
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES
EXCHANGE ACT OF 1934.**

For the quarterly period ended September 30, 2011

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 0-26301

United Therapeutics Corporation

(Exact Name of Registrant as Specified in Its Charter)

Delaware

(State or Other Jurisdiction of
Incorporation or Organization)

52-1984749

(I.R.S. Employer
Identification No.)

1040 Spring Street, Silver Spring, MD
(Address of Principal Executive Offices)

20910
(Zip Code)

(301) 608-9292

(Registrant's Telephone Number, Including Area Code)

(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 ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, 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 ☒ No ☐

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

Large accelerated filer ☒

Accelerated filer ☐

Non-accelerated filer ☐
(do not check if a smaller reporting company)

Smaller reporting company ☐

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

The number of shares outstanding of the issuer's common stock, par value \$.01 per share, as of October 21, 2011 was 58,334,621.

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PART I. FINANCIAL INFORMATION
Item 1. Consolidated Financial Statements

UNITED THERAPEUTICS CORPORATION
CONSOLIDATED BALANCE SHEETS
(In thousands, except share data)

	September 30, 2011 (Unaudited)	December 31, 2010
Assets		
Current assets:		
Cash and cash equivalents	\$ 343,984	\$ 252,162
Marketable investments	350,614	374,921
Accounts receivable, net of allowance of none for 2011 and 2010	87,390	73,707
Other current assets	6,277	6,840
Prepaid expenses	9,762	8,752
Inventories, net	45,797	35,520
Deferred tax assets	2,309	12,585
Total current assets	846,133	764,487
Marketable investments	249,995	132,849
Marketable investments and cash—restricted	5,123	5,122
Goodwill and other intangibles, net	19,402	9,861
Property, plant and equipment, net	333,225	306,044
Deferred tax assets	191,000	202,135
Other assets	22,175	11,137
Total assets	<u>\$ 1,667,053</u>	<u>\$ 1,431,635</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 17,244	\$ 16,146
Accrued expenses	69,628	50,280
Convertible notes	248,537	235,968
Other current liabilities	89,542	126,292
Total current liabilities	424,951	428,686
Mortgage payable—noncurrent	68,929	68,929
Other liabilities	77,322	39,252
Total liabilities	571,202	536,867
Commitments and contingencies:		
Common stock subject to repurchase	10,882	10,882
Stockholders' equity:		
Preferred stock, par value \$.01, 10,000,000 shares authorized, no shares issued	—	—
Series A junior participating preferred stock, par value \$.01, 100,000 authorized, no shares issued	—	—
Common stock, par value \$.01, 245,000,000 shares authorized, 60,838,118 and 60,017,546 shares issued, and 58,334,461 and 57,555,893 shares outstanding at September 30, 2011 and December 31, 2010, respectively	608	600
Additional paid-in capital	959,302	928,690
Accumulated other comprehensive loss	(10,641)	(9,175)
Treasury stock at cost, 2,503,657 and 2,461,653 shares at September 30, 2011 and December 31, 2010, respectively	(70,149)	(67,399)
Retained earnings	205,849	31,170
Total stockholders' equity	1,084,969	883,886
Total liabilities and stockholders' equity	<u>\$ 1,667,053</u>	<u>\$ 1,431,635</u>

See accompanying notes to consolidated financial statements.

UNITED THERAPEUTICS CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
	(Unaudited)		(Unaudited)	
Revenues:				
Net product sales	\$ 201,020	\$ 168,236	\$ 546,784	\$ 428,306
Other	722	339	1,221	903
Total revenues	201,742	168,575	548,005	429,209
Operating expenses:				
Research and development	59,433	40,337	131,379	103,391
Selling, general and administrative	16,656	45,593	98,775	120,699
Cost of product sales	22,676	20,155	63,577	49,139
Total operating expenses	98,765	106,085	293,731	273,229
Operating income	102,977	62,490	254,274	155,980
Other (expense) income:				
Interest income	1,016	564	2,520	2,308
Interest expense	(5,416)	(4,809)	(16,256)	(14,255)
Equity loss in affiliate	(43)	(39)	(110)	(130)
Other, net	(278)	137	(1,301)	457
Total other (expense) income, net	(4,721)	(4,147)	(15,147)	(11,620)
Income from continuing operations before income taxes	98,256	58,343	239,127	144,360
Income tax expense	(17,641)	(18,217)	(65,073)	(47,332)
Income from continuing operations	80,615	40,126	174,054	97,028
Discontinued operations:				
(Loss) income from discontinued operations, net of tax	—	(390)	7	(656)
Gain on disposal of discontinued operations, net of tax	3,783	—	618	—
Income (loss) from discontinued operations	3,783	(390)	625	(656)
Net income	\$ 84,398	\$ 39,736	\$ 174,679	\$ 96,372
Net income per common share:				
Basic				
Continuing operations	\$ 1.38	\$ 0.71	\$ 3.00	\$ 1.74
Discontinued operations	\$ 0.07	\$ (0.01)	\$ 0.01	\$ (0.01)
Net income per basic common share	\$ 1.45	\$ 0.70	\$ 3.01	\$ 1.73
Diluted				
Continuing operations	\$ 1.32	\$ 0.67	\$ 2.80	\$ 1.63
Discontinued operations	\$ 0.06	\$ (0.01)	\$ 0.01	\$ (0.01)
Net income per diluted common share	\$ 1.38	\$ 0.66	\$ 2.81	\$ 1.62
Weighted average number of common shares outstanding:				
Basic	58,321	56,536	58,087	55,790
Diluted	61,210	60,216	62,062	59,545

See accompanying notes to consolidated financial statements.

UNITED THERAPEUTICS CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Nine Months Ended September 30,	
	2011	2010
	(Unaudited)	
Cash flows from operating activities:		
Net income	\$ 174,679	\$ 96,372
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	15,637	14,181
Provisions for inventory obsolescence	2,904	1,844
Deferred tax expense	65,384	46,962
Share-based compensation	(37,790)	61,127
Expense associated with outstanding license fees	41,332	—
Amortization of debt discount and debt issue costs	13,647	12,520
Amortization of discount or premium on investments	3,406	1,465
Equity loss in affiliate and other	2,114	548
Excess tax benefits from share-based compensation	(6,486)	(18,726)
Changes in operating assets and liabilities:		
Accounts receivable	(14,651)	(25,313)
Inventories	(13,996)	(7,751)
Prepaid expenses	(1,912)	507
Other assets	(722)	(2,971)
Accounts payable	1,040	(7,451)
Accrued expenses	(28,036)	15,327
Other liabilities	(17,984)	(16,361)
Net cash provided by operating activities	198,566	172,280
Cash flows from investing activities:		
Purchases of property, plant and equipment	(36,725)	(13,199)
Purchases of held-to-maturity investments	(616,571)	(458,526)
Maturities of held-to-maturity investments	519,334	310,348
Sales of trading investments	—	36,200
Acquisitions	(3,547)	—
Restrictions on cash	—	(20,747)
Net cash used in investing activities	(137,509)	(145,924)
Cash flows from financing activities:		
Proceeds from the exercise of stock options	23,948	64,425
Excess tax benefits from share-based compensation	6,486	18,726
Net cash provided by financing activities	30,434	83,151
Effect of exchange rate changes on cash and cash equivalents	331	327
Net increase in cash and cash equivalents	91,822	109,834
Cash and cash equivalents, beginning of period	252,162	100,352
Cash and cash equivalents, end of period	<u>\$ 343,984</u>	<u>\$ 210,186</u>
Supplemental schedule of cash flow information:		
Cash paid for interest	<u>\$ 2,766</u>	<u>\$ 625</u>
Cash paid for income taxes	<u>\$ 25,050</u>	<u>\$ 2,335</u>
Non-cash investing activities:		
Non-cash additions to property, plant and equipment	<u>\$ 14,290</u>	<u>\$ 1,362</u>
Acquisitions—non cash consideration	<u>\$ 3,400</u>	<u>\$ —</u>

See accompanying notes to consolidated financial statements.

UNITED THERAPEUTICS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
September 30, 2011
(UNAUDITED)

1. Organization and Business Description

United Therapeutics Corporation is a biotechnology company focused on the development and commercialization of unique products to address the unmet medical needs of patients with chronic and life-threatening conditions. As used in these notes to the consolidated financial statements, unless the context otherwise requires, the terms “we,” “us,” “our,” and similar terms refer to United Therapeutics Corporation and its consolidated subsidiaries.

Our lead product, Remodulin[®] (treprostinil) Injection (Remodulin), was initially approved in 2002 by the United States Food and Drug Administration (FDA) and has also been approved for use in countries outside of the United States. We sell Remodulin in the United States and in many other countries around the world. In 2009, the FDA approved Tyvaso[®] (treprostinil) Inhalation Solution (Tyvaso) and Adcirca[®] (tadalafil) tablets (Adcirca), both of which we market in the United States.

2. Basis of Presentation

The accompanying unaudited consolidated financial statements have been prepared in accordance with the rules and regulations of the United States Securities and Exchange Commission (SEC) for interim financial information. Accordingly, they do not include all of the information required by United States generally accepted accounting principles (GAAP) for complete financial statements. These consolidated financial statements should be read in conjunction with the audited consolidated financial statements and the accompanying notes to the consolidated financial statements contained in our Annual Report on Form 10-K for the year ended December 31, 2010, as filed with the SEC on February 24, 2011.

In our management’s opinion, the accompanying consolidated financial statements contain all adjustments, including normal, recurring adjustments, necessary to fairly present our financial position as of September 30, 2011, results of operations for the three- and nine-month periods ended September 30, 2011 and 2010, and cash flows for the nine months ended September 30, 2011 and 2010. Interim results are not necessarily indicative of results for an entire year. The operating results of Medicomp, Inc. for the three- and nine-month periods ended September 30, 2010 have been reclassified and presented within discontinued operations on our consolidated statements of operations. This change in presentation had no impact on net income as previously reported. We did not reclassify our consolidated balance sheet at December 31, 2010 or our consolidated statements of cash flows for the nine months ended September 30, 2011 and 2010 to reflect the classification of Medicomp, Inc. as a discontinued operation as the impact is not significant to those statements (refer to Note 14— *Sale of Medicomp, Inc.*).

3. Inventories

Inventories are stated at the lower of cost (first-in, first-out method) or market (current replacement cost) and consist of the following, net of reserves (in thousands):

	September 30, 2011	December 31, 2010
Pharmaceutical products:		
Raw materials	\$ 6,377	\$ 2,788
Work-in-progress	17,352	18,598
Finished goods	22,064	13,098
Delivery pumps, supplies and equipment	4	1,036
Total inventories	<u>\$ 45,797</u>	<u>\$ 35,520</u>

4. Fair Value Measurements

Assets and liabilities subject to fair value measurements are required to be disclosed within a fair value hierarchy. The fair value hierarchy ranks the quality and reliability of inputs used to determine fair value. Accordingly, assets and liabilities carried at, or permitted to be carried at, fair value are classified within the fair value hierarchy in one of the following categories based on the lowest level input that is significant to a fair value measurement:

Level 1—Fair value is determined by using unadjusted quoted prices that are available in active markets for identical assets and liabilities.

Level 2—Fair value is determined by using inputs other than Level 1 quoted prices that are directly or indirectly observable. Inputs can include quoted prices for similar assets and liabilities in active markets or quoted prices for identical assets and liabilities in inactive markets. Related inputs can also include those used in valuation or other pricing models such as interest rates and yield curves that can be corroborated by observable market data.

Level 3—Fair value is determined by using inputs that are unobservable and not corroborated by market data. Use of these inputs involves significant and subjective judgment.

Assets and liabilities subject to fair value measurements are as follows (in thousands):

	As of September 30, 2011			
	Level 1	Level 2	Level 3	Balance
Assets				
Money market funds (1)	\$ 256,878	\$ —	\$ —	\$ 256,878
Federally-sponsored and corporate debt securities (2)	—	599,918	—	599,918
Available-for-sale equity investment	283	—	—	283
Total assets	\$ 257,161	\$ 599,918	\$ —	\$ 857,079
Liabilities				
Convertible Senior Notes	\$ 257,467	\$ —	\$ —	\$ 257,467
Contingent consideration (3)	—	—	3,984	3,984
Total liabilities	\$ 257,467	\$ —	\$ 3,984	\$ 261,451

	As of December 31, 2010			
	Level 1	Level 2	Level 3	Balance
Assets				
Money market funds (1)	\$ 91,206	\$ —	\$ —	\$ 91,206
Federally-sponsored and corporate debt securities (2)	—	507,375	—	507,375
Available-for-sale equity investment	373	—	—	373
Total assets	\$ 91,579	\$ 507,375	\$ —	\$ 598,954
Liabilities				
Convertible Senior Notes	\$ 421,721	\$ —	\$ —	\$ 421,721
Contingent consideration (3)	—	—	1,894	1,894
Total liabilities	\$ 421,721	\$ —	\$ 1,894	\$ 423,615

- (1) Included in cash and cash equivalents and marketable investments and cash—restricted on the accompanying consolidated balance sheets.
- (2) Included in current and non-current marketable investments on the accompanying consolidated balance sheets. The fair value of these securities is derived using a market approach — i.e., from pricing models that rely on relevant observable market data, including interest rates, yield curves, recently reported trades of comparable securities, credit spreads and benchmark securities. See also Note 5— *Marketable Investments—Held-to-Maturity Investments* to these consolidated financial statements.

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- (3) Included in non-current liabilities on the accompanying consolidated balance sheets. The fair value of contingent consideration has been measured using a probability weighted discounted cash flow model which incorporates Level 3 inputs including estimated discount rates and the projected timing and amount of cash flows.

A reconciliation of the beginning and ending balance of the Level 3 liabilities for the three- and nine-month periods ended September 30, 2011, is presented below (in thousands):

	Contingent Consideration
Balance July 1, 2011—Asset (Liability)	\$ (618)
Transfers into Level 3	—
Transfers out of Level 3	—
Total gains/(losses) realized/unrealized	
Included in earnings	—
Included in other comprehensive income	34
Purchases (see Note 15)	(3,400)
Sales	—
Issuances	—
Settlements	—
Balance September 30, 2011—Asset (Liability)	<u>\$ (3,984)</u>
Amount of total gains/(losses) for the three-month period ended September 30, 2011 included in earnings that are attributable to the change in unrealized gains or losses related to outstanding liabilities	<u>\$ —</u>
	Contingent Consideration
Balance January 1, 2011—Asset (Liability)	\$ (1,894)
Transfers into Level 3	—
Transfers out of Level 3	—
Total gains/(losses) realized/unrealized	
Included in earnings	—
Included in other comprehensive income	(51)
Purchases (see Note 15)	(3,400)
Sales	—
Issuances	—
Settlements	1,361
Balance September 30, 2011—Asset (Liability)	<u>\$ (3,984)</u>
Amount of total gains/(losses) for the nine-month period ended September 30, 2011 included in earnings that are attributable to the change in unrealized gains or losses related to the outstanding liability	<u>\$ —</u>

Fair Value of Financial Instruments

The carrying amounts of cash and cash equivalents, accounts receivables, accounts payable, and accrued expenses approximate fair value because of their short maturities. The fair values of our marketable investments and our 0.50% Convertible Senior Notes due October 2011 are reported above within the fair value hierarchy. The recorded value of our mortgage loan approximates its fair value as it bears a variable rate of interest that we believe approximates the market rate of interest for debt with similar credit risk profiles, terms and maturities. Refer to Note 9— *Debt—Mortgage Financing* for details.

5. Marketable Investments

Held-to-Maturity Investments

Marketable investments classified as held-to-maturity consist of the following (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Government-sponsored enterprises at September 30, 2011	\$ 262,937	\$ 117	\$ (112)	\$ 262,942
Corporate notes and bonds at September 30, 2011	337,389	84	(497)	336,976
Total	\$ 600,326	\$ 201	\$ (609)	\$ 599,918
Reported under the following captions on the consolidated balance sheet at September 30, 2011:				
Current marketable securities	\$ 350,614			
Noncurrent marketable securities	249,712			
Total	\$ 600,326			

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Government-sponsored enterprises at December 31, 2010	\$ 282,005	\$ 52	\$ (152)	\$ 281,905
Corporate notes and bonds at December 31, 2010	225,394	144	(68)	225,470
Total	\$ 507,399	\$ 196	\$ (220)	\$ 507,375
Reported under the following captions on the consolidated balance sheet at December 31, 2010:				
Current marketable securities	\$ 374,921			
Noncurrent marketable securities	132,478			
Total	\$ 507,399			

The following table summarizes gross unrealized losses and the length of time marketable investments have been in a continuous unrealized loss position (in thousands):

	As of September 30, 2011		As of December 31, 2010	
	Fair Value	Gross Unrealized Loss	Fair Value	Gross Unrealized Loss
Government-sponsored enterprises:				
Continuous unrealized loss position less than one year	\$ 154,319	\$ (112)	\$ 152,844	\$ (152)
Continuous unrealized loss position greater than one year	—	—	—	—
	154,319	(112)	152,844	(152)
Corporate notes and bonds:				
Continuous unrealized loss position less than one year	\$ 183,766	\$ (497)	\$ 107,883	\$ (68)
Continuous unrealized loss position greater than one year	—	—	—	—
	183,766	(497)	107,883	(68)
Total	\$ 338,085	\$ (609)	\$ 260,727	\$ (220)

We attribute the unrealized losses on held-to-maturity securities as of September 30, 2011, to the variability in related market interest rates. We do not intend to sell these securities, nor is it more likely than not that we will be required to sell them prior to the end of their contractual term. Furthermore, we believe these securities do not expose us to undue market risk or counterparty credit risk. As such, we do not consider these securities to be other than temporarily impaired.

The following table summarizes the contractual maturities of held-to-maturity marketable investments at September 30, 2011 (in thousands):

	September 30, 2011	
	Amortized Cost	Fair Value
Due in less than one year	\$ 350,614	\$ 350,627
Due in one to two years	249,712	249,291
Due in three to five years	—	—
Due after five years	—	—
Total	<u>\$ 600,326</u>	<u>\$ 599,918</u>

Equity Investments

We own less than 1 percent of the common stock of a publicly-traded company. Our investment in this company is classified as available-for-sale and reported at fair value based on the quoted market price.

We have equity investments totaling \$8.0 million in privately-held corporations. We account for these investments at cost. The fair value of our investments has not been estimated as of September 30, 2011, as there have been no events or developments indicating that these investments may be impaired. We include these investments within non-current other assets on our consolidated balance sheets.

