of this Agreement, the Surviving Company and its proper officers, managers and members or their designees shall be authorized to execute and deliver, in the name and on behalf of the Company or Merger Sub, all such deeds, bills of sale, assignments and assurances and do, in the name and on behalf of the Company or Merger Sub, all such other acts and things necessary, desirable or proper to vest, perfect or confirm its right, title or interest in, to or under any of the properties, rights, privileges, powers, franchises or assets of the Company or Merger Sub, as applicable, and otherwise to carry out the purposes of this Agreement.

Section 2.7 Closing Deliverables.

(a) FIRPTA. Unless waived by Buyer in writing, at or prior to the Closing, the Company shall deliver to Buyer a certificate(s), duly executed and acknowledged, in form and substance reasonably satisfactory to Buyer, certifying that the Merger is exempt from withholding under section 1445 of the Code in accordance with Treasury Regulations under Sections 897 and 1445 of the Code, together with an executed notice to the Internal Revenue Service in accordance with the provisions of Treasury Regulations Section 1.897-2(h)(2) to be filed by Buyer after the Closing. If Buyer does not receive the certification and executed notice at or prior to the Closing, Buyer, the Surviving Company, and the Paying Agent shall be

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permitted to withhold from the payments to be made pursuant to this Agreement any required withholding Tax under Section 1445 of the Code.

(b) Director and Officer Resignations. The Company shall deliver to Buyer prior to the Closing a resignation (which may be conditioned upon the occurrence of the Closing) from each then-current member of the Board of Directors and all then-current officers of the Company and from each then-current member of the Board of Directors or comparable governing body and all then-current officers for each of the Company's Subsidiaries, unless Buyer requests that any such resignations not be delivered no later than three Business Days prior to Closing.

(c) Good Standing. Unless waived by Buyer in writing, the Company shall deliver to Buyer prior to the Closing good standing certificates for the Company issued by the State of Delaware and the Commonwealth of Massachusetts and a good standing certificate (or equivalent certificate) for its Subsidiary issued by the relevant Governmental Entity in the Subsidiary's jurisdiction of organization (if such jurisdiction will provide such a certificate), in each case dated no more than five (5) Business Days prior to the Closing Date.

ARTICLE III

EFFECTS OF THE MERGER; CONSIDERATION

Section 3.1 Conversion of Company Securities.

(a) At the Effective Time, by virtue of the Merger and without any action on the part of the Company, Merger Sub, Buyer or any of their respective stockholders:

(i) each issued and outstanding share of common stock, par value $0.01 per share, of Merger Sub shall be converted automatically into and become one fully paid and nonassessable share of common stock, par value $0.01 per share, of the Surviving Company;

(ii) each issued and outstanding share of Common Stock or Preferred Stock that is owned by (i) the Company as treasury stock, (ii) Buyer, (iii) Merger Sub, (iv) any other wholly-owned Subsidiary of Buyer or (v) any wholly-owned Subsidiary of the Company, shall be canceled and extinguished without any conversion thereof and no payment or distribution (including any Pro Rata Distributions) shall be made with respect thereto;

(iii) except as otherwise provided in Section 3.1(a)(ii) and except with respect to Dissenting Shares, each share of Common Stock outstanding immediately prior to the Effective Time shall be cancelled and extinguished and converted automatically into the right to receive, upon surrender of the corresponding Certificate or submission of an affidavit of loss in accordance with Section 3.5, (A) an amount in cash equal to the Estimated Per Common Share Closing Merger Consideration, and (B) when, as and if any of the following

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become payable pursuant to the terms of this Agreement: (1) an amount in cash equal to the Per Share Adjustment Surplus Amount, which amount will be paid in accordance with Section 3.4; (2) if an Earn-Out Payment is made pursuant to Section 3.8, an amount in cash equal to the Per Share Earn-Out Amount associated with such Earn-Out Payment, which amount will be paid in accordance with Section 3.4; and (3) an amount in cash equal to the Per Share Escrow Fund Release Amount and/or the Per Share Representative Expense Fund Release Amount, as applicable, which each such amount will be paid in accordance with Section 3.4 and/or Section 3.9, as applicable, and each such payment made under this Section 3.1(a)(iii) without interest and subject to any applicable withholding Tax;

(iv) except as otherwise provided in Section 3.1(a)(ii) and except with respect to Dissenting Shares, each share of Preferred Stock outstanding immediately prior to the Effective Time shall be cancelled and extinguished and converted automatically into the right to receive, with respect to each share of Common Stock into which such share of Preferred Stock was convertible immediately prior to the Effective Time, upon surrender of the corresponding Certificate or submission of an affidavit of loss in accordance with Section 3.5, (A) the Series A Per Share Liquidation Preference Amount or the Series B Per Share Liquidation Preference Amount, as applicable with respect to such share, (B) an amount in cash equal to the Estimated Per Common Share Closing Merger Consideration, and (C) when, as and if any of the following become payable pursuant to the terms of this Agreement: (1) an amount in cash equal to the Per Share Adjustment Surplus Amount, which amount will be paid in accordance with Section 3.4; (2) if an Earn-Out Payment is made pursuant to Section 3.8, an amount in cash equal to the Per Share Earn-Out Amount associated with such Earn-Out Payment, which amount will be paid in accordance with Section 3.4; and (3) an amount in cash equal to the Per Share Escrow Fund Release Amount and/or the Per Share Representative Expense Fund Release Amount, as applicable, which each such amount will be paid in accordance with Section 3.4 and/or Section 3.9, as applicable, and each such payment made under this Section 3.1(a)(iv) without interest and subject to any applicable withholding Tax.

(b) Treatment of Options.

(i) At the Effective Time, each vested Option outstanding as of immediately prior to the Effective Time and each Ungranted Option shall, automatically and without any required action on the part of the holder thereof, be cancelled (each a "*Cancelled Option*") and, subject to the applicable Option Holder signing a Joinder Agreement, such Option Holder shall receive, in full satisfaction of any rights such holder may have under such Option:

(A) an amount in cash equal to the Option Cancellation Payment applicable to such Cancelled Option; and

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(B) when, as and if any of the following become payable pursuant to the terms of this Agreement: (1) an amount in cash equal to the Per Share Adjustment Surplus Amount multiplied by the number of shares of Common Stock subject to such Cancelled Option, which amount will be paid in accordance with Section 3.4; (2) at such time and only to the extent that an Earn-Out Payment is made pursuant to Section 3.8, an amount in cash equal to the Per Share Earn-Out Amount associated with such Earn-Out Payment, which amount will be paid in accordance with Section 3.4; and (3) an amount in cash equal to the Per Share Escrow Fund Release Amount and/or the Per Share Representative Expense Fund Release Amount, as applicable, multiplied by the number of shares of Common Stock subject to such Cancelled Option, which each such amount will be paid in accordance with Section 3.4 and/or Section 3.9, without interest and subject to any applicable withholding Taxes; provided, that each payment under this Section 3.1(b)(i)(B) shall be made in accordance with Treasury Regulation 1.409A-3(i)(5)(iv)(A), and to the extent that any payment under this Section 3.1(b)(i)(B) would be made later than five years following the Effective Time such payment shall not be made unless Buyer determines reasonably in good faith that payment complies with the requirements of such regulation. Notwithstanding anything in this Agreement to the contrary, in the event that a payment under this Section 3.1(b)(i)(B) shall fail to comply with the requirements of Treasury Regulation 1.409A-3(i)(5)(iv)(A), such payment shall be deemed forfeited by such Option Holder and reallocated to the Stockholders in accordance with his, her or its Pro Rata Share (which, for the avoidance of doubt, shall be recalculated to exclude in both the numerator and denominator the Cancelled Options to which such forfeited payment relates).

(ii) At the Effective Time, each Option outstanding as of immediately prior to the Effective Time that is not vested shall be canceled without payment of any consideration whatsoever being made in respect thereof.

(iii) Any payments made pursuant to this Section 3.1(b) shall be treated as compensation income to the holder of Cancelled Options receiving such payments and shall be made without interest and subject to any applicable withholding Tax.

(iv) As of the Effective Time, (A) each agreement evidencing Options or Ungranted Options entered into by the Company (including the Equity Plan) shall terminate and all rights under any provision of any other plan, program or arrangement of the Company or any of its Subsidiaries providing for the issuance or grant of any other interest in respect of the capital stock of the Company or any of its Subsidiaries shall be cancelled, (B) each Cancelled Option shall terminate and (C) all rights under any provision of any other plan, program or arrangement of the Company or any of its Subsidiaries providing for the issuance or grant of any other interest in respect of the capital stock of the Company or any of its Subsidiaries shall be cancelled.

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(v) Prior to the Effective Time, the Company shall take any actions necessary to effect the transactions contemplated by this Section 3.1(b) under the Equity Plan and all agreements evidencing Options or Ungranted Options.

(c) Treatment of Restricted Stock. The Board of Directors of the Company (or the appropriate committee thereof) shall adopt such resolutions or take such other actions as shall be required to cause all restrictions on the then outstanding shares of Restricted Stock to lapse as of immediately prior to the Effective Time. Each holder of Restricted Stock shall be treated as a holder of Common Stock issued and outstanding as of immediately prior to the Effective Time; provided, however, that the Promissory Note Balance applicable to each holder of Restricted Stock shall be deducted from the amounts payable at the Closing with respect to each such holder of Restricted Stock, which amount shall be deemed to have been received by the applicable holder of Restricted Stock for all Tax purposes and then to have been paid by the holder of Restricted Stock to the Company in satisfaction of the applicable Promissory Note Balance.

(d) Cancellation of Company Securities. From and after the Effective Time, all capital stock of the Company, and all options and warrants relating thereto, shall no longer be outstanding and shall automatically be canceled and retired, or converted in accordance with this Section 3.1, as the case may be, and each holder of a certificate or other instrument representing any such shares, options or warrants shall cease to have any rights with respect thereto, other than the right to receive the consideration provided herein, without interest thereon. In calculating the consideration payable under this Section 3.1(d), Buyer shall be entitled to rely on the representations and warranties contained in Section 4.3 and the Capital Structure Certificate.

Section 3.2 Closing Estimates. At least two (2) Business Days prior to the Closing Date, the Company shall deliver to Buyer a statement setting forth (a) its estimate of the Net Closing Working Capital Adjustment (such estimate, the "*Estimated Net Closing Working Capital Adjustment*"), (b) its estimate of the Transaction Expenses (such estimate, the "*Estimated Transaction Expenses*"), (c) its estimate of the Closing Indebtedness (such estimate, the "*Estimated Closing Indebtedness*"), and (d) its estimate of the Closing Cash (such estimate, the "*Estimated Closing Cash*"), in the case of clauses (a) through (d), as set forth on a statement in a form reasonably acceptable to Buyer and along with reasonable supporting detail to evidence the calculations of such amounts.

Section 3.3 Adjustment Amount.

(a) As soon as reasonably practicable following the Closing Date, and in any event within one hundred twenty (120) days thereafter, Buyer shall cause to be prepared and delivered to the Stockholders' Representative (i) an unaudited consolidated balance sheet of the Company and its Subsidiaries as of 5:00 PM (Eastern time) on the Business Day immediately preceding the Closing Date (the "*Closing Balance Sheet*"), together with a statement setting forth Buyer's calculation of the Net Closing Working Capital Adjustment as derived from the Closing Balance Sheet, (ii) a statement setting forth Buyer's calculation of the Transaction Expenses, (iii) a statement setting forth Buyer's calculation of the Closing Indebtedness and (iv) a statement

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setting forth Buyer's calculation of the Closing Cash, in each case, as set forth on a statement in a form reasonably acceptable to the Stockholders' Representative, along with reasonable supporting detail to evidence the calculations of such amounts. The Closing Balance Sheet and Buyer's calculations of the Net Closing Working Capital Adjustment, the Transaction Expenses, the Closing Indebtedness and the Closing Cash shall be prepared in accordance with GAAP and using the same accounting principles, practices, policies and methodologies used in the preparation of the Company Financial Statements.

(b) After the delivery of the Closing Balance Sheet, the Net Closing Working Capital Adjustment, the Transaction Expenses, the Closing Indebtedness and the Closing Cash in accordance with Section 3.3(a), at the Stockholders' Representative's request, Buyer shall cause the Surviving Company and its Subsidiaries, including their respective Representatives, to reasonably cooperate with the Stockholders' Representative and its Representatives in their review of the Closing Balance Sheet and Buyer's calculations of the Net Closing Working Capital Adjustment, the Transaction Expenses, the Closing Indebtedness and the Closing Cash and shall provide to the Stockholders' Representative and its Representatives information that they may reasonably request and access during normal business hours to the personnel, properties, working papers, books and records of the Surviving Company and its Subsidiaries for such purpose.

(c) Unless the Stockholders' Representative notifies Buyer in writing within sixty (60) days after Buyer's delivery of the Closing Balance Sheet, the Net Closing Working Capital Adjustment, the Transaction Expenses, the Closing Indebtedness and the Closing Cash in accordance with Section 3.3(a), and the supporting detail with respect thereto, of any objection to the computations set forth in the Closing Balance Sheet or Buyer's calculations of the Net Closing Working Capital Adjustment, the Transaction Expenses, the Closing Indebtedness or the Closing Cash (the "*Notice of Objection*"), the Closing Balance Sheet and Buyer's calculations of the Net Closing Working Capital Adjustment, the Transaction Expenses, the Closing Indebtedness and the Closing Cash shall be final and binding for all purposes hereunder. Any Notice of Objection shall specify in reasonable detail the basis for the objections set forth therein and shall include the Stockholders' Representative's calculation of any amounts that are disputed by such Notice of Objection (the "*Disputed Amounts*") to the extent that such amounts may be determined (it being understood that an objection to one or more of the foregoing amounts shall not prevent any other amount from becoming final and binding for all purposes hereunder).

(d) If the Stockholders' Representative provides such Notice of Objection to Buyer within such 60-day period, Buyer and the Stockholders' Representative shall, during the 60-day period following the Stockholders' Representative's delivery of such Notice of Objection to Buyer, attempt in good faith to resolve any Disputed Amounts. If Buyer and the Stockholders' Representative are unable to resolve all such Disputed Amounts within such period, the matters remaining in dispute shall be submitted to a nationally recognized public accounting firm mutually agreed upon by Buyer and the Stockholders' Representative (such accounting firm being referred to herein as the "*Independent Accountant*"). The parties shall instruct the Independent Accountant to render its decision as promptly as possible, but no later than sixty (60) days after its selection. The Independent Accountant will consider only those items and

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amounts in the Stockholders' Representative's and Buyer's respective calculations of the Net Closing Working Capital Adjustment, the Transaction Expenses, the Closing Indebtedness and the Closing Cash that are identified as being items and amounts to which the Stockholders' Representative and Buyer have been unable to agree. In resolving any disputed item, the Independent Accountant may not assign a value to any item greater than the greatest value for such item claimed by the Stockholders' Representative or Buyer or less than the smallest value for such item claimed by either of them. The Surviving Company and the Stockholders' Representative shall each furnish to the Independent Accountant such work papers and other documents and information relating to the Disputed Amounts as the Independent Accountant may reasonably request. The resolution of the Disputed Amounts by the Independent Accountant shall be final and binding, and the determination of the Independent Accountant shall constitute an arbitral award that is final, binding and unappealable and upon which a judgment may be entered by a court having jurisdiction thereover. After final determination of the Net Closing Working Capital Adjustment, the Transaction Expenses, the Closing Indebtedness and the Closing Cash, the Stockholders' Representative shall have no further right to make any claims in respect of any element of the foregoing amounts that the Stockholders' Representative raised in the Notice of Objection.

(e) The date on which the Net Closing Working Capital Adjustment, the Transaction Expenses, the Closing Indebtedness and the Closing Cash are finally determined in accordance with this Section 3.3 is hereinafter referred as to the "*Determination Date*." Buyer and the Stockholders' Representative (on behalf of the Securityholders) shall each pay their own costs and expenses incurred in connection with the resolution of the Disputed Amounts; *provided*, that the fees and expenses of the Independent Accountant shall be allocated between Buyer and the Stockholders' Representative in the same proportion that the total amount of the Disputed Amounts submitted to the Independent Accountant that is unsuccessfully disputed by each such party (as finally determined by the Independent Accountant) bears to the total amount of the Disputed Amounts so submitted by each such party (e.g., should the items in dispute total in amount to $1,000 and the Independent Accountant awards $600 in favor of Buyer's position, 60% of the costs of its review would be borne by the Stockholders' Representative and 40% of the costs would be borne by Buyer).

(f) "*Adjustment Amount*" (positive or negative) means the Final Aggregate Closing Merger Consideration minus the Estimated Aggregate Closing Merger Consideration. If the Adjustment Amount is a positive number (an "*Adjustment Surplus Amount*"), within ten (10) Business Days following the Determination Date, Buyer shall deliver by wire transfer of immediately available funds (i) to the Paying Agent, an amount equal to the applicable portion of the Adjustment Surplus Amount payable to the Stockholders, and (ii) to the Surviving Company, the applicable portion of the Adjustment Surplus Amount payable to the holders of Cancelled Options. Upon receipt by the Paying Agent of the applicable portion of the Adjustment Surplus Amount payable to the Stockholders, Buyer shall direct the Paying Agent to promptly disburse the amounts so received by it, subject to the procedures set forth in Section 3.4 and Section 3.5(a). Upon receipt by the Surviving Company of the applicable portion of the Adjustment Surplus Amount payable to the holders of Cancelled Options, the Surviving Company shall promptly disburse the amounts so received by it, subject to the procedures set forth in Section 3.4

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and Section 3.5(b). If the Adjustment Amount is a negative number (an "*Adjustment Deficit Amount*"), within three (3) Business Days following the Determination Date, the absolute value of such Adjustment Deficit Amount shall be distributed, by wire transfer of immediately available funds, by the Escrow Agent from the Escrow Fund to an account designated in writing by Buyer. In the event that there is an Adjustment Deficit Amount in excess of [*] Buyer shall be entitled to deposit a portion of the Earn-Out Payments (if any) equal to such Adjustment Deficit Amount in the Escrow Account, which Escrow Account shall be subject to release in accordance with Section 3.7.

Section 3.4 Disbursements by Paying Agent and the Surviving Company. In the event that an Adjustment Surplus Amount exists, an Earn-Out Payment is to be made or an Escrow Fund Release Amount exists, Buyer shall pay such amounts to the Paying Agent (with respect to amounts to be paid to the Stockholders and recipients of Transaction Expenses) and the Surviving Company (with respect to amounts to be paid to the holders of Cancelled Options) for distribution to the Stockholders and holders of Cancelled Options in accordance with the procedures set forth in Section 3.5(a) and Section 3.5(b), respectively.

Section 3.5 Exchange Procedures.

(a) As soon as practicable following the date hereof, the Company shall mail or cause to be mailed, or otherwise make available, to each holder of certificates (the "*Certificates*") formerly evidencing Shares a form of the Letter of Transmittal. After the Effective Time, each holder of Certificates, promptly (but in any event within two (2) Business Days) following the surrender of such Certificates (or affidavit of lost certificate(s)) to the Paying Agent, together with the duly completed and validly executed Letter of Transmittal, shall be entitled to receive from the Paying Agent, in exchange therefor and subject to any additional terms and conditions of the Paying Agent, by wire transfer of immediately available funds to the account designated by such holder in the Letter of Transmittal, and otherwise by check, the applicable portion of the consideration that such former holder of Shares has the right to receive from time to time pursuant to this Article III, and any Certificates so surrendered shall be cancelled. Notwithstanding the foregoing, if requested by the Company, Buyer shall reasonably cooperate in distributing the Letters of Transmittal prior to the Closing so that they can be collected and delivered to the Paying Agent on or prior to the Closing as coordinated by the Company's counsel.

(b) The Company shall use commercially reasonable efforts to obtain from each holder of any Cancelled Options an executed Joinder Agreement with respect to such Cancelled Options prior to the Closing; *provided, however*, that the Company shall be under no obligation to offer any payment to the holders of any Cancelled Options that do not provide an executed Joinder Agreement with respect to such Cancelled Options. As soon as reasonably practicable after the date hereof, but in any event not later than seven (7) Business Days after the date hereof, the Company shall send a written notice in a form reasonably acceptable to Buyer to each Option Holder that shall inform such Option Holder of the treatment of the Options and Ungranted Options provided in Section 3.1(b) and providing instructions for the delivery of a Joinder Agreement in exchange for the consideration as specified and allocated in Section 3.1(b).

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After the Effective Time, each holder of Cancelled Options, subject to signing a Joinder Agreement, shall be entitled to receive in exchange therefor, the applicable portion of the consideration that the holder of such Cancelled Options has the right to receive from time to time pursuant to this Article III. In each case, the consideration payable to such former holder of Cancelled Options shall be made by the Surviving Company in accordance with its payroll practices on the Surviving Company's next regularly scheduled pay day following the tenth (10th) Business Day after such holder becomes entitled to receive such consideration under this Section 3.5(b).

(c) In the event of a transfer of ownership of any Shares that is not registered in the transfer books of the Company, subject to any applicable withholding Taxes, payment may be made to a Person other than the Person in whose name the Certificate so surrendered is registered, if such Certificate shall be properly endorsed or otherwise be in proper form for transfer. Notwithstanding the foregoing, if any Certificate shall be lost, stolen or destroyed, upon the making of an affidavit of that fact and an undertaking of indemnity by the Person claiming such Certificate to be lost, stolen or destroyed, the Surviving Company will issue in exchange for such lost, stolen or destroyed Certificate the consideration deliverable in respect thereof pursuant to this Agreement.

(d) At any time following the expiration of [*] after the Effective Time, the Buyer shall, in its reasonable discretion, be entitled to require the Paying Agent to deliver to it any funds (including any interest received with respect thereto) which had been made available to the Paying Agent and which have not been disbursed to holders of Certificates, and such funds shall thereafter become the property of the Buyer. Such funds may be commingled with the general funds of the Buyer and shall be free and clear of any claims or interests of any Person. Thereafter, such holders of Certificates shall be entitled to look to the Buyer (subject to any applicable abandoned property, escheat or similar Law) only as general creditors thereof with respect to the applicable consideration payable as contemplated by this Agreement (without interest and subject to any applicable withholding Taxes) upon due surrender of their Certificates. Any portion of such remaining cash unclaimed by Stockholders as of a date that is immediately prior to such time as such amounts would otherwise escheat to or become property of any Governmental Entity shall, to the extent permitted by applicable Law, become the property of the Buyer free and clear of any claims or interest of any Person previously entitled thereto.

(e) At the Closing, the transfer books of the Company shall be closed, and there shall be no further registration of transfer in the transfer books of the Surviving Company of the Shares that were outstanding immediately prior to the Effective Time. If, after the Effective Time, Certificates are presented to the Surviving Company or the Paying Agent for any reason, they shall be canceled and exchanged as provided in this Section 3.5.

Section 3.6 Payments at Closing. At the Closing, Buyer will make (or cause to be made) the following payments:

(a) to the Paying Agent, an amount equal to the Aggregate Liquidation Preference Amount payable to the holders of Preferred Stock;

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(b) to the Paying Agent, an amount equal to the applicable portion of the Estimated Aggregate Closing Merger Consideration payable to the Stockholders;

(c) to the Surviving Company, the applicable portion of the Estimated Aggregate Closing Merger Consideration payable to the holders of Cancelled Options;

(d) to the Escrow Agent, an amount equal to the Escrow Amount;

(e) to the Stockholders' Representative, by wire transfer of immediately available funds to the account or accounts designated by the Stockholders' Representative in writing no later than two (2) Business Days prior to the Closing Date, an amount equal to the Stockholders' Representative Expense Amount; *provided*, that the Stockholders' Representative Expense Amount shall be deemed for Tax purposes to have been paid to the Stockholders and Option Holders at the Closing in proportion to their respective Pro Rata Shares; and, provided further, to the extent that any withholding is required in connection with such deemed payment, then to ensure that the Stockholder or Option Holder to which the withholding applies has contributed its Pro Rata Share to the Stockholders' Representative Expense Amount (after taking into account any such withholding), such Stockholder or Option Holder shall be deemed to have received an amount equal to its Grossed-Up Expense Amount Contribution to fund the Stockholders' Representative Expense Amount and, notwithstanding anything to the contrary in this Agreement, any other amount unrelated to the Stockholders' Representative Expense Amount that otherwise would have been payable to the applicable Stockholder or Option Holder at Closing shall be reduced by the amount of any such payment deemed received by the Stockholder or Option Holder in excess of its Pro Rata Share of the Stockholders' Representative Expense Amount;

(f) on behalf of the Company, by wire transfer of immediately available funds to the account or accounts designated by the Company in the statement of Transaction Expenses delivered pursuant to Section 3.2, an amount in the aggregate equal to the Transaction Expenses, which amounts shall be distributed in accordance with the statement of Transaction Expenses delivered pursuant to Section 3.2; and

(g) on behalf of the Company, by wire transfer of immediately available funds to the account or accounts designated by the Payoff Letters obtained pursuant to Section 6.10 in respect of the Closing Indebtedness or as otherwise designated by the Company in writing no later than two (2) Business Days prior to the Closing Date, an amount in the aggregate equal to the Closing Indebtedness, as set forth in the statement of Closing Indebtedness delivered pursuant to Section 3.2.

Section 3.7 Escrow Amount.

(a) At the Closing, Buyer shall deposit with Wilmington Trust Corporation (the "*Escrow Agent*"), by wire transfer of immediately available funds, an amount equal to the Escrow Amount, such amount plus all accumulated earnings thereon (such amounts, if any, "*Escrow Consideration*") to constitute an escrow fund (the "*Escrow Fund*") to be governed in accordance with the terms of this Agreement and the escrow agreement in substantially the form

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attached hereto as Exhibit G (the "*Escrow Agreement*"), among Buyer, the Escrow Agent and the Stockholders' Representative.

(b) The Escrow Fund shall be used to satisfy any amounts owed to Buyer pursuant to this Agreement, including the payment of the Adjustment Amount, if any, pursuant to Section 3.3(f) and any indemnification amounts owed hereunder. Buyer and the Stockholders' Representative shall timely provide any joint written instructions contemplated by Section 3.3 or Article VIII so that distributions can be made by the Escrow Agent within the time period required by Section 3.3(f) or Article VIII.

(c) The First Escrow Fund Release Amount shall be released pursuant to joint written instructions to be provided to the Escrow Agent by Buyer and the Stockholders' Representative on the date that is one (1) Business Day after the First Escrow Release Date. The "*First Escrow Fund Release Amount*" shall be equal to [*]. Any remaining portion of the Escrow Fund that is not used to satisfy any other amounts owing to Buyer pursuant to this Agreement, including indemnification amounts, or not subject to any claims hereunder, shall be released pursuant to joint written instructions to be provided to the Escrow Agent by Buyer and the Stockholders' Representative on the date that is one (1) Business Day after the Second Escrow Release Date (the "*Second Escrow Fund Release Amount*") as provided in this Section 3.7(c); *provided*, that if there are any indemnification claims hereunder that are properly pending on the Second Escrow Release Date, such portion of the Escrow Fund corresponding to the amounts subject to such claims shall not be released until the applicable claims are finally resolved and satisfied. The First Escrow Fund Release Amount and the Second Escrow Fund Release Amount are each referred to herein from time to time as an "*Escrow Fund Release Amount*." Upon any release of the Escrow Fund, the Escrow Agent shall release (i) to the Paying Agent, an amount equal to the applicable portion of the Escrow Fund Release Amount payable to the Stockholders and (ii) to the Surviving Company, the applicable portion of the Escrow Fund Release Amount payable to the Option Holders. Upon the final release of all of the Escrow Fund, the Escrow Agreement shall terminate. All funds so released from the Escrow Fund shall include any Escrow Consideration and shall be distributed by the Escrow Agent to the Paying Agent (with respect to the applicable portion of the Escrow Fund Release Amount payable to the Stockholders) or the Surviving Company (with respect to the applicable portion of the Escrow Fund Release Amount payable to the holders of Cancelled Options).

(d) The Escrow Fund shall be held as a trust fund and shall not be subject to any Lien, and shall be held and disbursed solely for the purposes and in accordance with the terms of this Agreement and the Escrow Agreement.

(e) The Parties agree that for Tax purposes: (i) it is intended that, if and to the extent any portion of the Escrow Fund is actually distributed to Option Holders in respect of their Cancelled Options or any Earn-Out Payment is actually paid to Option Holders in respect of their Cancelled Options, such portion shall be treated as compensation paid at the time the portion of the Escrow Fund is actually released to the Option Holders or the amount of such Earn-Out Payment is actually paid to the Option Holders and, in each case, shall be subject to applicable withholding Tax at such time; (ii) it is intended that the right of the holders of Common Stock

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and Preferred Stock to the Escrow Fund and Earn-Out Payments be treated as deferred contingent purchase price eligible for installment sale treatment under Section 453 of the Code and any corresponding provision of foreign, state or local law, as appropriate (provided, however, Buyer is making no representation or covenant as to whether such Tax treatment shall be respected by any Governmental Entity); (iii) it is intended that Buyer shall be treated as the owner of the Escrow Fund, and all interest and earnings earned from the investment and reinvestment of the Escrow Fund, or any portion thereof, shall be allocable to Buyer and Buyer shall receive quarterly distributions from the Escrow Fund equal to 25% of the amount of the income earned by the Escrow Fund for such quarter in order for Buyer to pay its taxes on such income; and (iv) if and to the extent any amount of the Escrow Fund is actually distributed to the holders of Common Stock or Preferred Stock, interest may be imputed on such amount as required by applicable Law. All Parties shall file all Tax Returns consistently with the foregoing intended Tax treatment, unless otherwise required by a change in applicable Law following the Closing Date.

Section 3.8 Earn-Out Payments; Diligence.

(a) From and after the Closing, upon the first achievement by Buyer or any of its Affiliates (including Buyer), licensees or sublicensees of the following events (each a "*Milestone Event*") with respect to the Product, as further consideration for the Merger, Buyer shall make (or cause to be made) to the Securityholders in accordance with Section 3.4, the following payments (each, an "*Earn-Out Payment*"), in each case in accordance with Section 3.8(c) below after the achievement of each Milestone Event described below as conditions precedent for each such payment:

(i) a one-time payment of [*] upon the earlier of (A) [*] or (B) [*];

(ii) a one-time payment of [*] upon t[*] for any first Indication;

(iii) a one-time payment of [*] upon [*] for a second Indication.

(iv) a one-time payment of [*] upon receipt of Regulatory Approval from the FDA for any first Indication;

(v) a one-time payment of [*] upon receipt of Regulatory Approval from the FDA for a second Indication;

(vi) a one-time payment of [*] upon receipt of Regulatory Approval from the EMA for any first Indication;

(vii) a one-time payment of [*] upon receipt of Regulatory Approval from the EMA for a second Indication; and

(viii) a one-time payment of [*] (the "*Sales Earn-Out Payment*") upon the determination at the end of Buyer's fiscal year that the Net Sales for such

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fiscal year across all Indications equals or exceeds [*] (the "*Sales Earn-Out Goal*").

(b) For clarity, the maximum aggregate amount of Earn-Out Payments payable under this Agreement is Eight Hundred Million Dollars ($800,000,000). The portion of each of the Earn-Out Payments in subclauses (i) through (viii) of Section 3.8(a) that may become payable to Option Holders shall be deemed a separate payment for purposes of Section 409A of the Code.

(c) The Milestone Events for Regulatory Approval in the EMA set forth in Section 3.8(a)(vi) and Section 3.8(a)(vii) shall be achieved upon receipt of the applicable reimbursement and/or pricing approval from the applicable Governmental Entity in three (3) out of the following five (5) countries: United Kingdom, France, Italy, Germany or Spain.

(d) If any given Earn-Out Payment is due and one or more previous Earn-Out Payments would reasonably have been anticipated to precede such Earn-Out Payment for the achievement of Milestone Events have not been paid for any reason, then payment of all such preceding unpaid Earn-Out Payments will be due at such time as well. For example, if Earn-Out Payment (ii) were to become due, and Milestone Event (i) has not yet been achieved and accordingly Earn-Out Payment (i) had not been paid, then Earn-Out Payment (i) will become due at the time Earn-Out Payment (ii) becomes due.

(e) With respect to the achievement of any Milestone Event, Buyer shall provide written notice to the Stockholders' Representative of such occurrence no later than fifteen (15) Business Days after Buyer becomes aware of the occurrence thereof. Thereafter, Buyer shall make (or cause to be made) the corresponding Earn-Out Payment to Securityholders in accordance with Section 3.4 within forty-five (45) days after the occurrence thereof. The Buyer shall pay interest on any Earn-Out Payment that is not paid on or before the date such payments are due under this this Agreement at an annual rate equal to [*] plus the prime rate as published in *The Wall Street Journal* in effect on the date such payment was required to be made, calculated on the total number of days payment is delinquent.

(f) For a period of [*] following the Closing Date, Buyer shall and shall cause its Affiliates (including the Company) to use Commercially Reasonable Efforts to achieve (or cause its Affiliates, licensees or sublicensees with respect to rights to develop or commercialize the Product to achieve) each of the Milestone Events; *provided however,* [*]. The parties hereto acknowledge and agree that Buyer does not currently intend to pursue the Indication set forth on Exhibit J (the "*Excluded Indication*"), and that a decision to not pursue the Excluded Indication will not be a violation of Buyer's obligation to use Commercially Reasonable Efforts. Without limiting the foregoing, neither Buyer nor its Affiliates shall take any action, or omit to take any action, the primary purpose of which is to avoid the achievement of any Milestone Event.

(g) The Company understands and acknowledges that Buyer and its Affiliates may have present or future initiatives or opportunities, including initiatives or opportunities with its Affiliates or third parties, involving products, programs, technologies or processes that are similar to, and in some instances may compete with products, programs, technologies or

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processes covered by this Agreement. The Company acknowledges and agrees that nothing in this Agreement will be construed as a representation, warranty or covenant that Buyer, or any of its Affiliates will not itself develop, manufacture or commercialize or enter into business relationships with one (1) or more of its Affiliates or any third parties to develop, manufacture or commercialize, products, programs, technologies or processes that are similar to or that may compete with any product, program, technology or process covered by a Milestone Event.

(h) Following the Closing until all Earn-Out Payments have been made (or Buyer and Stockholders' Representative otherwise mutually agree), Buyer shall provide Stockholders' Representative, within ninety (90) days following January 1st of each calendar year, with an annual written report of the efforts of Buyer and any of its Affiliates, licensees or sublicensees to achieve the Milestone Events and their progress with respect thereto, which report shall generally describe the status of the development of the Product.

(i) Buyer shall keep, and shall cause its Affiliates and sublicensees to keep, adequate books and records of accounting for the purpose of confirming whether any Milestone Event has occurred for a period of five (5) years following the end of the calendar year to which such books and records pertain.

(j) Commencing the calendar year following the year in which the first commercial sale of the Product occurs until payment of the Sales Earn-Out Payment (or Buyer and Stockholders' Representative otherwise mutually agree), on or prior to the forty-fifth (45th) day following release by Buyer of its (or its applicable Affiliate's) audited financial statements for each fiscal year during such period, Buyer shall prepare and deliver to the Stockholders' Representative (i) a statement setting forth Buyer's determination of Net Sales with respect to the Sales Earn-Out Goal for such fiscal year. In order to allow the Stockholders' Representative to verify the proposed determination with respect to the Sales Earn-Out Goal, Buyer shall provide copies of any records or other documentation reasonably requested by the Stockholders' Representative that were used by Buyer in reaching such determination and shall afford Stockholders' Representative or its designees reasonable access during normal business hours to appropriate Buyer (or its Affiliate) personnel to discuss such records or documentation. If the Stockholders' Representative has any objections to Buyer's determination, then the Stockholders' Representative may object by delivering a written objection notice and the Parties shall proceed to resolve such disagreement in accordance with the dispute resolution procedures set forth in Section 3.3(c), applied *mutatis mutandis*. If it is determined through such dispute resolution procedures that the Sales Earn-Out Goal was achieved, Buyer shall make (or cause to be made) the Sales Earn-Out Payment to Securityholders in accordance with Section 3.4, subject to the late payment interest set forth in Section 3.8(c). Notwithstanding anything in this Agreement to the contrary, subsequent to the Closing, Buyer shall have sole discretion with regard to all matters relating to the operation of the Company, its Subsidiaries and their respective businesses and shall have no obligation, or liability as a result of the failure, to achieve any of the events described in Section 3.8(a) that would give rise to an Earn-Out Payment.

(k) Subject to Section 3.8(l), Buyer shall remain responsible for paying any and all Earn-Out Payments in accordance with this Section 3.8 upon the achievement of the

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corresponding Milestone Event, whether achieved by Buyer, any of its Affiliates or any of their licensees or sublicensees with respect to rights to develop or commercialize the Product.

(l) Unless and until a Carve-Out Transaction occurs, Buyer shall remain responsible for paying any and all Earn-Out Payments in accordance with this Section 3.8 upon the achievement of the corresponding Milestone Event, whether achieved by Buyer, any of its Affiliates or any of their licensees or sublicensees with respect to rights to develop or commercialize the Product. Without limiting the foregoing, so long as any of the Earn-Out Payments remain outstanding, in the event that Buyer or, after a Change of Control or Carve-Out Transaction, any of its respective successors, assignees or transferees undergoes a subsequent Change of Control or Carve-Out Transaction, then, and in each such case, Buyer shall either (i) ensure that (x) each such successor, assignee or transferee of Buyer or such assets or Product agrees to assume all obligations of Buyer, including payment of all Earn-Out Payments, set forth in this Agreement, and (y) has the capabilities, financial and otherwise to do so, or (ii) Buyer shall agree to remain subject to its obligations hereunder, including payment of all Earn-Out Payments. In the event of (i) an assignment by Buyer of this Agreement or (ii) a Carve-Out Transaction, in each case (i) and (ii), to any Controlled Affiliate of Buyer, but only for so long as it remains a Controlled Affiliate of Buyer after which the obligations of the foregoing sentence shall apply, Buyer shall agree to remain liable for the performance by each such assignee of all obligations, including payment of all Earn-Out Payments, of Buyer hereunder.

Section 3.9 Stockholders' Representative Expense Amount. At the Closing, Buyer shall deposit cash in an amount equal to the Stockholders' Representative Expense Amount into an account designated by the Stockholders' Representative in accordance with Section 3.6(e). The Stockholders' Representative Expense Amount shall be used to fund any expenses incurred by the Stockholders' Representative in the performance of its duties and obligations hereunder. The Securityholders will not receive any interest or earnings on the Stockholders' Representative Expense Amount and irrevocably transfer and assign to the Stockholders' Representative any ownership right that they may otherwise have had in any such interest or earnings. The Stockholders' Representative will not be liable for any loss of principal of the Stockholders' Representative Expense Amount other than as a result of its Actual Fraud, gross negligence or willful misconduct. The Stockholders' Representative will hold these funds separate from its corporate funds, will not use these funds for its operating expenses or any other corporate purposes and will not voluntarily make these funds available to its creditors in the event of bankruptcy. The Stockholders' Representative Expense Amount will be held by the Stockholders' Representative until such time as the Stockholders' Representative determines, in its sole discretion, that the Stockholders' Representative does not expect to incur any additional expenses in connection with performing its obligations in such capacity under this Agreement. Any portion of the Stockholders' Representative Expense Amount remaining after such date shall be paid by the Stockholders' Representative to the Paying Agent and the Surviving Company (as applicable) for further distribution to the Stockholders and the Option Holders in proportion to their Pro Rata Shares.

Section 3.10 Tax Documentation. The Surviving Company, the Paying Agent and Buyer shall be entitled to request and collect any Tax forms legally able to be given, including

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IRS Form W-9, or the appropriate series of IRS Form W-8, as applicable, or any similar information reasonably necessary, from any Stockholder, Option Holder or any other recipient of any payment pursuant to, or in connection with, this Agreement, and such Stockholder, Option Holder or other recipient hereby covenants to provide such Tax form or information it is legally able to deliver upon reasonable request by the Surviving Company, the Paying Agent or Buyer, as the case may be.

Section 3.11 Withholding. The Surviving Company, the Paying Agent and Buyer shall be entitled to deduct and withhold from any amount otherwise payable pursuant to, or in connection with, this Agreement to any Stockholder, Option Holder or other Person, as the case may be, such amounts as the Surviving Company, the Paying Agent or Buyer is required to deduct and withhold with respect to the making of such payment under any provision of applicable Tax Laws. To the extent that amounts are so withheld by the Surviving Company, the Paying Agent or Buyer, and remitted to the applicable Governmental Entity, such withheld and remitted amounts shall be treated for all purposes of this Agreement as having been paid to such Stockholder, Option Holder or other Person, as the case may be, in respect of which such deduction and withholding was made by the Surviving Company, the Paying Agent or Buyer, as the case may be.

Section 3.12 Dissenting Shares.

(a) Notwithstanding any provision of this Agreement to the contrary, Shares that are outstanding immediately prior to the Effective Time and which are held by Stockholders who shall not have voted in favor of the Merger or consented thereto in writing and who shall have demanded properly in writing appraisal for such Shares in accordance with Section 262 of the DGCL (collectively, the "*Dissenting Shares*") shall not be converted into or represent the right to receive the consideration set forth in Section 3.1. Such Stockholders shall be entitled to receive such consideration as is determined to be due with respect to such Dissenting Shares in accordance with the provisions of Section 262 of the DGCL, except that all Dissenting Shares held by holders who shall have failed to perfect or who effectively shall have withdrawn or lost their rights to appraisal of such Shares under Section 262 of the DGCL shall thereupon be deemed to have been cancelled and extinguished and converted into, as of the Effective Time, the right to receive the consideration specified in Section 3.1 (as adjusted, if applicable), without any interest thereon, upon surrender, in the manner provided in Section 3.5, of the certificate or certificates that formerly evidenced such Dissenting Shares.

(b) The Company shall give Buyer (i) prompt notice of any demands for appraisal received by the Company and withdrawals of such demands, and (ii) the opportunity to direct and/or consult with the Company with respect to all negotiations and proceedings with respect to demands for appraisal under the DGCL. Prior to the Effective Time, neither the Company nor Buyer shall, except with the prior written consent of the other party, make any payment with respect to any demands for appraisal, offer to settle, or settle or otherwise negotiate any such demands.

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ARTICLE IV

REPRESENTATIONS AND WARRANTIES OF THE COMPANY

Except as set forth in the disclosure schedule delivered by the Company prior to, or concurrently with, the execution of this Agreement (the "*Disclosure Schedule*") the Company hereby represents and warrants to Buyer and Merger Sub as follows:

Section 4.1 Organization, Standing and Power. Each of the Company and its Subsidiaries is an entity duly organized, validly existing and in good standing under the laws of its jurisdiction of organization and has all requisite power and authority to own, lease and operate its properties and to carry on its business as now being conducted. Each of the Company and its Subsidiaries is duly qualified to do business and is in good standing in each jurisdiction in which such qualification is necessary because of the property owned, leased or operated by it or because of the nature of its business as now being conducted, except for any failure to so qualify or be in good standing that individually or in the aggregate would not reasonably be expected to have a Company Material Adverse Effect. Section 4.1 of the Disclosure Schedule lists the jurisdictions of organization and qualifications to do business (or the foreign equivalents, if any) of the Company and each of its Subsidiaries. The Company has made available to Buyer complete and correct copies of the organizational documents of each of the Company and its Subsidiaries, in each case as amended to the date of this Agreement. Section 4.1 of the Disclosure Schedule contains a true and correct list of the directors and officers of each of the Company and its Subsidiaries as of the date of this Agreement.

Section 4.2 Authority; Approvals.

(a) The execution, delivery and performance of this Agreement by the Company and the consummation of the transactions contemplated hereby are within its power and have been duly and validly authorized by all necessary corporate action on the part of the Company (other than the approval of the Merger and the approval and adoption of this Agreement by the Required Stockholder Approval, and the filing of a Certificate of Merger pursuant to the DGCL). This Agreement has been duly executed and delivered by the Company, and (assuming due authorization, execution and delivery by the other parties hereto) constitutes the valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditor's rights generally and by the application of general principles of equity.

(b) The Board of Directors of the Company has, at a meeting duly called and held at which all the directors of the Company were present, or by written consent, prior to the execution of this Agreement, unanimously (i) determined that this Agreement and the Merger are fair to, and in the best interests of the Company and its stockholders, (ii) resolved that the Merger is fair to and in the bests interests of the Company and its stockholders and approved and declared this Agreement and the Merger to be advisable, and (iii) resolved to recommend that the Company's stockholders adopt this Agreement, and none of the aforesaid actions by the Board of Directors of the Company has been amended, rescinded or modified.

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(c) The only vote of the holders of any class or series of the Company's capital stock necessary to approve the Merger are the affirmative votes to approve the Merger and to approve and adopt this Agreement by the holders of: (i) a majority of the outstanding shares of the Company's capital stock voting together as a single class (and in the case of the Preferred Stock, on an as-converted basis) and (ii) a majority of the outstanding shares of Preferred Stock voting together as a single class on an as-converted basis (collectively, the "*Required Stockholder Approval*").

Section 4.3 Capitalization; Equity Interests.

(a) The authorized capital stock of the Company consists of (i) 72,300,000 shares of Common Stock and (ii) 57,276,605 shares of Preferred Stock, of which (A) 28,350,632 shares are designated Series A Preferred Stock, and (B) 28,925,973 shares are designated Series B Preferred Stock. As of the date of this Agreement, 9,536,647 shares of Common Stock, 28,350,632 shares of Series A Preferred Stock, and 28,925,973 shares of Series B Preferred Stock are issued and outstanding. As of the date of this Agreement, the outstanding capital stock of the Company is owned of record as set forth in Section 4.3(a) of the Disclosure Schedule. Section 4.3(a) of the Disclosure Schedule contains a complete and correct list as of the date hereof of each outstanding Option, including the number of Shares subject to each such Option, the grant date, exercise price and vesting schedule for such Option, the extent to which such Option is vested and exercisable and the date on which such Option expires. Except as set forth on Section 4.3(a) of the Disclosure Schedule, no Shares are held by the Company in treasury.

(b) Section 4.3(b) of the Disclosure Schedule sets forth each of the Company's Subsidiaries' authorized capital stock and the number of shares of capital stock issued and outstanding (or, if such Subsidiary is not a corporation, the number of issued and outstanding voting securities of such Subsidiary or other ownership interests therein). Except as set forth in Section 4.3(b) of the Disclosure Schedule, the Company and its Subsidiaries do not have any Subsidiaries or own or hold any equity or other security interest in any other Person. Except as set forth in Section 4.3(b) of the Disclosure Schedule, all issued and outstanding shares of capital stock or other voting securities of, or ownership interests in, the Company's Subsidiaries are directly or indirectly owned beneficially and of record by the Company, free and clear of all Liens, and free of any other limitation or restriction (including any restriction on the right to vote, sell or otherwise dispose of such capital stock, other voting securities or ownership interests).

(c) Each Option and share of Restricted Stock was granted in compliance with the terms of the Equity Plan and applicable Law in all material respects. Each Option was granted or issued at an exercise price equal to or greater than the fair market value of the underlying Common Stock on the date of grant, as determined in accordance with Section 409A of the Code, and none of the Options, Restricted Stock or any other securities or agreements constitute "deferred compensation" under Section 409A of the Code. True, correct and complete copies of (i) the Equity Plan and (ii) the form award agreements thereunder (and any award agreement that materially deviates from any such form award agreements) have been made available to Buyer, and such plans and agreements have not been amended, modified or

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supplemented since being made available or provided to Buyer, and there are no Contracts or understandings to amend, modify or supplement such plans, forms or agreements in any case from those furnished to Buyer. The Company does not have in effect any employee stock purchase plans other than the Equity Plan. Each Option that is vested is exercisable for an exercise price less than the Per Common Share Merger Consideration.

(d) Except as set forth in Section 4.3(d) of the Disclosure Schedule, as of the date of this Agreement, no shares of capital stock or other voting securities of, or ownership interests in, the Company or any of its Subsidiaries are reserved for issuance. All outstanding shares of capital stock or other voting securities of, or ownership interests in, the Company and its Subsidiaries were duly authorized and validly issued and, with respect to shares of capital stock, fully paid and nonassessable, and none of such shares, other voting securities or ownership interests are subject to, and were not issued in violation of, any purchase option, trust, call option, right of first refusal or offer, preemptive right, subscription right or any similar right. Except as set forth in Section 4.3(d) of the Disclosure Schedule, there are no bonds, debentures, notes or other indebtedness or securities of the Company or any of its Subsidiaries having the right to vote (or convertible into, or exchangeable for, securities having the right to vote) on any matters on which the holders of the Company's or such Subsidiary's voting securities or interests may vote. Except as set forth in Section 4.3(d) of the Disclosure Schedule, there are no securities, options, warrants, calls, rights, commitments, agreements, arrangements or undertakings of any kind to which the Company or any of its Subsidiaries is a party or by which any such Person is bound obligating such Person to issue, deliver or sell, or cause to be issued, delivered or sold, additional shares of capital stock or other voting securities of, or ownership interests in, such Person or obligating such Person to issue, grant, extend or enter into any such security, option, warrant, call right, commitment, agreement, arrangement or undertaking. Except as set forth in Section 4.3(d) of the Disclosure Schedule, there are no outstanding rights, commitments, agreements, arrangements or undertakings of any kind obligating the Company or any of its Subsidiaries to repurchase, redeem or otherwise acquire any shares of capital stock or other voting securities of, or ownership interests in, the Company or any of its Subsidiaries or any securities of the type described in the two immediately preceding sentences. Except as set forth in Section 4.3(d) of the Disclosure Schedule, there are no outstanding or authorized stock appreciation, phantom stock, profit participation or similar rights with respect to the capital stock of, or other equity or voting interest in, the Company or any of its Subsidiaries. Except as set forth in Section 4.3(d) of the Disclosure Schedule, there are no irrevocable proxies and no voting trusts or voting agreements with respect to any ownership interests of, or other equity or voting interest in, the Company or any of its Subsidiaries to which the Company or any of its Subsidiaries is a party, or to the Company's knowledge, to which a Securityholder is a party. Neither the Company nor any of its Subsidiaries are committed to declare, pay or set aside for payment any dividend or other distribution (whether in cash, stock, property or otherwise) in respect of any Shares or any other securities of the Company or any of its Subsidiaries. Neither the Company nor any of its Subsidiaries are obligated or required to make any investment (including in the form of a loan or capital contribution) in any Person.

(e) Section 4.3(e) of the Disclosure Schedule identifies: (i) each Person with an offer letter or other Contract that contemplates a grant of an Option, or who has otherwise

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been contingently promised Options, except for Options that have been granted, or rights terminated or forfeited, prior to the date of this Agreement (each, a "*Specified Person*"); (ii) the number of Shares underlying such contingently promised Options and the vesting schedule for such contingently promised Options; (iii) the number of Shares underlying such contingently promised Options eligible to receive Merger consideration pursuant to and in accordance with Section 3.1(b) hereof (each, an "*Ungranted Option*"); and (iv) the exercise price applicable to each Ungranted Option, assuming such award had been timely granted as an Option in the Company's ordinary course of business (the "*Deemed Exercise Price*").

Section 4.4 Conflicts; Consents. The execution, delivery and performance by the Company of this Agreement and the consummation of the transactions contemplated hereby does not and will not (with or without the giving of notice or the passage of time, or both) (i) conflict with or result in a breach of the certificates of incorporation, by-laws or other organizational documents of the Company or any of its Subsidiaries, (ii) except as set forth in Section 4.4 of the Disclosure Schedule, conflict with, breach or result in a default (or give rise to any right of termination, modification, cancellation or acceleration) under any of the provisions of any Material Contract to which any of the Company or its Subsidiaries is a party, (iii) violate any Laws applicable to the Company or any of its Subsidiaries or any such Person's properties or assets, or (iv) result in the creation or imposition of any Lien (except for a Permitted Lien) upon any property or assets used or held by the Company or any of its Subsidiaries, except where the occurrence of any of the foregoing described in clauses (ii), (iii) and (iv) above would not reasonably be expected to be material to the Company and its Subsidiary taken as a whole. Except as set forth in Section 4.4 of the Disclosure Schedule and except for (1) the filing of a premerger notification and report form under the Hart-Scott-Rodino Act of 1976, as amended, and the rules and regulations promulgated thereunder (the "*HSR Act*") and the expiration or early termination of the applicable waiting period thereunder and (2) any filings as may be required under the DGCL in connection with the Merger, no consent or approval by, or notification of or registration or filing with, any Governmental Entity by the Company or any of its Subsidiaries is required in connection with the execution, delivery and performance by the Company of this Agreement or the consummation of the transactions contemplated hereby.

Section 4.5 Financial Information; Undisclosed Liabilities.

(a) The Company has previously made available to Buyer (i) the unaudited balance sheet of the Company as of December 31, 2017 and the related statements of operation, convertible preferred stock and stockholders' equity and cash flows for the fiscal year ended December 31, 2017 and (ii) the unaudited balance sheet of the Company as of July 31, 2018 (the "*Most Recent Balance Sheet*," and such date, the "*Most Recent Balance Sheet Date*") and the related statements of operation, convertible preferred stock and stockholders' equity and cash flows for the eight-month period then ended (the items in clauses (i) and (ii), collectively, the "*Company Financial Statements*"). The Company Financial Statements are based on the books and records of the Company and present fairly, in all material respects, the consolidated financial position of the Company (consolidated with its Subsidiaries, as applicable) as of the respective dates thereof, and the results of operations, convertible preferred stock and stockholders' equity and cash flows of the Company (consolidated with its Subsidiaries, as applicable) for the

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respective periods or as of the respective dates set forth therein, and are prepared in accordance with GAAP consistently applied during the periods involved, except as otherwise noted therein and subject to year-end adjustments and the absence of notes.

(b) Except as set forth in Section 4.5(b) of the Disclosure Schedule or as reflected in the Most Recent Balance Sheet, the Company and its Subsidiaries do not have any material liabilities or obligations (whether absolute, accrued, contingent, matured, or otherwise, and whether due or to become due), except for liabilities and obligations (i) incurred in the ordinary course of business consistent with past practice since the Most Recent Balance Sheet Date, (ii) which would not be required to be recorded in an audited consolidated balance sheet of the Company and its Subsidiaries (or disclosed in the notes thereto) that is prepared in accordance with GAAP, (iii) that constitute Transaction Expenses or (iv) which are disclosed in any section of the Disclosure Schedule.

Section 4.6 Books and Records; Internal Controls; Off-Balance Sheet Arrangements.

(a) The books, records and accounts of the Company and its Subsidiaries are true, complete and correct in all material respects and, with respect to accounting matters, represent actual, *bona fide* transactions. The Company and its Subsidiaries have established and maintained a system of internal accounting controls designed to provide reasonable assurances that (i) transactions are executed in accordance with management's authorization, (ii) transactions are recorded as necessary to permit preparation of the consolidated financial statements of the Company and its Subsidiaries in conformity with GAAP and to maintain accountability for assets, (iii) access to the Company's and its Subsidiaries' assets are permitted only in accordance with management's authorization, and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences, in all such foregoing cases, as is customary and suitable for the size and stage of development of the Company.

(b) Neither the Company nor any of its Subsidiaries has received any written complaint, allegation or claim asserting that the accounting practices, procedures, methodologies or methods of the Company or any of its Subsidiaries or their internal accounting controls do not comply with GAAP or applicable Law in any material respect. To the knowledge of the Company, there is no significant deficiency or material weakness in the design or operation of the internal control over financial reporting of the Company or any of its Subsidiaries.

(c) Neither the Company nor any of its Subsidiaries is a party to, or have any legally binding commitment to become a party to, any off-balance sheet partnership or any similar Contract, including any Contract relating to any transaction or relationship between or among the Company and its Subsidiaries or among any of its Subsidiaries, on the one hand, and any unconsolidated affiliate, including any structured finance, special purpose or limited purpose entity or person, on the other hand or any other "off-balance sheet arrangement" (as defined in the Securities Exchange Act of 1934, as amended).

Section 4.7 Absence of Changes. Except as set forth in Section 4.7 of the Disclosure Schedule, between the Most Recent Balance Sheet Date and the date hereof, the Company and

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its Subsidiaries have been operated in the ordinary course consistent with past practice in all material respects and there has not been:

(a) any event, occurrence or development that has had, or would reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect;

(b) any payment, discharge, satisfaction or settlement of any material action, suit or claim against the Company or any of its Subsidiaries;

(c) any split, combination, reclassification or recapitalization of any of the Company's or any of its Subsidiaries' capital stock or any issuance or authorization of any issuance of any securities respect of, in lieu of or in substitution for shares of capital stock or other securities of the Company or any of its Subsidiaries;

(d) any declaration, setting aside or payment of any dividend or other distribution with respect to any shares of capital stock or other voting securities of, or ownership or voting interests in, the Company or any of its Subsidiaries or any direct or indirect redemption, purchase or other acquisition of any such shares, securities or interests (other than repurchases pursuant to the Equity Plan or any grant agreement entered into pursuant thereto);

(e) any sale, assignment, pledge, Lien, transfer or other disposition of any material asset of the Company or any of its Subsidiaries, or any sale, assignment, transfer or other disposition of any material Intellectual Property or any other intangible, material assets of the Company or any of its Subsidiaries;

(f) any creation of any Lien on any material property of the Company or any of its Subsidiaries, except for Permitted Liens;

(g) any write-down of the value of any material asset of the Company or any of its Subsidiaries or any write-off as uncollectible of any accounts or notes receivable of the Company or any of its Subsidiaries or any portion thereof, other than write-downs or write-offs that are reserved for on the consolidated balance sheet contained in the Company Financial Statements;

(h) any cancellation of any material debts or claims or any amendment, termination or waiver of any rights of material value to the Company and its Subsidiaries, taken as a whole;

(i) any material capital expenditures or commitments or additions to property, plant or equipment of the Company or any of its Subsidiaries;

(j) any grant of a loan (other than advances for business expenses in the ordinary course of business) or, except in each case for regular annual increases, any general increase in the compensation of employees of the Company or any of its Subsidiaries (including any increase pursuant to any written bonus, pension, profit-sharing or other benefit or compensation plan, policy or arrangement or commitment), or any increase in any such

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compensation or bonus payable to any executive officer, manager or director of the Company or any of its Subsidiaries having an annual salary or remuneration in excess of $100,000;

(k) any damage, destruction or loss not covered by insurance affecting any asset or property of the Company or any of its Subsidiaries resulting in liability or loss in excess of $100,000;

(l) any change in the accounting methods, keeping of books of account, cash management or accounting practices followed by the Company or any change in depreciation or amortization policies or rates;

(m) any adoption of, or revocation or change to, any material Tax election, the adoption or change of any material Tax accounting method or period, the filing of any amended Tax Return, the entry into any closing agreement or settlement, the settlement of any Tax claim or assessment, the surrender of any right to claim a refund of Taxes, or the consent to any extension or waiver of the statute of limitations period applicable to any Tax claim or assessment;

(n) any amendment to or modification of or agreement to amend or modify (or announcement of an intention to amend or modify) the Equity Plan or any Option or Ungranted Option or equity interest, or any action to accelerate, or which would reasonably be expected to result in the acceleration of, the timing of vesting or payment of any rights, compensation, benefits or funding obligations (other than discretionary acceleration of vesting of Options by the Company's Board of Directors to the extent accounted for in the Capital Structure Certificate), or any material determinations, under any collective bargaining agreement, Plan, employment agreement or otherwise (including in connection with this Agreement and the transactions contemplated hereby);

(o) any grant of bonuses, whether monetary or otherwise, or increase in any wages, salary, severance, pension or other compensation or benefits in respect of its current or former employees, other than as provided for in any written Contracts that have been made available to Buyer or otherwise as required by applicable Law;

(p) except to the extent accounted for in the Capital Structure Certificate, any grant of any awards or rights under any Plan or employment agreement (including the grant of Options, stock appreciation rights, performance units or other stock-based awards, or the removal of existing restrictions in any Contract, Plan or employment agreement or awards made thereunder);

(q) incurrence, assumption or guarantee of any indebtedness for borrowed money except current liabilities incurred in the ordinary course of business and not constituting (i) Closing Indebtedness or (ii) an amount in the aggregate in excess of $250,000;

(r) acquisition by merger or consolidation with, or by purchase of a substantial portion of the assets or stock of, or by any other manner, any business or any Person or any division thereof;

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(s) abandonment or lapse of or failure to maintain in full force and effect any Company Registered IP registration;

(t) any amendment to the Company's organizational documents or the organizational documents of any of the Company's Subsidiaries;

(u) the entry into any Contract between the Company or any of its Subsidiaries, on the one hand, and a Stockholder or Option Holder or any current or former director, officer employee, contractor, consultant or agent of the Company or any of its Subsidiaries, on the other hand, the benefits of which are contingent, or the terms of which are altered, upon the occurrence of a transaction involving the Company of the nature contemplated by this Agreement;

(v) the entry into any Contract that would constitute a Material Contract, or the acceleration, termination, material modification to or cancellation of any Material Contract (other than (i) as result of the transactions contemplated by this Agreement and (ii) the discretionary acceleration of vesting of Options by the Company's Board of Directors to the extent accounted for in the Capital Structure Certificate); or

(w) any agreement, whether in writing or otherwise, to take any of the actions specified in the foregoing items (a) through (v).