6. Goodwill and Other Intangible Assets

Goodwill and other intangible assets comprise the following (in thousands):

	As of September 30, 2011			As of December 31, 2010		
	Gross	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
Goodwill (1)	\$ 5,989	\$ —	\$ 5,989	\$ 2,487	\$ —	\$ 2,487
Other intangible assets:						
Technology, patents and tradenames	4,990	(1,883)	3,107	8,991	(5,368)	3,623
Customer relationships and non-compete agreements	4,886	(1,621)	3,265	4,762	(1,011)	3,751
Definite lived contract-based (2)	7,100	(59)	7,041	—	—	—
Total	<u>\$ 22,965</u>	<u>\$ (3,563)</u>	<u>\$ 19,402</u>	<u>\$ 16,240</u>	<u>\$ (6,379)</u>	<u>\$ 9,861</u>

(1) During the quarter ended September 30, 2011, we recognized \$3.5 million of goodwill in connection with our acquisition of Revivicor, Inc. See Note 15— *Acquisition of Revivicor, Inc.*

(2) Definite lived contract-based intangibles consist of an acquired license agreement. See Note 15— *Acquisition of Revivicor, Inc.*

Total amortization relating to other intangible assets for the five succeeding years and thereafter is presented below (in thousands):

Year ending December 31,	
2012	\$ 1,722
2013	1,699
2014	1,692
2015	1,431
2016	910
Thereafter	5,547
	<u>\$ 13,001</u>

7. Supplemental Executive Retirement Plan

We maintain the United Therapeutics Corporation Supplemental Executive Retirement Plan (SERP) to provide retirement benefits to certain senior members of our management team. To help fund our expected obligations under the SERP, we maintain the United Therapeutics Corporation Supplemental Executive Retirement Plan Rabbi Trust Document (Rabbi Trust). The balance in the Rabbi Trust was approximately \$5.1 million as of September 30, 2011 and December 31, 2010. The Rabbi Trust is irrevocable and SERP participants will have no preferred claim on, nor any beneficial ownership interest in, any assets of the Rabbi Trust. The investments in the Rabbi Trust are classified as restricted marketable investments and cash on our consolidated balance sheets.

Net periodic pension cost consists of the following (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Service cost	\$ 1,079	\$ 988	\$ 3,176	\$ 2,700
Interest cost	352	248	1,004	635
Amortization of prior service costs	207	90	566	163
Amortization of net actuarial loss	20	32	71	87
Net pension expense	<u>\$ 1,658</u>	<u>\$ 1,358</u>	<u>\$ 4,817</u>	<u>\$ 3,585</u>

8. Share Tracking Award Plans

We maintain the United Therapeutics Corporation Share Tracking Awards Plan, adopted in June 2008 (the 2008 STAP), under which we grant long-term, equity-based compensation to eligible participants. Share tracking awards convey the right to receive in cash an amount equal to the appreciation of our common stock, which is calculated as the positive difference between the closing price of our common stock on the date of exercise and the date of grant. Outstanding awards generally vest in equal increments on each anniversary of the date of grant over a three- or four-year period and expire on the tenth anniversary of the date of grant. On March 15, 2011, our Board of Directors approved the United Therapeutics Corporation 2011 Share Tracking Awards Plan (the 2011 STAP), pursuant to which up to 2,000,000 share tracking awards may be granted under provisions substantially similar to those of the 2008 STAP. We refer to the 2008 STAP and the 2011 STAP collectively as the “STAP,” and awards granted under either of these plans as “awards.”

We account for outstanding awards as a liability because they are required to be settled in cash. Accordingly, we estimate the fair value of outstanding awards at each financial reporting date using the Black-Scholes-Merton valuation model until settlement occurs or awards are otherwise no longer outstanding. Changes in the fair value of outstanding awards are recognized as an adjustment to compensation expense on our consolidated statements of operations. The STAP liability balance was \$58.5 million and \$125.6 million at September 30, 2011 and December 31, 2010, respectively, and has been included within other current liabilities on our consolidated balance sheets.

In estimating the fair value of STAP awards, we are required to use inputs that materially impact the determination of fair value and the amount of compensation expense to be recognized. These inputs include the expected volatility of the price of our common stock, the risk-free interest rate, the expected term of awards, the expected forfeiture rate and the expected dividend yield.

The table below presents the assumptions used to measure the fair value of awards at September 30, 2011 and 2010:

	September 30, 2011	September 30, 2010
Expected volatility	46.6%	45.7%
Risk-free interest rate	0.6%	1.2%
Expected term of awards (in years)	4.1	4.7
Expected forfeiture rate	6.8%	5.5%
Expected dividend yield	0.0%	0.0%

A summary of the activity and status of the awards for the nine-month period ended September 30, 2011 is presented below:

	Number of Awards	Weighted- Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (in Thousands)
Outstanding at January 1, 2011	7,380,480	\$ 39.91		
Granted	1,584,131	65.02		
Exercised	(821,117)	29.92		
Forfeited	(312,003)	45.51		
Outstanding at September 30, 2011	7,831,491	\$ 45.81	7.8	\$ 26,444
Exercisable at September 30, 2011	3,756,037	\$ 36.07	7.5	\$ 23,412
Expected to vest at September 30, 2011	3,474,099	\$ 53.72	8.7	\$ 2,809

The weighted average fair value of awards granted during the nine-month periods ended September 30, 2011 and 2010 was \$28.03 and \$26.23, respectively.

Share-based compensation (benefit) expense related to the STAP is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Research and development	\$ (22,969)	\$ 13,449	\$ (17,877)	\$ 23,173
Selling, general and administrative	(24,143)	15,558	(20,031)	25,899
Cost of product sales	(529)	—	(529)	—
Share-based compensation (benefit) expense before taxes				
(1)	(47,641)	29,007	(38,437)	49,072
Related income tax expense (benefit)	17,613	(10,725)	14,210	(18,141)
Share-based compensation (benefit) expense, net of taxes	\$ (30,028)	\$ 18,282	\$ (24,227)	\$ 30,931
Share-based compensation capitalized as part of inventory	\$ (812)	\$ 1,171	\$ (458)	\$ 1,710

- (1) Share-based compensation benefit for the three- and nine-month periods ended September 30, 2011 resulted from the decrease in the fair value of awards as a result of the decline in the price of our common stock at September 30, 2011.

Cash paid to settle awards exercised during the nine-month periods ended September 30, 2011 and 2010, was \$27.9 million and \$16.9 million, respectively.

9. Debt

Convertible Senior Notes

On October 30, 2006, we issued at par value \$250.0 million of Convertible Senior Notes, which matured on October 15, 2011 (2011 Convertible Senior Notes). At maturity, we paid approximately \$250.0 million in outstanding principal and \$625,000 in accrued interest to holders of the 2011 Convertible Senior Notes (note holders). Pursuant to the terms of the 2011 Convertible Senior Notes, the number of shares to be issued to note holders upon maturity will be determined over the twenty trading-day period beginning on October 17, 2011 to the extent that the conversion value (the number of shares underlying the 2011 Convertible Senior Notes multiplied by the then-current price of our common stock, as measured during the twenty trading day averaging period) exceeds the principal value. At September 30, 2011, the aggregate conversion value of the 2011 Convertible Senior Notes did not exceed their principal value, using a conversion price of \$37.49, the closing price of our common stock on September 30, 2011.

Because the terms of the 2011 Convertible Senior Notes provided for settlement wholly, or partially in cash, we accounted for their liability and equity components separately so that recognition of interest expense would reflect our non-convertible borrowing rate. Accordingly, we estimated the fair value of the 2011 Convertible Senior Notes without the conversion feature as of the date of issuance (Liability Component). The excess of the proceeds received over the estimated fair value of the Liability Component totaling \$72.4 million was allocated to the conversion feature (Equity Component) and a corresponding offset was recognized as a discount to reduce the net carrying value of the 2011 Convertible Senior Notes. We are amortizing the discount using the interest method over a five-year period ending in October 2011 (the expected life of the Liability Component) at an effective rate of interest of 7.5 percent, which corresponded to our estimated non-convertible borrowing rate at the date of issuance.

The contractual coupon rate of interest and the discount amortization associated with the 2011 Convertible Senior Notes are as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Contractual coupon rate of interest	\$ 312	\$ 312	\$ 937	\$ 937
Discount amortization	4,268	3,962	12,569	11,670
Effective interest—Convertible Senior Notes	<u>\$ 4,580</u>	<u>\$ 4,274</u>	<u>\$ 13,506</u>	<u>\$ 12,607</u>

Amounts comprising the carrying value of the 2011 Convertible Senior Notes include the following (in thousands):

	September 30, 2011	December 31, 2010
Principal balance	\$ 249,968	\$ 249,968
Discount, net of accumulated amortization of \$70,971 and \$58,402	(1,431)	(14,000)
Carrying amount	<u>\$ 248,537</u>	<u>\$ 235,968</u>

Convertible Bond Hedge and Warrant Transactions

Concurrent with the issuance of the 2011 Convertible Senior Notes, we purchased call options on our common stock in a private transaction with Deutsche Bank AG London (Call Option). The Call Option enables us to receive up to approximately 6.6 million shares of our common stock at a price of \$37.61 per share.

In a separate transaction, we sold warrants to Deutsche Bank AG London under which Deutsche Bank AG London has the right to acquire up to approximately 6.6 million shares of our common stock at an exercise price of \$52.85 per share (Warrants).

The shares deliverable to us under the Call Option must be obtained from existing shareholders. Any shares that we may be required to deliver under the Warrant can consist of registered or unregistered shares, subject to potential adjustments to the settlement amount. The maximum number of shares of our common stock that we may be required to deliver in connection with the Warrant is approximately 6.6 million. We have reserved approximately 6.6 million shares for the settlement of the Warrant and had sufficient shares available as of September 30, 2011 to effect such settlement.

We believe that the design of the Call Option and Warrants, which we collectively refer to as the hedge transactions, will eliminate, or significantly reduce, the potential dilutive impact related to the settlement of the 2011 Convertible Senior Notes. In accordance with the terms of these agreements, settlement and maturity of the Warrants will occur at various increments through March 2012.

Mortgage Financing

In December 2010, we entered into a Credit Agreement with Wells Fargo Bank, National Association (Wells Fargo) and Bank of America, N.A., pursuant to which we obtained \$70.0 million in debt financing. The Credit Agreement has a forty-eight month term maturing in December 2014 and is secured by our facilities in Research Triangle Park, North Carolina and Silver Spring, Maryland. Annual principal payments are based on a twenty-five year amortization schedule using a fixed rate of interest of 7.0 percent and the outstanding debt bears a floating rate of interest per annum based on the one-month London Interbank Offer Rate (LIBOR), plus a credit spread of 3.75 percent, or approximately 4.0 percent as of September 30, 2011. Alternatively, we have the option to change the rate of interest charged on the loan to 2.75 percent plus the greater of: (1) Wells Fargo's prime rate, or (2) the federal funds effective rate plus 0.05 percent, or (3) LIBOR plus 1.0 percent. The Credit Agreement also permits prepayment of the outstanding loan balance in its entirety, subject to a prepayment premium which was initially 1.5 percent during the first six months of the term. The prepayment premium declines in 0.5 percent increments at each successive six-month interval, such that there is no premium if the loan is prepaid after December 2012. The Credit Agreement subjects us to various financial and negative covenants. As of September 30, 2011, we were in compliance with these covenants.

Interest Expense

Details of interest expense are presented below (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Interest expense	\$ 5,646	\$ 4,836	\$ 16,702	\$ 14,282
Less: interest capitalized	(230)	(27)	(446)	(27)
Total interest expense	<u>\$ 5,416</u>	<u>\$ 4,809</u>	<u>\$ 16,256</u>	<u>\$ 14,255</u>

10. Stockholders' Equity

Earnings per common share

Basic earnings per share is computed by dividing net income by the weighted average number of shares of common stock outstanding during the period. Diluted earnings per share is computed by dividing net income by the weighted average number of shares of common stock outstanding during the period, adjusted for the potential dilutive effect of other securities if such securities were converted or exercised.

The components of basic and diluted earnings per common share comprise the following (in thousands, except per share amounts):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Numerator:				
Income from continuing operations	\$ 80,615	\$ 40,126	\$ 174,054	\$ 97,028
Income (loss) from discontinued operations	3,783	(390)	625	(656)
Net income	<u>\$ 84,398</u>	<u>\$ 39,736</u>	<u>\$ 174,679</u>	<u>\$ 96,372</u>
Denominator:				
Weighted average outstanding shares — basic	58,321	56,536	58,087	55,790
Effect of dilutive securities:				
Convertible Senior Notes (1)	1,489	1,661	2,444	1,998
Stock options (2)	1,400	2,019	1,531	1,757
Weighted average shares — diluted	<u>61,210</u>	<u>60,216</u>	<u>62,062</u>	<u>59,545</u>
Earnings per common share:				
Basic				
Continuing operations	\$ 1.38	\$ 0.71	\$ 3.00	\$ 1.74
Discontinued operations	\$ 0.07	\$ (0.01)	\$ 0.01	\$ (0.01)
Net income per basic common share	<u>\$ 1.45</u>	<u>\$ 0.70</u>	<u>\$ 3.01</u>	<u>\$ 1.73</u>
Diluted				
Continuing operations	\$ 1.32	\$ 0.67	\$ 2.80	\$ 1.63
Discontinued operations	\$ 0.06	\$ (0.01)	\$ 0.01	\$ (0.01)
Net income per diluted common share	<u>\$ 1.38</u>	<u>\$ 0.66</u>	<u>\$ 2.81</u>	<u>\$ 1.62</u>
Stock options and warrants excluded from calculation (3)	<u>7,922</u>	<u>7,329</u>	<u>6,446</u>	<u>6,531</u>

- (1) Shares that would be received under the terms of the Call Option (see Note 9 — *Debt—Convertible Bond Hedge and Warrant Transactions* to these consolidated financial statements) have been excluded from the calculation of diluted earnings per share as their impact would be anti-dilutive.
- (2) Calculated using the treasury stock method.
- (3) Certain stock options and warrants were excluded from the computation of diluted earnings per share because their impact would be anti-dilutive.

Stock Option Plan

We grant stock option awards under our equity incentive plan. The fair value of stock options is estimated using the Black-Scholes-Merton valuation model. Option pricing models, including Black-Scholes-Merton, require the input of assumptions that can materially impact the estimation of fair value and related compensation expense. These assumptions include the expected

volatility of our common stock, risk-free interest rate, the expected term of stock option awards, expected forfeiture rate and the expected dividend yield.

Presented below are the weighted average assumptions used to estimate the grant date fair value of stock options granted during the nine-month period ended September 30, 2010. We did not grant any stock options during the three-month periods ended September 30, 2011 and 2010 and the nine months ended September 30, 2011.

	Nine Months Ended September 30, 2010
Expected volatility	47.3%
Risk-free interest rate	2.2%
Expected term of options (years)	5.5
Expected dividend yield	0.0%
Forfeiture rate	0.0%

A summary of the activity and status of employee stock options during the nine-month period ended September 30, 2011 is presented below:

	Number of Options	Weighted- Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding at January 1, 2011	5,925,968	\$ 35.64		
Granted	—	—		
Exercised	(806,404)	29.18		
Forfeited	(178,735)	28.91		
Outstanding at September 30, 2011	4,940,829	\$ 36.94	6.0	\$ 27,304
Exercisable at September 30, 2011	4,940,829	\$ 36.94	6.0	\$ 27,304

Total share-based compensation expense related to employee stock options for the three- and nine-month periods ended September 30, 2011 and 2010, is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Research and development	\$ 3	\$ 700	\$ 196	\$ 2,931
Selling, general and administrative	5	1,613	315	8,743
Share-based compensation expense before taxes	8	2,313	511	11,674
Related income tax benefit	(3)	(851)	(189)	(4,295)
Share-based compensation expense, net of taxes	\$ 5	\$ 1,462	\$ 322	\$ 7,379
Share-based compensation capitalized as part of inventory	\$ —	\$ 82	\$ 15	\$ 275

Employee and non-employee stock option exercise data is summarized below (dollars in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Number of options exercised	20,135	384,303	820,572	2,557,299
Cash received	\$ 224	\$ 9,820	\$ 23,948	\$ 64,425

11. Comprehensive Income

Comprehensive income consists of the following (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Net income	\$ 84,398	\$ 39,736	\$ 174,679	\$ 96,372
Other comprehensive income:				
Foreign currency translation (loss) gain	(2,142)	2,829	(983)	(24)
Unrecognized prior service cost, net of tax	131	(1,344)	(652)	(1,298)
Unrecognized actuarial pension gain (loss), net of tax	13	(478)	231	(620)
Unrealized (loss) gain on available-for-sale securities, net of tax	(119)	17	(62)	63
Comprehensive income	<u>\$ 82,281</u>	<u>\$ 40,760</u>	<u>\$ 173,213</u>	<u>\$ 94,493</u>

12. Income Taxes

Income tax expense for the three- and nine-month periods ended September 30, 2011 and 2010 is based on the estimated effective tax rate for the entire year. The estimated annual effective tax rate can be subject to adjustment in subsequent quarterly periods if components used in its estimation are revised. The estimated annual effective tax rates as of September 30, 2011 and 2010 were 28 percent and 36 percent, respectively. The decrease in the annual effective tax rate as of September 30, 2011 reflects reductions in annual estimates of non-deductible compensation and an increase in tax credits expected to be generated.

As of September 30, 2011, we had available for federal income tax purposes \$75.1 million in business tax credit carryforwards that will expire at various dates through 2025. Certain business tax credit carryforwards that were generated at various dates prior to December 2008 are subject to limitations on their use pursuant to Internal Revenue Code Section 382 (Section 382) as a result of ownership changes as defined by Section 382. However, we do not expect these business tax credits to expire unused.

We are subject to federal and state taxation in the United States and various foreign jurisdictions. Currently, our 2010 tax year is subject to examination by the Internal Revenue Service (IRS) and our tax years from 2008 to 2010 are subject to examination by state taxing authorities. During the quarter ended September 30, 2011, the IRS completed its audits of our 2009 and 2008 tax years. Based on the completion of these audits, we decreased our reserves for uncertain tax positions by \$4.0 million at September 30, 2011.

13. Segment Information

Prior to June 30, 2011, we operated in two business segments: pharmaceutical and telemedicine. With the sale of our telemedicine subsidiary, Medicomp, Inc., in March 2011 and the subsequent discontinuation of our remaining telemedicine-related activities in June 2011, we no longer have a telemedicine segment. In light of these developments, we have presented the results of operations relating to Medicomp, Inc., including the gain recognized on its disposal, within discontinued operations on our consolidated statements of operations for the three- and nine-month periods ended September 30, 2011 and 2010. Refer to Note 14— *Sale of Medicomp, Inc.* for further details.

As doctors and patients have become increasingly familiar with Tyvaso and Adcirca since these products received regulatory approval in 2009 and we have become more familiar with the market for these products, our chief operating decision makers regularly review revenue and cost of revenue data for our three commercial products.

Revenues, cost of revenues and gross profit for each of our commercial products for the three- and nine-month periods ended September 30, 2011 and 2010 were as follows (in thousands):

Three Months Ended September 30, 2011				
	Remodulin	Tyvaso	Adcirca	Total
Revenues	\$ 114,918	\$ 66,330	\$ 19,772	\$ 201,020
Cost of revenues	12,659	8,735	1,282	22,676
Gross profit	<u>\$ 102,259</u>	<u>\$ 57,595</u>	<u>\$ 18,490</u>	<u>\$ 178,344</u>
Three Months Ended September 30, 2010				
Revenues	\$ 109,584	\$ 48,717	\$ 9,935	\$ 168,236
Cost of revenues	10,777	8,717	661	20,155
Gross profit	<u>\$ 98,807</u>	<u>\$ 40,000</u>	<u>\$ 9,274</u>	<u>\$ 148,081</u>
Nine Months Ended September 30, 2011				
Revenues	\$ 323,016	\$ 175,835	\$ 47,933	\$ 546,784
Cost of revenues	36,860	23,551	3,166	63,577
Gross profit	<u>\$ 286,156</u>	<u>\$ 152,284</u>	<u>\$ 44,767</u>	<u>\$ 483,207</u>
Nine Months Ended September 30, 2010				
Revenues	\$ 301,720	\$ 103,083	\$ 23,503	\$ 428,306
Cost of revenues	28,668	18,902	1,569	49,139
Gross profit	<u>\$ 273,052</u>	<u>\$ 84,181</u>	<u>\$ 21,934</u>	<u>\$ 379,167</u>

For the three-month periods ended September 30, 2011 and 2010, net revenues from our three U.S.-based distributors represented 81 percent and 84 percent, respectively, of our total net operating revenues. For the nine-month periods ended September 30, 2011 and 2010, net revenues from our three U.S.-based distributors represented 82 percent and 84 percent, respectively, of our total net operating revenues.

14. Sale of Medicomp, Inc.

In February 2011, we entered into an agreement and plan of merger to sell our wholly owned telemedicine subsidiary, Medicomp, Inc. (Medicomp), to a group of private investors, including Medicomp's current president. At closing on March 31, 2011, we sold 100 percent of the outstanding stock of Medicomp in exchange for 42,004 shares of United Therapeutics common stock held by the investors, with an aggregate value of \$2.8 million, and a \$12.1 million, ten-year promissory note bearing interest at 5.0 percent per annum. Immediately after closing the sale, we purchased a 19.9 percent ownership interest in Medicomp in exchange for \$1.0 million in cash and an approximately \$2.0 million reduction in the face value of the promissory note which we believe approximated the fair value of our non-controlling interest. The carrying value of our 19.9 percent investment in Medicomp was based on the consideration Medicomp received. For the six-months ended June 30, 2011, we reported a loss on the disposal of Medicomp. However, due to a change in estimate in our 2010 tax return associated with contractual discounts on services rendered, we utilized Medicomp's related deferred tax assets that were recognized prior to the disposal date. As a result of the adjustment to Medicomp's carrying value as of the disposal date, we recognized a gain of \$860,000 in connection with the sale.

In June 2011, we discontinued all activities related to the development of an arrhythmia detection application and do not expect to generate further direct cash flows from telemedicine-related activities. As such, we met the criteria for reporting discontinued operations during the one-year assessment period, which began on March 31, 2011. Accordingly, we have included the operating results of Medicomp, including the gain recognized on its disposal, within discontinued operations on our consolidated statements of operations for the three- and nine-month periods ended September 30, 2011 and 2010.

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We sold the following assets and liabilities of Medicomp as of the closing date, as adjusted (in thousands):

	<u>March 31, 2011</u>
Assets	
Cash	\$ 1,221
Accounts receivable and inventory	1,028
Deferred tax assets	4,262
Equipment and other assets	7,089
Total assets	<u>\$ 13,600</u>
Other current liabilities	<u>\$ 1,433</u>

Medicomp's revenues and (loss) income before income tax reported in discontinued operations for the three- and nine-month periods ended September 30, 2011 and 2010 are presented below (in thousands):

	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2011</u>	<u>2010</u>	<u>2011</u>	<u>2010</u>
Revenues	\$ —	\$ 2,408	\$ 3,107	\$ 8,145
Income (loss) before income tax	\$ 5,366	\$ (609)	\$ 935	\$ (1,026)

15. Acquisition of Revivacor, Inc.

On July 11, 2011, we acquired 100 percent of the outstanding stock of Revivacor, Inc. (Revivacor), a company focused on developing genetic biotechnology platforms. We acquired Revivacor to pursue early stage product development in the field of tissue and organ transplantation. The acquisition date fair value of the consideration consisted of \$3.5 million in cash, subject to a potential working capital adjustment, and \$3.4 million in contingent consideration. We expect to finalize any necessary acquisition-date adjustments during the fourth quarter of 2011. Pursuant to the terms of the acquisition, contingent consideration consists of up to \$25.0 million upon the achievement of specific developmental and regulatory milestones. We estimated the fair value of the contingent consideration using a probability-weighted, discounted cash flow model (DCF). Significant inputs to the DCF model included Revivacor's estimated cost of borrowing and the projected amounts and timing of cash flows. Accordingly, the fair value of the contingent consideration has been estimated using significant unobservable inputs, which are classified as Level 3 inputs within the fair value hierarchy. Goodwill recognized in connection with the acquisition relates to intangible assets that do not qualify for separate recognition.

The table below presents the acquisition date fair value of assets acquired and liabilities assumed (in thousands):

	<u>July 11, 2011</u>
Current assets	<u>\$ 306</u>
Property, plant and equipment	286
Identifiable intangible assets (1)	7,100
Goodwill (2)	3,472
Total assets acquired	<u>\$ 11,164</u>
Accrued expenses	<u>\$ 713</u>
Deferred revenue	2,424
Total liabilities assumed	<u>\$ 3,137</u>

- (1) Consists of contract-based intangible assets which consisted of a license agreement. Contract-based intangible assets will be amortized over an estimated economic life of twenty years which corresponds to the period expected cash flows are anticipated to be received under the license agreement.

- (2) Goodwill is not deductible for tax purposes.

16. License Agreement

In July 2011, we entered into an exclusive license agreement with Toray Industries, Inc. (Toray) to amend and replace our existing March 2007 license agreement regarding the development of an orally-administered, modified release formulation of the prostacyclin analogue beraprost (beraprost-MR), for the treatment of pulmonary arterial hypertension. Terms of the July 2011 license agreement did not materially change from the previous license agreement and license agreement supplements except for a reduction in royalty rates. In exchange for the reduction in royalty rates, we agreed to pay Toray \$50.0 million in equal, non-refundable payments over the five-year period ending in 2015. Since these payments are non-refundable and have no contingencies attached to them, we recognized an obligation of \$46.3 million, which represents the present value of the related payments discounted by our estimated current cost of financing. In addition, we recognized a corresponding charge to research and development expenses during the quarter ended September 30, 2011.

17. Subsequent Events

Convertible Senior Notes

On October 17, 2011, we issued \$250.0 million aggregate principal amount of 1.0% Convertible Senior Notes due September 15, 2016 (2016 Convertible Senior Notes). We received \$241.4 million in net proceeds from the offering after deducting the initial purchaser's (Deutsche Bank Securities, Inc.) discount, fees and our offering expenses. We used the net proceeds to repurchase shares of our common stock under an accelerated share repurchase arrangement and to pay the net cost of a call spread hedge. Both the accelerated share repurchase and call spread hedge transactions described below were entered into with Deutsche Bank AG London Branch, an affiliate of Deutsche Bank Securities, Inc., and became effective the date we issued the 2016 Convertible Senior Notes.

Terms of the 2016 Convertible Senior Notes are substantially similar to those of the 2011 Convertible Senior Notes. Interest will be payable semi-annually, in arrears, on March 15th and September 15th of each year. The initial conversion price is \$47.96 per share and the maximum number of shares underlying the debt is approximately 5.2 million shares.

Conversion can occur: (1) anytime after June 15, 2016; (2) during any calendar quarter that follows a calendar quarter in which the price of our common stock exceeds 130% of the conversion price for at least 20 days during the 30 consecutive trading-day period ending on the last trading day of the quarter; (3) during the ten consecutive trading-day period following any five consecutive trading-day period in which the trading price of the 2016 Convertible Senior Notes is less than 95% of the closing price of our common stock multiplied by the then current number of shares underlying the 2016 Convertible Senior Notes; (4) upon specified distributions to our shareholders; (5) in connection with certain corporate transactions; or (6) in the event that our common stock ceases to be listed on the NASDAQ Global Select Market, the NASDAQ Global Market, or the New York Stock Exchange, or any of their respective successors.

Upon conversion, holders of our 2016 Convertible Senior Notes are entitled to receive: (1) cash equal to the lesser of the principal amount of the notes or the conversion value (the number of shares underlying the 2016 Convertible Senior Notes multiplied by the then-current conversion price per share); and (2) to the extent the conversion value exceeds the principal amount of the 2016 Convertible Senior Notes, shares of our common stock. In the event of a change in control, as defined in the indenture under which the 2016 Convertible Senior Notes have been issued, holders can require us to purchase all or a portion of their 2016 Convertible Senior Notes for 100 percent of the principal value plus any accrued and unpaid interest.

Because the terms of the 2016 Convertible Senior Notes provide for settlement wholly or partially in cash, we will be required to account for the liability and equity components of the notes separately so that the subsequent recognition of interest expense will reflect our non-convertible borrowing rate. Accordingly, we anticipate accounting for the 2016 Convertible Senior Notes in a manner similar to that of our 2011 Convertible Senior Notes which matured on October 15, 2011.

Convertible Bond Hedge and Warrant Transactions

We used \$33.3 million in net proceeds from the issuance of the 2016 Convertible Senior Notes to pay the net cost of a call spread hedge transactions, which are designed to reduce the potential dilutive impact upon the conversion of the 2016 Convertible Senior Notes. Under the call spread hedge, we purchased call options on our common stock, which give us the right to receive from Deutsche Bank AG London Branch up to 5.2 million shares of our common stock at a strike price of \$47.69. The call options will terminate upon the maturity of the 2016 Convertible Senior Notes, or the first day the notes are no longer outstanding. We also sold Deutsche Bank AG London Branch warrants to acquire up to approximately 5.2 million shares of our

common stock at a strike price of \$67.56. The warrants will expire in ratable portions on a series of expiration dates within approximately five months after the maturity of the 2016 Convertible Senior Notes. If the conversion price of the 2016 Convertible Senior Notes remains between the strike prices of the call options and warrants, our shareholders will not experience any dilution in connection with the conversion of the 2016 Convertible Senior Notes; however, to the extent that the conversion price exceeds the strike price of the warrants, there will be dilution upon conversion.

Share Repurchase

On October 3, 2011, our Board of Directors approved a share repurchase program authorizing up to \$300.0 million in aggregate repurchases of our common stock, from time-to-time at our discretion, over a two-year period ending on October 3, 2013 (Repurchase Program). In connection with the broader Repurchase Program, we paid \$212.0 million funded primarily from the proceeds received from the 2016 Convertible Senior Notes offering to pay for the cost of an accelerated share repurchase agreement (ASR). Under the ASR, we will repurchase a variable number of our shares subject to upper and lower stock price limits that establish the minimum and maximum number of shares that can be repurchased. The final number of shares to be repurchased under the ASR will be determined based on the daily volume weighted average price of our common stock over a specified averaging period ending on the contract termination date. The ASR is scheduled to terminate during the second quarter of 2012; however, Deutsche Bank AG London Branch can accelerate termination at its option. Pursuant to the terms of the ASR, on October 17, 2011, Deutsche Bank AG London Branch delivered to us approximately 4.7 million shares of our common stock, representing the minimum number of shares we were entitled to receive under the ASR. Upon settlement of the ASR, we may receive additional shares of our common stock.

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

The following discussion should be read in conjunction with our Annual Report on Form 10-K for the year ended December 31, 2010, and the consolidated financial statements and accompanying notes included in *Part I, Item I* of this Quarterly Report on Form 10-Q. The following discussion contains forward-looking statements made pursuant to the safe harbor provisions of Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995, including the statements listed in the section below entitled *Part II, Item 1A—Risk Factors*. These statements are based on our beliefs and expectations about future outcomes and are subject to risks and uncertainties that could cause our actual results to differ materially from anticipated results. Factors that could cause or contribute to such differences include those described in *Part II, Item 1A—Risk Factors* of this Quarterly Report on Form 10-Q; factors described in our Annual Report on Form 10-K for the year ended December 31, 2010, under the section entitled *Part I, Item 1A—Risk Factors—Forward-Looking Statements*; and factors described in other cautionary statements, cautionary language and risk factors set forth in other filings with the Securities and Exchange Commission (SEC). We undertake no obligation to publicly update these forward-looking statements, whether as a result of new information, future events or otherwise.

Overview

We are a biotechnology company focused on the development and commercialization of unique products to address the unmet medical needs of patients with chronic and life-threatening conditions.

Our key therapeutic products and product candidates include:

- *Prostacyclin analogues (Remodulin[®], Tyvaso[®], oral treprostinil and beraprost-MR)* : stable synthetic forms of prostacyclin, an important molecule produced by the body that has powerful effects on blood vessel health and function;
- *Phosphodiesterase type 5 (PDE-5) inhibitor (Adcirca[®])* : a molecule that acts to inhibit the degradation of cyclic guanosine monophosphate (cGMP) in cells. cGMP is activated by nitric oxide, a naturally occurring substance in the body that mediates the relaxation of vascular smooth muscle;
- *Monoclonal antibodies for oncologic applications (Ch14.18 MAb and 8H9 MAb)* : antibodies that treat cancer by activating the immune system; and
- *Glycobiology antiviral agents* : a novel class of small, sugar-like molecules that have shown antiviral activity in a range of pre-clinical settings.

We concentrate substantially all of our research and development efforts on these key therapeutic programs. Our lead product is Remodulin (treprostinil) Injection (Remodulin) for the treatment of pulmonary arterial hypertension (PAH). The United States Food and Drug Administration (FDA) initially approved Remodulin in 2002 for subcutaneous (under the skin) administration. The FDA subsequently broadened its approval of Remodulin in 2004 for intravenous (in the vein) use and for the treatment of patients requiring transition from Flolan[®], the first drug approved by the FDA for the treatment of PAH. In addition to the United States, Remodulin is approved in many other countries, primarily for subcutaneous use. Our other commercial products include Adcirca (tadalafil) tablets (Adcirca) and Tyvaso (treprostinil) Inhalation Solution (Tyvaso). In May 2009, the FDA approved Adcirca, an orally administered therapy for the treatment of PAH to which we acquired certain exclusive commercialization rights from Eli Lilly and Company (Lilly). In July 2009, we received FDA approval of Tyvaso, an inhaled therapy for the treatment of PAH. We launched both of these products for commercial sale during the third quarter of 2009. These two products enable us to offer treatments to a broader range of patients who suffer from PAH. In addition, we are continuing to develop oral formulations of treprostinil and beraprost-MR, both for the treatment of PAH.

We sold Medicomp, Inc., our telemedicine subsidiary, to a group of private investors on March 31, 2011. In addition, in June 2011, we discontinued all of our continuing telemedicine-related activities. Accordingly, the results of Medicomp, Inc., including the gain recognized on its disposal, have been included in discontinued operations for the three- and nine-month periods ended September 30, 2011 and 2010. See Note 14— *Sale of Medicomp, Inc.* to our consolidated financial statements included in this Quarterly Report on Form 10-Q for further details.

Revenues

Sales of Remodulin comprise the largest share of our revenues. Other significant sources of revenues include sales of Tyvaso and Adcirca. Sales of Tyvaso and Adcirca have continued to grow since their commercial introduction in 2009, as each of these therapies has gained broader market acceptance. We sell Remodulin and Tyvaso in the United States to our specialty pharmaceutical distributors: Accredo Health Group, Inc., CuraScript, Inc. and CVS Caremark. Adcirca is sold to pharmaceutical wholesalers that are part of Lilly's pharmaceutical wholesaler network. We also sell Remodulin to distributors outside of the United States. On July 21, 2011, Express Scripts, Inc., the parent company of CuraScript, announced the signing of a merger agreement with Medco Health Solutions, Inc., the parent company of Accredo. The parties announced that the merger, which is subject to regulatory and shareholder approvals, is expected to close in the first half of 2012. Presently, we do not expect the merger, if approved, to materially affect our business.

We require our distributors to maintain reasonable levels of contingent inventory at all times as the interruption of Remodulin or Tyvaso therapy can be life threatening. Consequently, sales of these therapies in any given quarter may not precisely reflect patient demand. Our distributors typically place monthly orders based on estimates of future demand and considerations of contractual minimum inventory requirements. As a result, the sales volume of Remodulin and Tyvaso can vary, depending on the timing and magnitude of these orders.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the Acts) contains broad provisions that will be implemented over the next several years. We are continually evaluating the impact of the Acts on our business; however, our evaluation is dependent upon the issuance of final regulations and the impact this legislation will have on insurance companies and their relationships with drug manufacturers.

On January 1, 2011, certain provisions of the Acts that address the coverage gap in the Medicare Part D prescription drug program (commonly known as the "donut hole") became effective. Under these provisions, drug manufacturers are required to provide a 50 percent discount on branded prescription drugs to patients receiving reimbursement under Medicare Part D while they remain in this coverage gap. These provisions of the Acts apply to Adcirca, which is our only commercial pharmaceutical product covered by Medicare Part D. Approximately 35 percent of our Adcirca patients are covered under Medicare Part D. The vast majority of our Remodulin and Tyvaso Medicare patients are covered under Medicare Part B, which does not contain a similar coverage gap.

We were not materially impacted by the Acts during 2010 and estimate that our revenues will be reduced by less than one percent in 2011 as a result of the Acts. However, the potential long-term impact of the Acts on our business is inherently difficult to predict as many details regarding the implementation of this legislation have not yet been determined. Presently, we have not identified any provisions that could materially impact our business, but will continue to monitor future developments related to this legislation.