Section 4.8 Real Property and Assets.

(a) None of the Company or any of its Subsidiaries owns any real property. Section 4.8 of the Disclosure Schedule lists all interests in real property leased, licensed, subleased, occupied or used by the Company or its Subsidiaries as of the date hereof (the "*Leased Real Property*"), including as applicable, the name and address of the landlord of such Leased Real Property, and each material Contract relating to the use and/or occupancy of such Leased Real Property, including all leases, subleases, agreements to lease, lease guarantees, tenant estoppels, subordinations, non-disturbance and attorney agreements, including all amendments thereto (the "*Leases*"). The Company or one of its Subsidiaries has a good and valid leasehold interest in the Leased Real Property listed in Section 4.8 of the Disclosure Schedule, free and clear of all Liens except for Permitted Liens. Each Lease is in full force and effect, and, to the knowledge of the Company, is enforceable against the landlord that is party thereto in accordance with its terms. There exists no material default or event of default on the part of the Company or any of its Subsidiaries under any Leases or, to the knowledge of the Company, any other party thereto. The Company has made available to Buyer true and complete copies of all Leases.

(b) Section 4.8(b) of the Disclosure Schedule contains a true, complete and correct list of all Contracts pursuant to which the Company and each of its Subsidiaries leases any personal property as lessee or lessor requiring aggregate payments by or to the Company or any of its Subsidiaries under any individual such Contract in excess of $100,000 (the "*Personal Property Leases*"). Each of the Company and its Subsidiaries has good, valid and marketable title to, or a valid leasehold interest in, as applicable, all personal property used in their

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respective businesses, free and clear of all Liens, except for Permitted Liens or defects in title or failures to be in full force and effect that are not material to the Company and its Subsidiaries, taken as a whole. Such personal property (taken as a whole) is in good operating condition and repair, ordinary wear and tear and deferred maintenance excepted, and constitutes all personal property materially necessary for the operation of the business of the Company and its Subsidiaries as presently conducted. The Company has made available to Buyer true, correct and complete copies of all Personal Property Leases. None of the personal property owned or leased by the Company or its Subsidiaries is in the possession, custody or control of any Person other than the Company or its Subsidiaries.

Section 4.9 Material Contracts.

(a) Section 4.9 of the Disclosure Schedule lists as of the date of this Agreement each of the following Contracts to which the Company or any of its Subsidiaries is a party (collectively, along with the Leases and the Personal Property Leases, the "*Material Contracts*"):

(i) all Contracts with officers, employees, consultants, advisors, sales representatives, distributors, sales agents or dealers of the Company or any of its Subsidiaries, requiring aggregate annual payments by the Company or any of its Subsidiaries in excess of $100,000;

(ii) all Contracts, including employment Contracts, with any current or former director, officer, employee, contractor or consultant that require aggregate annual payments by the Company or any of its Subsidiaries in excess of $100,000;

(iii) all plans, programs and Contracts that provide for the payment of bonus, severance, change in control, termination or similar types of compensation or benefits related to a transaction of the type contemplated hereunder involving the Company or one of its Subsidiaries or upon the termination or resignation of any current or former director, officer, employee, contractor or consultant;

(iv) all collective bargaining agreements or other agreements with a labor or trade union, employee association, works council, or other employee representative;

(v) all mortgages, indentures, security agreements, pledges, notes, loan agreements or guarantees;

(vi) all Contracts establishing any joint venture, joint product development, consortium, partnership, co-marketing arrangement or unincorporated association with a third-party;

(vii) all Contracts providing for future capital expenditures in excess of $100,000;

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(viii) all Contracts (including non-competition, non-solicitation and exclusivity agreements) that impose any material restriction on the activities or operations of the business of the Company and its Subsidiaries, taken as a whole, or the use, ownership or operation of any of the material assets of the Company and its Subsidiaries;

(ix) all Contracts involving a loan (other than accounts receivable from trade debtors in the ordinary course of business consistent with past practice) or advance to (other than travel and entertainment allowances to the employees of the Company or any of its Subsidiaries extended in the ordinary course of business consistent with past practice), or investment in, any Person;

(x) all management service, financial consulting or financial advisory Contracts, and any Contracts with any investment or commercial bank, broker, dealer or finder;

(xi) all Contracts involving the future disposition or acquisition of a material line of business, significant assets or properties, or any merger, consolidation or similar business combination transaction;

(xii) all Contracts involving any resolution or settlement of any actual or threatened material litigation, arbitration or similar proceeding;

(xiii) all Contracts pursuant to which the Company or any of its Subsidiaries (A) has been granted license rights for any Intellectual Property by any third party (other than (1) licenses of off-the-shelf commercial software programs, and (2) non-disclosure agreements and other agreements entered into by the Company or any of its Subsidiaries in the ordinary course of business); or (B) has granted to any third party any license of any Company Owned Intellectual Property or Intellectual Property licensed to the Company or any of its Subsidiaries (other than licenses pursuant to sponsored research agreements, material transfer agreements, consulting or service agreements or other similar agreements entered into by the Company or any of its Subsidiaries in the ordinary course of business that do not provide an exclusive license or a license to commercialize);

(xiv) all Contracts granting “most favored nation” or “most favored customer” or similar rights to any Person other than the Company or any of its Subsidiaries;

(xv) any agreement with any Governmental Entity; and

(xvi) all other Contracts that require annual payments by or to the Company and its Subsidiaries after the date hereof in excess of $100,000.

(b) All of the Material Contracts are legal, valid, binding and enforceable obligations of the Company or its applicable Subsidiary that is a party thereto and, to the knowledge of the Company, each of the other parties thereto, in accordance with their terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditor’s rights generally and by application of general principles of equity. Except as set forth in

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Section 4.9(b) of the Disclosure Schedule, neither the Company nor any of its Subsidiaries nor, to the knowledge of the Company, any other party to the Material Contracts is in breach of or default under any obligation thereunder or has given notice of default to any other party thereunder and, to the knowledge of the Company, no condition exists that with notice or lapse of time would constitute a default thereunder. Copies of all such Material Contracts (including all modifications, amendments and supplements thereto and waivers thereunder) have been made available to Buyer or its Representatives.

Section 4.10 Environmental Matters. Except as set forth in Section 4.10 of the Disclosure Schedule:

(a) the Company and its Subsidiaries are, and have at all times been, in compliance in all material respects with all Environmental Laws;

(b) neither the Company nor any of its Subsidiaries has generated, transported, treated, stored, or disposed of any Hazardous Substances at or on the Leased Real Property, except in material compliance with applicable Environmental Laws, and there has been no Release of any Hazardous Substances by any Person at or on the Leased Real Property that requires reporting or remediation by such Person pursuant to any applicable Environmental Law;

(c) except for those matters that are no longer pending on the date of this Agreement, neither the Company nor any of its Subsidiaries has (i) received written notice under the citizen suit provisions of any Environmental Law; (ii) received any written request for information, notice, demand letter, administrative inquiry or written complaint or claim from any Governmental Entity under any Environmental Law; (iii) been subject to or, to the Company's knowledge, threatened with any governmental or citizen enforcement action with respect to any Environmental Law; or (iv) received written notice of any unsatisfied liability under any Environmental Law;

(d) each of the Company and its Subsidiaries holds all material licenses, permits and other governmental authorizations required under all Environmental Laws applicable to the conduct of the Company's and its Subsidiaries' business as currently conducted at the Leased Real Property, and neither the Company nor any of its Subsidiaries have been advised in writing by any Governmental Entity of any pending or threatened termination, revocation or material and adverse change in any such permit, license or other governmental authorization, nor will any such permit or license be terminated or impaired or become terminable, in whole or in part, as a result of the transactions contemplated by this Agreement; and

(e) the Company has provided to Buyer true and correct copies of all material environmental studies, audits, reviews, reports and assessments, if any, conducted by or on behalf of or in possession, custody or control of the Company or any of its Subsidiaries bearing on liabilities under Environmental Laws relating to the past or current operations or facilities of the Company or any of its Subsidiaries.

Section 4.11 Litigation. Except as set forth in Section 4.11 of the Disclosure Schedule, (i) there are no actions, suits, investigations, proceedings, claims or disputes ("*Legal*

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Proceedings") pending or threatened in writing by or before any court or other Governmental Entity against the Company or any of its Subsidiaries, or to the knowledge of the Company, the Securityholders, directors, officers, agents or employees of the Company or any of its Subsidiaries (in their capacities as such, as opposed to their individual capacities) and (ii) no injunction, writ, temporary restraining order, decree or any order of any nature has been issued by any court or other Governmental Entity against the Company or any of its Subsidiaries, or seeking or purporting to enjoin or restrain the execution, delivery and performance by the Company of this Agreement or the consummation by the Company of the transactions contemplated hereby.

Section 4.12 Compliance with Laws; Licenses and Permits. Except as set forth in Section 4.12 of the Disclosure Schedule, each of the Company and its Subsidiaries is, and at all times has been, in compliance in all material respects with all Laws applicable to the Company, any of its Subsidiaries or their respective businesses. Each of the Company and its Subsidiaries holds all material federal, state, local and foreign governmental licenses, approvals, authorizations, licenses, registrations and permits that are necessary to own, lease and operate their assets and conduct their respective businesses as presently being conducted (collectively, the "*Governmental Permits*"). Except as set forth in Section 4.12 of the Disclosure Schedule and except for breaches, violations, revocations, non-renewals and failures to be in full force and effect that would not be material, (i) such licenses and permits are in full force and effect, (ii) the Company and its Subsidiaries have complied with all terms of each Governmental Permit held by them, (iii) no proceeding is pending or, to the knowledge of the Company, threatened, to revoke or limit any thereof, and (iv) the consummation of the Merger and the transactions contemplated by this Agreement will not result in the non-renewal, revocation or termination of any such license or permit.

Section 4.13 Regulatory.

(a) The Company's product candidates for human use or anticipated to be for human use (the "*Product Candidates*") are being, and at all times have been, developed, tested, labelled, manufactured, stored, imported, exported and distributed, as applicable, in compliance in all material respects with the FDCA and applicable implementing regulations issued by the FDA, the EMA and any other applicable Governmental Entities, including, as applicable, those requirements relating to the FDA's current good manufacturing practices, good laboratory practices, good clinical practices, investigational use, pre-market approval and applications to market a new pharmaceutical product, except as disclosed on Section 4.13(a) of the Disclosure Schedule. The Company has not received written notice of and, to the Company's knowledge, the Company has not received notice of, any pending or, to the Company's knowledge, threatened claim, suit, proceeding, hearing, enforcement, audit, investigation, arbitration or other action from the FDA alleging that any operation or activity of the Company is in violation of the FDCA or the respective counterparts thereof promulgated by applicable Governmental Entities outside the United States.

(b) The Company has made available to Buyer as of the date of this Agreement a complete and correct copy of all material documents and applications submitted by

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or on behalf of the Company to the FDA or EMA and all material correspondence to or from the FDA or EMA by or on behalf of the Company with respect to the Product Candidates (any such document, application, supplement or amendment, a "*Regulatory Submission*"), all material contact reports or similar reports documenting meetings, phone calls or other communications by or on behalf of the Company with the FDA or EMA, studies, communications, memorandum and any other material written information (internal or external) required to be prepared in support of or any such material submitted in connection with each such Regulatory Submission. All Regulatory Submissions (and any supporting documentation thereto) and any other written information required to be prepared in support of or any such material submitted in connection with each such Regulatory Submission, any and all requests for authorizations, approvals, certificates, waivers, certifications, clearances, notifications, licenses or permits of the FDA, EMA or any other comparable non-U.S. Governmental Entity relating to the Company, the business currently conducted by the Company and the Company's products, when submitted to the FDA or any other comparable non-U.S. Governmental Entity, including institutional review boards, independent ethics committees, or similar bodies, were true and correct in all material respects as of the date of submission or were later amended to be true and correct in all material respects.

(c) To the Company's knowledge and except as disclosed on Section 4.13(c) of the Disclosure Schedule, all preclinical studies and tests conducted by or on behalf of the Company related to the Product for Indications the Company is currently evaluating have been, and if still pending are being, conducted, to the extent applicable, in material compliance with research protocols and good laboratory practices (except as noted in the relevant study or test reports), and all applicable Law. Except as disclosed on Section 4.13(c) to the Disclosure Schedule, no preclinical study or test conducted by or on behalf of the Company of the Product used to support or filed with the IND has been terminated or suspended prior to completion, and none of the FDA, EMA or any other applicable Governmental Entity that has or has had jurisdiction over a preclinical study or test conducted by or on behalf of the Company has commenced, or, to the Company's knowledge, threatened to initiate, any action to terminate or suspend or refuse to commence, any proposed or ongoing preclinical study or test conducted or proposed to be conducted by or on behalf of the Company.

(d) The Company has not received any notice that the FDA, EMA or any other Governmental Entity, any relevant institutional review board, independent ethics committee or any other similar body has initiated, or threatened in writing to initiate, any action to suspend any Clinical Trial conducted by or on behalf of the Company, suspend or terminate any "Investigational New Drug" application sponsored by the Company or otherwise restrict or delay the preclinical or nonclinical research on or clinical study, in each case of any of the Product Candidates, or to recall, suspend or otherwise restrict the manufacture of any of the Product Candidates, or that any relevant institutional review board or independent ethics committee has refused to approve any Clinical Trial conducted or proposed to be conducted by or on behalf of the Company or any substantial amendment to a protocol, any Clinical Trial conducted or proposed to be conducted by or on behalf of the Company, in each case with respect to any of the Product Candidates.

(e) The Company is not subject to any investigation that is pending and of which the Company has been notified in writing or, to the Company's knowledge, which has been threatened, in each case by (i) the FDA or (ii) the Department of Health and Human Services Office of Inspector General or Department of Justice pursuant to the Federal Anti-Kickback Statute (42 U.S.C. §1320a-7b(b)) or the Federal False Claims Act (31 U.S.C. §3729). The Company has not submitted any claim for payment to any government healthcare program in connection with any referrals related to any of the Product Candidates that violated in any material respect any applicable self-referral Law. The Company has not submitted any claim for payment to any government healthcare program related to any of the Product Candidates in material violation of any laws relating to false claims or fraud, including the Federal False Claim Act (31 U.S.C.§ 3729), or any applicable state false claim or fraud Law.

(f) To the knowledge of the Company, all manufacturing operations conducted by or for the benefit of the Company with respect to the Product Candidates have been and are being conducted in material compliance with all applicable Laws, including, to the extent applicable, the provisions of the FDA's current good manufacturing practice regulations, and the respective counterparts thereof promulgated by the EMA and other Governmental Entities in countries outside the United States.

(g) Except as disclosed on Section 4.13(g) to the Disclosure Schedule, the Company has not marketed, advertised, distributed for sale, sold, or commercialized any product and is not currently marketing, distributing for sale, selling, or otherwise commercializing any product.

Section 4.14 Intellectual Property.

(a) Each of the Company and its Subsidiaries owns all Company Owned Intellectual Property, or, to the knowledge of the Company, has validly licensed, or has the right to use, in the manner currently used by the Company, all Company Intellectual Property free and clear of all Liens (other than Permitted Liens). The foregoing is not, and shall not be construed as, a representation or warranty regarding non-infringement, misappropriation or other violation by the Company or any of its Subsidiaries of the Intellectual Property of other Persons.

(b) Section 4.14(b) of the Disclosure Schedule contains a correct, current, and complete list of all domestic and foreign Patents, Patent Applications, registered Trademarks and registered Copyrights and applications and registrations thereof, domain names and any other registrations of or applications to register Intellectual Property owned by or registered in the name of the Company or any of its Subsidiaries ("*Company Registered IP*").

(c) All the Company Registered IP, as registered, filed, issued or applied for, have been registered in, filed in or (except with respect to applications) issued by, the official governmental registrars and/or issuers (or officially recognized issuers) of such items of Intellectual Property, in the various jurisdictions (national, state, provincial, prefectural, local and other) indicated on Section 4.14(b) of the Disclosure Schedule, and except as set forth in such schedule, each such registration, filing and/or issuance (i) has not been abandoned or canceled, (ii) remains in full force and effect, and (iii) is not currently subject to any re-examination,

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reissue, interference, opposition or cancellation proceeding (nor, to the knowledge of the Company, have any been threatened). The Company or one or more of its Subsidiaries have the exclusive right to file, prosecute and maintain all Patent Applications and registrations with respect to the Company Registered IP as owned by the Company or any of its Subsidiaries. Each item of the Company Registered IP is subsisting, and each item of the Company Registered IP other than any application is, to the knowledge of the Company, valid and enforceable. None of the Company Owned Intellectual Property has ever been found invalid or unenforceable in any administrative, arbitration, judicial or other proceeding. Neither the Company nor any of its Subsidiaries has received any written notice claiming or asserting that any Company Owned Intellectual Property may be invalid or unenforceable.

(d) To the knowledge of the Company, the conduct of the Company's and each of its Subsidiaries' business as formerly conducted has not infringed, misappropriated or otherwise violated, and as currently conducted does not and would not, if the Product (as it exists as of the date of this Agreement) were sold as of the date of this Agreement, infringe, misappropriate or otherwise violate the valid Intellectual Property of any Person. For purposes of the preceding sentence, (a) the Company's and its Subsidiaries' "business" shall be limited to the research and development of the Product for the treatment of the Indications set forth in Section 4.14(d) of the Disclosure Schedule and for no other Indication or use and (b) any "sale" of the Product shall be limited to a sale of the Product for the treatment of the Indications set forth in Section 4.14(d) of the Disclosure Schedule and for no other Indication or use. To the knowledge of the Company, none of the Company Owned Intellectual Property is being infringed upon by any third party. There are no Legal Proceedings settled, pending or, to the knowledge of the Company, threatened (including in the form of offers to obtain a license) (i) alleging any infringement, misappropriation, or other violation by the Company of the Intellectual Property of any Person; (ii) challenging the validity, enforceability, registrability, patentability, or ownership of any Company Owned Intellectual Property (other than rejections, objections or other similar challenges in any office actions made in the ordinary course of prosecution of Company Registered IP); or (iii) by the Company or any other Person alleging any infringement, misappropriation or violation by any Person of the Company Owned Intellectual Property. The Company is not subject to any outstanding or prospective order, decree or ruling issued by a court or other Governmental Entity that does or could reasonably be expected to restrict or impair the use of any Company Owned Intellectual Property.

(e) All Intellectual Property that was created by employees or officers of the Company or any of its Subsidiaries within the scope of their employment is owned by the Company or its applicable Subsidiary, either by operation of law or pursuant to a written assignment agreement. All current and former consultants of the Company or its Subsidiaries who have, in connection with their performance of consultancy services for the Company or its Subsidiaries, conceived of or reduced to practice any patentable invention that is related to the development, manufacture, use or sale of the Product (as it exists as of the date of this Agreement), has assigned ownership of any of their interest in such invention to the Company or its applicable Subsidiary pursuant to a written agreement, subject to applicable institutional policies with respect to individuals employed by academic or research institutions. With respect to Company Owned Intellectual Property, other than as set forth in Section 4.14(e) of the

Disclosure Schedule, to the knowledge of the Company, no employee, officer, consultant or other Person (other than clinical sites or other Persons providing services with respect to or participating in the conduct of a clinical trial in accordance with the applicable protocol) has used any facilities or received any remuneration from any academic or research institution or Governmental Entity in connection with such Person's services to the Company or any of its Subsidiaries.

(f) The Company and each of its Subsidiaries have taken commercially reasonable steps to maintain the Company Registered IP and to protect the secrecy and confidentiality of trade secrets (as such term is defined in the Uniform Trade Secrets Act, "*Trade Secrets*") owned by the Company or any of its Subsidiaries. To the knowledge of the Company, no material Trade Secret owned by the Company or any of its Subsidiaries has been divulged by the Company or its Subsidiaries or authorized by the Company or its Subsidiaries to be divulged to any Person other than (i) to the Company or one of its Subsidiaries or any person to whom the Company or its Subsidiaries has granted the right to use such information under a non-disclosure agreement, confidentiality agreement or other agreement that imposes a confidentiality obligation on the recipient, or (ii) to support any new Patent Application.

(g) The computer hardware, servers, networks, platforms, peripherals, data communication lines, and other information technology equipment and related systems that are owned or used by the Company or any of its Subsidiaries ("*Company Systems*") are reasonably sufficient for the current needs of the Company's and its Subsidiaries' respective businesses. To the knowledge of the Company, there has been no unauthorized access, use, intrusion, or breach of security, or failure, breakdown, performance reduction, or other adverse event affecting any Company Systems, that has caused or could reasonably be expected to cause any material liability to the Company or its Subsidiaries. The Company has taken reasonable actions, consistent with reasonable practices of clinical-stage biopharmaceutical companies of similar size and scope, to protect the integrity and security of the Company Systems and the data and other information stored or processed thereon. The Company maintains commercially reasonable backup procedures and processes.

(h) In reviewing the representations and warranties in this Section 4.14 and assisting in preparation of Section 4.14 to the Disclosure Schedule, Jean-Paul Kress, Laurence Blumberg and Richard Blumberg consulted with the Company's outside intellectual property counsel.

Section 4.15 Tax Matters. Except as set forth in Section 4.15 of the Disclosure Schedule:

(a) The Company and each of its Subsidiaries has timely filed (taking into account applicable and valid extensions of time within which to file) all Tax Returns required to be filed by it, and paid all Taxes due and payable by it, whether or not shown or required to be shown on any such Tax Return. All such Tax Returns are true, correct and complete in all material respects. The Company and each of its Subsidiaries has made adequate provision on the Company Financial Statements for all accrued Taxes not due as of the date of the Most Recent Balance Sheet Date (excluding accruals and reserves for deferred Taxes established to reflect

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timing differences between book and Tax income). Since the Most Recent Balance Sheet Date, the Company and each of its Subsidiaries has incurred Taxes only in the ordinary course of Business other than with respect to any employer payroll Taxes arising as a result of the transactions pursuant to this Agreement (which employer payroll Taxes shall constitute Transaction Expenses). Since the Most Recent Balance Sheet Date, none of the Company or any of its Subsidiaries has made, revoked or changed any material election in respect of Taxes, adopted or changed any material accounting method or period in respect of Taxes, settled or compromised any audit, suit, proceeding, investigation, claim or other administrative proceeding or court proceeding relating to Taxes or Tax Returns (each, a "*Tax Proceeding*"), entered into any closing agreement or settlement with respect to Taxes, surrendered any right to claim a refund of Taxes, or filed any amended Tax Return.

(b) Buyer has received, or the Company has made available to Buyer, complete copies of (i) all income and other material Tax Returns of, or including, the Company or any of its Subsidiaries for Tax periods ending after December 31, 2013 and (ii) any Tax audit report or other similar correspondence relating to any Tax Proceedings issued to the Company or any of its Subsidiaries by a Governmental Entity.

(c) The Company and each of its Subsidiaries has withheld and timely paid over to the appropriate Governmental Entities all Taxes required to have been withheld and paid over by it, and has complied in all respects with the rules and regulations relating to the withholding or remittance of Taxes. The Company and each of its Subsidiaries has timely collected all sales, use, goods and services, harmonized sales, value added and similar Taxes required to be collected by it, and the Company and each of its Subsidiaries has timely remitted all such Taxes to the appropriate Governmental Entities.

(d) None of the Company or any of its Subsidiaries has requested any extension of time within which to file any Tax Return, which Tax Return has not since been filed, other than extensions for income Tax Returns in the ordinary course of business. There are no waivers, extensions or comparable consents that have been given by the Company or any of its Subsidiaries regarding the application of any statute of limitations with respect to the assessment or collection of, or any other claim related to, any Taxes or Tax Returns of the Company or any such Subsidiary, including with respect to any claim for a Tax refund or abatement, which waivers, extensions or comparable consents are still in effect. There are no Tax Proceedings involving the Company or any of its Subsidiaries that are currently pending or, to the knowledge of the Company, threatened, and none of the Company or any of its Subsidiaries has received a written notice of any Tax Proceedings. There are no Liens on any assets of the Company or any of its Subsidiaries with respect to Taxes, other than Permitted Liens. No claim, which has not been resolved, has been made by any Governmental Entity in a jurisdiction where the Company or any of its Subsidiaries has not filed a Tax Return, that the Company or applicable Subsidiary is or may be subject to Tax by such jurisdiction.

(e) None of the Company or any of its Subsidiaries (i) is or has ever been a member of any consolidated, combined, affiliated or unitary group of corporations for any Tax purposes (other than a group the common parent of which was the Company) or (ii) has any

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current or potential liability for Taxes of any Person arising from the application of Treasury Regulation Section 1.1502-6 or any analogous provision of state, local or foreign law or as a transferee or successor by Contract or otherwise. Neither the Company nor any of its Subsidiaries is a party to any Tax sharing, Tax allocation, Tax indemnity or any similar agreements, arrangements, or practices (including any advance pricing agreement, closing agreement or other similar written agreement relating to Taxes with any Governmental Entity but excluding customary commercial contracts the primary purpose of which is unrelated to Taxes) that remains in effect.

(f) None of the Company or any of its Subsidiaries has been either a "distributing corporation" or a "controlled corporation" in a distribution (i) in which the parties to such distribution purported or intended the distribution as one to which Section 355 or Section 361 of the Code is applicable occurring during the last five years, or (ii) which could otherwise constitute part of a "plan" or "series of related transactions" (within the meaning of Section 355(e) of the Code) in conjunction with the transactions contemplated by this Agreement.

(g) No closing agreement pursuant to Section 7121 of the Code (or any similar provision of state, local or foreign law) has been entered into by or with respect to the Company or any of its Subsidiaries.

(h) None of the Company or any of its Subsidiaries has been a United States real property holding corporation within the meaning of Section 897(c)(2) of the Code during the five-year period ending on the Closing Date.

(i) None of the Company or any of its Subsidiaries has granted to any Person any power of attorney that is currently in force with respect to any Tax matter.

(j) None of the Company or any of its Subsidiaries has been a party to a "listed transaction," as such term is defined in Treasury Regulations Section 1.6011-4(b)(2).

(k) None of the Company or any of its Subsidiaries has engaged or participated in any transaction that has resulted in a disclosure obligation of a "reportable transaction" under Section 6011 of the Code and the Treasury Regulations thereunder or any similar obligation under any predecessor or successor Tax Law or comparable state, local or foreign Tax Law.

(l) None of the Company or any of its Subsidiaries, as a result of the execution and delivery of this Agreement or the consummation of the transactions contemplated by this Agreement, has made any payment, is obligated to make any payment, or is a party to any agreement that could obligate Buyer, the Surviving Company, the Company or any of its Subsidiaries to make a payment that could be treated as an "excess parachute payment" under Section 280G of the Code (without regard to Sections 280G(b)(4) and 280G(b)(5) of the Code).

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(m) None of the Company or any of its Subsidiaries owns any interest in an entity, or is a party to any contractual arrangement or joint venture or other arrangement, that is a partnership for federal income Tax purposes.

(n) None of the Company nor any of its Subsidiaries is, nor ever has been, a party to a transaction or Contract that is in conflict with the Tax rules on transfer pricing in any relevant jurisdiction.

(o) The Company and each of its Subsidiaries has maintained, and made available to Buyer, any material documentation (including any applicable transfer pricing studies) required in connection with any related party transactions in accordance with Sections 482 and 6662 of the Code and the Treasury Regulations promulgated thereunder and any comparable provision of any other Tax Law.

(p) None of the Company or any of its Subsidiaries has participated in an international boycott, as defined in Section 999 of the Code.

(q) None of the Company or any of its Subsidiaries owns any interest in any Person that is treated as a "passive foreign investment company" within the meaning of Section 1297(a) of the Code.

(r) None of the Company or any of its Subsidiaries (i) is classified for federal income Tax purposes as a partnership or disregarded entity, (ii) has ever made an election under Treasury Regulation Section 301.7701-3(c) to be classified as a partnership or disregarded entity for federal income tax purposes, or (iii) has ever made a similar election under any comparable provision of any Tax Law. None of the Company or any of its Subsidiaries has ever (i) made an election under Section 1362 of the Code to be treated as an S corporation for federal income tax purposes or (ii) made a similar election under any comparable provision of any Tax Law. None of the Company or any of its Subsidiaries has ever been a "personal holding company" within the meaning of Section 542 of the Code.

(s) None of the Company or any of its Subsidiaries is a party to any gain recognition agreement under Section 367 of the Code. None of the Company nor any of its Subsidiaries has incurred (or been allocated) an "overall foreign loss" as defined in Section 904(f)(2) of the Code that has not been previously recaptured in full as provided in Sections 904(f)(1) and/or 904(f)(3) of the Code.

(t) Neither the Company or any of its Subsidiaries will be required to include any item of income in, or exclude any Tax credit or item of deduction from, the calculation of its Taxable income or Tax liabilities for any Taxable period (or any portion thereof) ending after the Closing Date, including as a result of: (i) any change in, or improper use of, any method of accounting of the Company or any of its Subsidiaries for a Pre-Closing Tax Period; (ii) any deferred intercompany gain or any excess loss account described in Treasury Regulations under Section 1502 of the Code (or any corresponding or similar provision of state, local or foreign Tax Law) with respect to either the Company or any of its Subsidiaries; (iii) any "closing agreement" as described in Section 7121 of the Code (or any corresponding or similar provision of state,

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local or foreign Tax Law) executed with respect to the Company or any of its Subsidiaries on or prior to the Closing; (iv) any installment sale or other open transaction disposition made by the Company or any of its Subsidiaries on or prior to the Closing Date; (v) any prepaid amount received by the Company or any of its Subsidiaries on or prior to the Closing Date; or (vi) an election made pursuant to Section 108(i) of the Code prior to the Closing.

(u) A timely election under Section 83(b) of the Code was made for each share of Restricted Stock granted in connection with the performance of services provided to the Company and no payroll Tax withholding shall be required with respect to any amount paid pursuant to this Agreement with respect to any share of Restricted Stock.

(v) With respect to Tax matters, there are no outstanding rulings of, or requests for rulings by, any Governmental Entity addressed to the Company or any of its Subsidiaries that are, or if issued would be, binding on the Company or any of its Subsidiaries, nor to the knowledge of the Company has any shareholder of the Company or any of its Subsidiaries or anyone acting on the Company or any of its Subsidiaries' behalf requested or received a ruling from any Governmental Entity relating to the Company or any of its Subsidiaries.

(w) None of the Company or any of its Subsidiaries has been, and or will be, be required to pay Tax on any untaxed foreign earnings pursuant to Section 965 of the Code.