Total revenues are reported net of: (1) estimated rebates; (2) prompt pay discounts; (3) allowances for product returns or exchanges; and (4) distributor fees. We estimate our liability for rebates based on an analysis of historical levels of rebates by product to both state Medicaid agencies and commercial third-party payers relative to sales of each product. In addition, we

determine our obligation for prescription drug discounts required for Medicare Part D patients within the coverage gap based on estimations of the number of Medicare Part D patients and the period such patients will remain within the coverage gap. We provide prompt pay discounts to customers that pay amounts due within a specific time period and base our estimates for prompt pay discounts on observed customer payment behavior. We derive estimates relating to the allowance for returns of Adcirca from published industry data specific to specialty pharmaceuticals and will continue to do so until we have sufficient historical data on which to base our allowance. In addition, we compare patient prescription data for Adcirca to sales of Adcirca on a quarterly basis to ensure a reasonable relationship between prescription and sales trends. To date, we have not identified any unusual patterns in the volume of prescriptions relative to sales that would warrant reconsideration of, or adjustment to, the methodology we currently employ to estimate our allowance for returns. The allowance for exchanges for Remodulin is based on the historical rate of product exchanges, which has been too immaterial to record. In addition, because Tyvaso is distributed in the same manner and under similar contractual arrangements as Remodulin, the level of product exchanges for Tyvaso has been comparable to that of Remodulin and we anticipate minimal exchange activity in the future for both products. Lastly, we estimate distributor fees based on contractual rates for specific services applied to the estimated units of service provided for the period.

Cost of Product Sales

Cost of product sales are comprised of (1) costs to manufacture and acquire products sold to customers and (2) royalty payments under license agreements granting us rights to sell related products. We manufacture forms of treprostinil using advanced intermediate compounds purchased in bulk from several third-party vendors that have the capacity to produce greater quantities of these compounds more cost effectively than we do. Our manufacturing process has been designed to give us the flexibility to produce the forms of treprostinil used in Remodulin, Tyvaso, and our oral tablet, based on forecasted demand for each of these products. The approved shelf life for both Remodulin and Tyvaso is 36 months. Correspondingly, we maintain inventories of these products equivalent to approximately three years of expected demand to ensure sufficient availability of Remodulin and Tyvaso at all times.

In 2009, we amended our contract with our Remodulin manufacturer, Baxter Pharmaceutical Solutions, LLC (Baxter), to extend the contract term through 2013. As part of that contract amendment, we agreed that Baxter will manufacture Remodulin in greater quantities using larger capacity production equipment. This new manufacturing process and related equipment will require FDA and international regulatory approval. We are currently conducting validation testing for the new equipment and process. Until FDA approval of the new process and equipment, Baxter will continue to manufacture Remodulin using the approved process and equipment. In January 2011, we received FDA approval of Jubilant Hollister-Stier Contract Manufacturing and Services as an additional manufacturer for Remodulin in the larger quantities discussed above. In addition, in July 2011, we received FDA approval of our NDA supplement to use our Silver Spring, Maryland facility for the production of Remodulin.

We acquired the rights to the Tyvaso Inhalation System from NEBU-TEC International Med Products Eike Kern GmbH (NEBU-TEC) in September 2009. We currently manufacture the Tyvaso Inhalation System in Germany using labor supplied by NEBU-TEC. In addition, we received FDA approval in December 2010 for Minnetronix, Inc. to manufacture the Tyvaso Inhalation System and for Quality Tech Services, Inc. to package daily supplies. Catalent Pharma Solutions, Inc. continues to manufacture Tyvaso for us and in March 2011, we received FDA approval to produce Tyvaso in our Silver Spring, Maryland facility.

Operating Expenses

Since our inception, we have devoted substantial resources to our various research and development initiatives. Accordingly, we incur considerable costs related to our clinical trials and research, which are conducted both internally and through third parties, on a variety of projects to develop pharmaceutical products. We also seek to license or acquire promising technologies and/or compounds to be incorporated into our development pipeline.

Our operating expenses can be materially impacted by the recognition of share-based compensation expense (benefit) in connection with any stock option grants and our share tracking award plans (STAP). STAP awards are required to be measured at fair value at the end of each reporting period until the awards are no longer outstanding. The fair value of both STAP awards and stock option grants are measured using inputs and assumptions that can materially impact the amount of compensation expense for a given period. Additionally, some or all of the following factors, among others, can cause substantial variability in the amount of share-based compensation recognized in connection with the STAP from period to period: (1) changes in the price of our common stock; (2) changes in the number of outstanding awards; and (3) changes in both the number of vested awards and the period awards have accrued toward vesting. Generally, our stock option grants are measured at fair value at the date of grant and related compensation is recognized over the requisite service period, which typically coincides with the vesting period. However, in the case of options that vest upon issuance, we recognize all compensation expense immediately at

the date of grant. We accrue compensation expense for performance-related stock option grants when we determine that it is probable that the performance criteria will be met.

Major Research and Development Projects

Our major research and development projects focus on the use of prostacyclin analogues to treat cardiopulmonary diseases, monoclonal antibodies to treat a variety of cancers, and glycobiology antiviral agents to treat infectious diseases.

Cardiopulmonary Disease Projects

Tyvaso

The FDA approved Tyvaso for the treatment of PAH in July 2009, and we launched the product for commercial sale in September 2009. In connection with the Tyvaso approval, we agreed to a post-marketing requirement (PMR) and certain post-marketing commitments (PMCs). PMRs and PMCs often obligate sponsors to conduct studies after FDA approval to gather additional information about a product's safety, efficacy, or optimal use. PMRs are required studies, whereas PMCs are voluntary commitments. We are required to provide the FDA with annual updates on our PMR and PMCs. Failure to complete or adhere to the timelines set forth by the FDA for the PMR could result in penalties, including fines or withdrawal of Tyvaso from the market, unless we are able to demonstrate good cause for the failure or delay.

In accordance with our PMR, we are enrolling patients in a long-term observational study in the U.S. that will include 1,000 patient years of follow-up in patients treated with Tyvaso, and 1,000 patient years of follow up in control patients receiving other PAH treatments. This study will allow us to continue to assess the safety of Tyvaso. We are currently required to submit the results of the study by December 15, 2014.

Under the PMCs, we were committed to modify particular aspects of the Tyvaso Inhalation System. As part of these modifications, we agreed to perform a usability analysis incorporating the evaluation and prioritization of user-related risk followed by a human factors study. The modifications and usability analysis have been completed, and in September 2011, the FDA notified us that we had fulfilled the requirements of the PMCs.

Oral treprostinil

We recently completed two Phase III clinical trials, FREEDOM-M and FREEDOM-C ², to evaluate the safety and efficacy of oral treprostinil in patients with PAH.

In December 2006, we began our FREEDOM-M trial, which was a 12-week study of newly-diagnosed PAH patients not currently on any background therapy. In February 2009, we submitted a protocol amendment to the FDA to add patients to the ongoing FREEDOM-M trial. These additional patients were provided access to a 0.25 mg tablet when beginning the trial. We completed enrollment of FREEDOM-M in January 2011 with 349 patients, with the population for the primary analysis consisting of the 228 patients who had access to the 0.25 mg tablet at randomization. In June 2011, we announced the completion of the FREEDOM-M trial and that the trial met its primary endpoint of improvement in six-minute walk distance at week 12. Preliminary analysis of the FREEDOM-M results demonstrated that patients receiving oral treprostinil improved their median six-minute walk distance by approximately 23 meters ($p=0.0125$, Hodges-Lehmann estimate and non-parametric analysis of covariance in accordance with the trial's pre-specified statistical analysis plan) as compared to patients receiving placebo. The median change from baseline at week 12 was 25 meters for patients receiving oral treprostinil and -5 meters for patients receiving placebo. Based on the positive results achieved in this trial, we plan to file a New Drug Application (NDA) no later than the first quarter of 2012.

In June 2009, we began enrollment of our FREEDOM-C ² trial, which was a 16-week study of PAH patients on an approved background therapy. In this trial, patients were provided access to a 0.25 mg tablet and doses were titrated in 0.25 mg to 0.5 mg increments. In March 2011, we completed enrollment of FREEDOM-C ² with 313 patients, compared to a target enrollment of 300 patients. In August 2011, we announced the completion of FREEDOM-C ² and that the trial did not achieve statistical significance for the primary endpoint of improvement in six-minute walk distance at week 16. Specifically, the placebo-corrected median change in six-minute walk distance at week 16 was 10 meters ($p=0.089$, Hodges-Lehmann estimate and non-parametric analysis of covariance in accordance with the trial's pre-specified statistical plan).

Beraprost-MR

In July 2011, we entered into an exclusive license agreement with Toray Industries, Inc. (Toray) to amend and replace our existing March 2007 license agreement regarding the development of an orally-administered, modified release formulation of the prostacyclin analogue, beraprost (beraprost-MR), for the treatment of PAH. Terms of the July 2011 license agreement did not materially change from the previous license agreement and license agreement supplements except for a reduction in royalty rates. In exchange for the reduction in royalty rates, we agreed to pay Toray \$50.0 million in equal, non-refundable payments over the five-year period ending in 2015. Since these payments are non-refundable and have no contingencies attached to them, we recognized an obligation of \$46.3 million, which represents the present value of the related payments discounted by our estimated current cost of financing. In addition, we recognized a corresponding charge to research and development expenses during the quarter ended September 30, 2011.

Collagen Type V

Pursuant to our February 2010 development agreement with ImmuneWorks, Inc., we are developing a purified bovine Type V Collagen oral solution called IW001 for the treatment of idiopathic pulmonary fibrosis (IPF), a progressive lung disease characterized by abnormal and excessive fibrotic tissue in the lungs, and primary graft dysfunction, a type of organ rejection that can occur in lung transplants. Human clinical testing of IW001 has commenced, and a Phase I clinical trial in patients with IPF is ongoing.

Cell-based Therapy

In June 2011, we entered into a license agreement with Pluristem Ltd. (Pluristem) to develop and commercialize a cell-based product for the treatment of pulmonary hypertension using Pluristem's proprietary cell technology. We closed the license agreement in August 2011. In connection with the closing, we made a one-time, non-refundable payment of \$7.0 million to Pluristem, \$5.0 million of which consisted of a license fee that was charged to research and development expenses during the quarter ended September 30, 2011.

From inception to September 30, 2011, we have spent approximately \$723.9 million on these and other cardiopulmonary programs.

Cancer Disease Projects

Ch14.18 Antibody

In July 2010, we entered into a Cooperative Research and Development Agreement (CRADA) with the National Cancer Institute (NCI) to collaborate on the late-stage development and regulatory submissions of Chimeric Monoclonal Antibody 14.18 (Ch14.18) for children with high-risk neuroblastoma and patients with other forms of cancer. Ch14.18 is an antibody that has shown potential in the treatment of certain types of cancer by targeting GD2, a glycolipid on the surface of tumor cells. Under the terms of the CRADA, NCI will conduct a clinical trial in approximately 100 patients to define more clearly the safety and toxicity profile of Ch14.18 immunotherapy in children, and we will develop the commercial manufacturing capability for the antibody. As part of developing our commercial manufacturing capability, we will need to demonstrate comparability of our Ch14.18 to the NCI-produced Ch14.18, which typically includes a series of analytical and bioanalytical assays and human pharmacokinetics. The NCI studies, including a previously conducted Phase III clinical trial and all other necessary studies supported by NCI, will be used as the basis for a Biologics License Application seeking FDA approval of Ch14.18 immunotherapy for the treatment of neuroblastoma. We have received orphan drug designation for Ch14.18 from the FDA and European Medicines Agency.

8H9 Antibody

Pursuant to a December 2007 agreement with Memorial Sloan-Kettering Cancer Center, we obtained certain license rights to an investigational monoclonal antibody, 8H9, for the treatment of metastatic brain cancer. 8H9 is a mouse IgG1 MAb that is highly reactive with a range of human solid tumors, including human brain cancers. The 8H9 antibody is in early investigational development for metastases that develop in the brain from the spread of cancers from other tissues in the body. Metastatic brain cancers are ten times more common than cancers that originate in the brain, and prognosis for patients with metastatic brain cancers is very poor. In the United States, more than 100,000 cases of metastatic brain cancer are diagnosed each year.

We have spent approximately \$71.9 million from inception to September 30, 2011, on our cancer programs.

Infectious Disease Projects

Pursuant to our research agreement with the University of Oxford (Oxford), we have the exclusive right to commercialize a platform of glycobiology antiviral drug candidates in various preclinical and clinical stages of testing for the treatment of a wide variety of viruses. Through our research agreement with Oxford, we are also supporting research into new glycobiology antiviral drug candidates and technologies. We are currently testing many of these compounds in preclinical studies and Oxford continues to synthesize new agents that we may elect to test.

On September 30, 2011, we were awarded a contract with an aggregate value of up to \$45.0 million under a Broad Agency Announcement from the National Institute of Allergy and Infectious Diseases for studies directed at the development of a broad spectrum antiviral drug based on our glycobiology antiviral platform. Under the contract's base period of forty-two months we will receive \$10.6 million in funding and there are eight milestone-based options to the contract.

We have spent approximately \$50.1 million from inception to September 30, 2011, on our infectious disease programs.

Future Prospects

Because PAH remains a progressive disease without a cure, we expect continued growth in the demand for our commercial products as alternatives or complements to other existing approved therapies. Furthermore, the commercial introduction of Tyvaso and Adcirca has enabled us to offer products to more patients along the full continuum of the disease. The continued achievement of our growth objectives will depend in large part upon the successful commercial development of products within our pipeline. To this end, we anticipate filing an NDA for oral treprostinil during the first half of 2012 and we continue to develop beraprost-MR. In addition, we seek to expand the use of our therapies to treat patients at earlier stages in the PAH disease progression.

Our future growth and profitability will depend on many factors including, but not limited to: (1) the timing and outcome of clinical trials and regulatory approvals, including the filing and approval of our NDA for oral treprostinil, and the PMR for Tyvaso; (2) the timing of the commercial launch of new products; (3) the pricing of and demand for our products and services; (4) the reimbursement of our products by public and private insurance organizations; (5) the competition we face within our industry; and (6) our ability to effectively manage our growth in an increasingly complex regulatory environment.

We operate in a highly competitive market in which a small number of pharmaceutical companies control a majority of the currently approved PAH therapies. These pharmaceutical companies not only possess greater visibility in the market, but also greater financial, technical and marketing resources than we do. In addition, there are a number of investigational products in late-stage development that, if approved, may erode the market share of our existing commercial therapies and make market acceptance more difficult to achieve for any therapies we market in the future.

Financial Position

Cash, cash equivalents and marketable investments (excluding restricted amounts) at September 30, 2011, were \$944.6 million compared to \$759.9 million at December 31, 2010. The increase in cash and marketable investments of \$184.7 million was driven by the growth in our sales and collections of related accounts receivable.

Accounts receivable at September 30, 2011 were \$87.4 million compared to \$73.7 million at December 31, 2010. The increase of \$13.7 million reflects the twenty percent increase in sales of our commercial products for the quarter ended September 30, 2011, as compared to sales for the quarter ended December 31, 2010.

The decrease in current deferred tax assets of \$10.3 million from \$12.6 million at December 31, 2010 to \$2.3 million at September 30, 2011 and the increase in other non-current assets of \$11.0 million from \$11.1 million at December 31, 2010 to \$22.2 million at September 30, 2011, resulted primarily from the sale of Medicomp, Inc., which closed in March 2011. Refer to Note 14— *Sale of Medicomp, Inc.* to the consolidated financial statements included in this Quarterly Report on Form 10-Q for details.

Inventories were \$45.8 million at September 30, 2011 compared to \$35.5 million at December 31, 2010. The increase in inventories of \$10.3 million, of which \$9.0 million relates to the increase in finished goods, reflects our expectations regarding future sales growth.

The increase in goodwill and other intangible assets of \$9.5 million, from \$9.9 million at December 31, 2010 to \$19.4 million at September 30, 2011, resulted from the recognition of intangible assets and goodwill in connection with our

acquisition of Revivicor, Inc. in July 2011. Refer to Note 15— *Acquisition of Revivicor, Inc.* to the consolidated financial statements included in this Quarterly Report on Form 10-Q for details.

The increase in property, plant and equipment of \$27.2 million, from \$306.0 million at December 31, 2010 to \$333.2 million at September 30, 2011, resulted from our ongoing construction projects in Maryland and North Carolina.

Accrued expenses increased by \$19.3 million, from \$50.3 million at December 31, 2010 to \$69.6 million at September 30, 2011. The main components of the increase were: (1) \$6.0 million in accrued royalties and payor rebates and (2) \$11.6 million in accrued operating expenses, which include the current portion of our royalty buy-down obligation payable to Toray in the amount of \$10.0 million.

Convertible notes increased by \$12.6 million, from \$236.0 million at December 31, 2010, to \$248.5 million at September 30, 2011, as a result of amortization of the debt discount on our convertible notes for the nine months ended September 30, 2011.

Other current liabilities were \$89.5 million at September 30, 2011, compared to \$126.3 million at December 31, 2010. The decrease of \$36.8 million was attributable to a \$67.0 million decrease in the STAP liability from the decline in the price of our common stock primarily in the third quarter of 2011, offset in part by an increase of \$21.1 million in taxes payable.

Other non-current liabilities increased by \$38.1 million, from \$39.3 million at December 31, 2010, to \$77.3 million at September 30, 2011. The increase corresponded primarily to the recognition of the net, non-current portion of our royalty buy-down obligation to Toray in the amount of \$31.3 million and a \$5.5 million increase in the SERP obligation which reflects an increased number of SERP participants.

Additional paid-in capital was \$959.3 million at September 30, 2011 compared to \$928.7 million at December 31, 2010. The increase of \$30.6 million consisted primarily of \$23.9 million in proceeds and \$6.5 million in tax benefits related to the exercise of stock options.

Results of Operations

Three Months Ended September 30, 2011 and 2010

Revenues

The following table sets forth the components of net revenues (dollars in thousands):

	Three Months Ended September 30,		Percentage Change
	2011	2010	
Cardiopulmonary products:			
Remodulin	\$ 114,918	\$ 109,584	4.9%
Tyvaso	66,330	48,717	36.2%
Adcirca	19,772	9,935	99.0%
Other	722	339	113.0%
Total net revenues	<u>\$ 201,742</u>	<u>\$ 168,575</u>	<u>19.7%</u>

The growth in revenues for the three months ended September 30, 2011 compared to the same quarter in 2010, corresponded primarily to the continued increase in the number of patients being prescribed our products. For the three-months ended September 30, 2011 and 2010, approximately 81 percent and 84 percent, respectively, of total net revenues were derived from our three U.S.-based distributors.