(x) Section 4.15(x) of the Disclosure Schedule correctly sets forth the U.S. federal income Tax entity classification (partnership, corporation, or disregarded entity) of the Company and each of its Subsidiaries.

(y) There are no audits, examinations, investigations or other proceedings pending or, to the Company's knowledge, threatened in respect of any Taxes or Tax matters of the Company or any of its Subsidiaries.

The Company and its Subsidiaries make no representation or warranty regarding the ability of Buyer or any of its Affiliates (including the Surviving Company) to utilize any net operating losses, capital losses, Tax credits or other similar Tax asset or attribute (each a "*Tax Attribute*") of the Company and its Subsidiaries for any Tax Period beginning after the Closing Date, including with respect to any limitation thereon or the amount or value of any such Tax Attribute in any Tax Period beginning after the Closing Date.

Section 4.16 Labor Relations; Employees.

(a) Except as set forth in Section 4.16(a) of the Disclosure Schedule: (i) the Company and each Subsidiary is in compliance in all material respects with all applicable Laws respecting employment and employment practices, including all Laws relating to labor relations, equal employment opportunities, fair employment practices, employment discrimination, harassment, retaliation, reasonable accommodation, disability rights or benefits, immigration, wages, hours, overtime compensation, child labor, hiring, promotion and termination of employees, working conditions, meal and break periods, privacy, health and safety, workers'

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compensation, leaves of absence, paid sick leave and unemployment insurance, (ii) there are no Legal Proceedings against the Company or any of its Subsidiary pending, or to the knowledge of the Company, threatened to be brought or filed, by or with any Governmental Entity or arbitrator in connection with the employment of any current or former applicant, employee, consultant or independent contractor of the Company or one of its Subsidiaries, (iii) there is no labor strike, dispute, slowdown, stoppage or lockout pending, affecting or, to the knowledge of the Company, threatened against the Company or any Subsidiary, and (iv) neither the Company nor any Subsidiary is a party to or bound by any collective bargaining or similar agreement.

(b) Section 4.16(b) of the Disclosure Schedule contains a true and complete list of each Plan. For purposes of this Agreement, a "*Plan*" shall mean any pension, benefit, retirement, compensation, employment, consulting, profit-sharing, deferred compensation, incentive, bonus, performance award, phantom equity, stock or stock-based, change in control, retention, severance, vacation, paid time off (PTO), medical, vision, dental, disability, welfare, Code Section 125 cafeteria, fringe-benefit and other similar agreement, plan, policy, program or arrangement (and any amendments thereto), in each case whether or not reduced to writing and whether funded or unfunded, including each "employee benefit plan" within the meaning of Section 3(3) of ERISA, whether or not tax-qualified and whether or not subject to ERISA, which is or has been maintained, sponsored, contributed to, or required to be contributed to by the Company or a Subsidiary for the benefit of any current or former employee, officer, director, retiree, independent contractor or consultant of the Company or a Subsidiary or any spouse or dependent of such individual, and under which the Company or any of its Subsidiaries has or may have any liability, or with respect to which Buyer or any of its Affiliates would reasonably be expected to have any liability, contingent or otherwise.

(c) The Company has made available to Buyer a list of all persons who are employees, independent contractors or consultants of the Company as of the date hereof, including any employee who is on a leave of absence of any nature, paid or unpaid, authorized or unauthorized, and sets forth for each such individual the following: (i) name; (ii) title or position (including whether full-time or part-time); (iii) hire or retention date; (iv) current annual base compensation rate or contract fee; (v) summary of commission, bonus or other incentive-based compensation opportunity, including target bonus for 2018; and (vi) an identification of the types of fringe benefits provided to each such individual as of the date hereof.

(d) The Company has made available to Buyer a true and complete copy of each Plan, all amendments thereto, the most recent IRS determination or opinion letter (if any), and the most recent annual report (if any) filed in connection with such Plan.

(e) Each Plan that is intended to be "qualified" within the meaning of Section 401(a) of the Code has received a favorable determination or opinion letter from the IRS that remains in effect on the date hereof. To the knowledge of the Company, no event has occurred since such favorable determination letter was issued that could reasonably be expected to jeopardize the tax-qualified status of such Plan.

(f) All contributions due with respect to any Plan that is subject to Title I of ERISA have been made as required under ERISA and have been accrued on the Company

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Financial Statements, in accordance with GAAP (except as indicated in the notes thereto). The reserves reflected in the Company Financial Statements for the obligations of the Company under all Plans are adequate in all materials respects and were determined in accordance with GAAP.

(g) No Plan is subject to the provisions of Section 412 of the Code, Part 3 of Subtitle B of Title I of ERISA, or Title IV of ERISA.

(h) No Plan constitutes a "multiemployer plan" (within the meaning of Section 3(37) of ERISA), and, with respect to the Company, neither the Company nor any of its ERISA Affiliates has, in the past five years, contributed to or otherwise had any obligation or liability in connection with any multiemployer plan (within the meaning of Section 3(37) of ERISA).

(i) Except as set forth in Section 4.16(i) of the Disclosure Schedule, the Company has not engaged in a non-exempt "prohibited transaction" with respect to any Plan (within the meaning of Section 4975 of the Code or Section 406 of ERISA).

(j) Each Plan has been operated in accordance with its terms in all material respects, and complies in form and operation in all material respects with applicable Laws.

(k) Other than routine claims for benefits, there are no actions, claims, lawsuits or arbitrations pending or, to the knowledge of the Company, threatened with respect to any Plan.

(l) The requirements of the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, and the rules and regulations promulgated thereunder ("*COBRA*") have been met in all material respects with respect to each Plan subject to COBRA.

(m) Except as set forth in Section 4.16(m) of the Disclosure Schedule, the Company does not maintain, contribute to, or have an obligation to contribute to any plan or other arrangement (whether or not a Plan) providing health or life insurance or other welfare-type benefits for current or future retired or terminated directors, officers or employees (or their beneficiaries) other than in accordance with COBRA.

(n) Each Plan can be amended, terminated or otherwise discontinued after the Closing in accordance with its terms, without material liabilities to Buyer, the Company or any of their Affiliates other than ordinary administrative expenses typically incurred in a termination event.

(o) Except as set forth in Section 4.16(o) of the Disclosure Schedule, each individual who is classified by the Company or a Subsidiary as an independent contractor has been properly classified for purposes of participation and benefit accrual under each Plan.

(p) Except as set forth in Section 4.16(p)of the Disclosure Schedule, neither the execution of this Agreement nor any of the transactions contemplated by this Agreement will

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(either alone or upon the occurrence of any additional or subsequent events): (i) entitle any current or former director, officer, employee, independent contractor or consultant of the Company or any Subsidiary to severance pay or any other payment; (ii) accelerate the time of payment, funding or vesting, or increase the amount of compensation (including stock-based compensation) due to any such individual; (iii) limit or restrict the right of the Company to merge, amend or terminate any Plan; or (iv) increase the amount payable under or result in any other material obligation pursuant to any Plan.

Section 4.17 Interested Party Transactions. Except as set forth on Section 4.17 of the Disclosure Schedule, no Interested Party has or has had, directly or indirectly, a five percent (5%) or greater ownership interest in, or is a director, officer of employee of, any entity which is a party to a Material Contract, excluding Material Contracts that are (a) employment agreements, (b) agreements between the Company and its stockholders, or (c) on arm's length terms and entered into in the ordinary course of business. Except as set forth on Section 4.17 of the Disclosure Schedule, there is no indebtedness owed to the Company or any of its Subsidiaries by any Securityholder, director or officer of the Company or any of its Subsidiaries, other than advances of travel or other business expenses in the ordinary course of business consistent with past practice.

Section 4.18 Brokers. No agent, broker, investment banker, person or firm acting on behalf of the Company or any of its Subsidiaries or under the authority of the Company or any of its Subsidiaries is or will be entitled to any broker's or finder's fee or any other commission or similar fee directly or indirectly from any of the parties hereto in connection with any of the transactions contemplated hereby.

Section 4.19 Insurance. Section 4.19 of the Disclosure Schedule contains a list of all insurance policies maintained with respect to the business of the Company and its Subsidiaries, all of which are in full force and effect in accordance with their terms and shall remain in full force and effect following the Closing. Except as set forth on Section 4.19 of the Disclosure Schedule, neither the Company nor any of its Subsidiaries is in material default with respect to its obligations under any insurance policy maintained by them. Neither the Company nor any of its Subsidiaries has received written notice of termination, cancellation or non-renewal of any such insurance policies from any of its insurance brokers or carriers. The Company has complied in all material respects with each such insurance policy and all premiums due on such insurance policies have either been paid or, if due and payable prior to the Closing, will be paid prior to the Closing in accordance with the payment terms of each such insurance policy. Neither the Company nor any of its Subsidiaries has been denied insurance or suffered the cancellation of any insurance in the three years preceding the date of this Agreement. There is no material claim pending by the Company or any of its Subsidiaries under any insurance policy listed on Section 4.19 of the Disclosure Schedule as to which coverage has been denied or disputed by the underwriters of such policy. The insurance policies listed on Section 4.19 of the Disclosure Schedule are sufficient for compliance in all material respects with all applicable Laws and Contracts to which the Company or any of its Subsidiaries is a party or by which it is bound.

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Section 4.20 Powers of Attorney. There are no powers of attorney executed by or on behalf of the Company or any of its Subsidiaries and there is no other authority (express or implied) outstanding by which any Person, other than by virtue of such Person's current position as an officer or employee of the Company, may enter into any Contract or commitment on behalf of the Company or any of its Subsidiaries.

Section 4.21 Government Restrictions on Business Activities. There is no order, writ, judgment, injunction, decree or stipulation of any Governmental Entity binding upon the Company or any of its Subsidiaries that would reasonably be expected to have the effect of prohibiting or materially impairing any business practice of the Company or any of its Subsidiaries (including the ability of the Company and its Subsidiaries to develop, manufacture, market, license, use, distribute, sell and exploit the Products and Services), acquisition of property by the Company or its Subsidiaries, or the conduct of business by the Company and its Subsidiaries as presently conducted.

Section 4.22 Privacy and Security.

(a) Section 4.22(a) of the Disclosure Schedule sets forth a complete list of each of the Company's and each of its Subsidiaries' written policies and procedures relating to Privacy Matters currently in effect (collectively, the "*Company Privacy Policies*"). The Company has delivered or made available to the Buyer true, correct and complete copies of all Company Privacy Policies.

(b) The Company and each of its Subsidiaries has complied in all material respects with (i) all Laws relating to Privacy Matters, including HIPAA, the U.S. Health Information Technology for Economic and Clinical Health Act (Pub. L. No. 111-5) (the HITECH Act), the FTC Red Flags Rule (16 CFR Part 681), and state privacy and security laws and regulations, in each case, to the extent applicable to the business of the Company and each of its Subsidiaries as currently conducted, (ii) any order, writ, judgment, injunction, decree, stipulation, determination or award of any Governmental Entity relating to Privacy Matters, to which the Company or any of its Subsidiaries is subject, and (iii) all in-effect, material requirements of all Business Associate Agreements (as defined under HIPAA) entered into by the Company or any of its Subsidiaries (collectively, the "*Privacy Commitments*"). The Company and each of its Subsidiaries has required and does require all third parties to which it provides Personally Identifiable Information or access thereto to use commercially reasonable efforts to maintain the privacy and security of such Personally Identifiable Information, including by contractually obligating such third parties to use commercially reasonable efforts to protect such Personally Identifiable Information from unauthorized use, access by or disclosure to any unauthorized Persons.

(c) Neither the Company nor any of its Subsidiaries has received any written notices from any Person regarding the Company's or any of its Subsidiaries' failure to comply with any Privacy Commitments, including any notice from any Covered Entity (as defined under HIPAA) for which the Company or any of its Subsidiaries is a Business Associate (as defined under HIPAA), or from the Department of Health and Human Services or any other Governmental Entity, regarding its failure to comply in any material respect with HIPAA, in each

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case except as would not be material to the Company and its Subsidiaries, taken as a whole. Neither the Company nor any of its Subsidiaries has experienced, to the Company's knowledge, any material security breach in which Personally Identifiable Information has been or may have been stolen or intentionally and improperly accessed, and neither the Company nor any of its Subsidiaries has received any written notices or complaints from any Person regarding any such incident.

(d) The Company and each of its Subsidiaries have used commercially reasonable efforts to maintain systems and procedures reasonably intended to respond to complaints received alleging violation of any material Privacy Commitments, including as to any Person's rights in Personally Identifiable Information in the possession or under the control of the Company and any of its Subsidiaries, and the Company and each of its Subsidiaries have complied in all material respects with such systems and procedures.

(e) No Legal Proceeding is pending or settled or, to the knowledge of the Company, threatened against the Company or any of its Subsidiaries by any Person alleging a material violation of any Privacy Commitment, nor, to the knowledge of the Company, is any investigation of any such violation being conducted by any Governmental Entity.

(f) The Company is not, and has never been, a Covered Entity (as defined under HIPAA).

Section 4.23 Disclaimer of Other Representations and Warranties. Except as otherwise expressly set forth in this Article IV, the Company expressly disclaims any representations or warranties of any kind or nature, express or implied, including any representations or warranties as to the accuracy and completeness of any information regarding the Company or its Subsidiaries, their respective businesses and affairs or the transactions contemplated hereby. Without limiting the generality of the foregoing, neither the Company nor its Subsidiaries nor any representative of the Company or its Subsidiaries, nor any of the Company's or its Subsidiaries' employees, officers, directors, securityholders, consultants or advisors, has made, and shall not be deemed to have made, any representations or warranties in the materials relating to the business and affairs of the Company or its Subsidiary that have been made available to Buyer or Merger Sub, including due diligence materials, or in any presentation of the business and affairs of the Company or its Subsidiary by the management of the Company or others in connection with the transactions contemplated hereby, and no statement contained in any of such materials or made in any such presentation shall be deemed a representation or warranty hereunder or otherwise or deemed to be relied upon by Buyer or Merger Sub in executing, delivering and performing this Agreement and/or the transactions contemplated hereby. It is understood that any cost estimates, projections or other predictions, any data, any financial information or any memoranda or similar materials made available by the Company, its Subsidiary and their representatives, are not and shall not be deemed to be or be included as representations or warranties of the Company or its Subsidiary, and are not and shall not be deemed to be relied upon by Buyer or Merger Sub in executing, delivering and performing this Agreement and/or the transactions contemplated hereby.

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ARTICLE V

REPRESENTATIONS AND WARRANTIES OF BUYER AND MERGER SUB

Buyer and Merger Sub jointly and severally represent and warrant to the Company as follows:

Section 5.1 Organization; Power and Authority. Each of Buyer and Merger Sub is a corporation duly organized, validly existing and in good standing under the laws of Delaware. Each of Buyer and Merger Sub is duly qualified to do business and is in good standing in each jurisdiction in which such qualification is necessary because of the property owned, leased or operated by it or because of the nature of its business as now being conducted, except for any failure to so qualify or be in good standing that, individually or in the aggregate, would not reasonably be expected to have a Buyer Material Adverse Effect. Merger Sub is a wholly-owned subsidiary of Buyer.

Section 5.2 Authority; Approvals. The execution, delivery and performance of this Agreement by each of Buyer and Merger Sub and the consummation of the transactions contemplated hereby are within their respective corporate powers and have been duly and validly authorized by all necessary corporate action on the part of each of Buyer and Merger Sub (other than the filing of a Certificate of Merger pursuant to the DGCL). This Agreement has been duly executed and delivered by each of Buyer and Merger Sub, and (assuming due authorization, execution and delivery by the other parties hereto) constitutes the valid and binding obligation of each of Buyer and Merger Sub, enforceable against each of them in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditor's rights generally and by the application of general principles of equity.

Section 5.3 Conflicts; Consents. The execution, delivery and performance by each of Buyer and Merger Sub of this Agreement and the consummation of the transactions contemplated hereby does not (i) conflict with or result in a breach of the certificates of incorporation, by-laws or other organizational documents of Buyer or Merger Sub, (ii) conflict with, breach or result in a default (or give rise to any right of termination, cancellation or acceleration) under any agreement or other instrument or obligation to which Buyer or Merger Sub is a party, or by which any such Person or its properties or assets are bound, or (iii) violate any Laws applicable to Buyer or Merger Sub or any such Person's properties or assets, except where the occurrence of any of the foregoing described in clauses (ii) or (iii) above, individually or in the aggregate, would not reasonably be expected to have a Buyer Material Adverse Effect or prevent or materially delay the consummation of the Merger. Except for (A) the filing of a premerger notification and report form under the HSR Act and the expiration or early termination of the applicable waiting period thereunder, (B) any filings as may be required under the DGCL in connection with the Merger, and (C) such consents, approvals, notifications, registrations or filings the failure to obtain which, individually or in the aggregate, would not reasonably be expected to have a Buyer Material Adverse Effect or prevent or materially delay the consummation of the Merger, no consent or approval by, or notification of or registration or filing with, any Governmental Entity is required in connection with the execution, delivery and

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performance by Buyer or Merger Sub of this Agreement or the consummation of the transactions contemplated hereby.

Section 5.4 Brokers. No agent, broker, investment banker, Person or firm acting on behalf of Buyer or Merger Sub or under the authority of Buyer or Merger Sub is or will be entitled to any broker's or finder's fee or any other commission or similar fee directly or indirectly from any of the parties hereto in connection with the Merger or any of the transactions contemplated hereby.

Section 5.5 Litigation. There are no actions, suits, proceedings, claims or disputes pending or, to the knowledge of Buyer or Merger Sub, threatened by or before any court or other Governmental Entity against Buyer or Merger Sub that bring into question the validity of this Agreement or would reasonably be expected to have a Buyer Material Adverse Effect. No injunction, writ, temporary restraining order, decree or any order of any nature has been issued by any court or other Governmental Entity seeking or purporting to enjoin or restrain the execution, delivery and performance by Buyer or Merger Sub of this Agreement or the consummation by Buyer or Merger Sub of the transactions contemplated hereby.

Section 5.6 Financing. At the Effective Time Buyer will have sufficient cash and currently-available funds on hand to enable it to make the payments required by Section 3.6 of this Agreement.

Section 5.7 Disclaimer of Other Representations and Warranties. Except as otherwise expressly set forth in this Article V, each of Buyer and Merger Sub expressly disclaims any representations or warranties of any kind or nature, express or implied, including any representations or warranties as to the accuracy and completeness of any information regarding Buyer and Merger Sub, their respective businesses and affairs or the transactions contemplated hereby. Without limiting the generality of the foregoing, none of Buyer or Merger Sub or any representative of Buyer or Merger Sub, nor any of Buyer's or Merger Sub's employees, officers, directors, securityholders, consultants or advisors, has made, and shall not be deemed to have made, any representations or warranties in the materials relating to the business and affairs of Buyer or Merger Sub that have been made available to the Company or its Subsidiaries, and no statement contained in any of such materials or made in any such presentation shall be deemed a representation or warranty hereunder or otherwise or deemed to be relied upon by the Company or any of its Subsidiaries in executing, delivering and performing this Agreement and/or the transactions contemplated hereby.

ARTICLE VI

CERTAIN COVENANTS

Section 6.1 Conduct of Business. (a) From the date of this Agreement until the earlier to occur of the Closing or the termination of this Agreement pursuant to and in accordance with the terms of Article X hereof, except as set forth in Section 6.1 of the Disclosure Schedule, as required by applicable Law, as permitted or required by this Agreement or otherwise consented to by Buyer in writing (which consent shall not be unreasonably withheld, conditioned or

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delayed), the Company shall operate its business only in the ordinary course of business consistent with past practice. During such period, the Company shall use its commercially reasonable efforts to:

(i) preserve intact the present organization of the Company and its Subsidiaries;

(ii) pay its debts and other obligations when due and payable;

(iii) keep available the services of the present officers and employees of the Company;

(iv) preserve the Company's goodwill and relationships with material customers, suppliers, licensors, licensees, contractors, distributors, lenders and other Persons having significant business dealings with the Company and its Subsidiaries;

(v) maintain the material assets and properties of the Company and its Subsidiaries in good repair, order and condition;

(vi) defend and protect its properties and assets from infringement or usurpation;

(vii) maintain the Company's insurance policies and risk management programs, and in the event of casualty, loss or damage to any material assets of the Company or any of its Subsidiaries, repair or replace such assets in the reasonable determination of the Company with assets of comparable quality, as the case may be;

(viii) not pay or grant any bonuses, whether monetary or otherwise, in respect of its or any of its Subsidiaries' current employees; and

(ix) comply in all material respects with all applicable Laws.

(b) Without limiting the generality of the foregoing, except as set forth in Section 6.1 of the Disclosure Schedule, the Company shall not, without the prior written consent of Buyer (which consent shall not be unreasonably withheld, conditioned or delayed), directly or indirectly take any action (i) that, if taken prior to the date of this Agreement, would be required to be disclosed pursuant to Section 4.7 or (ii) that would reasonably be expected to prevent the satisfaction of any condition to closing set forth in Article VII.

Section 6.2 Access and Information; Confidentiality. From the date of this Agreement until the earlier of (i) the Closing, and (ii) the termination of this Agreement in accordance with Article X, the Company shall allow Buyer and its Representatives to make such reasonable investigation, upon reasonable notice and during normal business hours, under the supervision of the Company's personnel and in such a manner as not to materially interfere with the normal operations of the Company, of the business, operations and properties of the Company or any

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Subsidiary of the Company as is reasonably necessary in connection with the transactions contemplated by this Agreement. Such investigation shall include reasonable access to the respective Representatives of the Company and its Subsidiaries and the properties, books, records and commitments of the Company and its Subsidiaries. The Company shall furnish Buyer and its Representatives with such financial, operating and other data and information maintained by the Company in the ordinary course of business with respect to the Company or any of the transactions contemplated by this Agreement as Buyer shall from time to time reasonably request (for the avoidance of doubt, the Company shall not be required to prepare any additional materials that are not otherwise prepared by the Company absent entering into this Agreement, except as explicitly set forth herein). Notwithstanding the foregoing, no access or information shall be required pursuant to this Section 6.2 to the extent that in the reasonable good faith judgment of the Company, (i) applicable Law requires the Company or its Subsidiaries to restrict or prohibit access to any such properties or information, (ii) the information is subject to confidentiality obligations to a third party or (iii) disclosure of any such information or document would jeopardize attorney-client privilege or the attorney-client work product doctrine; provided, however, that the Company shall, and shall cause each of its Subsidiaries to, use commercially reasonable efforts to negotiate in good faith agreements or arrangements that permit the provision of such information to Buyer without having any such effects. As soon as reasonably practicable following the date hereof, and in any event no later than October 15, 2018, the Company shall provide to Buyer its financial statements for the month ended August 31, 2018. In addition, following September 30, 2018, the Company shall use commercially reasonable efforts to perform a quarter-end closing of its financial results and provide to Buyer its financial statements for the nine months ended September 30, 2018 as soon as reasonably practicable thereafter.

Section 6.3 Required Stockholder Approval; Disclosure Statement.

(a) The Company shall deliver the Written Consent (executed by the Principal Stockholders) to Buyer promptly following the execution and delivery of this Agreement by the parties hereto.

(b) As soon as practicable after the delivery of the Written Consent, but in no event more than ten (10) Business Days after the date hereof, the Company shall prepare and mail a written disclosure statement (the "*Disclosure Statement*"), in a form reasonably acceptable to Buyer, to each of the Stockholders in accordance with Section 228(e) of the DGCL. Buyer and Merger Sub shall provide the Company with such information regarding any of them and any of their Subsidiaries as may be reasonably requested by the Company to be included in the Disclosure Statement.

(c) The Company shall also use commercially reasonable efforts to cause the Joinder Agreement to be executed on or prior to the Closing Date by all Stockholders and Option Holders.

Section 6.4 Best Efforts; Further Assurances.

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(a) Upon the terms and subject to the conditions set forth in this Agreement, each of the parties hereto (other than the Stockholders' Representative) will use its reasonable best efforts to take, or cause to be taken, all actions, and to do, or cause to be done, all things necessary, proper or advisable (including making any requisite filings or giving any requisite notices) under applicable Laws to consummate and make effective the transactions contemplated by this Agreement as expeditiously as practicable and to ensure that the conditions set forth in Article VII are satisfied, insofar as such matters are within the control of any of them, including, without limitation, using reasonable best efforts to obtain, prior to the Closing, all consents of third parties as are necessary for the consummation of the transactions contemplated hereby; *provided*, *however*, that, in connection with obtaining such third party consents, no Contract shall be amended to increase the amount payable by the Company or any of its Subsidiaries thereunder or otherwise to be more burdensome in any material respect to the Company or any of its Subsidiaries, unless, in each case, mutually agreed in writing by the Company and Buyer. Without limiting the generality of the foregoing and subject to Section 6.2, the Company, on the one hand, and Buyer and Merger Sub, on the other hand, shall each furnish to the other such necessary information and reasonable assistance as the other party may reasonably request in connection with the foregoing.

(b) Each Party (other than the Stockholders' Representative) shall use its reasonable best efforts to (i) promptly obtain all authorizations, consents, orders and approvals of all Governmental Entities that may be or become necessary or advisable for its execution and delivery of, and the performance of its obligations pursuant to, this Agreement and the consummation of the transaction contemplated hereby, (ii) cooperate fully with the other Party in promptly seeking to obtain all such authorizations, consents, orders and approvals, and (iii) provide all such other information to any Governmental Entity as such Governmental Entity may request in connection herewith. Each Party (other than the Stockholders' Representative) agrees to file promptly (but in no event later than five Business Days after the date of this Agreement) any premerger notification and report form under the HSR Act and related material required to be filed with the Federal Trade Commission and the Antitrust Division of the United States Department of Justice with respect to the Merger and the other transactions contemplated by this Agreement and to use its reasonable best efforts to obtain an early termination of the applicable waiting period. Each Party (other than the Stockholders' Representative) shall supply as promptly as practicable to the appropriate Governmental Entities any additional information and documentary material that may be requested by them pursuant to the HSR Act. Each Party (other than the Stockholders' Representative) agrees to make as promptly as practicable its respective filings and notifications, if any, under any other merger notification or control Laws of any other applicable jurisdiction, and to supply as promptly as practicable to the appropriate Governmental Entities any additional information and documentary material that may be requested by them pursuant to such merger notification or control Law. Except as required by applicable Law, neither the Company, on the one hand, nor Buyer or Merger Sub, on the other hand, may, without the consent of the other party or parties (which consent shall not be unreasonably withheld), as applicable, (1) cause any such filing or submission applicable to it to be withdrawn or refiled for any reason, including to provide the applicable Governmental Entity with additional time to review any of the transactions contemplated by this Agreement, or (2) consent to any voluntary extension of any statutory deadline or waiting period or to any

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voluntary delay of the consummation of the Merger or the other transactions contemplated by this Agreement at the behest of any Governmental Entity. Buyer shall pay 100% of any amounts due with respect to all fees and all other payments required to be paid to any Governmental Entity in order to obtain any such authorizations, consents, orders or approvals, and 50% of the amount of such fees and payments shall be deemed Transaction Expenses for purposes of this Agreement, so that each of Buyer and the Securityholders bears 50% of such fees and payments in the event of the Closing.

(c) Without limiting the generality of the foregoing, each Party (other than the Stockholders' Representative) shall use reasonable best efforts to take any and all steps necessary or advisable to avoid or eliminate each and every impediment under any antitrust, competition or trade regulation Law that may be asserted by any antitrust or competition Governmental Entity or any other party so as to enable the parties hereto to consummate the Merger and the other transactions contemplated hereby as promptly as practicable, and in any event prior to the Termination Date. Notwithstanding any provision of this Agreement to the contrary, in no event shall Buyer or any of its Affiliates be required to agree to divest, abandon, license, hold separate or take similar action with respect to any assets of the Company, any of the Company's Subsidiaries, Buyer or any Affiliate of Buyer.

(d) Each of Buyer and Merger Sub, on the one hand, and the Company, on the other hand, shall promptly notify the other of any communication it or any of its Affiliates or Representatives receives from any Governmental Entity relating to the matters that are the subject of this Agreement and permit the other to review reasonably in advance any proposed communication by it to any Governmental Entity relating to such matters. Except as required by applicable Law, neither Buyer nor Merger Sub, on the one hand, nor the Company, on the other hand, shall agree to participate in any meeting with any Governmental Entity in respect of any filings, investigation (including any settlement of the investigation), litigation or other inquiry relating to the matters that are the subject of this Agreement unless it consults with the other in advance and, to the extent permitted by such Governmental Entity, gives the other the opportunity to attend and participate at such meeting. Buyer and Merger Sub, on the one hand, and the Company, on the other hand, shall reasonably coordinate and cooperate with each other in exchanging such information and providing such assistance as the other may reasonably request in connection with the foregoing and in seeking early termination of any applicable waiting periods, including under the HSR Act. Buyer and Merger Sub, on the one hand, and the Company, on the other hand, will provide each other with copies of all correspondence, filings or communications between them or any of their respective Affiliates and Representatives, on the one hand, and any Governmental Entity or members of its staff, on the other hand, with respect to this Agreement and the transactions contemplated by this Agreement; *provided*, *however*, that such materials may be redacted (i) to remove references concerning the valuation of the business of the Company and its Subsidiaries, (ii) as necessary to comply with contractual arrangements as of the date hereof, and (iii) as necessary to address reasonable attorney-client or other privilege or confidentiality concerns, to the extent that that such attorney-client or other privilege or confidentiality concerns are not governed by a common interest privilege or doctrine.

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(e) In case at any time after the Effective Time any further action is necessary to carry out the purposes of this Agreement, each of the parties to this Agreement shall take or cause to be taken all such necessary action, including the execution and delivery of such further instruments and documents, as may be reasonably requested by any Party for such purposes or otherwise to consummate the transactions contemplated by this Agreement.

Section 6.5 Public Announcements. Buyer and the Company shall issue an initial joint press release, which shall be mutually agreed upon, with respect to the transactions contemplated by this Agreement (the "*Joint Release*"). Thereafter, the Company and the Buyer will not, and will cause each of their Affiliates and Representatives not to, issue or cause the publication of any press release or other public announcement with respect to this Agreement or the transactions contemplated hereby, without the prior written consent of the other party, which consent shall not be unreasonably withheld or delayed; *provided, however*, that a Party may, without the prior consent of the other parties hereto, issue or cause the publication of any such press release or other public announcement to the extent that such party reasonably determines, after consultation with legal counsel, that such action is required by applicable Law or by the rules of any applicable self-regulatory organization or any stock exchange on which any stock of Buyer (or Affiliate thereof) is listed or traded, in which event (unless prohibited by applicable Laws) such party will use its commercially reasonable efforts to allow the other parties hereto reasonable time to comment on such press release or other public announcement in advance of its issuance or publication, and *provided, further, however*, that following the Closing the Buyer will not need any consent with respect to a press release or other public announcement. Notwithstanding the foregoing, no Securityholder, and no broker or financial advisor to a Securityholder or the Company, will issue or cause the publication of any press release or other public announcement with respect to this Agreement or the transactions contemplated hereby, without the prior written consent of Buyer in its sole discretion, except that, each of Apple Tree Partners IV, L.P. and Partners Innovation Fund LLC may, with the prior written consent of Buyer, which consent shall not be unreasonably withheld or delayed, issue one press release which (i) contains substantially the same information with respect to the transactions contemplated by this Agreement included in the Joint Release, and (ii) is issued no sooner than the later of (x) eight hours after the issuance of the Joint Release, or (y) 4:00 p.m. (Eastern time) on the date of the Joint Release.

Section 6.6 Section 280G. With respect to each employee of the Company or any Subsidiary of the Company who is, or would reasonably be expected to be as of the Closing Date, a "disqualified individual" (as defined in Section 280G(c) of the Code), the Company shall use commercially reasonable efforts to (i) (A) ensure that any payments that would otherwise constitute a "parachute payment" (as defined in Section 280G(b)(2) of the Code) shall be exempt from the definition of "parachute payment" by reason of the exemption provided under Section 280G(b)(5)(A)(ii) of the Code, and (B) take all actions reasonably necessary to so exempt such payments (including obtaining any necessary waivers or consents from such "disqualified individuals") prior to the Closing Date; or (ii) not make any payments that would constitute a "parachute payment" (as defined in Section 280G(b)(2) of the Code). At least five (5) Business Days prior to the delivery to the Stockholders of documents in connection with the stockholder approval contemplated under subsection (i) above, the Company will provide Buyer and its

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counsel with a reasonable opportunity to review and comment on all documents to be delivered to the Stockholders and disqualified individuals in connection with the waivers and vote.

Section 6.7 Expenses. Each Party shall bear its own fees, costs and expenses incurred in the pursuit of the transactions contemplated by this Agreement, including the fees and expenses of its respective counsel, financial advisors and accountants, except as otherwise expressly contemplated herein. All fees, costs and expenses of the Paying Agent incurred in connection with the performance of its duties in respect of this Agreement and the Paying Agent Agreement and all fees, costs and expenses of the Escrow Agent incurred in the performance of its duties in respect of this Agreement and the Escrow Agreement shall be paid by Buyer.

Section 6.8 Tax Matters.

(a) Transfer Taxes. Transfer Taxes arising from the transactions contemplated by this Agreement shall be borne by the Securityholders. "*Transfer Taxes*" means all sales, use, real property transfer, real property gains, transfer, stamp, registration, documentary, recording or similar Taxes, in each case, arising from the transactions contemplated by this Agreement, together with any interest thereon, penalties, fines, costs, fees or additions to Tax. If Buyer or the Surviving Company is required to file any Tax Return related to Transfer Taxes, Buyer or the Surviving Company, as the case may be, shall file such Tax Return and pay any Transfer Taxes and the applicable Securityholders shall reimburse the paying party for its share of Transfer Taxes within ten (10) days of written request.

(b) Tax Returns.

(i) The Company and each of its Subsidiaries shall prepare and timely file, or cause to be prepared and timely filed, all Tax Returns of the Company and its Subsidiaries with respect to any Pre-Closing Tax Period that are required to be filed prior to or on the Closing Date. Such Tax Returns shall be complete and correct in all material respects and shall be prepared in a manner consistent with past practices of the Company and that does not distort taxable income; *provided* that no such Tax Returns that are income Tax Returns or material Tax Returns shall be filed with any Governmental Entity without providing such Tax Return to Buyer for its review and written approval, which approval shall not be unreasonably withheld, conditioned or delayed. The Company and each of its the Subsidiaries shall timely pay all Taxes due and payable in respect of such Tax Returns by each such entity, except for Taxes that are being contested in good faith through appropriate proceedings and for which appropriate reserves have been established on the books of the Company or the applicable Subsidiary, as the case may be. The Company shall promptly notify Buyer of written or, to the knowledge of the Company, unwritten notice of any Tax Proceeding pending against or with respect to the Company or any of its Subsidiaries and will not settle or compromise any such Tax Proceeding without Buyer's prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed.

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(ii) Buyer shall prepare and timely file, or cause to be prepared and timely filed, all Tax Returns of the Company and its Subsidiaries that are filed after the Closing Date. If any such Tax Returns relates to a Pre-Closing Tax Period or a Straddle Period (as defined below), Buyer shall prepare, or caused to be prepared, such Tax Return consistent with the past practices of the Company or any Subsidiary, as applicable, unless otherwise required by applicable Law. If any such Tax Returns relate to a Pre-Closing Tax Period or a Straddle Period, Buyer shall provide the Stockholders' Representative with a draft of such Tax Returns for the Company and its Subsidiaries at least ten (10) Business Days prior to the due date for filing such Tax Returns for the Stockholders' Representative review and approval, such approval not to be unreasonably withheld, conditioned or delayed. Any reasonable out-of-pocket expenses incurred by Buyer or any of its Affiliates in the preparation of any Tax Return described in this Section 6.8(b)(ii) relating to a Pre-Closing Tax Period to the extent that such Tax Return is being filed in the ordinary course after the Closing and does not relate to any breach of a covenant or representation for which Buyer already would be entitled to indemnification under this Agreement shall also be treated as an indemnifiable Loss pursuant to Section 8.1(c). For the avoidance of doubt, any preparation costs for any Tax Return for a Straddle Period being filed in the ordinary course after the Closing shall be borne by Buyer.

(c) Straddle Periods. All Taxes of the Company and its Subsidiaries relating to any Tax period that begins on or before and ends after the Closing Date (such Tax period, a "*Straddle Period*") shall be apportioned to, and be the responsibility of, the Securityholders as follows: (i) real, personal and intangible property taxes ("*Property Taxes*") for the portion of the Straddle Period ending on (and including) the Closing Date shall be equal to the amount of such Property Taxes for the entire Straddle Period multiplied by a fraction, the numerator of which is the number of days during the Straddle Period that are in the portion of the Straddle Period ending on (and including) the Closing Date and the denominator of which is the total number of days in the Straddle Period; and (ii) Taxes (other than Property Taxes) for the portion of the Straddle Period shall be computed as if such taxable period ended as of the close of business on the Closing Date, provided that exemptions, allowances, deductions that are calculated on an annual or other periodic basis (including, but not limited to, depreciation and amortization deductions) shall be allocated between the period ending as of the close of business on the Closing Date and the period after the Closing Date in proportion to the number of days in each such period. For purposes of allocating income or loss to a Tax period (or portion thereof, if a Straddle Period) ending on or before the Closing Date, in the case of any Taxes attributable to the ownership of any equity interest in any partnership or other "flowthrough" entity, the "flowthrough" income or loss attributable to an equity interest in such "flowthrough" entity shall be determined as if a taxable period of such partnership or other "flowthrough" entity ended as of the close of business on the Closing Date.

(d) Tax Sharing Agreements. Any and all Tax sharing, Tax allocation, Tax indemnity or similar agreements, arrangements, or practices (including any advance pricing agreement, closing agreement or other similar written agreement relating to Taxes with any

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Governmental Entity, but excluding customary commercial contracts the primary purpose of which is unrelated to Taxes) to which the Company or any of its Subsidiaries is a party or otherwise subject shall be terminated as of the Closing Date and after the Closing Date none of the Surviving Company, Buyer or any Affiliate of Buyer shall be bound thereby, have any liability thereunder, or be obligated to make any payment thereunder.

(e) Covered Securities. On or before the Closing Date, the Company shall provide Buyer, or at Buyer's request, the Paying Agent or Escrow Agent, the information described under Treasury Regulations Section 1.6045A-1 with respect to the Company securities being acquired pursuant to the Agreement, including (i) whether or not a particular security is a "covered security" under the applicable Treasury Regulations and (ii) if a security is a "covered security", each security holder's date of acquisition of, and cost basis in, the applicable security, and any other information that is required, or reasonably requested, by Buyer or its designee to comply with Buyer or its designee's tax reporting obligations under the Code and Treasury Regulations, including IRS Form 1099-B reporting requirements.

(f) Tax Cooperation. Buyer, the Company, the Surviving Company, the Stockholders, the Option Holders and the Stockholders' Representative, as the case may be, shall reasonably cooperate, and shall cause their respective Affiliates, directors, officers, employees, agents, auditors and other representatives to reasonably cooperate, in preparing and filing all Tax Returns and in resolving all disputes and audits with respect to all taxable periods relating to Taxes, including by maintaining and making available to each other all records reasonably necessary in connection with Taxes and making employees available on a mutually convenient basis to provide additional information or explanation of any material provided hereunder or to testify at proceedings relating to such matters.

(g) Additional Pre-Closing Tax Covenants. On or prior to the Closing Date, neither the Company nor any of its Subsidiaries shall, without the prior written consent of Buyer, which shall not be unreasonably withheld, conditioned or delayed, make, revoke or change any material Tax election, adopt or change any material Tax accounting method or period, file any amended Tax Return, enter into any closing agreement or settlement relating to Taxes, settle any Tax claim or assessment, surrender any right to claim a refund of Taxes, or consent to any extension or waiver of the statute of limitations period applicable to any Tax claim or assessment.

(h) Post-Closing Tax Actions. Buyer and its Affiliates shall not (i) amend any previously filed Tax Return of the Company or any of its Subsidiaries for a Pre-Closing Tax Period, (ii) file Tax Returns for a Pre-Closing Tax Period in a jurisdiction where the Company or any of its Subsidiaries has not historically filed Tax Returns, (iii) initiate discussions or examinations with any Governmental Entity regarding Taxes with respect to any Pre-Closing Tax Period, or (iv) make any voluntary disclosures with respect to Taxes for Pre-Closing Tax Periods, in each case, without the prior written consent of the Stockholders' Representative, which shall not be unreasonably withheld, conditioned or delayed. In addition, neither Buyer nor any of its Affiliates shall make any election under Sections 338 or 336(e) of the Code or any state, local or foreign law equivalent in respect of the transactions contemplated by this Agreement.

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(i) Tax Refunds. Any refunds (or credits for overpayment) of Taxes, including any interest received from a Governmental Entity thereon, attributable to any Pre-Closing Tax Period of the Company or any of its Subsidiaries shall be for the account of the Securityholders to the extent such Taxes were paid by the Company or any of its Subsidiaries, as applicable, prior to the Closing or actually reduced the Merger Consideration payable to the Securityholders under this Agreement or were paid by the Securityholders after the Closing pursuant to the indemnification provisions of this Agreement. Promptly upon any receipt by the Company or any of its Subsidiaries of any such refund (or credit for overpayment), Buyer shall pay over, by wire transfer of immediately available funds, an amount equal to any such refund received (or the amount of any such credit), including any interest received thereon, to the Paying Agent (for further distribution to the Securityholders) pursuant to the terms of this Agreement, with each such Securityholder being entitled to receive its Pro Rata Share of such amounts. Notwithstanding the foregoing, any Tax refunds (or credits for overpayment) payable to the Securityholders that are in the nature of compensation (including, for example, amounts paid to holders of Cancelled Options in respect of their Options or Ungranted Options) shall be processed through the payroll system of the Company, the Surviving Company or any of their Subsidiaries or Affiliates, as applicable, and paid directly to such recipient (less any applicable withholding Taxes). Any amounts payable to the Securityholders pursuant to this Section 6.8(i) shall be reduced by the reasonable incremental third-party costs incurred by Buyer or any of its Affiliates in connection with obtaining such refund or credit.

(j) Transaction Tax Deductions.

(i) With respect to the preparation of income Tax Returns of the Company or its Subsidiaries, Buyer, the Company and its Subsidiaries agree that all Transaction Tax Deductions will be treated as properly allocable to the Pre-Closing Tax Period that ends on the Closing Date to the extent permitted by applicable Tax Law. In connection with the foregoing, the Parties agree that seventy percent (70%) of any success-based fees may be deducted for U.S. federal income tax purposes pursuant to the safe harbor election in Revenue Procedure 2011-29, unless such Revenue Procedure is revoked or otherwise supplanted by any change in applicable Law. The Parties intend that the transactions contemplated by this Agreement shall cause the income Tax year of the Company to end as of the Closing Date for U.S. federal income Tax purposes (and, consistent with this, Buyer shall include the Company in its affiliated group filing a consolidated U.S. federal income Tax Return beginning on the date after the Closing Date).

(ii) For purposes of this Agreement, "*Transaction Tax Deductions*" means (A) all Tax deductible fees, expenses and interest (including amounts treated as interest for income Tax purposes and any breakage fees or accelerated deferred financing fees) incurred by the Company or any of its Subsidiaries with respect to the payment of Closing Indebtedness in connection with the Closing, (B) all Tax deductible fees, costs and expenses incurred by the Company or any of its Subsidiaries that are Transaction Expenses under clause (i) of that definition, and (C) all Tax deductible compensatory payments made with respect to the Closing pursuant to Section 3.6, and, without

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duplication, any Tax deductible amounts that are Transaction Expenses under clauses (ii) and (iii) of that definition and that are paid with respect to the Closing, in the case of each of (A) through (C), to the extent such fees, costs or expenses result in a reduction in the Merger consideration received by the Securityholders or constitute amounts for which Buyer is entitled to, and able to obtain, indemnification under Article VIII.

Section 6.9 No Solicitations. From the date hereof until the earlier to occur of (a) the termination of this Agreement or (b) the Closing (such earlier date, the "*End Date*"), the Company will not, and will instruct its Subsidiaries, Affiliates and any Representative of the Company or any of its Subsidiaries or Affiliates not to, directly or indirectly, (i) discuss, negotiate, undertake, authorize, recommend, propose or enter into, either as the proposed surviving, merged, acquiring or acquired entity, any transaction involving a merger, consolidation, liquidation, recapitalization, business combination, purchase or disposition of any material amount of the assets of the Company (other than the sale of assets in the ordinary course of business) or any of its Subsidiaries or any voting securities or other ownership interests in the Company or any of its Subsidiaries other than the transactions contemplated by this Agreement (such other transaction, an "*Acquisition Transaction*"), (ii) facilitate, encourage, solicit or initiate discussions, negotiations or submissions of proposals or offers in respect of an Acquisition Transaction, (iii) furnish or cause to be furnished, to any Person or entity, any information concerning the business, operations, properties or assets of the Company or its Subsidiaries in connection with an Acquisition Transaction, or (iv) otherwise cooperate in any way with, or assist or participate in, facilitate or encourage, any effort or attempt by any other Person to do or seek any of the foregoing. From the date hereof until the End Date, the Company shall, and shall instruct its Subsidiaries, Affiliates and their Representatives to, immediately cease and cause to be terminated any existing discussions or negotiations with any Persons (other than Buyer and Merger Sub) conducted heretofore with respect to any Acquisition Transaction. The Company agrees not to (and to cause its Subsidiaries not to) release any third party from the confidentiality provisions of any agreement to which the Company or any of its Subsidiaries is a party prior to the End Date. Furthermore, prior to the End Date, the Company shall promptly (and in any event within two (2) Business Days after receipt thereof by the Company or, to the Company's knowledge, its Representatives) advise Buyer orally and in writing of any Acquisition Transaction proposal, any request for information with respect to any Acquisition Transaction, or any inquiry with respect to a proposal for an Acquisition Transaction, the material terms and conditions of such request or inquiry and the identity of the Person making the same. The Company agrees that the rights and remedies for noncompliance with this Section 6.9 shall include having such provision specifically enforced by any court having equity jurisdiction, it being acknowledged and agreed that any such breach or threatened breach shall cause irreparable injury to Buyer and that money damages would not provide an adequate remedy to Buyer.

Section 6.10 Payoff Letters. Except as set forth in Section 6.10 of the Disclosure Schedule, the Company shall obtain, no later than two (2) Business Days prior to the Closing Date, payoff letters (the "*Payoff Letters*") in customary form reasonably satisfactory to Buyer from the holders (or the agents for such holders) of the Closing Indebtedness, if any, and all documents related thereto, including any credit agreements, pledge agreements, security agreements, notes and guarantees, and all Liens securing the Closing Indebtedness shall be

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released or terminated upon the repayment of the Closing Indebtedness in accordance with the terms of such Payoff Letters. Each Payoff Letter shall set forth the principal amount of the obligation, any prepayment premiums or fees or termination fees with respect thereto, any accrued interest thereon and any expense reimbursement or other amounts due in respect thereof, shall provide wire instructions and shall provide for the release of, or authorize the Company to release, all Liens associated with such Closing Indebtedness and the termination of all other obligations associated therewith upon the payment of such outstanding amounts.

Section 6.11 Confidential Information.

(a) Except as required by Law, each Party shall keep confidential and not directly or indirectly reveal, report, publish, disclose or transfer any information regarding any other Party or the negotiations preceding this Agreement other than to its Representatives, and each will use such information solely in connection with the transactions contemplated by this Agreement, and if the transactions contemplated hereby are not consummated for any reason, the Company, on the one hand, and Buyer and Merger Sub, on the other hand, shall return to the Party that provided such information, without retaining any copies thereof, any schedules, documents or other written information obtained from such Party in connection with this Agreement and the transactions contemplated hereby and shall cause all of its Representatives to whom it may have disclosed such information to do the same.

(b) Following the Closing, the Stockholders' Representative shall keep confidential and not directly or indirectly reveal, report, publish, disclose or transfer any information concerning the business and affairs of the Company or any of its Subsidiaries that is not generally available to the public, including know-how, trade secrets, customer lists, details of customer or consultant contracts, pricing policies, financial performance, operational methods and marketing plans or strategies (collectively, "*Confidential Information*"), and will not use such information for the Stockholders' Representative's own benefit or for the benefit of any other Person (other than the Securityholders) and shall direct any of the Representatives of the Stockholders' Representative to whom Confidential Information is disclosed to do the same. Notwithstanding the foregoing limitations, no Party shall be required to keep confidential any information that (i) is known or available through other lawful sources not bound by a confidentiality agreement or other binding legal obligation, (ii) is or becomes publicly known or generally known in the industry through no fault of the receiving Party or its agents, (iii) is requested or required to be disclosed pursuant to Law, provided the other Parties are given reasonable prior notice thereof to the extent legally permissible, or (iv) relates solely to the Tax aspects and consequences of the transactions contemplated by this Agreement.

(c) If the Stockholders' Representative is requested or required (by oral question or request for information or documents in any Legal Proceeding, interrogatory, subpoena, civil investigative demand, or similar process) to disclose any Confidential Information, the Stockholders' Representative shall notify Buyer promptly of the request or requirement (unless prohibited by applicable Law) so that Buyer may seek an appropriate protective order or waive compliance with the provisions of this Section 6.11. If, in the absence of a protective order or the receipt of a waiver hereunder, the Stockholders' Representative is, on

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the advice of counsel, compelled to disclose any Confidential Information to any Governmental Entity, the Stockholders' Representative may disclose the Confidential Information to the Governmental Entity; *provided*, *however*, that the Stockholders' Representative shall use its commercially reasonable efforts to obtain, at the request of and expense of Buyer, an order or other assurance that confidential treatment will be accorded to such portion of the Confidential Information required to be disclosed as Buyer shall designate.

(d) Notwithstanding the foregoing or anything in this Agreement to the contrary, following Closing, the Stockholders' Representative shall be permitted to: (i) after the public announcement of the Merger, publicly announce that it has been engaged to serve as the Stockholders' Representative in connection herewith as long as such announcement does not disclose any of the other terms hereof; and (ii) disclose information on a need-to-know basis (A) in connection with legal proceedings to enforce or defend the rights of the Securityholders in connection herewith, (B) to employees, advisors, agents or consultants of the Stockholders' Representative and (C) to the Securityholders, in each case in the foregoing clauses (B) and (C) provided that such recipients are subject to confidentiality obligations with respect thereto.

Section 6.12 Capital Structure Certificate

(a) At least two (2) Business Days before the Closing Date, the Company shall deliver to Buyer the Capital Structure Certificate, in a form reasonably acceptable to Buyer and the Paying Agent, dated and setting forth the following information with respect to each Stockholder and holder of Cancelled Options (each, a "*Securityholder*"): (i) the name and the mailing address of such Securityholder; (ii) with respect to each Certificate held by such Securityholder, the certificate number of such Certificate, and the number and class or series of Common Stock, Series A Preferred Stock or Series B Preferred Stock represented by such Certificate (and, with respect to each Option and Ungranted Option held by such Securityholder, the number of shares of Common Stock underlying such Option or Ungranted Option, as applicable, and the per share exercise price or Deemed Exercise Price, as applicable, thereof); (iii) the aggregate exercise price for all Cancelled Options; (iv) the Series A Per Share Liquidation Preference Amount, the Series B Per Share Liquidation Preference Amount, and/or the Estimated Per Common Share Closing Merger Consideration payable with respect to the Shares represented by such Certificate (and, with respect to each Option and Ungranted Option, the portion of the Estimated Aggregate Closing Merger Consideration payable with respect to such Option and Ungranted Option) and whether any Taxes are required to be withheld by the Company or Buyer from such amounts (including withholding Taxes to be taken into account in calculating the Grossed-Up Expense Amount Contribution and the corresponding reduction in other amounts paid to a Stockholder or Option Holder as described in Section 3.6(e)); (v) the portion of each of the Earn-Out Payments, the Escrow Fund Release Amount and the Representative Expense Fund Release Amount distributable with respect to the Shares represented by such Certificate (or with respect to the Options and Ungranted Options) held by such Securityholder, if ever; and (vi) such other information which the Buyer may reasonably request at least four (4) Business Days before the Closing Date.

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(b) Other than as provided in this Agreement and the agreements referenced herein, upon consummation of the transactions contemplated by this Agreement, and the payment of the consideration payable hereunder in respect of the Shares and Cancelled Options as provided for in the Capital Structure Certificate, Buyer, Merger Sub, the Company and the Surviving Company will have no further obligations in respect of the Shares and Cancelled Options (including any obligation to make any cash or non-cash payment in respect of any such Shares or Cancelled Options).

Section 6.13 Termination of Benefit Plans

(a) Effective as of no later than the day immediately preceding the Closing Date, the Company shall withdraw from the Plan intended to include a Code Section 401(k) arrangement (the "*401(k) Plan*") and shall spin out the assets and liabilities therefrom that are attributable to participants in such 401(k) Plan who are the Company's current and former employees into a new plan intended to qualify under Section 401(k) of the Code and immediately terminate such new plan, unless Buyer provides written notice at least ten (10) Business Days prior to the Closing Date that the Company shall not withdraw from such 401(k) Plan and such 401(k) Plan shall not be terminated. Unless Buyer provides such written notice to the Company at least ten (10) Business Days prior to the Closing Date, the Company shall provide Buyer with evidence that such 401(k) Plan has been terminated effective as of the day immediately preceding the Closing Date pursuant to resolutions of the board of directors of the Company. The form and substance of such resolutions shall be subject to review and reasonable approval of Buyer. The Company also shall take such other actions in furtherance of terminating such 401(k) Plan as Buyer may reasonably require. In the event that termination of a 401(k) Plan would reasonably be anticipated to trigger liquidation charges, surrender charges or other fees other than ordinary administrative expenses incurred in connection with the plan freeze and termination then the Company shall take such actions as are necessary to reasonably estimate the amount of such charges and/or fees and provide such estimate in writing to Buyer no later than fifteen (15) days prior to the Closing Date.

(b) Effective as of no later than the day immediately preceding the Closing Date, the Company and its Subsidiaries shall terminate any and all group severance, separation, deferred compensation or salary continuation plans, programs or arrangements maintained by the Company and any of its Subsidiaries and all Plans set forth in Section 6.13(b) of the Disclosure Schedule. For the avoidance of any doubt, the termination of the Plans pursuant to the preceding sentence shall be effected without any payment or benefit (or giving rights to any payment or benefit, contingent or otherwise) thereunder. The Company shall provide Buyer evidence that such Plans have been terminated pursuant to resolutions of the boards of directors of the Company and of its Subsidiaries, as applicable (the form and substance of which resolutions shall be subject to review and reasonable approval of Buyer).

Section 6.14 Employee Matters.

(a) For a period of [*] following the Closing Date (the "*Continuation Period*"), Buyer shall, or shall cause its Affiliates or the Surviving Company to, provide to each employee of the Company who continues employment with Buyer, any of its Affiliates or the

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Surviving Company at the Effective Time (each, a "*Continuing Employee*") with (i) a base salary or hourly wage rate (as applicable) that is at least equal to that provided to the Continuing Employee immediately prior to the Effective Time, (ii) an annual cash incentive opportunity for calendar year 2018 that is at least equal to that provided to the Continuing Employee immediately prior to the Effective Time and (iii) employee health, welfare and severance benefits (excluding retirement and equity incentives) that are substantially similar in the aggregate to those provided to the Continuing Employee immediately prior to the Effective Time. For the avoidance of doubt, nothing contained in this Section 6.14 shall affect Buyer's (or its applicable Affiliate's) right to terminate any Continuing Employee after the Closing.

(b) Buyer shall use, or shall cause its Affiliates or the Surviving Company to use, commercially reasonable efforts to ensure that, each Continuing Employee who continues employment with Buyer, any of its Affiliates or the Surviving Company immediately following the Continuation Period receives full credit for purposes of eligibility to participate, vesting, benefit accrual, vacation entitlement and severance benefits for service with the Company (or predecessor employers to the extent the Company provides such past service credit) under the comparable employee benefit plans, programs and policies of Buyer, its Affiliates or the Surviving Company, as applicable, in which such employees are eligible to participate; provided, however, that the foregoing shall not apply (i) with respect to any defined benefit pension plan or retiree medical benefits, or (ii) to the extent that its application would result in a duplication of benefits.

(c) Except as provided for in this Section 6.14, nothing in this Agreement is intended nor shall be construed to (i) be treated as an amendment to any particular Plan, (ii) prevent Buyer from amending or terminating any of its benefit plans in accordance their terms, (iii) create a right in any employee to employment with the Company, Buyer, any of its Affiliates or the Surviving Company for any period of time (under Section 6.14(a) or otherwise), or (iv) create any third-party beneficiary rights in any employee of the Company with respect to the compensation, terms and conditions of employment and/or benefits that may be provided to any Continuing Employee by Buyer, any of its Affiliates or the Surviving Company or under any benefit plan which Buyer any of its Affiliates or the Surviving Company may maintain.

Section 6.15 Indemnification of Directors and Officers of the Company.

(a) If the Merger is consummated, then until the sixth anniversary of the Effective Time, Buyer will cause the Surviving Company to fulfill and honor in all respects the obligations of the Company to its present and former directors, officers, consultants and employees (the "*Company Indemnified Parties*") pursuant to indemnification agreements with the Company in effect on the date of this Agreement identified on Section 6.15(a) of the Disclosure Schedule and pursuant to the Company Charter and bylaws, in each case, in effect on the date of this Agreement (the "*Company Indemnification Provisions*"), with respect to claims arising out of acts or omissions occurring at or prior to the Effective Time which are asserted after the Effective Time. Any claims for indemnification made under this Section 6.15(a) on or prior to the sixth anniversary of the Effective Time shall survive such anniversary until the final resolution thereof.

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(b) Prior to the Effective Time, the Company shall purchase tail insurance coverage for the Company's directors and officers in a form reasonably acceptable to the Company and Buyer which shall provide such directors and officers with coverage for no more than six (6) years following the Effective Time with respect to claims arising out of acts or omissions occurring at or prior to the Effective Time (the "*Insurance Coverage*"), which Insurance Coverage shall be reasonably comparable to the Company's insurance coverage immediately prior to the date of this Agreement. Buyer shall maintain (or cause the Surviving Company to maintain) such Insurance Coverage in full force and effect, and continue to honor the obligations thereunder during the term thereof. The Insurance Coverage shall be accompanied by an endorsement that names Buyer as a successor-in-interest thereto. To the extent that the premium for such insurance coverage does not exceed a one-time payment of $125,000, depending on the necessary timing of the payment, either (i) if the Company pays such premium prior to the Closing, the Company shall be credited with the amount of such premium paid as a current asset in the calculation of Net Closing Working Capital, or (ii) if the premium is paid simultaneously with the Closing or immediately following the Closing, the Buyer shall pay such premium directly on the Company's behalf.

(c) This Section 6.15 shall survive the consummation of the Merger, is intended to benefit each Company Indemnified Party, shall be binding on all successors and assigns of the Surviving Company and Buyer, and shall be enforceable by the Company Indemnified Parties, who are express third party beneficiaries of this Section 6.15; provided, however, that recourse shall first be against the Insurance Coverage until it is exhausted before recovery against Buyer shall take place. Notwithstanding anything to the contrary herein, the obligations under this Section 6.15 shall not be terminated or modified in a manner as to adversely affect any Company Indemnified Party without the consent of such affected Company Indemnified Party.

(d) In the event that following the Effective Time, Buyer, the Surviving Company or any of their respective heirs, successors or assigns (i) consolidates with or merges into any other Person and shall not be the continuing or surviving corporation or entity of such consolidation or merger, (ii) transfers or conveys all or substantially all of its properties and assets to any Person or (iii) commences a dissolution, liquidation, assignment for the benefit of creditors or similar action, then, and in each such case, to the extent necessary, proper provision shall be made so that the heirs, successors and assigns of Buyer or the Surviving Company, as the case may be, shall assume the obligations set forth in this Section 6.15.

Section 6.16 Financing. Buyer will have, on the date on which any Earn-Out Payment is due under Section 3.8 of this Agreement, sufficient cash and currently-available funds on hand to enable it to make such Earn-Out Payment.

ARTICLE VII

CONDITIONS PRECEDENT

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Section 7.1 Conditions Precedent to Obligations of Each Party. The respective obligations of each Party to effect the Merger shall be subject to the fulfillment or satisfaction, prior to or on the Closing Date, of each of the following conditions precedent:

(a) Approvals. Any waiting period under the HSR Act applicable to the Merger shall have expired or been terminated.

(b) No Injunctions, Orders or Restraints; Illegality. No preliminary or permanent injunction or other order, decree or ruling issued by a court or other Governmental Entity of competent jurisdiction nor any statute, rule, regulation or executive order promulgated or enacted by any Governmental Entity of competent jurisdiction shall be in effect which would have the effect of (i) making the consummation of the Merger illegal or (ii) otherwise prohibiting the consummation of the Merger.

(c) Stockholder Approval. The Required Stockholder Approval shall have been obtained in accordance with the Company Charter and the DGCL, and shall not have been rescinded or revoked and shall remain in full force and effect.