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The table below includes a reconciliation of the accounts associated with estimated rebates, prompt-pay discounts, sales allowances and distributor fees (in thousands):

Three Months Ended September 30, 2011					
	Rebates	Prompt Pay Discounts	Allowance for Sales Returns	Distributor Fees	Total
Balance, July 1, 2011	\$ 13,484	\$ 1,650	\$ 868	\$ 732	\$ 16,734
Provisions attributed to sales in:					
Current period	9,370	4,402	273	1,180	15,225
Prior periods	—	—	—	—	—
Payments or credits attributed to sales in:					
Current period	(224)	(2,727)	—	(784)	(3,735)
Prior periods	(9,125)	(1,524)	—	(505)	(11,154)
Balance, September 30, 2011	<u>\$ 13,505</u>	<u>\$ 1,801</u>	<u>\$ 1,141</u>	<u>\$ 623</u>	<u>\$ 17,070</u>

Three Months Ended September 30, 2010					
	Rebates	Prompt Pay Discounts	Allowance for Sales Returns	Distributor Fees	Total
Balance, July 1, 2010	\$ 8,970	\$ 1,666	\$ 228	\$ 660	\$ 11,524
Provisions attributed to sales in:					
Current period	8,834	3,581	109	1,081	13,605
Prior periods	—	—	—	—	—
Payments or credits attributed to sales in:					
Current period	(96)	(2,101)	—	(650)	(2,847)
Prior periods	(6,104)	(1,667)	—	(453)	(8,224)
Balance, September 30, 2010	<u>\$ 11,604</u>	<u>\$ 1,479</u>	<u>\$ 337</u>	<u>\$ 638</u>	<u>\$ 14,058</u>

Research and Development Expenses

The table below summarizes research and development expense by major project and non-project component (dollars in thousands):

	Three Months Ended September 30,		Percentage Change
	2011	2010	
Project and non-project component:			
Cardiopulmonary	\$ 74,125	\$ 17,510	323.3%
Share-based compensation	(22,966)	14,149	(262.3)%
Other	8,274	8,678	(4.7)%
Total research and development expense	<u>\$ 59,433</u>	<u>\$ 40,337</u>	<u>47.3%</u>

Cardiopulmonary. The increase in cardiopulmonary program expenses for the quarter ended September 30, 2011, compared to the same quarter in 2010, corresponded principally to: (1) an increase of \$50.2 million in expenses relating to the development of beraprost-MR, of which \$46.3 million relates to our July 2011 amended license agreement with Toray; and (2) an increase of \$7.5 million in connection with other cardiopulmonary projects, which includes a \$5.0 million charge incurred in connection with the closing of our license agreement with Pluristem.

Share-based compensation. The decrease in share-based compensation for the quarter ended September 30, 2011, compared to the same quarter in 2010, resulted from a reduction in compensation expense incurred in connection with the STAP as a result of the decrease in our stock price.

Selling, General and Administrative Expenses

The table below summarizes selling, general and administrative expense by major category (dollars in thousands):

Category:	Three Months Ended September 30,		Percentage Change
	2011	2010	
General and administrative	\$ 24,972	\$ 18,118	37.8%
Sales and marketing	15,822	10,304	53.6%
Share-based compensation	(24,138)	17,171	(240.6)%
Total selling, general and administrative expense	<u>\$ 16,656</u>	<u>\$ 45,593</u>	<u>(63.5)%</u>

General and administrative. The increase in general and administrative expenses for the quarter ended September 30, 2011, compared to the same quarter in 2010, corresponded principally to increases in: (1) professional fees of \$1.8 million incurred in connection with completed and prospective transactions; (2) salaries of \$1.5 million as a result of headcount growth; (3) \$1.5 million in expenses resulting from an increased volume of business development activities; and (4) \$1.7 million increase in grants to unaffiliated, not-for-profit organizations that provide therapy-related financial assistance to patients suffering from PAH.

Sales and marketing. The increase in sales and marketing expenses for the quarter ended September 30, 2011, compared to the quarter ended September 30, 2010, was attributable primarily to an increase of \$2.5 million in salaries due to the expansion of our sales force, and a \$2.8 million increase in professional fees incurred in connection with our marketing and advertising initiatives.

Share-based compensation. The decrease in share-based compensation for the quarter ended September 30, 2011, compared to the same quarter in 2010, reflects a reduction in compensation expense incurred in connection with the STAP as a result of the decline in our stock price.

Income Taxes

The provision for income taxes was \$17.6 million for the quarter ended September 30, 2011, compared to \$18.2 million for the same quarter in 2010. Income tax expense is based on an estimated annual effective tax rate that is subject to adjustment in subsequent quarterly periods if components used to estimate the annual effective tax rate are revised. The estimated annual effective tax rates were approximately 28 percent and 36 percent as of September 30, 2011 and 2010, respectively. The decrease in the annual effective tax rate as of September 30, 2011 largely reflects reductions in annual estimates of non-deductible compensation and an increase in tax credits expected to be generated.

Nine Months Ended September 30, 2011 and 2010

Revenues

The following table sets forth the components of net revenues (dollars in thousands):

	Nine Months Ended September 30,		Percentage Change
	2011	2010	
Cardiopulmonary products:			
Remodulin	\$ 323,016	\$ 301,720	7.1%
Tyvaso	175,835	103,083	70.6%
Adcirca	47,933	23,503	103.9%
Other	1,221	903	35.2%
Total net revenues	<u>\$ 548,005</u>	<u>\$ 429,209</u>	<u>27.7%</u>

The growth in revenues for the nine months ended September 30, 2011, compared to the same period in 2010, corresponded to the continued increase in the number of patients being prescribed our products. For the nine months ended September 30, 2011 and 2010, approximately 82 percent and 84 percent, respectively, of total net revenues were derived from our three U.S.-based distributors.

The table below includes a reconciliation of the accounts associated with estimated rebates, prompt-pay discounts, sales allowances and distributor fees (in thousands):

	Nine Months Ended September 30, 2011				
	Rebates	Prompt Pay Discounts	Allowance for Sales Returns	Distributor Fees	Total
Balance, January 1, 2011	\$ 10,503	\$ 1,467	\$ 482	\$ 724	\$ 13,176
Provisions attributed to sales in:					
Current period	31,722	11,881	659	3,334	47,596
Prior periods	2,580	—	—	—	2,580
Payments or credits attributed to sales in:					
Current period	(18,523)	(10,325)	—	(2,773)	(31,621)
Prior periods	(12,777)	(1,222)	—	(662)	(14,661)
Balance, September 30, 2011	<u>\$ 13,505</u>	<u>\$ 1,801</u>	<u>\$ 1,141</u>	<u>\$ 623</u>	<u>\$ 17,070</u>

	Nine Months Ended September 30, 2010				
	Rebates	Prompt Pay Discounts	Allowance for Sales Returns	Distributor Fees	Total
Balance, January 1, 2010	\$ 4,959	\$ 979	\$ 64	\$ 637	\$ 6,639
Provisions attributed to sales in:					
Current period	21,087	9,128	273	2,802	33,290
Prior periods	—	—	—	—	—
Payments or credits attributed to sales in:					
Current period	(11,087)	(7,699)	—	(2,160)	(20,946)
Prior periods	(3,355)	(929)	—	(641)	(4,925)
Balance, September 30, 2010	<u>\$ 11,604</u>	<u>\$ 1,479</u>	<u>\$ 337</u>	<u>\$ 638</u>	<u>\$ 14,058</u>

Research and Development Expenses

The table below summarizes research and development expense by major project and non-project component (dollars in thousands):

	Nine Months Ended September 30,		Percentage Change
	2011	2010	
Project and non-project component:			
Cardiopulmonary	\$ 122,358	\$ 53,551	128.5%
Share-based compensation	(17,681)	26,104	(167.7)%
Other	26,702	23,736	12.5%
Total research and development expense	<u>\$ 131,379</u>	<u>\$ 103,391</u>	<u>27.1%</u>

Cardiopulmonary. The increase in expenses related to our cardiopulmonary programs for the nine months ended September 30, 2011, compared to the same period in 2010, corresponded principally to: (1) an increase of \$53.9 million in expenses relating to the development of beraprost-MR, of which \$46.3 million relates to our July 2011 amended license agreement with Toray; (2) an increase of \$7.7 million in connection with other cardiopulmonary projects, including a \$5.0 million charge incurred in connection with the closing of our license agreement with Pluristem; and (3) an increase of \$5.8 million in expenses related to our FREEDOM-C² and FREEDOM-M clinical trials.

Share-based compensation. The decrease in share-based compensation for the nine months ended September 30, 2011, compared to same period in 2010, corresponded to a decrease in share-based compensation recognized in connection with the STAP as a result of the decline in our stock price.

Other. The increase in other research and development expenses for the nine months ended September 30, 2011, compared to the same period in 2010, was driven by an increase of \$3.6 million in expenses related to our monoclonal antibody development.

Selling, General and Administrative Expenses

The table below summarizes selling, general and administrative expense by major category (dollars in thousands):

	Nine Months Ended September 30,		Percentage Change
	2011	2010	
Category:			
General and administrative	\$ 71,177	\$ 53,414	33.3%
Sales and marketing	47,314	32,643	44.9%
Share-based compensation	(19,716)	34,642	(156.9)%
Total selling, general and administrative expense	<u>\$ 98,775</u>	<u>\$ 120,699</u>	<u>(18.2)%</u>

General and administrative. The increase in general and administrative expenses for the nine months ended September 30, 2011, compared to the same period in 2010, was driven by the following: (1) a \$3.5 million increase in salaries as a result of headcount growth; (2) a \$4.0 million increase in professional fees incurred primarily in connection with completed and prospective transactions; (3) a \$4.4 million increase in expenses relating to our business development related activities; and (4) a \$2.3 million increase in grants to unaffiliated, not-for-profit organizations that provide therapy-related financial assistance to patients suffering from PAH.

Sales and marketing. The increase in sales and marketing expenses for the nine months ended September 30, 2011, compared to the nine months ended September 30, 2010, was attributable principally to increases of \$8.3 million in salaries due to the expansion of our sales force and \$6.2 million in professional fees and expenses incurred in connection with our marketing and advertising initiatives.

Share-based compensation. The decrease in share-based compensation for the nine months ended September 30, 2011, compared to the same period in 2010, corresponded to a reduction in share-based compensation recognized in connection with the STAP as a result of the decline in our stock price.

Income Taxes

The provision for income taxes was \$65.1 million for the nine months ended September 30, 2011, compared to \$47.3 million for the same nine-month period in 2010. Income tax expense is based on an estimated annual effective tax rate that is subject to adjustment in subsequent quarterly periods if components used to estimate the annual effective tax rate are revised. The estimated annual effective tax rates were approximately 28 percent and 36 percent as of September 30, 2011 and 2010, respectively. The decrease in the annual effective tax rate as of September 30, 2011 reflects reductions in annual estimates of non-deductible compensation and an increase in tax credits expected to be generated.

Liquidity and Capital Resources

We have funded our operations principally through sales of our commercial products and, from time-to-time, other third-party financing arrangements. We believe that our current liquidity is sufficient to fund ongoing operations as demand for our commercial products is expected to grow. Furthermore, our customer base remains stable and, we believe, presents minimal credit risk. However, any projections of future cash flows are inherently subject to uncertainty. To compensate for such uncertainty, we may seek other sources of funding in the future and believe we have the ability to do so. See *Part II, Item 1A—Risk Factors—We have a history of losses and may not maintain profitability* and *Part II, Item 1A—Risk Factors—We may fail to meet our own projected revenues, as well as third-party projections for our revenues or profits*.

Operating Cash Flows and Working Capital

Net cash provided by operating activities was \$198.6 million for the nine months ended September 30, 2011, compared to \$172.3 million for the nine months ended September 30, 2010. The increase of \$26.3 million in net operating cash flows for the nine months ended September 30, 2011 corresponded primarily to a \$78.3 million increase in net income, offset in part by a net reduction of \$57.6 million in non-cash adjustments relating to the reduction in share-based compensation and the increase in non-cash license fees.

At September 30, 2011, we had working capital of \$421.2 million, compared to \$335.8 million at December 31, 2010. The increase in working capital at September 30, 2011 of \$85.4 million was driven primarily by a net increase in cash and cash equivalents and short-term marketable investments of \$67.5 million, largely as a result of our investing additional cash in cash-equivalents and short-term investments in preparation for the maturity of our 2011 Convertible Senior Notes which required us to repay the outstanding principal balance of \$250.0 million, plus accrued interest on October 17, 2011. In addition the increase in working capital at September 30, 2011 reflects an increase in accounts receivable of \$13.7 million as a result of our sales growth.

We have not entered into any short-term borrowing arrangements to fund our ongoing working capital requirements and have no current plans to do so. Debt that has been classified as current relates to long-term financing arrangements that will mature within one year.

At September 30, 2011, we had \$249.7 million of long-term marketable securities that could be liquidated, if necessary, to fund our operations. In addition, we had 4.9 million vested stock options outstanding at September 30, 2011, with a weighted average exercise price of \$36.94. If exercised, these vested stock options would provide us with additional liquidity.

Construction Projects

During the second quarter of 2011, we began construction to expand our facility in Research Triangle Park, North Carolina (RTP Facility). The expansion of our RTP Facility is intended to provide additional warehousing, packaging and office space to accommodate projected growth. We expect to complete the approximately 180,000 square-foot expansion by mid-2012 at an anticipated cost of \$74.0 million, which includes construction, equipment and other related costs. In January 2011, we entered into an agreement with DPR Construction (DPR) to manage the expansion project. In June 2011, we amended this agreement to provide that construction costs cannot exceed a guaranteed maximum price of \$49.9 million. DPR will be responsible for any cost overruns that are in excess of the guaranteed maximum price. If the ultimate cost of the project is less than the guaranteed maximum, we will share a portion of the savings with DPR. In addition, DPR must pay us liquidated damages in the event that construction has not been substantially completed by May 2012. Both the guaranteed maximum price and the substantial

completion date are subject to change in the event of any agreed-upon changes to the scope of work.

In September 2010, we began the construction of an office building to serve as an extension of our Silver Spring facilities. We anticipate total project costs of approximately \$58.0 million, which includes the costs of construction and other related costs, and expect to complete this office facility during the fourth quarter of 2011. In March 2011, we entered into an agreement with DPR to manage this construction project. Under the terms of the agreement, construction costs will not exceed a guaranteed maximum price of approximately \$45.3 million, which is subject to change based on agreed-upon changes to the scope of work. DPR will be responsible for covering any cost overruns that are in excess of the guaranteed maximum price. If the ultimate cost of the project is less than the guaranteed maximum, we will share a portion of the savings with DPR. In addition, DPR must pay penalties in the event that construction is not substantially completed by December 2011, which is subject to change based on any agreed-upon changes to the scope of work.

We expect to fund our construction projects using our existing cash and cash flows to be generated by our operations.

Share Tracking Awards Plans

Awards granted under our share tracking award plans entitle participants to receive in cash the appreciation in our common stock, which is calculated as the increase in the closing price of our common stock from the date of grant to the date of exercise. Depending on the future price movements of our common stock, cash requirements associated with the exercise of awards could be significant. We incorporate anticipated cash outlays relating to STAP awards in our operating budgets and have modified the metrics used in determining the number of awards to be granted in order to decrease the size of related grants. In addition, we review the potential cost of our STAP programs annually in order to monitor the cash resources needed to fund the financial obligations associated with STAP awards. In March 2011, our Board of Directors approved the 2011 STAP, under which up to 2,000,000 share tracking awards may be granted. The increase in the pool of available STAP awards was intended primarily to accommodate anticipated grants under our long-term incentive bonus and compensation plan during 2011. Provisions of the 2011 STAP are substantially similar to those of the 2008 STAP.

Convertible Senior Notes

2011 Convertible Senior Notes

On October 30, 2006, we issued at par value \$250.0 million of 0.50% Convertible Senior Notes due October 15, 2011 (2011 Convertible Senior Notes). At maturity, we paid \$250.0 million in outstanding principal and \$625,000 in accrued interest to holders of the 2011 Convertible Senior Notes (note holders). Pursuant to the terms of the 2011 Convertible Senior Notes, the number of shares to be issued to note holders upon maturity will be determined over the twenty trading-day period beginning on October 17, 2011 to the extent that the conversion value (the number of shares underlying the 2011 Convertible Senior Notes multiplied by the then current price of our common stock, as measured during the twenty trading-day averaging period) exceeds the principal value of the 2011 Convertible Senior Notes.

2016 Convertible Senior Notes

On October 17, 2011, we issued \$250.0 million in aggregate principal amount of 1.0% Convertible Senior Notes due September 15, 2016 (2016 Convertible Senior Notes). We received \$241.4 million in net proceeds from the offering after deducting the initial purchaser's (Deutsche Bank Securities, Inc.) discount, fees and our offering expenses. We paid \$212.0 million, funded primarily from the net proceeds received from the issuance of the 2016 Convertible Notes after deducting the net cost of a call spread hedge, to enter into an accelerated share repurchase agreement to repurchase shares of our common stock. Refer to Note 17— *Subsequent Events* to our consolidated financial statements included in this Quarterly Report on Form 10-Q for further details. Currently, we expect to meet future cash requirements associated with the maturity or conversion of the 2016 Convertible Senior Notes using funds generated by our ongoing operations.

Terms of the 2016 Convertible Senior Notes are substantially similar to those of the 2011 Convertible Senior Notes. Interest will be payable semi-annually, in arrears, on March 15th and September 15th of each year. The initial conversion price is \$47.69 per share and the maximum number of shares underlying the debt is approximately 5.2 million shares.

Conversion can occur: (1) anytime after June 15, 2016; (2) during any calendar quarter that follows a calendar quarter in which the price of our common stock exceeds 130% of the conversion price for at least 20 days during the 30 consecutive trading-day period ending on the last trading day of the quarter; (3) during the ten consecutive trading-day period following any five consecutive trading-day period in which the trading price of the 2016 Convertible Senior Notes is less than 95% of the closing price of our common stock multiplied by the then current number of shares underlying the 2016 Convertible Senior

Notes; (4) upon specified distributions to our shareholders; (5) in connection with certain corporate transactions; or (6) in the event that our common stock ceases to be listed on the NASDAQ Global Select Market, the NASDAQ Global Market, or the New York Stock Exchange, or any of their respective successors.

Upon conversion, holders of our 2016 Convertible Senior Notes are entitled to receive: (1) cash equal to the lesser of the principal amount of the notes or the conversion value (the number of shares underlying the 2016 Convertible Senior Notes multiplied by the then-current conversion price per share); and (2) to the extent the conversion value exceeds the principal amount of the 2016 Convertible Senior Notes, shares of our common stock. In the event of a change in control, as defined in the indenture under which the 2016 Convertible Senior Notes have been issued, holders can require us to purchase all or a portion of their 2016 Convertible Senior Notes for 100 percent of the principal value plus any accrued and unpaid interest.

Mortgage Financing

In December 2010, we entered into a Credit Agreement with Wells Fargo Bank, National Association (Wells Fargo) and Bank of America, N.A., pursuant to which we obtained \$70.0 million in debt financing. The loan provided under the Credit Agreement matures in December 2014 and is secured by a first mortgage lien on our facilities located in Research Triangle Park, North Carolina and Silver Spring, Maryland. Annual principal payments are based on a twenty-five year amortization schedule using a fixed rate of interest of 7.0 percent; accordingly, we will owe a principal balance of approximately \$66.6 million at maturity. Outstanding debt bears a floating rate of interest per annum based on the one-month London Interbank Offer Rate (LIBOR), plus a credit spread of 3.75 percent (approximately 4.0 percent as of September 30, 2011). Alternatively, we have the option to change the rate of interest charged on the loan to 2.75 percent plus the greater of: (1) Wells Fargo's prime rate; (2) the federal funds effective rate plus 0.05 percent; or (3) LIBOR plus 1.0 percent. The Credit Agreement permits prepayment of the outstanding loan balance in its entirety, subject to a prepayment premium. The Credit Agreement also requires us to comply with various financial and negative covenants. As of September 30, 2011, we were in compliance with these covenants.

Summary of Critical Accounting Policies

The preparation of our consolidated financial statements in conformity with United States generally accepted accounting principles (GAAP) requires our management to make estimates and assumptions that affect the amounts reported in our consolidated financial statements and accompanying notes. We continually evaluate our estimates and judgments which are based on assumptions regarding historical experience, currently available information and anticipated developments that we believe are reasonable and appropriate. By their nature, our estimates are subject to an inherent degree of uncertainty; consequently, actual results may differ. We discuss accounting policies and assumptions that involve a higher degree of judgment and complexity in *Part II, Item 7—Management's Discussion and Analysis of Financial Condition and Results of Operations* in our Annual Report on Form 10-K for the year ended December 31, 2010. There have been no material changes to our critical accounting policies and estimates as disclosed in our Annual Report on Form 10-K for the year ended December 31, 2010.

Recently Issued Accounting Standards

In September 2011, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2011-08, *Intangibles—Goodwill and Other (Topic 350)—Testing Goodwill for Impairment* (ASU 2011-08). ASU 2011-08 gives reporting entities the option to assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. If the "more likely than not" threshold is not met, then the two-step impairment test would not be required. ASU 2011-08 also includes examples of factors that entities should consider when performing qualitative assessments that supersede previous examples included under Accounting Standards Codification Topic 350 of circumstances entities should consider when testing goodwill for impairment between annual tests. ASU 2011-08 will be effective for annual impairment tests performed for fiscal years beginning after December 15, 2011. We are currently assessing what, if any, impact adoption of ASU 2011-08 may have on our consolidated financial statements.

In June 2011, the FASB issued ASU No. 2011-05, *Comprehensive Income (Topic 220)—Presentation of Comprehensive Income* (ASU 2011-05). ASU 2011-05 eliminates the option to present the components of other comprehensive income as part of the statement of changes in stockholders' equity. Instead, ASU 2011-05 requires entities to report all non-owner changes in stockholders' equity in either a single continuous statement of comprehensive income, or in two separate, but consecutive statements. ASU 2011-05 does not change the items that must be reported in other comprehensive income, or when an item must be reclassified to net income. ASU 2011-05 requires retrospective application and is effective for fiscal years, and interim periods within those years, beginning after December 15, 2011. Other than the presentational changes that will be required by

ASU 2011-05, the adoption of ASU 2011-05 is not expected to have any impact on our consolidated financial statements.

In May 2011, the FASB issued ASU 2011-04, *Fair Value Measurement (Topic 820)—Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs* (ASU 2011-04). ASU 2011-04 amends certain fair value principles to improve comparability between GAAP and International Financial Reporting Standards regarding fair value measurements and disclosures. In addition, ASU 2011-04 requires entities to disclose, among others: (1) quantitative information about the significant unobservable inputs used for Level 3 measurements; (2) qualitative information regarding the sensitivity of Level 3 measurements to changes in related unobservable inputs; and (3) the amounts of any transfers between Levels 1 and 2 of the fair value hierarchy and the reasons for those transfers. ASU 2011-04 will become effective during interim and annual periods beginning after December 15, 2011. We are currently assessing what impact adoption of ASU 2011-04 may have on our consolidated financial statements.

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

As of September 30, 2011, we have invested \$600.3 million in debt securities issued by corporations and federally-sponsored agencies. The market value of these investments varies inversely with changes in current market interest rates. In general, as rates increase, the market value of these debt securities would be expected to decrease. Similarly, as rates decrease, the market value of these debt securities would be expected to increase. To address market risk, we invest in debt securities that mature within two years and hold these investments to maturity so that they can be redeemed at their stated or face value. At September 30, 2011, our investments in debt securities issued by corporations and federally-sponsored agencies had a weighted average stated interest rate of approximately 0.44 percent and a weighted average maturity of 0.81 years. Many of our investments are callable prior to maturity.

During sustained periods of instability and uncertainty in the financial markets, we could be exposed to additional investment-related risks that could materially affect the value and liquidity of our investments. In light of these risks, we actively monitor market conditions and developments specific to the securities and security classes in which we invest. We believe that we maintain a conservative investment approach in that we invest exclusively in highly rated securities with relatively short maturities. While we believe we take prudent measures to mitigate investment related risks, such risks cannot be fully eliminated, as circumstances can occur that are beyond our control.

Item 4. CONTROLS AND PROCEDURES

Based on their evaluation, as of September 30, 2011, the Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures (as defined in Rule 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) are effective to provide reasonable assurance that information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934, as amended, is recorded, summarized, processed and reported within the time periods specified in the SEC's rules and forms and to provide reasonable assurance that such information is accumulated and communicated to our management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure. There have been no changes in our internal control over financial reporting that occurred during the period covered by this report that have materially affected, or are reasonably likely to materially affect, such internal control over financial reporting.

Part II. OTHER INFORMATION

Item 1A. RISK FACTORS

Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements made pursuant to the safe harbor provisions of Section 21E of the Securities Exchange Act of 1934 (the Exchange Act) and the Private Securities Litigation Reform Act of 1995 which are based on our beliefs and expectations about future outcomes. These statements include, among others, statements relating to the following:

- Expectations of revenues, profitability, and cash flows;
- The sufficiency of current and future working capital for planned and unplanned needs;
- Our ability to obtain future financing;
- The value of our common stock;
- The maintenance of domestic and international regulatory approvals;
- The timing and outcome of clinical studies and regulatory filings, including, in particular, the anticipated filing of a New Drug Application (NDA) for oral treprostinil;
- The expected likelihood and timing of regulatory approvals for drug candidates under development and the timing of related sales, including oral treprostinil;
- The outcome of potential future regulatory actions, including audits and inspections, from the United States Food and Drug Administration (FDA) and international regulatory agencies;
- The expected volume and timing of sales of Remodulin[®] (treprostinil) Injection (Remodulin), Adcirca[®] (tadalafil) tablets (Adcirca) and Tyvaso[®] (treprostinil) Inhalation Solution (Tyvaso);
- The impact of competing therapies, including generic products, on sales of our commercial products;
- The expectation that we will be able to manufacture sufficient quantities and maintain adequate inventories of our commercial products, through both our in-house manufacturing capabilities and third-party manufacturing sites for our products, and our ability to obtain and maintain related approvals by the FDA and other regulatory agencies;
- The adequacy of our intellectual property protections and the expiration dates of our patents and licensed patents and products;
- The potential impact of the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act of 2010 on our business;
- The potential impact of the pending business combination between Express Scripts, Inc. (the parent company of CuraScript, Inc.) and Medco Health Solutions, Inc. (the parent company of Accredo Therapeutics, Inc.) on our business;
- Any statements that include the words “believe,” “seek,” “expect,” “anticipate,” “forecast,” “project,” “intend,” “estimate,” “should,” “could,” “may,” “will,” “plan,” or similar expressions; and
- Other statements contained or incorporated by reference in this Quarterly Report on Form 10-Q that are not historical facts.

Forward-looking statements may appear in the section entitled *Part I, Item 2-Management’s Discussion and Analysis of Financial Condition and Results of Operations* and elsewhere in this Quarterly Report on Form 10-Q. These statements are

subject to risks and uncertainties, and our actual results may differ materially from anticipated results. Factors that may cause such differences include, but are not limited to, those discussed below. We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise.

Risks Related to Our Business

We rely heavily on sales of Remodulin and Tyvaso to produce revenues.

Sales of Remodulin and Tyvaso comprise a substantial majority of our total revenues. A wide variety of events, many of which are described in other risk factors below, could cause sales of Remodulin and/or Tyvaso to decline. For instance, if regulatory approvals for either of these products were withdrawn, we would be unable to sell the product and our business could be jeopardized. Any substantial change in the prescribing practices or dosing patterns of patients using Remodulin or Tyvaso due to combination therapy, side effects, adverse events, death or any other reasons, could decrease related revenues. In addition, we rely on third parties to produce, market, distribute and sell Remodulin and Tyvaso. The inability of any one of these third parties to perform these functions, or the failure of these parties to perform successfully, could negatively affect our revenues. We are also increasingly internalizing elements of our production process, and any failure to manage our internal production processes could result in an inability to meet demand. Because we are highly dependent on sales of Remodulin and Tyvaso, any reduction in sales of either or both of these products would have a negative and possibly material adverse impact on our operations.

If our products fail in clinical trials, we will be unable to obtain or maintain FDA and international regulatory approvals and will be unable to sell those products.

To obtain regulatory approvals from the FDA and international regulatory agencies such as the European Medicines Agency (EMA), we must conduct clinical trials demonstrating that our products are safe and effective. In the past, several of our product candidates failed or were discontinued at various stages in the development process. In addition, we may need to amend ongoing trials or the FDA and/or international regulatory agencies may require us to perform additional trials beyond those we planned. Such occurrences could result in significant delays and additional costs, and related clinical trials may be unsuccessful. In addition, approval of an NDA may be subject to delays if the FDA determines that it cannot review or approve the NDA as submitted. In such case, the FDA would issue a “refuse to file” or a complete response letter outlining the deficiencies in the submission, and the FDA may require substantial additional studies, testing or information in order to complete its review of the application. We may fail to address any such deficiencies adequately, in which case we would be unable to obtain FDA approval to market the product candidate.

The length of time that it takes for us to complete clinical trials and obtain regulatory approval for marketing varies by product, product use and country. Furthermore, we cannot predict with certainty the length of time it will take to complete necessary clinical trials or obtain regulatory approval of our future products.

Our clinical trials may be discontinued, delayed or disqualified for various reasons. These reasons include:

- The drug is ineffective, or physicians believe that the drug is ineffective;
- Patients do not enroll in our studies at the rate we expect;
- Ongoing or new clinical trials conducted by drug companies in addition to our own clinical trials reduce the number of patients available for our trials;
- Patients experience severe side effects during treatment;
- Other investigational or approved therapies are viewed as more effective or convenient by physicians or patients;
- Our clinical trial sites or our contracted clinical trial administrators do not adhere to trial protocols and required quality controls;
- Our trials do not comply with applicable regulations or guidelines;
- We do not pass inspections by regulatory agencies;
- Patients die during our trials because of an adverse event related to the trial drug, their disease is too advanced, or they experience medical problems unrelated to the drug being studied;

- Drug supplies are unavailable or unsuitable for use in our studies;
- The results of preclinical testing cause delays in our trials; and
- The results of our clinical trials conducted in countries outside of the United States may not be acceptable to the United States or other countries, and the results of our clinical trials conducted in the United States may not be acceptable to regulators in other countries.

In addition, the FDA and its international equivalents have substantial discretion over the approval process for pharmaceutical products. As such, these regulatory agencies may not agree that we have demonstrated the requisite level of product safety and efficacy to grant approval.

Our future growth depends, in part, on our plans to commercialize oral treprostinil. If the FDA delays or denies approval of our NDA for oral treprostinil, our business, financial condition and results of operations could be materially adversely affected.

In November 2008, we reported that our FREEDOM-C Phase III clinical trial of oral treprostinil in patients with pulmonary arterial hypertension (PAH) did not achieve statistical significance for its primary endpoint. These results prompted us to amend the protocol for our FREEDOM-M Phase III clinical trial of oral treprostinil and initiate an additional Phase III clinical trial of oral treprostinil, FREEDOM-C². In June 2011, we announced the completion of the FREEDOM-M trial, which achieved statistical significance for its primary endpoint ($p=0.0125$). However, our FREEDOM-C² trial did not achieve statistical significance for its primary endpoint ($p>0.05$), as we announced in August 2011. Although we anticipate filing an NDA for oral treprostinil no later than the first quarter of 2012, and believe the NDA should be approvable on the basis of the FREEDOM-M results alone in accordance with published FDA guidance we believe to be applicable, we may face delays in obtaining FDA approval of our NDA for oral treprostinil, or we may not be able to obtain FDA approval at all, for the reasons described above under “— *If our products fail in clinical trials, we will be unable to obtain or maintain FDA and international regulatory approvals and will be unable to sell those products*”, among others. Furthermore, even if the FDA approves our NDA, the FREEDOM-M results may support only a monotherapy label indication, and not an indicated use in conjunction with a PAH background therapy, which would impose limits on the permitted marketing of oral treprostinil. Furthermore, if oral treprostinil is approved by the FDA, the results of both the FREEDOM-C and FREEDOM-C² trials may negatively impact the timing and magnitude of oral treprostinil’s commercial opportunity by impacting patient demand, physician prescribing patterns or reimbursement rates.

We may not compete successfully with established and newly developed drugs or products, or the companies that develop and market them.

We compete with well-established drug companies for, among other things, funding, licenses, expertise, personnel, clinical trial patients and investigators, consultants and third-party collaborators. We also compete with these companies for market share. Most of these competitors have substantially greater financial, marketing, manufacturing, sales, distribution and technical resources than we do. These competitors also have more experience in areas such as research and development, clinical trials, sales and marketing and regulatory matters than we do. There are several treatments that compete with our commercial therapies, as well as several other therapies under development, including various late-stage investigational products that have recently completed or are undergoing Phase III pivotal trials. For the treatment of PAH, we compete with a number of approved products in the United States and worldwide, including the following: Flolan[®], Ventavis[®], Tracleer[®], Revatio[®], Letairis[®], Veletri[®] and generic intravenously administered products containing epoprostenol, the active ingredient in Flolan and Veletri. Patients and doctors may perceive these competing products, or products developed in the future, as safer, more effective, more convenient and/or less expensive than our therapies. Alternatively, doctors may reduce the prescribed doses of our products if they prescribe them as combination therapy with our competitors’ products. In addition, certain competing products are less invasive than Remodulin and the use of these products may delay or prevent initiation of Remodulin therapy. Any of these circumstances may suppress our sales growth or cause our revenues to decline.

Actelion Ltd, Gilead Sciences, Inc. and Pfizer Inc. presently control the majority of the approved therapies for PAH in the United States. Each of these companies has achieved considerable influence over prescribers through the sales and marketing of their respective therapies and through market dominance in this therapeutic area. Furthermore, the future commercialization and introduction of new PAH therapies into the market could exert downward pressure on the pricing of our products and reduce our market share.

We have a history of losses and may not maintain profitability.

We have experienced financial reporting periods in which we incurred net losses. While we believe we develop our annual cash-based operating budgets using reasonable assumptions and targets, unanticipated factors, including those outside of our control, could affect our profitability and cause uneven quarterly and/or annual operating results.

Discoveries or development of new products or technologies by others may make our products obsolete or seemingly inferior.

Other companies may discover or introduce new products that render all or some of our technologies and products obsolete or noncompetitive. Our commercial therapies may have to compete with numerous investigational products currently in development, including several investigational PAH therapies for which Phase III pivotal trials are underway or have been recently completed. In addition, alternative approaches to treating chronic diseases, such as gene therapy, may make our products obsolete or noncompetitive. If introduced into the market, investigational therapies for PAH could be used in combination with, or as a substitute for, our therapies. If this occurs, doctors may reduce or discontinue the use of our products for their patients.

Sales of our products are subject to reimbursement from government agencies and other third parties. Pharmaceutical pricing and reimbursement pressures may cause our sales to suffer.

The commercial success of our products depends, in part, on the availability of reimbursements by governmental payers such as Medicare and Medicaid, and private insurance companies. Accordingly, our commercial success is tied to such third-party payers. In the United States, the European Union and other significant or potentially significant markets for our products, third-party payers are increasingly attempting to limit or regulate the price of medicinal products and are frequently challenging the pricing of new and expensive drugs. Our prostacyclin analogue products, Remodulin and Tyvaso, are expensive therapies. Consequently, it may be difficult for our specialty pharmaceutical distributors or wholesalers to obtain sufficient reimbursement of our products from third-party payers to make selling our products economically feasible for them. Alternatively, third-party payers may reduce the amount of reimbursement for our products based on changes in pricing of other therapies for PAH, including generic formulations of other approved therapies. If third-party payers do not approve our products for reimbursement, or limit reimbursements, patients could choose a competing product that is approved for reimbursement or provides a lower out-of-pocket cost to them. Presently, most third-party payers, including Medicare and Medicaid, provide reimbursement for our commercial products. Future reimbursements under Medicare and Medicaid could be subject to reduction. Furthermore, to the extent that private insurers or managed care programs follow any reduced Medicaid and Medicare coverage and payment developments, the negative impact on our business would be compounded. We are currently assessing the potential effect of the Patient Protection and Affordable Care Act and the related Health Care and Education Reconciliation Act of 2010 on our business. While we believe the short-term impact on our business of this legislation will not be material, we continue to monitor the developments of this legislation as many of its provisions are not yet effective and are subject to finalization.

In the United States, there is an increased focus from the federal government and others on analyzing the impact of various regulatory programs on the federal deficit, which could result in increased pressure on federal programs to reduce costs. For example, on August 2, 2011, President Obama signed a bill that raises the U.S. federal debt ceiling and mandates significant additional deficit reduction over the next decade. While many proposals have been put forth, specific reductions in federal spending have not yet been determined. In addition, financial pressures may cause government or other third-party payers to more aggressively seek cost containment through mandatory discounts or rebates on our products, policies requiring the automatic substitution of generic products, higher hurdles for initial reimbursement approvals for new products or other similar measures. For example, there have been recent proposals to reduce reimbursement rates and/or adopt mandatory rebates under Medicare Part B, which covers Remodulin and Tyvaso. A reduction in the availability or extent of reimbursement from government healthcare programs could have a material adverse effect on the sales of our products, our business and results of operations.