Section 7.2 Conditions Precedent to Obligations of Buyer and Merger Sub. The obligations of Buyer and Merger Sub to effect the Merger shall be subject to the fulfillment or satisfaction, prior to or on the Closing Date, of each of the following conditions precedent:

(a) Representations and Warranties. (i) The Fundamental Representations shall be true and correct in all material respects (without giving effect to any limitation as to "materiality" or "Company Material Adverse Effect" set forth in any such representation or warranty) as of the date of this Agreement and as of the Closing Date, as if made as of such time (except to the extent expressly made as of an earlier date, in which case as of such date), and (ii) the other representations and warranties contained in Article IV shall be true and correct in all respects (without giving effect to any limitation as to "materiality" or "Company Material Adverse Effect" set forth in any such representation or warranty) as of the date of this Agreement and as of the Closing Date, as if made as of such time (except to the extent expressly made as of an earlier date, in which case as of such date), except for inaccuracies of representations or warranties the circumstances giving rise to which, individually or in the aggregate, have not resulted in and would not reasonably be expected to result in a Company Material Adverse Effect;

(b) Performance of Obligations. The Company shall have performed in all material respects and complied in all material respects with all agreements and conditions contained in this Agreement that are required to be performed or complied with by it prior to or at the Closing Date;

(c) Company Material Adverse Effect. Since the date hereof, no Company Material Adverse Effect shall have occurred that is continuing;

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(d) Closing Certificate. Buyer shall have received a certificate dated the Closing Date and signed by an authorized officer of the Company, in his or her capacity thereof, certifying that the conditions specified in Sections 7.2(a)-(c) have been satisfied;

(e) Corporate Authority. Buyer shall have received copies of the resolutions duly adopted by the Board of Directors and Stockholders of the Company authorizing the execution and delivery of this Agreement and the consummation of the Merger and the other transactions contemplated hereby, certified as true, correct and unmodified as of the Closing Date by the Secretary of the Company;

(f) Closing Estimates and Capital Structure Certificate. The Company shall have delivered to Buyer a statement setting forth the Estimated Net Closing Working Capital Adjustment, the Estimated Transaction Expenses, the Estimated Closing Indebtedness and the Estimated Closing Cash in accordance with Section 3.2 and the Capital Structure Certificate;

(g) Escrow Agreement. The Escrow Agreement shall have been executed and delivered by each of the Stockholders' Representative and the Escrow Agent;

(h) Paying Agent Agreement. The Paying Agent Agreement shall have been executed and delivered by each of the Stockholders' Representative and the Paying Agent;

(i) Joinder Agreements. Joinder Agreements have been obtained from Stockholders accounting for no less than ninety-five percent (95%) of the Shares outstanding immediately prior to the Effective Time.

Section 7.3 Conditions Precedent to Obligations of the Company. The obligations of the Company to effect the Merger shall be subject to the fulfillment or satisfaction, prior to or on the Closing Date, of each of the following conditions precedent:

(a) Representations and Warranties. The representations and warranties of Buyer and Merger Sub contained in Article V shall be true and correct in all material respects (without giving effect to any limitation as to "materiality" or "Buyer Material Adverse Effect" set forth in any such representation or warranty) as of the date of this Agreement and as of the Closing Date, as if made as of such time (except to the extent expressly made as of an earlier date, in which case as of such date);

(b) Performance of Obligations. Buyer and Merger Sub shall have performed in all material respects and complied in all material respects with all agreements and conditions contained in this Agreement that are required to be performed or complied with by them prior to or at the Closing;

(c) Closing Certificate. The Company shall have received a certificate dated the Closing Date and signed by an authorized officer of Buyer, certifying that the conditions specified in Sections 7.3(a)-(b) have been satisfied; and

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(d) Escrow Agreement. The Escrow Agreement shall have been executed and delivered by Buyer and the Escrow Agent.

(e) Paying Agent Agreement. The Paying Agent Agreement shall have been executed and delivered by Buyer and the Paying Agent.

ARTICLE VIII

INDEMNIFICATION

Section 8.1 Indemnification of Buyer Indemnified Parties. From and following the Closing and subject to the limitations contained in this Article VIII, each of Buyer, the Surviving Company and their respective officers, directors, employees, agents, Affiliates, successors and assigns (each a "*Buyer Indemnified Party*" and, together, the "*Buyer Indemnified Parties*") shall be indemnified and held harmless by the Securityholders, severally and not jointly, from and against all claims, losses, liabilities, damages, deficiencies, costs and expenses, including reasonable attorneys' fees and expenses (individually a "*Loss*" and, collectively, "*Losses*") incurred by the Buyer Indemnified Parties arising out of or resulting from:

(a) any breach of any representation or warranty of the Company contained in Article IV or any certificate, agreement or other document delivered pursuant hereto or made by any Securityholder in any Joinder Agreement (provided that such indemnification in respect of such Joinder Agreement may only be recovered against the Securityholder that is a party thereto, including the portion of the Escrow Fund attributable to such Securityholder);

(b) any breach of any covenant of the Company contained in this Agreement or contained in any Joinder Agreement (*provided* that such indemnification in respect of such Joinder Agreement may only be recovered against the Securityholder that is a party thereto, including the portion of the Escrow Fund attributable to such Securityholder);

(c) any (i) Taxes of the Company or any of its Subsidiaries for all Pre-Closing Tax Periods and for the portion of any Straddle Period ending on the Closing Date as determined pursuant to Section 6.8(c), except solely to the extent the amount of such Taxes was included in the calculation of the Net Closing Working Capital or Transaction Expenses; (ii) any Transfer Taxes, (iii) Taxes of another Person (other than the Company or any of its Subsidiaries) imposed on the Company or any of its Subsidiaries (or any successor thereto), (A) as a transferee or successor, or (B) pursuant to any Contract existing at any time prior to the Closing; (iv) Taxes of any member of an affiliated, consolidated, combined or unitary group of which the Company or any Subsidiary is or was a member on or prior to the Closing Date as a result of the provisions of Treasury Regulation Section 1.1502-6 or the analogous provisions of any state, local or foreign Laws; (v) Taxes related to any untaxed foreign earnings pursuant to Section 965 of the Code; (vi) Taxes attributable to the failure by the Company, any of the Company's Subsidiaries, or any Securityholder to perform any covenant or agreement in this Agreement relating to Taxes or any inaccuracy in any certificate, instrument or agreement delivered by or on behalf of the Company, any of the Subsidiaries, or any Securityholder pursuant to this Agreement relating to Taxes (provided that such indemnification in respect of a failure by any Securityholder to perform any such covenant or agreement, or any

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inaccuracy in any such certificate, instrument or agreement delivered by or on behalf of any Securityholder, may only be recovered against such Securityholder, including the portion of the Escrow Fund attributable to such Securityholder); and (vii) withholding Taxes attributable to payments made to Securityholders under this Agreement (for which the applicable Securityholder shall indemnify the Buyer Indemnified Parties);

(d) any Transaction Expenses or Closing Indebtedness to the extent not taken into account in determining the Adjustment Amount pursuant to Section 3.3, provided that in any case the amount of the employer's share of any employment or payroll (including, for avoidance of doubt, Medicare and social security) Taxes with respect to any Earn-Out Payments, payment of the Final Aggregate Merger Consideration or any payments from the Escrow Fund shall be considered a Loss hereunder and shall be offset against such Earn-Out Payment, payment of the Final Aggregate Merger Consideration or payment from the Escrow Fund;

(e) any amount paid by Buyer, the Company or the Surviving Company to any Stockholder with respect to Dissenting Shares in excess of the Per Common Share Merger Consideration paid by Buyer pursuant to this Agreement as of the date such amount is paid *multiplied* by the number of Dissenting Shares held by such Stockholder, and all Losses incurred by Buyer, the Company or the Surviving Company in connection with the exercise (and/or attempted exercise) of all dissenters' rights;

(f) any claims or threatened claims by or purportedly on behalf of any holder or former holder of shares of capital stock of the Company or rights to acquire capital stock of the Company in such holder's or former holder's capacity as such relating to matters arising at or before the Effective Time, including claims related to distributions, dividends, stock splits, stock dividends, conversions or preemptive rights;

(g) any claims by any current or former Securityholders (or any of their Affiliates, successors or assigns), any holders of Options being canceled pursuant to Section 3.1(b)(ii) or any Persons contingently promised Options that the distribution of payments hereunder to such Person as set forth on the Capital Structure Certificate was less than the amount owed to such Person in respect of his, her or its Shares, Options, Ungranted Options or other options or promised options or equity as a result of any inaccuracy in the calculations and determinations set forth on the Capital Structure Certificate or with respect to any claims regarding promised options or equity, or vesting or acceleration of vesting; or

(h) any claim against the Surviving Company, Buyer or any of their Affiliates by a Securityholder based on any act or failure to act, or any alleged act or failure to act, of the Stockholders' Representative (including Actual Fraud, gross negligence, willful misconduct or bad faith) in breach of its obligations hereunder, including any failure or alleged failure to distribute properly all or any portion of the consideration payable hereunder.

Section 8.2 Indemnification of Securityholder Indemnified Parties. From and following the Closing and subject to the limitations contained in this Article VIII, each of the Securityholders and their respective officers, directors, employees, agents, Affiliates, successors and assigns (each a "*Securityholder Indemnified Party*" and, together, the "*Securityholder*

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Indemnified Parties") shall be indemnified and held harmless by Buyer from and against all Losses incurred by the Securityholder Indemnified Parties arising out of or resulting from:

(a) any breach of any representation or warranty of Buyer or Merger Sub contained in Article V or any certificate, agreement or other document delivered pursuant hereto; or

(b) any breach of any covenant of Buyer or Merger Sub contained in this Agreement.

Section 8.3 Indemnification Procedures.

(a) The party making a claim under this Article VIII (whether the Buyer Indemnified Parties or the Securityholder Indemnified Parties) is referred to as the "*Indemnified Party*", and the party against whom such claims are asserted under this Article VIII (whether the Buyer or, collectively, the Securityholders) is referred to as the "*Indemnifying Party*". For purposes of this Article VIII, (i) if any Buyer Indemnified Party comprises the Indemnified Party, any references to Indemnifying Party (except provisions relating to an obligation to make or right to receive payments) shall be deemed to refer to the Stockholders' Representative (on behalf of the Securityholders), and (ii) if Buyer comprises the Indemnifying Party, any references to the Indemnified Party (except provisions relating to an obligation to make or right to receive payments) shall be deemed to refer to the Stockholders' Representative (on behalf of the Securityholders). Any payment to be made to the Securityholders as the Indemnified Party shall be distributed to the Paying Agent or shall be processed through the payroll system of the Company, the Surviving Company or any of their Subsidiaries or Affiliates, as applicable, for further distribution to the Securityholders in accordance with this Agreement and the Paying Agent Agreement. If any Indemnified Party receives written notice of the commencement of any action or proceeding or the assertion of any claim by a third party or the imposition of any penalty or assessment for which a claim for indemnification may be made under this Article VIII (a "*Third Party Claim*") or otherwise discovers the liability, obligation or facts giving rise to such claim for indemnity, and such Indemnified Party intends to seek indemnity pursuant to this Article VIII, such Indemnified Party shall promptly, and in any event within ten (10) Business Days, provide the Indemnifying Party with written notice of such Third Party Claim, stating in reasonable detail the nature, basis and the amount thereof, to the extent known, along with copies of the relevant documents evidencing such Third Party Claim and the basis for indemnification sought. Failure of the Indemnified Party to give such notice will not prohibit such Indemnified Party from seeking indemnification hereunder, except if and to the extent that the Indemnifying Party is materially prejudiced thereby. The Indemnifying Party shall be entitled to participate in the defense of a Third Party Claim and, to the extent that it wishes, to assume the defense of a Third Party Claim, if, within thirty (30) days from receipt of any such notice of a Third Party Claim, the Indemnifying Party provides written notice to the Indemnified Party that the Indemnifying Party intends to undertake such defense; *provided*, *however*, that if the Third Party Claim (w) is brought by a Governmental Authority or involves potential criminal liability of the Indemnified Party, (x) primarily seeks specific performance or injunctive or other equitable relief and not monetary damages, (y) involves a claim for patent infringement, or (z) seeks monetary

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damages in excess of 200% of the amount available to the Indemnified Party for indemnification under the Escrow Fund and the Reserve Escrow Account, then the Indemnified Party shall be entitled to assume and control the defense of such Third Party Claim by providing written notice to the Indemnifying Party. If the Indemnified Party has assumed the defense of such Third Party Claim, the Indemnified Party shall keep the Indemnifying Party reasonably informed of all material events and developments, including promptly providing copies of any correspondence and court filings, with respect to such matter. If the Indemnifying Party has assumed the defense of such Third Party Claim, the Indemnified Party shall have the right to employ separate counsel in any such action and to participate in (but not control) the defense thereof. The reasonable fees and disbursements of such counsel shall be at the expense of the Indemnified Party, *provided*, *that* if in the reasonable opinion of counsel to the Indemnified Party (provided that such counsel shall discuss with counsel to the Indemnifying Party prior to providing such opinion), (A) there are legal defenses available to an Indemnified Party that are different from or additional to those available to the Indemnifying Party; or (B) there exists a conflict of interest between the Indemnifying Party and the Indemnified Party that cannot be waived, the Indemnifying Party shall be liable for the reasonable fees and expenses of counsel to the Indemnified Party in each jurisdiction for which the Indemnified Party reasonably determines separate counsel is required. If the Indemnifying Party elects not to compromise or defend such Third Party Claim, fails to promptly notify the Indemnified Party in writing of its election to defend as provided in this Agreement, or fails to use commercially reasonable efforts to prosecute the defense of such Third Party Claim, the Indemnified Party may, subject to Section 8.3(b), pay, compromise, defend such Third Party Claim and seek indemnification for any and all Losses arising out of or resulting from such Third Party Claim. The Stockholders' Representative and Buyer shall cooperate with each other in all reasonable respects in connection with the defense of any Third Party Claim, including making available records relating to such Third Party Claim and furnishing, without expense (other than reimbursement of actual out-of-pocket expenses) to the defending party, management employees of the non-defending party as may be reasonably necessary for the preparation of the defense of such Third Party Claim.

(b) Notwithstanding any other provision of this Agreement, the Indemnifying Party shall not enter into settlement of any Third Party Claim without the prior written consent of the Indemnified Party, except as provided in this Section 8.3(b). If a firm offer is made to settle a Third Party Claim without leading to liability or the creation of a financial or other obligation on the part of the Indemnified Party and provides, in customary form, for the unconditional release of each Indemnified Party from all liabilities and obligations in connection with such Third Party Claim and the Indemnifying Party desires to accept and agree to such offer, the Indemnifying Party shall give written notice to that effect to the Indemnified Party. If the Indemnified Party fails to consent to such firm offer within thirty (30) days after its receipt of such notice, the Indemnified Party may continue to contest or defend such Third Party Claim and in such event, the maximum liability of the Indemnifying Party as to such Third Party Claim shall not exceed the amount of such settlement offer. If the Indemnified Party fails to consent to such firm offer and also fails to assume defense of such Third Party Claim, the Indemnifying Party may settle the Third Party Claim upon the terms set forth in such firm offer to settle such Third Party Claim. If the Indemnified Party has assumed the defense pursuant to Section 8.3(a), it shall not agree to any settlement without the written consent of the Indemnifying Party, which consent shall not be

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unreasonably withheld or delayed (it being understood and agreed that it shall be reasonable for the Stockholders' Representative to withhold such consent if the Stockholders' Representative believes in good faith that there is not any underlying basis for indemnification with respect to such settlement); *provided*, that no settlement of any such Third Party Claim shall be determinative of the amount of Losses relating to such matter, except with the consent of the Stockholders' Representative, which consent shall not be unreasonably withheld or delayed and which shall be deemed to have been given unless the Stockholders' Representative shall have objected within thirty (30) days after written request for such consent by the Buyer Indemnified Parties.

(c) This Section 8.3(c) and not Section 8.3(a) or Section 8.3(b) shall apply with respect to Tax Claims. After the Closing, the Buyer Indemnified Party and the Stockholders' Representative shall promptly notify the other party in writing upon receipt of any written notice of any pending or threatened audit or assessment, suit, proposed adjustment, deficiency, dispute, administrative or judicial proceeding or similar claim relating to Taxes with respect to damages for which Buyer may be indemnified under this Agreement (a "*Tax Claim*"). Failure of the Buyer Indemnified Party to give such notice will not prohibit such Buyer Indemnified Party from seeking indemnification hereunder, except if and to the extent that the Stockholders' Representative, acting on behalf of the Stockholders and Option Holders, is materially prejudiced thereby. The Buyer Indemnified Party will control, without affecting its or any other Indemnified Party's rights to indemnification under this Agreement, the defense of all Tax Claims; *provided, however*, that the Stockholders' Representative and its counsel (at the Securityholders' sole expense) may participate in (but not control the conduct of) the defense of any such Tax Claim, and *provided, further*, that the Buyer Indemnified Party may not settle or compromise any Tax Claim relating to a Pre-Closing Tax Period or, with respect to any Straddle Period, the portion of such taxable period ending on and including the Closing Date, without the Stockholders' Representative's consent (not to be unreasonably withheld, conditioned or delayed).

(d) Any claim by an Indemnified Party on account of a Loss which does not result from a Third Party Claim or a Tax Claim (a "*Direct Claim*") shall be asserted by the Indemnified Party giving the Indemnifying Party reasonably prompt written notice thereof, but in any event not later than ten (10) Business Days after the Indemnified Party becomes aware of such Direct Claim. The failure to give such prompt written notice shall not, however, relieve the Indemnifying Party of its indemnification obligations, except and only to the extent that the Indemnifying Party is materially prejudiced thereby. Such notice by the Indemnified Party shall state in reasonable detail the nature, basis and the amount of the Direct Claim, to the extent known, along with copies of the relevant documents evidencing such Direct Claim and the basis for indemnification sought. The Indemnifying Party shall have thirty (30) days after its receipt of such notice to respond in writing to such Direct Claim. The Indemnified Party shall allow the Indemnifying Party and its professional advisors to investigate the matter or circumstance alleged to give rise to the Direct Claim, and whether and to what extent any amount is payable in respect of the Direct Claim and the Indemnified Party shall assist the Indemnifying Party's investigation by giving such information and assistance as the Indemnifying Party or any of its professional advisors may reasonably request. If the Indemnifying Party does not so respond

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within such 30-day period, the Indemnifying Party shall be deemed to have agreed to such Direct Claim.

Section 8.4 Limitations on Indemnification.

(a) Notwithstanding anything in this Agreement to the contrary except as provided in Section 8.4(h), (i) the Buyer Indemnified Parties shall not be entitled to assert any claim for indemnification under Section 8.1(a), other than with respect to a breach of a Fundamental Representation, unless and until the aggregate liability for Losses suffered by the Buyer Indemnified Parties thereunder exceeds [*] (the "*Threshold*"); *provided*, that in the event that the aggregate liability for Losses exceeds the Threshold, the Buyer Indemnified Parties shall be entitled to recover for all such Losses; (ii) the aggregate amount of all Losses for which the Securityholders shall be liable for indemnification under Sections 8.1(a) (other than with respect to a breach of a Fundamental Representation or Actual Fraud by the Company) and 8.1(c), shall not exceed [*]); (iii) [*]and (iv) [*] if any.

(b) Notwithstanding anything in this Agreement to the contrary, (i) the Securityholder Indemnified Parties shall not be entitled to assert any claim for indemnification under Section 8.2(a) unless and until the aggregate liability for Losses suffered by the Securityholder Indemnified Parties thereunder exceeds [*]; *provided*, that in the event that the aggregate liability for Losses exceeds [*], the Securityholder Indemnified Parties shall be entitled to recover for all such Losses ; and (ii) the aggregate amount of all Losses for which Buyer shall be liable for indemnification under Section 8.2(a) shall not exceed [*].

(c) [*]. [*]. For the avoidance of doubt, subject to Section 11.9, the Buyer Indemnified Parties shall have no other remedies with respect to any and all claims and Losses relating to or arising from this Agreement or the transactions contemplated hereby (other than claims of, or causes of actions arising from, Actual Fraud against the alleged perpetrator of such Actual Fraud or a Securityholder who participated in or had actual knowledge of such Actual Fraud) other than as set forth in the preceding sentences.

(d) The Buyer Indemnified Party shall use commercially reasonable efforts, to the extent required by applicable Law, to mitigate Losses for which indemnification may be claimed by such party pursuant to this Agreement upon and after becoming aware of any event that could reasonably be expected to give rise to any such Losses.

(e) The amount of any Losses that any Buyer Indemnified Party is entitled to receive pursuant to this Article VIII shall be reduced by any related recoveries which such Buyer Indemnified Party actually receives under applicable insurance policies or from any other Person alleged to be responsible for any such Losses. If a Buyer Indemnified Party actually receives any amounts under applicable insurance policies, or from any other Person alleged to be responsible for any Losses, subsequent to an indemnification payment being made by the Securityholders hereunder, then such Buyer Indemnified Party shall promptly pay to the Paying Agent and Surviving Company (as applicable) for distribution to the Securityholders, in each case in an amount equal to such indemnification payment, up to the amount received by the Buyer Indemnified Party, net of any previously unpaid or unreimbursed expenses incurred by

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such Buyer Indemnified Party in collecting such amount and the aggregate increase in insurance premiums that are directly and proximately caused by such Losses.

(f) Notwithstanding anything to the contrary contained herein, except to the extent payable pursuant to a Third Party Claim or a Tax Claim, no Party shall be liable to any other Party (including its respective heirs, legal representatives, successors or assigns, as the case may be, hereunder) for any punitive damages, except if and to the extent any such damages are recovered against an Indemnified Party pursuant to a Third Party Claim or a Tax Claim. Each Party hereby waives any claims that these exclusions deprive such party of an adequate remedy.

(g) The Securityholders shall have no indemnification obligation for any Taxes of the Company or any of its Subsidiaries resulting from any action taken by the Company or any of its Subsidiaries after the Closing on the Closing Date outside the ordinary course of business.

(h) Subject to Section 11.9, each of Buyer, the Company (in its capacity as the Surviving Company and the successor to Merger Sub) and Merger Sub hereby acknowledges and agrees that, should the Closing occur, its sole and exclusive remedy with respect to any and all claims and Losses relating to or arising from this Agreement, any agreement entered into or document delivered in connection with this Agreement (including the Joinder Agreements) or the transactions contemplated hereby or thereby (other than claims of, or causes of action arising from, Actual Fraud in which the alleged perpetrator of such Actual Fraud participated) shall be governed by, and subject to, the terms and provisions set forth in this Article VIII. Notwithstanding the foregoing, nothing in this Article VIII will limit any Indemnified Party's right to seek and obtain specific performance or injunctive relief to which any Party may be entitled.

Section 8.5 Survival of Representations, Warranties and Covenants. Subject to the limitations and other provisions of this Agreement, the representations and warranties contained herein shall survive the Closing and shall remain in full force and effect until the date that is [*]. Notwithstanding the foregoing, any claims asserted in good faith with reasonable specificity (to the extent known at such time) and in writing by notice from the Indemnified Party to the Indemnifying Party prior to the expiration date of the applicable survival period shall not thereafter be barred by the expiration of the relevant representation or warranty and such claims shall survive until finally resolved.

Section 8.6 Tax Treatment of Indemnification Payments. All indemnification payments made under this Agreement shall be treated by the parties as an adjustment to the Purchase Price for Tax purposes, unless otherwise required by Law.

Section 8.7 Effect of Investigation. The representations, warranties and covenants of the Indemnifying Party, and the Indemnified Party's right to indemnification with respect thereto, shall not be affected or deemed waived by reason of any investigation made by or on behalf of the Indemnified Party (including by any of its Representatives) or by reason of the fact that the Indemnified Party or any of its Representatives knew or should have known that any such

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representation or warranty is, was or might be inaccurate or by reason of the Indemnified Party's waiver of any condition set forth in Section 7.2 or Section 7.3, as the case may be.

Section 8.8 Materiality. Notwithstanding anything to the contrary contained in this Agreement, for purposes of calculating the amount of Losses incurred in connection with any breach or inaccuracy of any representation or warranty or any breach or non-fulfillment of any covenant, agreement or obligation (but not for purposes of determining the existence thereof), any and all references to "Company Material Adverse Effect" (other than as set forth in Section 4.7(a))," "material" or other materiality terms shall be disregarded (it being understood that the word "Material" in the defined term "Material Contract" shall not be disregarded for any of such purposes).

Section 8.9 Additions to Escrow Account.

(a) In the event that prior to the expiration of the applicable survival period set forth in Section 8.5, Buyer has made a good faith claim for indemnification that is not yet satisfied out of the Escrow Account (an "*Unresolved Claim*"), and Buyer thereafter becomes obligated to make an Earn-Out Payment pursuant to Section 3.8 at a time when such Unresolved Claim remains open (or, in the case of any claim for indemnification under Sections 8.1(d), 8.1(e), 8.1(f), 8.1(g) or 8.1(h) that is related to payments to be distributed pursuant to such Earn-Out Payment, a claim that occurs at the time of such Earn-Out Payment), then, subject to the limitations set forth in Section 8.4(a), Buyer may deposit in an escrow account other than the Escrow Account (the "*Reserve Escrow Account*") with the Escrow Agent governed by an escrow agreement in substantially the same form as the Escrow Agreement (the "*Reserve Escrow Account Agreement*") a portion of such Earn-Out Payment equal to the portion of Buyer's good faith estimate of the Losses associated with such Unresolved Claim recoverable under this Article VIII in excess of the difference of (I) the balance of the Escrow Fund and the amount in the Reserve Escrow Account at such time minus (II) Buyer's good faith estimate of the Losses associated with any other Unresolved Claims that remain open (the "*Unresolved Claim Amount*"). For the avoidance of doubt, subject to the limitations in Section 8.4(a), any claim for indemnification that has settled or been finally determined by a court of competent jurisdiction and results in Losses that have not been satisfied out of the Escrow Account shall be deemed an "Unresolved Claim" hereunder.

(b) In the event Buyer exercises its right to deposit a portion of an Earn-Out Payment in the Reserve Escrow Account pursuant to Section 8.9(a), Buyer shall provide the Stockholders' Representative with written notice in advance thereof (but in any event not later than fifteen (15) Business Days prior to depositing a portion of such Earn-Out Payment). Such notice by Buyer shall state in reasonable detail the nature, basis and the amount of the Unresolved Claim, along with copies of the relevant documents evidencing such Unresolved Claim. In the event any Securityholder identifies any issues with or errors in Buyer's good faith estimation, Buyer shall consider in good faith such identified issues or errors and shall make downward revisions to such good faith estimation as appropriate.

(c) In any case where Buyer is entitled to deposit a portion of an Earn-Out Payment in the Reserve Escrow Account pursuant to Section 8.9(a), Buyer shall, within fifteen

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(15) Business Days after the date on which such Earn-Out Payment was due, (i) deposit in the Reserve Escrow Account the amount by which such Earn-Out Payment was reduced pursuant to Section 8.9(a) (each such payment, an "*Escrow Account Addition*") for the purpose of securing the Unresolved Claim giving rise to such Escrow Account Addition and (ii) deliver a written notice to the Stockholders' Representative stating that Buyer has exercised its right to deposit a portion of such Earn-Out Payment in the Reserve Escrow Account pursuant to this Section 8.9, the amount so deposited and a confirmation that such amount has been paid into the Reserve Escrow Account. The Escrow Agent shall disburse any Escrow Account Additions (i) upon receipt of a written instrument delivered to the Escrow Agent that is executed by both Buyer and the Stockholders' Representative that instructs the Escrow Agent as to the disbursement of some or all of the Escrow Account Additions to the Securityholders or Buyer to be processed through the payroll system of the Company, the Surviving Company or any of their Subsidiaries or Affiliates, as the case may be, or (ii) upon receipt of an order of a court of competent jurisdiction, a copy of which is delivered to the Escrow Agent by either Buyer or the Stockholders' Representative, that instructs the Escrow Agent that some or all of the Escrow Account Additions is required to be disbursed to the Securityholders or Buyer to be processed through the payroll system of the Company, the Surviving Company or any of their Subsidiaries or Affiliates, as the case may be. Any interest accrued upon an Escrow Account Addition shall be paid to the recipient of such Escrow Account Addition; *provided*, that if such Escrow Account Addition is divided among Buyer, the Securityholders, and/or is processed through the payroll system of the Company, the Surviving Company or any of their Subsidiaries or Affiliates (as the case may be), the interest accrued upon such Escrow Account Addition shall be divided among Buyer and the Securityholders and processed through the payroll system of the Company, the Surviving Company or any of their Subsidiaries or Affiliates (as the case may be) in the same proportion as the Escrow Account Addition is divided and paid to Buyer and the Securityholders and processed through the payroll system of the Company, the Surviving Company or any of their Subsidiaries or Affiliates (as the case may be).

ARTICLE IX

STOCKHOLDERS' REPRESENTATIVE

Section 9.1 Stockholders' Representative.

(a) Appointment. By voting in favor of the adoption of this Agreement, the approval of the principal terms of the Merger, and the consummation of the Merger or participating in the Merger and receiving the benefits thereof, including the right to receive the consideration payable in connection with the Merger, each Stockholder and Option Holder constitutes and appoints the Stockholders' Representative to act as his, her or its representative, agent and attorney-in-fact for all purposes in connection with this Agreement and the agreements ancillary hereto, with full authority to act on behalf of, and to bind, each such Person for purposes of this Agreement and the agreements ancillary hereto, and the Stockholders' Representative hereby accepts such appointment. The Stockholders' Representative shall have full power and authority to represent all of such holders and their successors with respect to all matters arising under this Agreement and the agreements ancillary hereto and all actions taken by

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the Stockholders' Representative hereunder and thereunder shall be binding upon all such Securityholders and their successors as if expressly confirmed and ratified in writing by each of them. The Stockholders' Representative shall be entitled to take any and all actions that it believes are necessary or appropriate under this Agreement and the agreements ancillary hereto for and on behalf of such Securityholders, as fully as if such Securityholders were acting on their own behalf, including dealing with Buyer, the Paying Agent and the Escrow Agent under this Agreement or the Escrow Agreement with respect to all matters arising hereunder or thereunder, taking any and all other actions specified in or contemplated hereby or thereby, and engaging counsel, accountants or other representatives, in connection with the foregoing matters. Without limiting the generality of the foregoing, the Stockholders' Representative shall have full power and authority to effect and interpret all the terms and provisions of this Agreement (including the determination of the Adjustment Amount, the prosecution, defense or settlement of any claims for indemnification under Article VIII and the authorization of disbursements and payments in accordance with the terms hereof) and the Escrow Agreement and to consent to any amendment hereof or thereof on behalf of all such Securityholders and their successors.