In Europe, the success of our commercial products and future products depends largely on obtaining and maintaining government reimbursement. In many European countries, patients are unlikely to use prescription drugs that are not reimbursed by their governments. Reimbursement policies may adversely affect our ability to sell our products on a profitable basis. In many markets outside the United States, governments control the prices of prescription pharmaceuticals through the implementation of reference pricing, price cuts, rebates, revenue-related taxes and profit control, and expect prices of prescription pharmaceuticals to decline over the life of the product or as prescription volumes increase.

Finally, the ultimate pricing and reimbursement of our investigational products, upon their approval, is inherently uncertain and subject to the risks discussed above. In particular, the pricing for oral treprostinil, if approved, is subject to a number of uncertainties, including those described above, and our ability to achieve optimal pricing may be negatively impacted by the results of our FREEDOM-C and FREEDOM-C² trials, which failed to achieve statistical significance for their primary endpoints.

Our manufacturing strategy exposes us to significant risks.

We must be able to produce sufficient quantities of our commercial products to satisfy demand. The process of manufacturing our products is difficult and complex, and currently involves a number of third parties. We produce treprostinil, the active ingredient in Remodulin, Tyvaso and treprostinil diethanolamine, the active ingredient in our oral treprostinil tablet, in our Silver Spring, Maryland facility using raw materials and advanced intermediate compounds supplied by vendors. Although we have recently received FDA approval to manufacture Remodulin and Tyvaso at our own facilities, we also currently outsource much of the production of Remodulin to Baxter Pharmaceutical Solutions, LLC (Baxter) and Jubilant Hollister-Stier Contract Manufacturing and Services (Jubilant Hollister-Stier), and we outsource the manufacture of Tyvaso to Catalent Pharma Solutions, Inc. We manufacture the Tyvaso Inhalation System nebulizer at our facility in Germany, where NEBU-TEC International Med Products Eike Kern GmbH (NEBU-TEC) retains significant responsibilities for the manufacturing process. We also have approval to manufacture the Tyvaso Inhalation System nebulizer through a third-party, Minnetronix, Inc.

We manufacture oral treprostinil diethanolamine tablets for use in our clinical trials, but neither we nor our third-party vendors would be able to manufacture oral treprostinil diethanolamine tablets for commercial use in the U.S. or internationally without FDA approval or the corresponding international approvals of the manufacturing facility.

As long as we utilize third-party vendors for significant portions of our manufacturing process, we will remain exposed to the risks described below under “— *We rely in part on third parties to perform activities that are critical to our business. Our ability to generate commercial sales or conduct clinical trials could suffer if our third-party suppliers and service providers fail to perform.*” In addition, while we are in the process of internalizing additional manufacturing processes to increase our control over production, this approach will also subject us to risks as we engage in complex manufacturing processes for the first time. For example, Remodulin and Tyvaso must be produced in a sterile environment and we have limited experience with sterile manufacturing on a commercial scale. Some of the products we are developing will involve even more complicated manufacturing processes than our current products. For example, we are developing Ch14.18 MAb, a monoclonal antibody. As with all biologic products, monoclonal antibodies are inherently more difficult to manufacture than our current products and involve increased risk of viral and other contaminations.

The FDA recently issued an advisory to manufacturers regarding the potential formation of glass fragments in injectable drugs filled in small-volume glass vials. We recently conducted a thorough review of our manufacturing processes and those of our third-party suppliers and have no conclusive evidence at this time to suggest that the glass vials we use for Remodulin form glass fragments. We continue to assess our products, but cannot guarantee that our manufacturing process will not result in hazards such as these.

Additional risks presented by our manufacturing strategy include:

- We and our third-party manufacturers are subject to the FDA’s current Good Manufacturing Practices in the United States and similar regulatory standards internationally. While we have significant control over regulatory compliance with respect to our internal manufacturing processes, we do not exercise the same level of control over regulatory compliance by our third-party manufacturers;
- As we expand our manufacturing operations to include new elements of the manufacturing process or new products, we may experience difficulty designing and implementing processes and procedures to ensure compliance with applicable regulations;
- Even if we and our third-party manufacturers are in compliance with domestic and international drug manufacturing regulations, the sterility and quality of the products being manufactured could be substandard and, therefore, such products would be unavailable for sale or use;
- If we have to replace a third-party manufacturer with another manufacturer or our own manufacturing operations, the FDA and its international counterparts would require new testing and compliance inspections. Furthermore, a

new manufacturer would have to be familiarized with the processes necessary to manufacture and commercially validate our products, as manufacturing our treprostinil-based products is complex. Any new third-party manufacturers and any new manufacturing process at our own facilities would need to be approved by the FDA and its international counterparts before being used to produce commercial supply of our products;

- We may be unable to contract with needed manufacturers on satisfactory terms or at all; and
- The supply of materials and components necessary to manufacture and package our products may become scarce or interrupted. Disruptions to the supply of these materials could delay the manufacture and subsequent sale of such products. Any products manufactured with substituted materials or components would be subject to approval from the FDA and international regulatory agencies before they could be sold. The timing of any such regulatory approval is difficult to predict.

Any of these factors could disrupt sales of our commercial products, delay clinical trials or commercialization of new products, result in product liability claims and product recalls, and entail higher costs.

We rely in part on third parties to perform activities that are critical to our business. Our ability to generate commercial sales or conduct clinical trials could suffer if our third-party suppliers and service providers fail to perform.

We actively involve third parties to assist us in conducting clinical trials, obtaining regulatory approvals, conducting pharmacovigilance-related activities including drug safety and reporting of adverse events, and marketing and distributing our products, as we do not possess the internal capacity, and in some cases the expertise, to fully perform all of these functions. Accordingly, the success of these third parties in performing their contractual obligations is critical to our operations.

We produce treprostinil with raw materials and advanced intermediate compounds supplied by vendors. The inability of our vendors to supply these raw materials and advanced intermediate compounds in the quantities we require could delay the production of treprostinil for commercial use and for use in our clinical trials.

We rely on Baxter and Jubilant Hollister-Stier to produce Remodulin for us. We extended our contract with Baxter through 2013 and as part of that contract amendment, we agreed that Baxter will manufacture Remodulin in greater quantities using larger production equipment than under its current manufacturing process. This new manufacturing process and related equipment will require FDA and international approvals. We also have recently received FDA approval to produce Remodulin using our own facility in Silver Spring, Maryland; however, we remain reliant on third parties such as Baxter and Jubilant Hollister-Stier for additional capacity and as backup manufacturers.

We recently received FDA approval to produce Tyvaso in our Silver Spring, Maryland facility; however, we remain reliant on Catalent for additional production capacity. We also rely substantially on third parties, currently Minnetronix, Inc. and NEBU-TEC, to produce the Tyvaso Inhalation System nebulizer.

We rely heavily on these third parties to adhere to and maintain manufacturing processes in accordance with all applicable regulatory requirements. If any of these critical third-party production and supply arrangements are interrupted for compliance or other reasons, we may not have sufficient inventory to meet future demand.

We rely on Accredo Health Group, Inc., CuraScript, Inc. and CVS Caremark to market, distribute and sell Remodulin and Tyvaso in the United States. These distributors are also partially responsible for negotiating reimbursements from third-party payers for the cost of our therapies. From time-to-time, we increase the price of products sold to our U.S.-based and international distributors. Our price increases may not be fully reimbursed by third-party payers. If our distributors do not achieve acceptable profit margins on our products, they may reduce or discontinue the sale of our products. Furthermore, if our domestic and international distributors devote fewer resources to selling our products or are unsuccessful in their sales efforts, our revenues may decline materially.

In July 2011, Express Scripts, Inc. (the parent company of CuraScript, Inc.) announced its agreement to acquire Medco Health Solutions, Inc. (the parent company of Accredo Health Group, Inc.). The parties announced that they expect to complete the transaction in the first half of 2012, pending regulatory and shareholder approvals. If the transaction is completed as announced, we will only have two specialty pharmaceutical distributors selling Remodulin and Tyvaso in the United States. In addition, our products may be less significant to the operations of the combined companies and receive fewer resources for the sale and support of our products, which could adversely impact our revenues. Finally, the combined company's pharmacy

benefit management business will also have increased leverage in negotiating the terms of rebates and discounts on behalf of third-party payers, which could impact reimbursement levels for our products.

We rely on Eli Lilly and Company (Lilly) to manufacture and supply Adcirca for us, and we use Lilly's pharmaceutical wholesaler network to distribute Adcirca in the United States and Puerto Rico. If Lilly is unable to manufacture or supply Adcirca or its distribution network is disrupted, it could delay, disrupt or prevent us from selling Adcirca, which could slow the growth of our business. In addition, Lilly has the right to determine the price of Adcirca, which generally moves in parity with its price for Cialis[®] (which has the same active ingredient). Since FDA approval of Adcirca, Lilly has announced a price increase on both Cialis and Adcirca twice each year. In July 2011, Lilly announced a 5% increase in the price of Cialis and Adcirca tablets. Changes in Lilly's prices could adversely impact demand or reimbursement for Adcirca.

Although most of our current suppliers and service providers could eventually be replaced, a change in suppliers and/or service providers could interrupt the manufacture and distribution of our commercial products and our other products and services, and impede the progress of our clinical trials, commercial launch plans and related revenues. Manufacturing interruptions could be significant given the length of time and complexity involved in obtaining necessary regulatory approvals for alternative arrangements, through either third parties or internal manufacturing processes.

Our operations must comply with extensive laws and regulations in the U.S. and other countries, including FDA regulations. Failure to obtain approvals on a timely basis or to achieve continued compliance could delay, disrupt or prevent the commercialization of our products.

The products we develop must be approved for marketing and sale by regulatory agencies and, once approved, are subject to extensive regulation. Our research and development efforts must comply with extensive regulations, including those promulgated by the FDA and the United States Department of Agriculture. The process of obtaining and maintaining regulatory approvals for new drugs is lengthy, expensive and uncertain. The manufacture, distribution, advertising and marketing of these products are also subject to extensive regulation, including strict pharmacovigilance and adverse event reporting requirements. Any future product approvals we receive could be accompanied by significant restrictions on the use or marketing of the product. Our product candidates, including, in particular, oral treprostinil, may fail to receive marketing approval on a timely basis, or at all. If granted, product approvals can be withdrawn for failure to comply with regulatory requirements, such as post-marketing requirements and post-marketing commitments, or upon the occurrence of adverse events subsequent to commercial introduction.

Discovery of previously unknown problems with our marketed products or problems with our manufacturing, regulatory, compliance, research and development, pharmacovigilance and adverse event reporting, marketing or sales activities could result in regulatory restrictions on our products, including withdrawal of our products from the market. If we fail to comply with applicable regulatory requirements, we could be subject to penalties that may consist of fines, suspension of regulatory approvals, product recalls, seizure of our products and/or criminal prosecution. In addition, our reputation could be harmed as a result of any such regulatory restrictions or actions, and patients and physicians may not want to use our products even after we have resolved the issues that led to such regulatory action.

We are subject to ongoing regulatory review of our currently marketed products.

After our products receive regulatory approval, they remain subject to ongoing regulation, which can impact, among other things, product labeling, manufacturing practices, pharmacovigilance and adverse event reporting, storage, distribution, advertising and promotion, and record keeping. If we do not comply with the applicable regulations, the range of possible sanctions includes adverse publicity, product recalls or seizures, fines, total or partial suspensions of production and/or distribution, suspension of marketing applications, and enforcement actions, including injunctions and civil or criminal prosecution. The FDA and comparable international regulatory agencies can withdraw a product's approval under some circumstances, such as the failure to comply with regulatory requirements or the occurrence of unexpected safety issues. Further, the FDA often requires post-marketing testing and surveillance to monitor the effects of approved products. The FDA and comparable international regulatory agencies may condition approval of our product candidates on the completion of such post-marketing clinical studies. These post-marketing studies may suggest that a product causes undesirable side effects or may present a risk to the patient. If data we collect from post-marketing studies suggest that one of our approved products may present a risk to safety, regulatory authorities could withdraw our product approval, suspend production or place other marketing restrictions on our products. If regulatory sanctions are applied or if regulatory approval is delayed or withdrawn, our operating results and the value of our company may be adversely affected.

Regulatory approval for our currently marketed products is limited by the FDA to those specific indications and conditions for which clinical safety and efficacy have been demonstrated.

Any regulatory approval of our products is limited to those specific diseases and indications for which our products have been deemed safe and effective by the FDA. In addition to the FDA approval required for new formulations, any new indication for an approved product also requires FDA approval. If we are not able to obtain FDA approval for any desired future indications for our products, our ability to effectively market and sell our products may be reduced and our business may be adversely affected.

While physicians may choose to prescribe drugs for uses that are not described in the product's labeling and for uses that differ from those approved by regulatory authorities (called "off-label" uses), our ability to promote the products is limited to those indications that are specifically approved by the FDA. Although U.S. regulatory authorities generally do not regulate the behavior of physicians, they do restrict communications by companies on the subject of off-label use. If our promotional activities fail to comply with these regulations or guidelines, we may be subject to warnings from, or enforcement action by, these authorities. In addition, failure to follow FDA rules and guidelines relating to promotion and advertising can result in the FDA's refusal to approve a product, the suspension or withdrawal of an approved product from the market, product recalls, fines, disgorgement of money, operating restrictions, injunctions or criminal prosecution.

We must comply with various laws in jurisdictions around the world that restrict certain marketing practices in the pharmaceutical and medical device industries. Failure to comply with such laws could result in penalties and have a material adverse effect on our business, financial condition and results of operations.

Various laws in jurisdictions around the world, including anti-kickback and false claims statutes, the Foreign Corrupt Practices Act (FCPA) and the UK Bribery Act, restrict particular marketing practices in the pharmaceutical and medical device industries. Although we have compliance programs and procedures in place that we believe are effective, our business activities may be subject to challenge under these laws, and any penalties imposed upon us could have a material adverse effect on our business, financial condition and results of operations. Furthermore, we have significantly expanded our sales and marketing staff recently. Although we train our sales and marketing staff under our corporate compliance programs, any expansion of sales and marketing efforts can increase the risks of noncompliance with these laws.

In the United States, the federal health care program anti-kickback statute prohibits, among other things, knowingly and willfully offering, paying, soliciting, or receiving remuneration to induce, or in return for, purchasing, leasing, ordering, or arranging for the purchase, lease, or order of any health care item or service reimbursable under Medicare, Medicaid, or other federally financed healthcare programs. This statute has been interpreted to apply to arrangements between pharmaceutical manufacturers and prescribers, purchasers, and formulary managers. Although a number of statutory exemptions and regulatory safe harbors exist to protect certain common activities from prosecution, the exemptions and safe harbors are narrow, and practices that involve remuneration intended to induce prescriptions, purchases, or recommendations may be subject to scrutiny if they do not qualify for an exemption or safe harbor. Although we seek to comply with the conditions for reliance on these exemptions and safe harbors, our practices may not always meet all of the criteria for safe harbor protection.

Federal false claims laws prohibit any person from knowingly presenting, or causing to be presented, a false claim for payment to the federal government, or knowingly making, or causing to be made, a false statement to get a false claim paid. Several pharmaceutical and health care companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the company's marketing of the product for unapproved, and thus non-reimbursable, uses. The majority of states also have statutes or regulations similar to the federal anti-kickback law and false claims laws, which apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payer. Sanctions under these federal and state laws may include civil monetary penalties, exclusion of a manufacturer's product from reimbursement under government programs, criminal fines, and imprisonment.

The Patient Protection and Affordable Care Act (PPACA) imposes new reporting requirements for pharmaceutical and device manufacturers with regard to payments or other transfers of value made to physicians and teaching hospitals, effective March 30, 2013. In addition, pharmaceutical and device manufacturers will be required to report and disclose investment interests held by physicians and their immediate family members during the preceding calendar year. Such information is to be made publicly available by the Secretary of Health and Human Services in a searchable format beginning September 30, 2013.

Failure to submit required information may result in civil monetary penalties of up to \$150,000 per year (and up to \$1 million per year for "knowing failures") for all payments, transfers of value or ownership or investment interests not reported in an annual submission. Further, the PPACA amends the intent requirement of the federal anti-kickback and criminal health care

fraud statutes. A person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it. In addition, the government may assert that a claim including items or services resulting from a violation of the federal anti-kickback statute constitutes a false or fraudulent claim for purposes of the false claims laws.

If not preempted by this federal law, several states require pharmaceutical companies to report expenses relating to the marketing and promotion of pharmaceutical products and to report gifts and payments to individual physicians in those states. Depending on the state, legislation may prohibit various other marketing related activities, or require the posting of information relating to clinical studies and their outcomes. In addition, certain states, such as California, Nevada, and Massachusetts, require pharmaceutical companies to implement compliance programs or marketing codes and several other states are considering similar proposals. Compliance with these laws is difficult and time consuming, and companies that do not comply with these state laws face civil penalties.

Government health care reform could increase our costs, which would adversely affect our revenue and results of operations.

Our industry is highly regulated and changes in law may adversely impact our business, operations or financial results. The PPACA is a sweeping measure intended to expand healthcare coverage within the United States, primarily through the imposition of health insurance mandates on employers and individuals and expansion of the Medicaid program. The reforms imposed by the new law will significantly impact the pharmaceutical industry; however, the full effects of the PPACA cannot be known until these provisions are implemented and the Centers for Medicare & Medicaid Services and other federal and state agencies issue applicable regulations or guidance. Moreover, in the coming years, additional changes could be made to governmental healthcare programs that could significantly impact the success of our products or product candidates.

Reports of actual or perceived side effects and adverse events associated with our products, such as sepsis, could cause physicians and patients to avoid or discontinue use of our products in favor of alternative treatments.

Reports of side effects and adverse events associated with our products could have a significant adverse impact on the sale of our products. An example of a known risk associated with intravenous Remodulin is sepsis, which is a serious and potentially life-threatening infection of the bloodstream caused by a wide variety of bacteria. Intravenous prostacyclins, such as intravenous Remodulin and Flolan, are infused continuously through a catheter placed in a large vein in the patient's chest, and sepsis is a known risk associated with this type of delivery. As a result, sepsis is included as a risk in both the Remodulin and Flolan package inserts. Although a discussion of the risk of sepsis is currently included on the Remodulin label, and the occurrence of sepsis is familiar to physicians who prescribe intravenously administered therapies, concerns about bloodstream infections may adversely affect a physician's prescribing practice of Remodulin.