(b) Exculpation and Indemnification of the Stockholders' Representative. The Stockholders' Representative may act upon any instrument or other writing believed by the Stockholders' Representative in good faith to be genuine and to be signed or presented by the proper Person. The Stockholders' Representative will incur no liability of any kind with respect to any action or omission by the Stockholders' Representative in connection with its services pursuant to this Agreement and any agreements ancillary hereto, except in the event of liability directly resulting from the Stockholders' Representative's Actual Fraud, gross negligence or willful misconduct. The Stockholders' Representative shall not be liable for any action or omission pursuant to the advice of nationally recognized outside counsel. The Securityholders shall, severally (based on each Securityholder's Pro Rata Share compared to the aggregate of the Pro Rata Shares of all Securityholders) and not jointly, indemnify the Stockholders' Representative and its members, managers, directors, officers, contractors, agents and employees (collectively, the "*Stockholders' Representative Group*") from and against any and all losses, liabilities, damages, claims, penalties, fines, forfeitures, actions, fees, costs and expenses (including the reasonable fees and expenses of counsel and experts and their staffs and all expense of document location, duplication and shipment) (collectively, "*Representative Losses*") arising out of or in connection with the Stockholders' Representative's execution and performance of this Agreement and any agreements ancillary hereto, in each case as such Representative Loss is suffered or incurred; provided, that in the event that any such Representative Loss is finally adjudicated to have been directly caused by the Actual Fraud, gross negligence or willful misconduct of the Stockholders' Representative, the Stockholders' Representative will reimburse the Securityholders the amount of such indemnified Representative Loss to the extent attributable to such Actual Fraud, gross negligence or willful misconduct. If not paid directly to the Stockholders' Representative Group by the Securityholders, any such Representative Losses may be recovered by the members of the Stockholders' Representative Group from (i) the Stockholders' Representative Expense Amount, (ii) the amounts in the Escrow Fund at such time as remaining amounts would otherwise be distributable to the Securityholders, and (iii) from any Earn-Out Payments at such time as any such amounts would otherwise be distributable to the Securityholders; provided, that while this

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section allows the Stockholders' Representative Group to be paid from the aforementioned sources of funds, this does not relieve the Securityholders from their obligation to promptly pay such Representative Losses as they are suffered or incurred, nor does it prevent the Stockholders' Representative Group from seeking any remedies available to it at law or otherwise. In no event will the Stockholders' Representative be required to advance its own funds on behalf of the Securityholders or otherwise. Notwithstanding anything in this Agreement to the contrary, any restrictions or limitations on liability or indemnification obligations of the Securityholders set forth elsewhere in this Agreement are not intended to be applicable to the indemnities provided to the Stockholders' Representative under this section. The foregoing indemnities will survive the Closing, the resignation or removal of the Stockholders' Representative or the termination of this Agreement. Furthermore, the Stockholders' Representative shall not be required to take any action unless the Stockholders' Representative has been provided with funds, security or indemnities which, in its determination, are sufficient to protect the Stockholders' Representative against the costs, expenses and liabilities which would reasonably be expected to be incurred by the Stockholders' Representative in performing such actions. In no event shall the Stockholders' Representative be liable hereunder or in connection herewith for any indirect, punitive damages, special damages or consequential damages.

(c) Access to Information. The Stockholders' Representative shall be given reasonable access (upon reasonable advance written notice and during normal business hours) by Buyer to all information of and concerning any claims for indemnification under Article VIII and which is in the possession, custody or control of Buyer or the Surviving Company and the reasonable assistance of Buyer's and the Surviving Company's officers and employees as is reasonably necessary for purposes of performing the Stockholders' Representative's duties under this Agreement and exercising its rights under this Agreement, including for the purpose of evaluating any claims for indemnification under Article VIII by any Buyer Indemnified Party *provided*, *however*, that the Stockholders' Representative shall treat confidentially and not, except in connection with enforcing its rights under this Agreement, disclose any nonpublic information from or concerning any claims for indemnification under Article VIII to anyone (except to the Stockholders' Representative's attorneys, accountants or other advisers, to Securityholders and on a need-to-know basis to other individuals who have agreed to keep such information confidential pursuant to a standard non-disclosure agreement).

(b) Reasonable Reliance. In the performance of its duties hereunder, the Stockholders' Representative shall be entitled to rely upon any document or instrument reasonably believed by it to be genuine, accurate as to content and signed by any Stockholder or Option Holder, Buyer, the Escrow Agent or the Paying Agent. The Stockholders' Representative may assume that any Person purporting to give any notice in accordance with the provisions hereof has been duly authorized to do so. Buyer may rely and shall be protected in acting, or refraining from acting, upon any written notice, instruction or request furnished to it hereunder and reasonably believed by Buyer to be genuine and to have been signed or presented by the Stockholders' Representative as if such written notice, instruction or request had been furnished to it by all the Securityholders. The Stockholders' Representative may, in all questions arising under this Agreement, rely on the advice of counsel and for anything done, omitted or suffered in

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good faith by the Stockholders' Representative in accordance with such advice, and the Stockholders' Representative shall not be liable to the Securityholders in connection therewith.

(c) Attorney-in-Fact.

(i) The Stockholders' Representative is hereby appointed and constituted the true and lawful attorney-in-fact of each Stockholder and Option Holder with full power in their name and on their behalf to act according to the terms of this Agreement in the good faith discretion of the Stockholders' Representative; and in general to do all things and to perform all acts including, without limitation, executing and delivering any other agreements, certificates, receipts, instructions, notices or instruments contemplated by or deemed advisable in connection with this Agreement. Such appointment shall be deemed to be a power coupled with an interest.

(ii) This power of attorney and all authority hereby conferred is granted and shall be irrevocable, subject to replacement of the Stockholders' Representative pursuant to Section 9.1(f), and shall not be terminated by any act of any Stockholder or Option Holder by operation of Law, whether by such holder's death, disability, protective supervision or any other event.

(iii) Each Stockholder and Option Holder waives any and all defenses that may be available to contest, negate or disaffirm the action of the Stockholders' Representative taken in good faith under this Agreement.

(iv) Notwithstanding the power of attorney granted in this Section 9.1, no agreement, instrument, acknowledgement or other act or document shall be ineffective by reason only of a Stockholder or Option Holder having signed or given such act or document directly instead of the Stockholders' Representative.

(d) Liability. If the Stockholders' Representative is required to determine the occurrence of any event or contingency, the Stockholders' Representative may request from any Stockholder or Option Holder or any other Person such reasonable additional evidence as the Stockholders' Representative in its sole discretion may deem necessary to determine any fact relating to the occurrence of such event or contingency, and may at any time inquire of and consult with others, including any Stockholder or Option Holder, and the Stockholders' Representative shall not be liable to any such Stockholder or Option Holder, as the case may be, for any damages resulting from its delay in acting hereunder pending its receipt and examination of additional evidence requested by it. Notwithstanding any other provision of this Agreement or any other agreement entered into or document delivered in connection with the transactions contemplated by this Agreement, in no event shall the Stockholders' Representative, in its capacity as such, be liable to Buyer, Merger Sub, the Company, the Surviving Company or any of their respective Representatives or Affiliates (other than for Actual Fraud or willful misconduct or gross negligence).

(e) Successor Representatives. The Securityholders shall designate one or more Persons reasonably acceptable to the Securityholders collectively having a Pro Rata Share

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greater than 50% to serve as successor Stockholders' Representative in the event of the Stockholders' Representative's incapacity, bankruptcy, dissolution or resignation, which Person or Persons shall in such event succeed to and become vested with all the rights, powers, privileges and duties of the Stockholders' Representative under this Agreement. Each successor Stockholders' Representative shall designate one or more Persons reasonably acceptable to the Securityholders collectively having a Pro Rata Share greater than 50% to serve as successor Stockholders' Representative in the event of such successor Stockholders' Representative's death, incapacity, bankruptcy, dissolution or resignation.

ARTICLE X

TERMINATION

Section 10.1 Termination by Mutual Consent. This Agreement may be terminated, and the Merger may be abandoned, at any time prior to the Effective Time by mutual written consent of the Company and Buyer.

Section 10.2 Termination by Either Buyer or the Company. This Agreement may be terminated, and the Merger may be abandoned at any time prior to the Effective Time, by written notice of Buyer or the Company to the other Parties in the following circumstances:

(a) any order, decree, ruling or other non-appealable final action has been issued by a Governmental Entity permanently restraining, enjoining or otherwise prohibiting consummation of the Merger; *provided*, *however*, that the right to terminate this Agreement pursuant to this Section 10.2(a) shall not be available to any Party whose failure to comply with the terms of this Agreement has resulted in such order, decree, ruling or other non-appealable final action;

(b) the Merger shall not have been consummated on or prior to 11:59 p.m. (Eastern time) on the date that is six (6) months following the date hereof (the "*Termination Date*"); *provided*, *however*, that (i) the right to terminate this Agreement pursuant to this Section 10.2(b) shall not be available to any Party whose failure to act has been a principal cause of or resulted in the failure of the Merger to occur on or before such date and such action or failure to act constitutes a material breach of this Agreement, and (ii) if the failure of the Merger to occur on or before such date is caused solely as a result of a delay in securing termination of any waiting period under the HSR Act or to obtain the approval of the FTC, the Antitrust Division of the Department of Justice or other Governmental Entity, as applicable, the Termination Date shall be extended to 11:59 p.m. (Eastern time) on the date that is nine (9) months following the date hereof; or

(c) the Written Consent shall not have been delivered to the Company, with a copy to Buyer, within twenty-four (24) hours following the execution and delivery of this Agreement by the Parties; *provided*, *however*, that the right to terminate this Agreement pursuant to this Section 10.2(c) may not be exercised at any time following the delivery of the Required Stockholder Approval.

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Section 10.3 Termination by the Company. This Agreement may be terminated, and the Merger may be abandoned at any time prior to the Effective Time, by action of the Board of Directors of the Company, if the Company is not in material breach of its obligations under this Agreement and there is a breach by Buyer or Merger Sub of any material representation, warranty, covenant or other agreement of them contained in this Agreement and such breach has not been cured within thirty (30) days after written notice thereof to Buyer, or such breach cannot be cured, and would cause a condition set forth in Section 7.3 to be incapable of being satisfied.

Section 10.4 Termination by Buyer. This Agreement may be terminated, and the Merger may be abandoned at any time prior to the Effective Time, by written notice given to the Company by Buyer, if Buyer is not in material breach of its obligations under the Agreement and (a) there is a breach by the Company of any material representation, warranty, covenant or other agreement of it contained in this Agreement, and such breach has not been cured within thirty (30) days after written notice thereof to the Company, or such breach cannot be cured, and would cause a condition set forth in Section 7.2 to be incapable of being satisfied, or (b) if the Written Consent shall have been rescinded or revoked.

Section 10.5 Effect of Termination and Abandonment. In the event of termination of this Agreement and the abandonment of the Merger pursuant to this Article X, written notice thereof shall be given to the other Parties, and this Agreement (other than as set forth in this Section 10.5 and other than Section 6.5 (*Public Announcements*), Section 6.7 (*Expenses*), Article I, Section 9.1(b) (*Stockholders' Representative*), Article X and Article XI) shall become void and of no effect with no liability on the part of any Party (or of any of its respective Representatives); *provided*, *however*, except as otherwise provided herein, no such termination shall relieve any Party of any liability or damages resulting from any material and willful breach of this Agreement. If this Agreement is terminated and the Merger is abandoned pursuant to this Article X, all confidential information received by Buyer or its Representatives and Affiliates with respect to the Company, its Subsidiaries and their respective Affiliates shall be treated in accordance with the Confidentiality Agreement, which shall remain in full force and effect notwithstanding the termination of this Agreement.

ARTICLE XI

MISCELLANEOUS

Section 11.1 Entire Agreement. This Agreement (including the exhibits and schedules hereto) and the Confidentiality Agreement set forth the entire understanding of the parties hereto with respect to the transactions contemplated hereby, and, except as set forth in this Agreement, there are no representations or warranties, express or implied, made by any Party with respect to the subject matter of this Agreement and the Confidentiality Agreement. Except for the matters set forth in the Confidentiality Agreement, any and all previous agreements and understandings between or among the parties hereto regarding the subject matter hereof, whether written or oral, are superseded by this Agreement and the agreements referred to or contemplated herein.

Section 11.2 Assignment and Binding Effect; No Third Party Beneficiaries. This Agreement shall not be assigned by any Party without the prior written consent of the other

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Parties; *provided, however*, that Buyer shall be permitted to assign this Agreement at any time to any Affiliate of Buyer (provided that Buyer shall nonetheless remain liable for all of its obligations hereunder following such assignment, including payment of the Earn-Out Payments in accordance with Section 3.8(l)). All the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective successors and assigns of the parties hereto. Except as provided in Section 6.15 and Article VIII, this Agreement is for the sole benefit of the Parties and their permitted successors and assigns and nothing herein expressed or implied shall give or be construed to give any Person, other than the Parties and such successors and assigns, any legal or equitable rights hereunder. Any purported assignment in violation of this Section 11.2 shall be void. Nothing in this Agreement shall constitute an amendment to any Plan, and no Plan shall be amended absent a separate written amendment that complies with such Plan's amendment procedures.

Section 11.3 Notices. All notices, requests, consents, claims, demands, waivers and other communications hereunder shall be in writing and shall be deemed to have been given (a) when delivered by hand (with written confirmation of receipt); (b) when received by the addressee if sent by a nationally recognized overnight courier (receipt requested); (c) on the date sent by facsimile or e-mail of a PDF document (with confirmation of transmission) if sent during normal business hours of the recipient, and on the next Business Day if sent after normal business hours of the recipient or (d) on the third day after the date mailed, by certified or registered mail, return receipt requested, postage prepaid. Such communications must be sent to the respective parties at the following addresses (or at such other address for a party as shall be specified in a notice given in accordance with this Section 11.3):

If to Buyer, Merger Sub or the Surviving Company:

Alexion Pharmaceuticals, Inc.
121 Seaport Boulevard
Boston, Massachusetts 02210
Email: ellen.chiniara@alexion.com
Attention:General Counsel

with a copy (which shall not constitute notice) to:

Foley Hoag LLP
Seaport West
155 Seaport Boulevard
Boston, Massachusetts 02210
Facsimile: (617) 832-7000
Email: mhaddad@foleyhoag.com
Attention: Mark A. Haddad, Esq.

If to the Company:

Syntimmune, Inc.
116 Huntington Avenue

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Boston, MA 02116
Email: jeanpaul.kress@syntimmune.com
Attention:Chief Executive Officer

with a copy (which shall not constitute notice) to:

Goodwin Procter LLP
100 Northern Avenue
Boston, MA 02210
Attention: Richard A. Hoffman; Daniel A. Lang
Email: RHoffman@goodwinlaw.com; DLang@goodwinlaw.com
Facsimile:(617) 977-9449; (646) 558-4131

If to the Stockholders' Representative:

Shareholder Representative Services LLC
950 17th Street, Suite 1400
Denver, CO 80202
Attention: Managing Director
Email: deals@srsacquiom.com
Facsimile: (303) 623-0294
Telephone: (303) 648-4085

Section 11.4 Amendment and Modification. This Agreement may be amended, modified or supplemented at any time prior to the Effective Time by mutual agreement of Buyer, Merger Sub, the Company and the Stockholders' Representative, except as provided in Section 251(d) of the DGCL. Any amendment, modification or revision of this Agreement and any waiver of compliance or consent with respect hereto shall be effective only if in a written instrument executed by the Parties.

Section 11.5 Governing Law; Jurisdiction; Enforcement. The law, including the statutes of limitation, of the State of Delaware shall govern this Agreement, the interpretation and enforcement of its terms and any claim or cause of action (in law or equity), controversy or dispute arising out of or related to it or its negotiation, execution or performance, whether based on contract, tort, statutory or other law, in each case without giving effect to any conflicts-of-law or other principle requiring the application of the law of any other jurisdiction.

(a) For purposes of this Agreement, each of the parties hereto hereby (i) consents to service of process in any legal action, suit or proceeding among the parties to this Agreement arising in whole or in part under or in connection with the negotiation, execution and performance of this Agreement in any manner permitted by the laws of the State of Delaware, (ii) agrees that service of process made in accordance with this Section 11.5 or made by registered or certified mail, return receipt requested, at its address specified pursuant to Section 11.3, will constitute good and valid service of process in any such legal action, suit or proceeding, and (iii) waives and agrees not to assert (by way of motion, as a defense, or

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otherwise) in any such legal action, suit or proceeding any claim that service of process made in accordance with clause (i) or (ii) does not constitute good and valid service of process. Each of the Parties (a) consents to submit itself to the exclusive personal jurisdiction of the Delaware Court of Chancery, New Castle County, or if that court does not have jurisdiction, a federal court sitting in the State of Delaware in any action or proceeding arising out of or relating to this Agreement or any of the transactions contemplated by this Agreement, (b) agrees that all claims in respect of such action or proceeding may be heard and determined in any such court, (c) agrees that it will not attempt to deny or defeat such personal jurisdiction by motion or other request for leave from any such court, and (d) agrees not to bring any action or proceeding arising out of or relating to this Agreement or any of the transactions contemplated by this Agreement in any other court. Each of the Parties waives any defense or inconvenient forum to the maintenance of any action or proceeding so brought and waives any bond, surety or other security that might be required of any other Party with respect thereto.

(b) Without limiting the third party beneficiary rights described in Section 11.2, this Agreement may only be enforced against, and any claim or cause of action based upon, arising out of, or related to this Agreement or the transactions contemplated hereby (other than pursuant to the Voting Agreements, the Joinder Agreements, or a Letter of Transmittal) may only be brought against, the Persons that are expressly named as parties hereto (and, with respect to Article IX, against the Securityholders) and then only with respect to the specific obligations set forth herein with respect to such party. Except to the extent they are a named party to this Agreement (and then only to the extent of the specific obligations undertaken by such named party in this Agreement and not otherwise) or as set forth in a Voting Agreement, a Joinder Agreement, or a Letter of Transmittal (and except for, with respect to Article IX, the Securityholders), no past, present or future director, officer, employee, incorporator, member, partner, stockholder, Affiliate, agent, attorney, advisor or representative of any party or of any Affiliate of any of the foregoing shall have any personal liability (whether in contract, tort, equity or otherwise) for any one or more of the representations, warranties, covenants, agreements or other obligations or liabilities of any one or more of the Company, Buyer or Merger Sub under this Agreement (whether for indemnification or otherwise) or for any claim based on, arising out of, or related to this Agreement or the transactions contemplated hereby.

Section 11.6 Waiver of Jury Trial. EACH PARTY ACKNOWLEDGES AND AGREES THAT ANY CONTROVERSY WHICH MAY ARISE UNDER THIS AGREEMENT IS LIKELY TO INVOLVE COMPLICATED AND DIFFICULT ISSUES, AND THEREFORE EACH SUCH PARTY HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVES ANY RIGHT SUCH PARTY MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY PROCEEDINGS DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE MERGER AND THE OTHER TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT. EACH PARTY CERTIFIES AND ACKNOWLEDGES THAT (i) NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF PROCEEDINGS, SEEK TO ENFORCE THE FOREGOING WAIVER, (ii) EACH PARTY UNDERSTANDS AND HAS CONSIDERED THE IMPLICATIONS OF THIS WAIVER, (iii) EACH PARTY MAKES THIS WAIVER

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VOLUNTARILY AND (iv) EACH PARTY HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 11.6.

Section 11.7 Severability. If any term or other provision of this Agreement is determined to be invalid, illegal or incapable of being enforced by any rule of Law or public policy, all other terms and provisions of the Agreement shall remain in full force and effect. Upon such determination, the parties hereto shall negotiate in good faith to modify this Agreement so as to give effect to the original intent of the Parties to the fullest extent permitted by applicable Law.

Section 11.8 Counterparts. This Agreement may be executed in one or more counterparts (including by facsimile or other electronic transmission), each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Delivery of an executed counterpart of a signature page to this Agreement by facsimile or by electronic delivery in PDF or other electronic format based on common standards will be effective as delivery of a manually executed counterpart of this Agreement.

Section 11.9 Specific Performance. The Parties agree that irreparable damage would occur in the event that any of the covenants or agreements set forth herein were not performed by them in accordance with the terms hereof or were otherwise breached and that each of the Parties shall be entitled to an injunction or injunctions to prevent breaches of such covenants and agreements and to enforce specifically such covenants and agreements (without any requirement to post any bond or other security in connection with seeking such relief), in addition to any other remedy at law or equity, exclusively in the Delaware Court of Chancery and any state appellate court therefrom within the State of Delaware (or, if the Delaware Court of Chancery declines to accept jurisdiction over a particular matter, any state or federal court within the State of Delaware). The Parties agree not to raise any objections to the availability of the equitable remedy of specific performance to prevent or restrain breaches of this Agreement by the Company, on the one hand, and to prevent or restrain breaches of this Agreement by Buyer or Merger Sub, on the other hand, and to specifically enforce the terms and provisions of this Agreement to prevent breaches or threatened breaches of, or to enforce compliance with, the covenants and obligations of the parties under this Agreement. For purposes of this Section 11.9, each of the Parties hereby consents to service of process in accordance with the terms of Section 11.5(b).

Section 11.10 Mutual Drafting. The Parties acknowledge that they are sophisticated parties and have been represented by legal counsel throughout the negotiation and drafting of this Agreement and the transactions contemplated hereby, and that the terms of the provisions hereof have been carefully negotiated by such legal counsel. Accordingly, the Parties hereby agree that the presumptions of Laws or rules relating to the interpretation of contracts against the drafter of any particular clause should not be applied to this Agreement or any agreement or instrument executed in connection herewith, and each Party hereby waives the application thereof.

Section 11.11 Continuing Counsel. Buyer and Merger Sub each hereby acknowledges that Goodwin Procter LLP ("*Goodwin*") has acted as counsel to the Company with respect to this

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Agreement, the Merger and the transactions contemplated hereby. Each of Buyer and Merger Sub agrees that it will not, and will cause the Surviving Company not to, seek to disqualify Goodwin from acting or continuing to act as counsel to the Stockholders' Representative (solely in its capacity as the Stockholders' Representative) and/or certain or all of the Securityholders in connection with a dispute hereunder or in any way related to any inquiry, investigation, claim, litigation, or proceeding relating to the Merger or the transactions contemplated hereby. Buyer and Merger Sub further agree that, as to all communications among any counsel for the Company or any Securityholder, including, but not limited to, Goodwin or any outside or in-house counsel, and the Company, the Stockholders' Representative and/or any such Securityholder that relate in any way to the Merger, the transactions contemplated hereby or any similar actual or potential transaction prior to the Closing (the "*Privileged Information*"), the attorney-client privilege and the expectation of client confidence belongs to the Stockholders' Representative and/or any such Securityholders and may be controlled by the Stockholders' Representative and any such Securityholders and shall not pass to or be claimed by Buyer, Merger Sub, the Surviving Company or any of their Affiliates. Neither Buyer nor Merger Sub will seek to obtain such communications, whether by seeking a waiver of the attorney-client privilege or through other means, and neither Goodwin nor any other counsel for the Company shall have any duty whatsoever to reveal or disclose to Buyer or Merger Sub any such Privileged Information. Notwithstanding the foregoing, in the event that a dispute arises between Buyer, the Surviving Company and its Affiliates, on the one hand, and a third party other than the Stockholders' Representative or a Securityholder, on the other hand, Buyer, the Surviving Company and its Affiliates may assert the attorney-client privilege to prevent disclosure of confidential communications to such third party; provided, however, that neither Buyer, the Surviving Company or its Affiliates may waive such privilege without the prior written consent of the Stockholders' Representative.

[*Signature Page Follows*]

The parties hereto, intending to be legally bound hereby, have duly executed this Agreement and Plan of Merger as of the date first above written.

ALEXION PHARMACEUTICALS, INC.

By: /s/ Ludwig Hantson
Name: Ludwig Hantson, Ph. D.
Title: Chief Executive Officer

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The parties hereto, intending to be legally bound hereby, have duly executed this Agreement and Plan of Merger as of the date first above written.

SYRACUSE MERGER SUB, INC.

By: /s/ Paul Clancy
Name: Paul Clancy
Title: President

[Signature Page to Agreement and Plan of Merger]

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The parties hereto, intending to be legally bound hereby, have duly executed this Agreement and Plan of Merger as of the date first above written.

SYNTIMMUNE, INC.

By:/s/ Jean-Paul Kress
Name: Jean-Paul Kress, M.D.
Title: Chief Executive Officer

[Signature Page to Agreement and Plan of Merger]

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The parties hereto, intending to be legally bound hereby, have duly executed this Agreement and Plan of Merger as of the date first above written.

SHAREHOLDER REPRESENTATIVE SERVICES LLC, solely in its capacity as the Stockholders' Representative

By: /s/ Sam Riffe
Name: Sam Riffe
Title: Executive Director

[Signature Page to Agreement and Plan of Merger]

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Exhibit H

Product Criteria

[*].

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Exhibit I

1) **[*]**.

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Exhibit J

Excluded Indication

[*].

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AGREEMENT

This Agreement (this "Agreement") is made as of this 7th day of September, 2018 (the "Effective Date") by and between Alexion Pharma Holding Unlimited Company (as assignee from Alexion Pharmaceuticals, Inc.) (the "Buyer"), an unlimited liability company incorporated under the laws of Ireland, Shareholder Representative Services LLC, a Colorado limited liability company (the "Stockholder Representative"), as successor to each of M. Luc Mainville, Jonathan Silverstein, Robert Heft and David Bonita (collectively, the "Former Stockholder Representatives"), solely in its capacity as the Stockholder Representative (as defined in the Merger Agreement (defined below)), Fonds de Solidarité des Travailleurs du Québec F.T.Q ("FTQ"), Capital Régional et Coopératif Desjardins ("Desjardins"), CTI Life Sciences Fund, L.P. ("CTI"), OrbiMed Private Investments III, LP ("OPI") and OrbiMed Associates III, LP ("OA").

RECITALS

WHEREAS, the Buyer (as assignee of Alexion Pharmaceuticals, Inc., a Delaware Corporation), EMRD Corporation, a Delaware corporation, the Former Stockholder Representatives and Enobia Pharma Corp., a Delaware corporation (the "Company"), are parties to that Agreement and Plan of Merger, dated December 28, 2011 (as amended, and as may be amended from time to time in accordance with its terms, the "Merger Agreement");

WHEREAS, the Buyer and the Stockholder Representative have disagreed about whether the Buyer has fulfilled its obligations with respect to the achievement of the Milestone (as defined in the Merger Agreement) set forth in Section 2.6(a)(ii) of the Merger Agreement; and

WHEREAS, the Buyer, and the Stockholder Representative on behalf of the Company Equityholders, desire to resolve such disagreement upon the terms and subject to the conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the foregoing and the respective representations, warranties, covenants and agreements set forth below, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Buyer and the Stockholder Representative agree as follows:

1. All capitalized terms used, but not defined, in this Agreement shall have the meaning set forth in the Merger Agreement.

2. The Stockholder Representative, on behalf of the Company Equityholders, agrees that neither the Buyer nor any of its Affiliates shall have any further obligation of any kind with respect to the Milestone set forth in Section 2.6(a)(ii) of the Merger Agreement, including any obligation to seek to achieve or to achieve, to deliver or otherwise communicate any reports or notices (including any reports or notices described in Section 2.6(d) of the Merger Agreement) or other information about, or to use Commercially Reasonable Efforts or any other level of efforts or diligence with respect to, such Milestone, and the Buyer shall have no obligation to make a Milestone Payment upon achievement of or in any other way with respect to such Milestone.

3. The Stockholder Representative, on behalf of the Company Equityholders, and Buyer agree as follows:

   (a) In addition to the Commercial Milestone set forth in Section 2.6(a)(vi) of the Merger Agreement, Buyer shall make a one-time payment of Twenty-Five Million Dollars ($25,000,000) to the Company Equityholders upon the first achievement of Aggregate Net Sales that are equal to or greater than Five Hundred Million Dollars ($500,000,000);

   (b) In addition to the Commercial Milestone set forth in Section 2.6(a)(vii) of the Merger Agreement, Buyer shall make a one-time payment of Twenty Million Dollars ($20,000,000) to the Company Equityholders upon the first achievement of Aggregate Net Sales that are equal to or greater than Seven Hundred Fifty Million Dollars ($750,000,000); and

   (c) In addition to the Commercial Milestone set forth in Section 2.6(a)(viii) of the Merger Agreement, Buyer shall make a one-time payment of Fifteen Million Dollars ($15,000,000) to the Company Equityholders upon the first achievement of Aggregate Net Sales that are equal to or greater than One Billion Dollars ($1,000,000,000).

4. The first achievement of Aggregate Net Sales described in any of Section 3(a), 3(b) or 3(c) shall be considered an "Additional Commercial Milestone" and the related payment described in any of Section 3(a), 3(b) or 3(c) shall be considered an "Additional Commercial Milestone Payment."

5. For purposes of clarity, (a) the Additional Commercial Milestone Payment set forth in Section 3(a), Section 3(b) or Section 3(c) shall be earned concurrently with the Milestone Payment for the Commercial Milestone in Section 2.6(a)(vi), Section 2.6(a)(vii) or Section 2.6(a)(viii) of the Merger Agreement, respectively; and (b) in addition to the second and third sentences of Section 2.6(b) of the Merger Agreement, more than one of the Additional Commercial Milestone Payments set forth in Section 3(a), Section 3(b) or Section 3(c) may be earned based on the Net Sales of Products during the same consecutive four (4) calendar quarter period. By way of example, if in a four consecutive calendar quarter period, the Net Sales for all Products in such four calendar quarters are for the first time greater than $500,000,000 and also greater than or equal to $750,000,000 but less than $1,000,000,000, then the Additional Commercial Milestone Payments set forth in both Sections 3(a) and 3(b) would be due and the Milestone Payment for the Commercial Milestone in Sections 2.6(a)(vi) and 2.6(a)(vii) of the Merger Agreement would be due.

6. Within ten (10) Business Days after the Stockholder Representative's receipt of the relevant report under Section 2.6(d)(iv) of the Merger Agreement for which a Commercial Milestone or Additional Commercial Milestone has been achieved, the Stockholder Representative shall notify the Buyer of the portion, if any, of the Additional Commercial Milestone Payment or Milestone Payment due under the Merger Agreement to be paid to the Stockholder Representative as reimbursement for any fees or expenses incurred by the Stockholder Representative in accordance with any agreement between the Stockholder Representative and any of the Company Equityholders (such amount, the applicable "Expense Reimbursement Amount," and such notice, the applicable "Expense Reimbursement Notice"). The Expense Reimbursement Amount shall be paid by the Buyer to the Stockholder Representative, and the remainder of the relevant Additional Commercial Milestone Payment or Milestone Payment shall be paid to the Paying Agent (reduced by any applicable withholding), within ten (10) Business Days after the Buyer's receipt of the applicable Expense Reimbursement Notice.

7. The Stockholder Representative, solely in its capacity as the Stockholder Representative and on behalf of the Company Equityholders, represents and warrants to the Buyer that any Expense Reimbursement Amount specified in accordance with Section 6 above reflects, as of the relevant date, the expense amount remaining after the Stockholders Representative Fund has been exhausted and, further, an amount that is no greater than the expenses (or, with respect to Section 2.4(d) of the Merger Agreement, losses or liabilities) the Stockholder Representative has incurred in performing its duties and exercising its rights as the Stockholder Representative, as set forth in Section 2.4(c) or 2.4(d) of the Merger Agreement.

8. The Stockholder Representative, solely in its capacity as the Stockholder Representative and on behalf of the Company Equityholders, shall indemnify and hold harmless the Buyer from and against (a) any liabilities payable to any Company Equityholder to the extent resulting from the Stockholder Representative's exercise of its rights pursuant to Section 6 above and (b) all costs and expenses (including reasonable attorneys' fees and expenses) reasonably incurred by the Buyer in defending any claim brought by any Company Equityholder to the extent resulting from the Stockholder Representative's exercise of its rights pursuant to Section 6 above.

9. For clarity, the portion of any payment set forth in Section 3 above that may become payable to holders of Company Options shall be deemed a separate payment for purposes of Section 409A of the Code.

10. The provisions of Section 2.6(e) of the Merger Agreement shall apply (a) to the Additional Commercial Milestones to the same extent as they apply to the Commercial Milestone and (b) to the Additional Commercial Milestone Payments to the same extent as they apply to the Milestone Payments.

11. The provisions of Sections 2.6(g) of the Merger Agreement shall apply to the Additional Commercial Milestones to the same extent as they apply to the Future Payments.

12. The Stockholder Representative, on behalf of the Company Equityholders, hereby releases, remises and forever discharges any and all rights and claims that it or the Company Equityholders have had, now have or might in the future have against the Buyer or any of its Affiliates of any kind or nature (whether in contract, tort, statute or otherwise, whether at law or in equity, whether known or unknown) to the extent arising from or in connection with any actual or claimed obligations of Buyer or any of its Affiliates with respect to the achievement of, or reporting with respect to, the Milestone set forth in Section 2.6(a)(ii) of the Merger Agreement, including any obligations or requirements that are described in Section 2 hereof.

13. For purposes of any confidentiality agreement executed between any Former Stockholder Representative or the Stockholder Representative, on the one hand, and the Buyer, on the other hand (each a "CDA"), (a) achievement of any Additional Commercial Milestone shall be treated as a Milestone and any Additional Commercial Milestone shall be treated as a Milestone Payment, and (b) the Purpose (as defined in such CDA) includes the right of each Former Stockholder Representative and the Stockholder Representative to use the Confidential Information (as defined in such CDA) in connection with the enforcement of this Agreement.

14. This Agreement constitutes the entire agreement between the parties to this Agreement and supersedes any prior understandings, agreements or representations by or between the parties hereto, written or oral, with respect to the subject matter

hereof; provided that each of the Merger Agreement (including the Company Disclosure Schedule and the Exhibits thereto and the documents and instruments referred to therein that were to be delivered at the Closing), the Confidentiality Agreement between Alexion Pharmaceuticals, Inc. and Shareholder Representative Services, dated March 23, 2012, the other CDAs and the Restructuring Agreement shall remain in effect in accordance with their terms, but shall be interpreted consistently with this Agreement. In furtherance of the foregoing, it is agreed that in case of any actual or claimed inconsistency between the Merger Agreement and this Agreement with respect to the Developmental Milestone in Section 2.6(a)(ii) of the Merger Agreement, this Agreement shall control. In entering into this Agreement, no party has relied on any understandings, agreements, promises or representations not expressly set forth herein or in the Merger Agreement.

15. The provisions of Sections 11.4, 11.5, 11.7, 11.8, 11.9, 11.10, 11.12 and 11.13 of the Merger Agreement shall apply to this Agreement, mutatis mutandis.

16. This Agreement is not intended to, and shall not, confer upon any other Person any rights or remedies hereunder, except the right of the Company Equityholders to receive the consideration set forth in Section 3, pursuant to, and subject to the conditions of, this Agreement, in lieu of the Milestone Payment that would have been payable upon achievement of the Milestone set forth in Section 2.6(a)(ii) of the Merger Agreement.

17. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original but all of which together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each of the parties hereto and delivered to the other parties, it being understood that all parties need not sign the same counterpart. This Agreement may be executed and delivered by facsimile or .pdf transmission.

18. All notices and other communications hereunder shall be in writing and shall be deemed duly delivered (i) four (4) Business Days after being sent by registered or certified mail, return receipt requested, postage prepaid, (ii) one (1) Business Day after being sent for next Business Day delivery, fees prepaid, via a reputable nationwide overnight courier service or (iii) on the date of confirmation of receipt (or, the first Business Day following such receipt if the date of such receipt is not a Business Day) of transmission by facsimile, in each case to the intended recipient as set forth below:

(a) if to the Buyer, to:

Alexion Pharma Holding
c/o Alexion Pharmaceuticals, Inc.
121 Seaport Boulevard
Boston, MA 02210

Attention: General Counsel

with a copy to:

Arnold & Porter Kaye Scholer LLP
3000 El Camino Real
Five Palo Alto Square
Suite 500
Palo Alto, CA 94306-2112
Attention: Deborah Fishman
Facsimile: (650) 319-4973

(b) if to the Stockholder Representative, to:

Shareholder Representative Services LLC
950 17th Street, Suite 1400
Denver, CO 80202
Attention: Managing Director

with a copy to:

WilmerHale
60 State Street
Boston, MA 02109
Attention: Hal Leibowitz
Facsimile: (617) 526-5000

Any party to this Agreement may give any notice or other communication hereunder using any other means (including personal delivery, messenger service, ordinary mail or electronic mail), but no such notice or other communication shall be deemed to have been duly given unless and until it actually is received by the party for whom it is intended. Any party to this Agreement may change the address to which notices and other communications hereunder are to be delivered by giving the other parties to this Agreement notice in the manner herein set forth.

[Signature Page Follows]

IN WITNESS WHEREOF, the Buyer and the Stockholder Representative have caused this Agreement to be signed by their respective officers thereunto duly authorized as of the date first written above.

ALEXION PHARMA HOLDING UNLIMITED COMPANY

By: /s/ Christopher Brough
Name: Christopher Brough
Title: Director

SHAREHOLDER REPRESENTATIVE SERVICES LLC, solely in its capacity as the Stockholder Representative

By: /s/ Christopher Letang
Name: Christopher Letang
Title: Managing Director

FONDS DE SOLIDARITÉ DES TRAVAILLEURS
DU QUÉBEC F.T.Q

By: /s/ Laurent Themens
Name: Laurent Themens
Its: Vice President, Legal Affairs

CAPITAL RÉGIONAL ET COOPÉRATIF
DESJARDINS

By: /s/
Name: Didier Lecont
Its: Vice President, Investments Life Sciences

CTI LIFE SCIENCES FUND, L.P.

By: /s/ Ken Pastor
Name: Ken Pastor
Its: General Partner

ORBIMED PRIVATE INVESTMENTS III, LP

By: OrbiMed Capital GP III LLC,
its General Partner

By: /s/ Jonathan T. Silverstein
Name: Jonathan T. Silverstein
Title: Member

ORBIMED ASSOCIATES III, LP

By: OrbiMed Advisors LLC,
its General Partner

By: /s/ Jonathan T. Silverstein
Name: Jonathan T. Silverstein
Title: Member

ALEXION PHARMACEUTICALS, INC.
AMENDED AND RESTATED 2015 EMPLOYEE STOCK PURCHASE PLAN

Section 1. Defined Terms

Exhibit A, which is incorporated by reference, defines the terms used in the Plan and sets forth certain operational rules related to those terms.

Section 2. Purpose of Plan

The Plan is intended to enable Eligible Employees of the Company and its Designated Subsidiaries to use payroll deductions to purchase shares of Stock, and thereby acquire an interest in the future of the Company. The Plan is intended to qualify as an "employee stock purchase plan" under Section 423 and to be exempt from the application and requirements of Section 409A of the Code, and is to be construed accordingly.

Section 3. Options to Purchase Stock

Subject to adjustment pursuant to Section 16 of this Plan, the maximum aggregate number of shares of Stock available for purchase pursuant to the exercise of Options granted under the Plan to Eligible Employees will be 1,000,000 shares. The shares of Stock to be delivered upon exercise of Options under the Plan may be either shares of authorized but unissued Stock, treasury Stock, or Stock acquired in an open-market transaction, all as the Board may determine. If any Option granted under the Plan expires or terminates for any reason without having been exercised in full or ceases for any reason to be exercisable in whole or in part, the unpurchased shares of Stock subject to such Option will again be available for purchase pursuant to the exercise of Options under the Plan. If, on an Exercise Date, the total number of shares of Stock that would otherwise be subject to Options granted under the Plan exceeds the number of shares then available under the Plan (after deduction of all shares for which Options have been exercised or are then outstanding), the Administrator shall make a pro rata allocation of the shares remaining available for the Option grants in as uniform a manner as shall be practicable and as it shall determine to be equitable. In such event, the Administrator shall give written notice to each Participant of such reduction of the number of Options affected thereby and shall similarly reduce the rate of payroll deductions, if necessary.

Section 4. Eligibility

Subject to Section 13 and Section 18, and any exceptions and limitations set forth in Section 6 or as permitted under Section 423, or as may be provided elsewhere in the Plan or any sub-plan contemplated by Section 18, each Employee who (a) has been continuously employed by the Company or a Designated Subsidiary as of the first day of any Option Period, (b) customarily works twenty (20) hours or more per week, (c) is employed by the Company or a Designated Subsidiary, and (d) satisfies the requirements set forth in the Plan will be an "**Eligible Employee.**" Notwithstanding the above, an Employee who is a citizen or resident of a foreign jurisdiction (without regard to whether such Employee is also a citizen of the United States or resident alien in the United States)

shall not be an Eligible Employee with respect to the Plan if the grant of an Option to such Employee is prohibited under the laws of the Employee's foreign jurisdiction or compliance with the laws of the foreign jurisdiction would cause the Plan or an Option to violate the requirements of Section 423. In no event, however, may an Employee be granted an Option under the Plan if, immediately after the Option is granted, the Employee would own (or pursuant to Section 424(d) of the Code would be deemed to own) stock possessing five percent (5%) or more of the total combined voting power or value of all classes of stock of the Company or of any Parent or Subsidiary as may exist from time to time. The Administrator may, for Option Periods that have not yet commenced, establish additional eligibility requirements not inconsistent with Section 423.

Section 5. Option Periods

The Plan will generally be implemented by a series of "**Option Periods.**" Unless otherwise determined by the Administrator, the Option Periods will be the five and one-half month periods commencing January 1 and ending June 15 and commencing July 1 and ending December 15 of each year. Each June 15 and December 15 will be an "**Exercise Date.**" The Administrator may change the Exercise Date and the commencement date, ending date and duration of the Option Periods to the extent permitted by Section 423.

Section 6. Option Grant

Subject to the limitations set forth in Section 4 and Section 10 and the Maximum Share Limit, on the first day of an Option Period, each Participant automatically will be granted an Option to purchase shares of Stock on the Exercise Date; *provided, however*, that no Participant will be granted an Option under the Plan that permits the Participant's right to purchase shares of Stock under the Plan and under all other employee stock purchase plans of the Company and its Parent and Subsidiaries, if any, to accrue at a rate that exceeds $25,000 in Fair Market Value (or such other maximum as may be prescribed from time to time by the Code) for each calendar year during which any Option granted to such Participant is outstanding at any time, as determined in accordance with Section 423(b)(8) of the Code.

Section 7. Method of Participation

To participate in an Option Period, an Eligible Employee must execute and deliver to the Administrator a payroll deduction and participation authorization form in accordance with the procedures prescribed by and in a form acceptable to the Administrator and, in so doing, the Eligible Employee will thereby become a Participant as of the first day of such Option Period. Such an Eligible Employee will remain a Participant with respect to subsequent Option Periods until his or her participation in the Plan is terminated as provided herein. Such payroll deduction and participation authorization must be delivered no later than thirty (30) calendar days prior to the first day of an Option Period, or such other time as specified by the Administrator.

A Participant's authorization will remain in effect for subsequent Option Periods unless the Participant files a new authorization within thirty (30) calendar days prior to

the first day of an Option Period (or such other time as specified by the Administrator) or as provided in the paragraph immediately below or the Participant's Option is cancelled pursuant to Section 13 or Section 14.

During an Option Period, a Participant's payroll deduction authorization applicable to such Option Period may be decreased only one time. To make such a decrease, the Participant must submit a new payroll deduction and participation authorization form authorizing the new rate of payroll deductions at least thirty (30) calendar days (or such other time as specified by the Administrator) prior to the Exercise Date. The foregoing does not limit a Participant's right to terminate his or her payroll deduction authorization by canceling or suspending his or her Option in accordance with Section 13.

Except as otherwise determined by the Administrator, each payroll deduction authorization will request payroll deductions in an amount expressed as a whole percentage, between one percent (1%) and fifteen percent (15%) of the Participant's total base compensation per payroll period, determined as of the first day of an Option Period, including base pay or base salary.

If the Administrator determines that another limit shall be imposed on maximum payroll deductions hereunder or that eligible compensation shall be defined in a different manner, determinations shall be made in a manner that satisfies the requirements of Treasury Regulation Section 1.423-2(f)(2).

All payroll deductions made pursuant to this Section 7 will be credited to the Participant's Account. Amounts credited to a Participant's Account will not be required to be set aside in trust or otherwise segregated from the Company's general assets.

Section 8. Method of Payment

A Participant must pay for shares of Stock purchased upon the exercise of an Option with accumulated payroll deductions credited to the Participant's Account.

Section 9. Purchase Price

The Purchase Price of shares of Stock issued pursuant to the exercise of an Option on each Exercise Date will be eighty-five percent (85%) (or such greater percentage specified by the Administrator to the extent permitted under Section 423) of one of the following, as selected by the Administrator prior to the commencement of the relevant Option Period:

(a) the Fair Market Value of a share of Stock on the date on which the Option was granted pursuant to Section 6 (*i.e.*, the first day of the Option Period);

(b) the Fair Market Value of a share of Stock on the date on which the Option is deemed exercised pursuant to Section 10 (*i.e.*, the Exercise Date); or

(c) the lesser of (a) and (b).

Section 10. Exercise of Options

Subject to the limitations set forth in Section 6 and this Section 10, with respect to each Option Period, on the applicable Exercise Date, each Participant will be deemed to have exercised his or her Option and total accumulated payroll deductions in the Participant's Account will be used to purchase full and fractional shares of Stock at the applicable Purchase Price that can be purchased with such Account balance at the applicable Purchase Price; *provided*, *however*, that no more than 350 shares of Stock may be purchased by a Participant on any Exercise Date, or such lesser number as the Administrator may prescribe in accordance with Section 423 (the "**Maximum Share Limit**"). As soon as practicable thereafter, shares of Stock so purchased will be placed, in book-entry form, into a record keeping account in the name of the Participant. Shares of Stock will be uncertificated; *provided*, *however*, that the Administrator shall have the discretion to establish procedures regarding the provision of stock certificates in the event such certificates are requested by a Participant. Prior to the commencement of an Option Period, the Administrator shall determine whether any payroll deductions accumulated in a Participant's Account that are not sufficient to purchase a full share will be retained in the Participant's Account for the subsequent Option Period, subject to earlier withdrawal by the Participant as provided in Section 13, or returned to the Participant or his or her legal representative, as applicable, without interest, as soon as administratively practicable after the Exercise Date or earlier withdrawal, as applicable.

Any amount of payroll deductions in a Participant's Account that are not used for the purchase of shares of Stock, whether because of the Participant's withdrawal from participation in an Option Period or for any other reason, will be returned to the Participant or his or her legal representative, as applicable, without interest, as soon as administratively practicable after such withdrawal or other event, as applicable.

If the Participant's accumulated payroll deductions on the Exercise Date would otherwise enable the Participant to purchase shares of Stock in excess of the Maximum Share Limit or the maximum Fair Market Value set forth in Section 6, the excess of the amount of the accumulated payroll deductions over the aggregate Purchase Price of the shares of Stock actually purchased will be returned to the Participant, without interest, as soon as administratively practicable after such Exercise Date.

Notwithstanding any provision of the Plan to the contrary, no Option may be exercised after 27 months from its grant date.

Section 11. Interest

No interest will be payable on any amount held in the Account of any Participant.

Section 12. Taxes

Payroll deductions will be made on an after-tax basis. The Administrator will have the right, as a condition to the exercise of an Option, to make such provision as it deems necessary to satisfy its obligations to withhold federal, state, local income or other

taxes incurred by reason of the purchase or disposition of shares of Stock under the Plan. In the Administrator's discretion and subject to applicable law, such tax obligations may be paid in whole or in part by delivery of shares of Stock to the Company, including shares of Stock purchased under the Plan, valued at Fair Market Value, but not in excess of the minimum statutory amounts required to be withheld.

Section 13. Suspension, Cancellation and Withdrawal

A Participant who holds an Option under the Plan may suspend his or her payroll deduction authorization by revoking such authorization by written notice delivered to the Administrator. Upon such suspension, the accrued balance in the Participant's Account will remain and will be used to purchase shares of Stock on the Exercise Date for the current Option Period.

A Participant who holds an Option under the Plan may cancel all (but not less than all) of his or her Option and terminate his or her payroll deduction authorization by revoking such authorization by written notice delivered to the Administrator, which, to be effective with respect to an upcoming Exercise Date, must be delivered not later than thirty (30) business days prior to such Exercise Date (or such other time as specified by the Administrator). Upon such termination and cancellation, the balance in the Participant's Account will be returned to the Participant, without interest, as soon as administratively practicable thereafter.

A Participant who makes a hardship withdrawal from a 401(k) Plan will be deemed to have terminated his or her payroll deduction authorization for subsequent payroll dates relating to the then current Option Period as of the date of such hardship withdrawal and amounts accumulated in the Participant's Account as of such date will be returned to the Participant, without interest, as soon as administratively practicable thereafter. An Employee who has made a hardship withdrawal from a 401(k) Plan will not be permitted to participate in Option Periods commencing after the date of his or her hardship withdrawal until the first Option Period that begins at least six (6) months after the date of his or her hardship withdrawal.

Section 14. Termination of Employment; Death of Participant

Upon the termination of a Participant's employment with the Company (or a Designated Subsidiary, as applicable) for any reason or the death of a Participant during an Option Period prior to an Exercise Date or in the event the Participant ceases to qualify as an Eligible Employee, the Participant will cease to be a Participant, any Option held by him or her under the Plan will be deemed canceled, the balance in the Participant's Account will be returned to the Participant (or his or her estate or designated beneficiary in the event of the Participant's death), without interest, as soon as administratively practicable thereafter, and the Participant will have no further rights under the Plan.

Section 15. Equal Rights; Participant's Rights Not Transferable

All Participants granted Options under the Plan will have the same rights and privileges consistent with the requirements set forth in Section 423 except for Participants in certain sub- plans of non-U.S. Designated Subsidiaries, as described in Section 18. Any Option granted under the Plan will be exercisable during the Participant's lifetime only by him or her and may not be sold, pledged, assigned, or transferred in any manner. In the event any Participant violates or attempts to violate the terms of this Section 15, as determined by the Administrator in its sole discretion, any Options held by him or her may be terminated by the Company and, upon the return to the Participant of the balance of his or her Account, without interest, all of the Participant's rights under the Plan will terminate.

Section 16. Change in Capitalization; Merger

In the event of any change in the outstanding Stock by reason of a stock dividend, split- up, recapitalization, merger, consolidation, reorganization, or other capital change, the aggregate number and type of shares of Stock available under the Plan, the number and type of shares of Stock granted under any outstanding Options, the maximum number and type of shares of Stock purchasable under any outstanding Options, and the purchase price per share of Stock under any outstanding Option will be appropriately adjusted; provided, that no such adjustment will be made unless the Administrator is satisfied that it will not constitute a modification of the rights

granted under the Plan or otherwise disqualify the Plan as an employee stock purchase plan under the provisions of Section 423.

In the event of a sale of all or substantially all of the Stock or a sale of all or substantially all of the assets of the Company, or a merger or similar transaction in which the Company is not the surviving corporation or that results in the acquisition of the Company by another person, the Administrator may, in its discretion, (a) if the Company is merged with or acquired by another corporation, provide that each outstanding Option will be assumed or exchanged for a substitute Option granted by the acquiror or successor corporation or by a parent or subsidiary of the acquiror or successor corporation, (b) cancel each outstanding Option and return the balances in Participants' Accounts to the Participants, and/or (c) pursuant to Section 18, terminate the Option Period on or before the date of the proposed sale, merger or similar transaction.

Section 17. Administration of Plan

The Plan will be administered by the Administrator, which will have the right to determine any questions which may arise regarding the interpretation and application of the provisions of the Plan and to make, administer, and interpret such rules and regulations as it deems necessary or advisable. All determinations and decisions by the Administrator regarding the interpretation or application of the Plan will be final and binding on all Participants.

The Administrator may specify the manner in which Employees are to provide notices and payroll deduction authorizations. Notwithstanding any requirement of "written notice" herein, the Administrator may permit Employees to provide notices and payroll deduction authorizations electronically.

Section 18. Sub-Plans; Amendment and Termination of Plan

The Board reserves the right at any time or times to amend the Plan to any extent and in any manner it may deem advisable, by action of the Board; *provided*, that any amendment that would be treated as the adoption of a new plan for purposes of Section 423 will have no force or effect unless approved by the shareholders of the Company within 12 months before or after its adoption.

The Plan may be suspended or terminated at any time by the Company, by action of the Board. In connection therewith, the Board may provide, in its sole discretion, either that outstanding Options will be exercisable either at the Exercise Date for the applicable Option Period or on such earlier date as the Board may specify (in which case such earlier date will be treated as the Exercise Date for the applicable Option Period), or that the balance of each Participant's Account will be returned to the Participant, without interest.

Notwithstanding the foregoing or any provision of the Plan to the contrary, the Administrator may, in its sole discretion, amend the terms of the Plan, or an Option, in order to reflect the impact of local law outside of the United States as applied to one or more Eligible Employees of a Non-U.S. Designated Subsidiary and may, where appropriate, establish one or more sub-plans to reflect such amended provisions; *provided*, *however*, in no event shall any sub-plan (a) be considered part of the Plan for purposes of Section 423 of the Code or (b) cause the Plan (other than the sub-plan) to fail to satisfy the requirements of Section 423 of the Code. In the event of any inconsistency between a sub-plan and the Plan document, the terms of the sub-plan shall govern with respect to any Eligible Employees of a Non-U.S. Designated Subsidiary. For the avoidance of doubt, shares of Stock purchased under a sub-plan shall reduce the maximum aggregate number of shares available for purchase pursuant to Section 3.

Section 19. Recycling of Shares.

In the event of the expiration, withdrawal, termination or other cancellation of an Option under the Plan, the number of Shares of Stock that were subject to the Option but not delivered shall again be available for issuance under the Plan.

Section 20. Approvals

Notwithstanding anything herein to the contrary, the obligation of the Company to issue and deliver shares of Stock under the Plan will be subject to the approval required of any governmental authority in connection with the authorization, issuance, sale or transfer of said shares of Stock and to any requirements of any national securities exchange applicable thereto.

Section 21. Participants' Rights as Shareholders and Employees

A Participant will have no rights or privileges as a shareholder of the Company and will not receive any dividends in respect of any shares of Stock covered by an Option granted hereunder until such Option has been exercised, full payment has been

made for such shares of Stock, and the shares of Stock have been issued to the Participant.

Nothing contained in the provisions of the Plan will be construed as giving to any Employee the right to be retained in the employ of the Company or any Designated Subsidiary or as interfering with the right of the Company or any Designated Subsidiary to discharge, promote, demote or otherwise re-assign any Employee from one position to another within the Company any Designated Subsidiary or non-U.S. Designated Subsidiary at any time.

Section 22. Governing Law

The Plan will be governed by and interpreted consistently with the laws of the State of Delaware, except as may be necessary to comply with applicable requirements of federal law. For purposes of litigating any dispute that arises under the Plan, such litigation shall be conducted only in the courts of New Haven County, Connecticut, or the federal courts for the United States for the District of Connecticut, and no other courts.

Section 23. Notices.

Any notice or document required to be filed with the Administrator under or with respect to the Plan will be properly filed if delivered or mailed by registered mail, postage prepaid (or in such other form acceptable to the Administrator), to the Administrator at the Administrator's principal executive offices. The Administrator may, by advance written notice to affected persons, revise any notice procedure applicable to it from time to time. Any notice required under the Plan may be waived by the person entitled to notice.

Section 24. Effective Date and Term

Subject to the approval by the Company's shareholders at the Company's 2015 annual meeting, the Plan will become effective on May 6, 2015 (the "**Effective Date**") and no rights will be granted hereunder after the earliest to occur of (a) the Plan's termination by the
Company, (b) the issuance of all shares of Stock available for issuance under the Plan or (c) May 6, 2025. This Plan, as amended and restated, shall be effective for Option Periods commencing on or after September 15, 2018.

EXHIBIT A
Definition of Terms

The following terms, when used in the Plan, will have the meanings and be subject to the provisions set forth below:

"401(k) Plan": A savings plan qualifying under Section 401(k) of the Code that is sponsored by the Company or one of its Subsidiaries for the benefit of its employees.

"Account": A payroll deduction account maintained in the Participant's name on the books of the Company or a Designated Subsidiary.

"Administrator": The Leadership and Compensation Committee of the Board and its delegates, except that the Compensation Committee may delegate its authority under the Plan to a sub-committee comprised of one or more of its members, to members of the Board, or to officers or employees of the Company to the extent permitted by applicable law. In each case references herein to the Administrator refer, as applicable, to such persons or groups so delegated to the extent of such delegation.

"Board": The Board of Directors of the Company.

"Code": The U.S. Internal Revenue Code of 1986 as from time to time amended and in effect, or any successor statute as from time to time in effect.

"Company": Alexion Pharmaceuticals, Inc.

"Designated Subsidiary": A Subsidiary of the Company that has been designated by the Board or the Compensation Committee of the Board from time to time as eligible to participate in the Plan. Exhibit B sets forth the Designated Subsidiaries as of the Effective Date.

"Effective Date": The date set forth in Section 24 of the Plan.

"Eligible Employee": Any Employee who meets the eligibility requirements set forth in Section 4 of the Plan or any other service provider who is eligible to participate under the specific rules of a sub-plan, as described in Section 18, regardless of whether he or she meets the eligibility requirements under Section 4 of this Plan.

"Employee": Any person who is employed by the Company or a Designated Subsidiary. For the avoidance of doubt independent consultants and independent contractors are not "Employees" for purposes of the Plan. Notwithstanding any other provision of the Plan, individuals who are not treated as common law employees by the Company or a Designated Subsidiary on their payroll records are excluded from Plan participation even if a court or administrative agency determines that such individuals are common law employees and not independent contractors. No employee of the Company or any Designated Subsidiary shall be eligible to participate in the Plan if the Administrator determines that such participation could be in violation of any local law and that it is permissible to exclude such employees from participation in the Plan under Section 423.

"Exercise Date": The date set forth in Section 5 of the Plan or otherwise designated by the Administrator with respect to a particular Option Period on which a Participant will be deemed to have exercised the Option granted to him or her for such Option Period.

"Fair Market Value":

(a) If the Stock is readily traded on an established U.S. national exchange or trading system (including the Nasdaq Global Market), the closing price of the Stock as

reported by the principal exchange on which such Stock is traded; *provided*, *however*, that if such day is not a trading day in the U.S. Fair Market Value will mean the reported closing price of the Stock for the immediately preceding day that is a trading day.

(b) If the Stock is not traded on an established U.S. national exchange or trading system, the average of the bid and ask prices for such Stock where the bid and ask prices are quoted.

(c) If the Stock cannot be valued pursuant to clauses (a) or (b), the value as determined in good faith by the Board in its sole discretion.

"Maximum Share Limit": The meaning set forth in Section 10 of the Plan.

"Non-U.S. Designated Subsidiary": A Subsidiary of the Company incorporated outside of the United States that has been designated by the Board or the Compensation Committee of the Board from time to time as eligible to participate in the Plan. Exhibit C sets forth the Non-
U.S. Designated Subsidiaries as of the Effective Date.

"Option": An option granted pursuant to the Plan entitling the holder to acquire shares of Stock upon payment of the Purchase Price per share of Stock.

"Option Period": An offering period established in accordance with Section 5 of the Plan

"Parent": A "parent corporation" as defined in Section 424(e) of the Code.

"Participant": An Eligible Employee who elects to enroll in the Plan.

"Plan": The Alexion Pharmaceuticals, Inc. 2015 Employee Stock Purchase Plan, as from time to time amended and in effect.

"Purchase Price": The price per share of Stock with respect to an Option Period determined in accordance with Section 9 of the Plan.

"Section 423": Section 423 of the Code and the regulations thereunder.

"Stock": Common stock of the Company, par value $0.0001 per share.

"Subsidiary": A "subsidiary corporation" as defined in Section 424(f) of the Code.

Exhibit 31.1

I, Ludwig N. Hantson, Ph.D., certify that:

1 I have reviewed this quarterly report on Form 10-Q of Alexion Pharmaceuticals, Inc.;

2 Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3 Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4 The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5 The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: October 24, 2018

/s/ LUDWIG N. HANTSON, Ph.D.

Chief Executive Officer

Exhibit 31.2

I, Paul J. Clancy, certify that:

1 I have reviewed this quarterly report on Form 10-Q of Alexion Pharmaceuticals, Inc.;

2 Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3 Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4 The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5 The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: October 24, 2018

/s/ PAUL J. CLANCY

Executive Vice President and Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the quarterly report on Form 10-Q of Alexion Pharmaceuticals, Inc. (the "Company") for the fiscal quarter ended September 30, 2018 as filed with the Securities and Exchange Commission (the "Report"), I, Ludwig N. Hantson, Ph.D., Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: October 24, 2018

/s/ LUDWIG N. HANTSON, Ph.D.

Chief Executive Officer

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the quarterly report on Form 10-Q of Alexion Pharmaceuticals, Inc. (the "Company") for the fiscal quarter ended September 30, 2018 as filed with the Securities and Exchange Commission (the "Report"), I, Paul J. Clancy, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: October 24, 2018

/s/ PAUL J. CLANCY

Executive Vice President and Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.