Our corporate compliance program cannot guarantee that we comply with all potentially applicable federal, state and international regulations.

The development, manufacture, distribution, pricing, sales, marketing, and reimbursement of our products, together with our general operations, are subject to extensive federal, state, local and international regulations, which are constantly evolving. These regulations are subject to frequent revisions that often introduce more stringent requirements. While we believe we have developed and instituted adequate corporate compliance programs, we cannot ensure that we will always be in compliance with these regulations. If we fail to comply with any of these regulations, we could be subject to a range of penalties including, but not limited to: the termination of clinical trials, the failure to receive approval of a product candidate, restrictions on our products or manufacturing processes, withdrawal of our products from the market, significant fines, exclusion from government healthcare programs and other sanctions or litigation.

Negative attention from special interest groups may impair our business.

As is common with pharmaceutical and biotechnology companies, our early-stage research and development involves animal testing, which we conduct both directly and through contracts with third parties. Notwithstanding the vital role of animal research in the drug discovery and development process, certain special interest groups categorically object to the use of animals for research purposes. Historically, our research and development activities have not been the subject of significant animal rights media attention. However, research activities with animals have been the subject of adverse attention, including demonstrations near facilities operated by other companies in our industry. Any negative attention, threats or acts of vandalism directed against our animal research activities in the future could impair our ability to operate our business efficiently.

If any of the license or other agreements under which intellectual property rights are licensed to, or were acquired by, us are breached or terminated, our right to continue to develop, make and sell the products covered by such agreement could be impaired or lost.

Our business depends upon our continuing ability to exploit our intellectual property rights in the drugs and other products that have been discovered and initially developed by others and that we are developing further and commercializing. These intellectual property rights have either been licensed by us pursuant to a product license agreement or have been acquired by us pursuant to a purchase agreement. Under each of our product license agreements, we are granted a license to exploit certain intellectual property owned by others that covers a drug or other product. Under each of our purchase agreements, we have purchased certain intellectual property that covers a drug or other product. We may be required to obtain a license of other intellectual property owned by third parties to continue to develop and commercialize our products.

This dependence on intellectual property developed by others involves the following risks:

- We may be unable to obtain rights to intellectual property that we determine we need for our business at a reasonable cost or at all;
- If any of our product license or purchase agreements are terminated, we may lose our rights to develop, make and sell the products to which such agreement relates;
- Our license and purchase agreements generally provide the licensor or seller with the right to terminate the agreement in the event we breach such agreement — e.g., if we fail to pay royalties and other fees timely and do not cure the failure within a stated time period; and
- If a licensor of intellectual property that is exclusively licensed to us breaches its obligation or otherwise fails to maintain the intellectual property licensed to us, we may lose any ability to prevent others from developing or marketing similar products that are covered by such intellectual property. In addition, we may be forced to incur substantial costs to maintain the intellectual property ourselves or take legal action seeking to force the licensor to do so.

Certain agreements under which we acquired or licensed intellectual property rights may restrict our ability to develop related products in certain countries or for particular diseases and may impose other restrictions that affect our ability to develop and market related products in the most effective manner.

When we acquire or are licensed intellectual property rights to drugs and other products that have been discovered and initially developed by others, these rights are frequently limited. For instance, our rights to market Adcirca are geographically limited to the United States and Puerto Rico. Furthermore, we cannot undertake any additional investigational work with respect to Adcirca in other indications of pulmonary hypertension without Lilly's prior approval. Lilly also has authority over all regulatory activities and has the right to determine the retail price for Adcirca and the wholesale price at which Lilly sells Adcirca to us. Provisions in our license and purchase agreements may impose other restrictions that affect our ability to develop and market products to which the intellectual property that is the subject of such agreements relates. For example, GlaxoSmithKline PLC retained an exclusive option and right of first refusal to negotiate a license agreement with us if we decide to license any commercialization rights with respect to Remodulin and Tyvaso anywhere in the world. Similarly, our amended license agreement with Toray Industries, Inc. (Toray) grants Toray the right to be our exclusive provider of beraprost-MR. Moreover, we must also meet certain minimum annual sales to maintain our exclusive rights to beraprost-MR.

Our intellectual property rights may not effectively deter competitors from developing competing products that, if successful, could materially adversely affect our revenues and profits.

The period under which our commercial and developmental therapies are protected by our patent rights is limited. Our U.S. patent for the method of treating PAH with Remodulin will expire in October 2014. Our three U.S. patents covering our current methods of synthesizing and producing treprostinil, the active ingredient in both Remodulin and Tyvaso, expire in October 2017. We also have been granted one patent in the European Union and one patent in Japan, each of which covers our treprostinil synthesis and production methods and will expire in October 2018. The patent for Adcirca for the treatment of pulmonary hypertension will expire in 2017 and our patents for Tyvaso will expire in the United States and in various countries throughout the European Union in 2018 and 2020, respectively.

We continue to conduct research into new methods to synthesize treprostinil and have two issued patents in the United States that expire in 2021, as well as additional U.S. and international pending patent applications relating to such methods. However, we cannot be sure that these additional patents will successfully deter competitors, or that additional patent applications will result in grants of patents. Upon the expiration of any of our patents, competitors may develop generic versions of our products that were covered by the expired patent and market those generic versions to compete with our products. Competitors may also seek to design around our patents prior to their expiration in an effort to develop competing products that do not infringe our patents.

The scope of any patent we hold may not deter competitors from developing a product that competes with the product we sell that is covered by the patent. Patent laws of foreign jurisdictions may not protect our patent rights to the same extent as the patent laws of the United States. Furthermore, our suppliers who have granted us exclusive rights may have inadequate intellectual property protections. Competitors also may attempt to invalidate our existing patents before they expire.

In addition to patent protection, we also rely on trade secrets to protect our proprietary know-how and other technological advances that we do not disclose to the public. We enter into confidentiality agreements with our employees and others to whom we disclose trade secrets and other confidential information. These agreements do not necessarily prevent our trade secrets from being used or disclosed without our authorization and confidentiality agreements may be difficult to enforce or may not provide an adequate remedy in the event of unauthorized disclosure.

Third parties may allege that our products or services infringe their patents and other intellectual property rights, which could result in the payment of royalties that would affect our profits, subject us to costly and time-consuming litigation or result in our losing the ability to continue to sell the related products.

Third parties may seek to invalidate or otherwise challenge our patents. We may initiate litigation to enforce or defend our patents or intellectual property rights; however, litigation can be time consuming and costly and may not conclude favorably, and the outcome of patent infringement litigation often is difficult to predict. If we are unsuccessful with respect to any future legal action in the defense of our patents and our patents are invalidated or determined to be unenforceable, our business could be negatively impacted. Even if our patents are not determined to be invalid or unenforceable, it is possible that a competitor could circumvent our patents by effectively designing around the claims of our patents. Accordingly, our patents may not provide us with any competitive advantage.

To the extent third-party patents for which we currently do not hold licenses cover our products or services, a license to these patents would be necessary to manufacture, use, sell or provide these products and services without infringing these patents. In the case of products or services that utilize intellectual property of strategic collaborators or other suppliers, such suppliers may have an obligation to secure the needed license to these patents at their cost, but otherwise we would be responsible for the cost of these licenses. Payments of royalties and other amounts under these licenses would reduce our profits from the sale of related products and services. Moreover, we may be unable to obtain these licenses on acceptable terms or at all. If we fail to obtain a required license or are unable to alter the design of the product alleged to be infringed to avoid infringing a third-party patent, we would be unable to continue to manufacture or sell the related products.

If a third party commences a legal action against us for infringement, we could be compelled to incur significant costs to defend the action and our management's attention could be diverted, whether or not the action were to have any merit. We cannot be certain that we could prevail in the action, and an adverse judgment or settlement resulting from the action could require us to pay substantial amounts in damages for infringement or substantial amounts to obtain a license to continue to use the intellectual property that is the subject of the infringement claim.

We may not maintain adequate insurance coverage to protect us against significant product liability claims.

The testing, manufacturing, marketing, and sale of drugs and diagnostics involve product liability risks. Although we currently maintain product liability insurance, we may not be able to maintain this insurance at an acceptable cost, if at all. In addition, our insurance coverage may not be adequate for all potential claims. If claims or losses significantly exceed our liability insurance coverage, we may be forced out of business.

Improper handling of hazardous materials used in our activities could expose us to significant liabilities.

Our research and development and manufacturing activities involve the controlled use of chemicals and hazardous substances and we are expanding these activities in both scale and location. In addition, patients may dispose of our products using means we do not control. Such activities subject us to numerous federal, state, and local environmental and safety laws and regulations that govern the management, storage and disposal of hazardous materials. Compliance with current or future

environmental laws and regulations can require significant costs; furthermore, we can be subject to substantial fines and penalties in the event of noncompliance. While we believe we comply with laws and regulations governing these materials, the risk of accidental contamination or injury from these materials cannot be completely eliminated. Furthermore, once chemical and hazardous materials leave our facilities, we cannot control what our hazardous waste removal contractors choose to do with these materials. In the event of an accident, we could be liable for substantial civil damages or costs associated with the cleanup of the release of hazardous materials. Any related liability could exceed our resources and could have a material adverse effect on our business.

We may encounter substantial difficulties managing our growth relative to product demand.

We have spent considerable resources building our laboratories and manufacturing facilities, and we are currently seeking regulatory approvals for some of our manufacturing facilities. However, our facilities may be insufficient to meet future demand for our products. Alternatively, we may have excess capacity at our facilities if future demand falls short of our expectations, or if we do not receive regulatory approvals for the products we intend to produce at our facilities. Constructing our facilities is expensive and our ability to satisfactorily recover our investment will depend on sales of the products manufactured at these facilities in sufficient volume. If we do experience substantial sales growth, we may have difficulty managing inventory levels as marketing new therapies is complicated and gauging future demand can be difficult and uncertain.

If we need additional financing and cannot obtain it, our product development and sales efforts may be limited.

We may be required to seek additional sources of financing to meet unplanned or planned expenditures. Unplanned expenditures could be significant and may result from necessary modifications to product development plans or product offerings in response to difficulties encountered with clinical trials. We may also face unexpected costs in preparing products for commercial sale, or in maintaining sales levels of our currently marketed therapeutic products. If we are unable to obtain additional funding on commercially reasonable terms or at all, we may be compelled to delay clinical studies, curtail operations or obtain funds through collaborative arrangements that may require us to relinquish rights to certain products or potential markets.

We may require additional financing to meet significant future obligations. For example, upon maturity or conversion of our 2016 Convertible Senior Notes, we must repay our investors in cash up to the principal balance of \$250.0 million. In addition, in certain circumstances constituting a fundamental change under the 2016 Convertible Senior Notes, we may be required to repurchase the notes for cash. In addition, awards granted under our Share Tracking Awards Plans (which we collectively refer to as the STAP) entitle participants to receive in cash an amount equal to the appreciation in the price of our common stock, which is calculated as the positive difference between the closing price of our common stock on the date of exercise and the date of grant. Consequently, our STAP will likely require significant future cash payments to participants to the extent the price of our common stock appreciates and the number of vested STAP awards increases over time. If we do not have sufficient funds to meet such contractual obligations or the ability to secure alternative sources of financing, we could be in default, face litigation and/or lose key employees, which could have a material adverse effect on our business or financial condition.

Risks Related to Our Common Stock

The price of our common stock can be highly volatile and may decline.

The price of common stock can be highly volatile within the pharmaceutical and biotechnology sector. Consequently, there can be significant price and volume fluctuations in the market that may not always relate to operating performance. The table below sets forth the high and low closing prices for our common stock for the periods indicated:

	High	Low
January 1, 2011—September 30, 2011	\$ 70.70	\$ 37.47
January 1, 2010—December 31, 2010	\$ 64.24	\$ 46.22
January 1, 2009—December 31, 2009	\$ 52.88	\$ 27.86

The price of our common stock could decline sharply due to the following factors, among others:

- Quarterly and annual financial results;
- Failure to meet estimates or expectations of securities analysts;
- Timing of enrollment and results of our clinical trials;
- Physician, patient, investor or public concerns regarding the efficacy and/or safety of products marketed or being developed by us or by others;
- Changes in, or new legislation and regulations affecting reimbursement of, our therapeutic products by Medicare, Medicaid or other government payers, and changes in reimbursement policies of private health insurance companies;
- Announcements by us or others of technological innovations or new products or announcements regarding our existing products;
- Interference in our patent or other proprietary rights;
- Substantial sales of our common stock by us or our existing shareholders;
- Future issuances of common stock by us or any other activity which could be viewed as being dilutive to our shareholders;
- Rumors among, or incorrect statements by, investors and/or analysts concerning our company, our products, or operations;
- Failure to obtain or maintain, our regulatory approvals from the FDA or international regulatory agencies, including, in particular, approval for oral tadalafil for the treatment of PAH;
- Discovery of previously unknown problems with our marketed products or problems with our manufacturing, regulatory, compliance, promotional, marketing or sales activities that result in regulatory restrictions on our products, including withdrawal of our products from the market;
- Accumulation of significant short positions in our common stock by hedge funds or other investors or the significant accumulation of our common stock by hedge funds or other institutional investors with investment strategies that may lead to short-term holdings; and
- General market conditions.

We may fail to meet our own projected revenues, as well as third-party projections for our revenues or profits.

Many securities analysts publish quarterly and annual projections of our revenues and profits. In addition, we have recently begun providing forward-looking guidance for revenues associated with our commercial products. Such estimates are inherently subject to uncertainty. As a result, actual revenues and profits may differ from these projections, and even small variations in reported revenues and profits compared to securities analysts' expectations or our own projected revenues could have a significant impact on the price of our common stock.

Sales or issuances of our common stock may depress our stock price.

The price of our common stock could decline if: (1) we issue common stock to raise capital or to acquire a license or business; (2) our shareholders transfer ownership of our common stock, or sell substantial amounts in the public market; (3) our investors become concerned that substantial sales of our common stock may occur; or (4) we issue shares upon conversion of our 2011 Convertible Senior Notes or 2016 Convertible Senior Notes. For example, Lilly has begun to sell a significant portion of our common stock it currently holds. A decrease in the price of our common stock could make it difficult for us to raise capital or fund acquisitions through the issuance of our stock.

We may be required to issue shares of our common stock in connection with the maturation of our 2011 Convertible Senior Notes. If the price of our common stock exceeds \$52.85 per share, the ownership interests of our existing shareholders would be diluted. In addition, the conversion of some or all of the 2016 Convertible Senior Notes, when the price of our common stock exceeds \$67.56 per share, would dilute the ownership interests of our existing shareholders.

Any sales of common stock issued to holders of our convertible senior notes could adversely affect the prevailing market price of our common stock or result in short selling by market participants in expectation of a decline in the price of our common stock.

Our share repurchases may affect the value of the notes and our common stock.

Our Board of Directors has authorized a share repurchase program for up to \$300 million of our common stock through October 3, 2013. As part of this broader repurchase program, we entered into an accelerated share repurchase agreement (ASR) with Deutsche Bank AG, London Branch, an affiliate of the initial purchaser on October 17, 2011, which is described in more detail in Note 17— *Subsequent Events* to our consolidated financial statements included in this Quarterly Report on Form 10-Q. We have been advised that Deutsche Bank AG, London Branch, in connection with establishing its initial hedge of the ASR, expects to purchase shares of common stock concurrently with, and shortly after, the offering of our 2016 Convertible Senior Notes and expects to purchase and may sell common stock or other of our securities in secondary market transactions during the term of the ASR transaction. The effect, if any, of any of these transactions and activities on the market price of our common stock will depend in part on market conditions, but any of these activities could affect the value of our common stock.

We are subject to counterparty risk with respect to the convertible note hedge transaction and the ASR transaction.

The counterparty to the convertible note hedge we entered into in connection with the issuance of our 2016 Convertible Senior Notes (call options) and the ASR is the affiliate of a financial institution, and we will be subject to the risk that such counterparty may default under the call options or the ASR. Our exposure to the credit risk of such counterparty will not be secured by any collateral. Recent global economic conditions have resulted in the actual or perceived failure or financial difficulties of many financial institutions. If such counterparty becomes subject to insolvency proceedings, we will become an unsecured creditor in those proceedings with a claim based on our exposure at that time under the call options or the ASR. Our exposure will depend on many factors but, generally, the increase in our exposure will be correlated to the increase in the market price and in the volatility of our common stock. In addition, upon a default by the counterparty, we may suffer adverse tax consequences and dilution with respect to our common stock due to our obligation to deliver shares upon conversion of the notes. We cannot provide any assurance as to the financial stability or viability of such counterparty.

The fundamental change purchase and make whole adjustment event features of the 2016 Convertible Senior Notes may delay or prevent an otherwise beneficial attempt to take over our company.

We may be required to repurchase the 2016 Convertible Senior Notes from their holders in the event of a fundamental change and increase the conversion rate for conversion in connection with a make whole adjustment event in certain circumstances, including a change in control of our company. This may delay or prevent a change in control of our company that would otherwise be beneficial to our shareholders.

The accounting method for convertible debt securities, such as the notes, could have a material adverse effect on our reported financial results.

Because the terms of our 2016 Convertible Senior Notes provide for settlement wholly or partially in cash, we must account for their liability and equity components separately so that subsequent recognition of interest expense will reflect our non-convertible borrowing rate. Accordingly, the estimated fair value of the conversion option will be reported as a component of stockholders' equity with a corresponding offset that will be recognized as a discount to the 2016 Convertible Senior Notes reducing their carrying value. Because we must amortize the discount to interest expense over the expected life of the 2016 Convertible Senior Notes, interest expense could be significantly higher. Consequently, this could reduce our net income in our financial results because interest will include both the current period's amortization of the debt discount (non-cash interest) and the instrument's contractual interest, which could adversely affect our reported or future operating results or the trading price of our common stock.

Provisions of Delaware law and our amended and restated certificate of incorporation, second amended and restated by-laws, shareholder rights plan, call spread hedge transactions, ASR and employment and license agreements could prevent or delay a change of control or change in management that may be beneficial to our public shareholders.

Certain provisions of Delaware law and our amended and restated certificate of incorporation, second amended and restated by-laws and shareholder rights plan may prevent, delay or discourage:

- A merger, tender offer or proxy contest;
- The assumption of control by a holder of a large block of our securities; and/or
- The replacement or removal of current management by our shareholders.

For example, our amended and restated certificate of incorporation divides our Board of Directors into three classes. Members of each class are elected for staggered three-year terms. This provision may make it more difficult for shareholders to replace the majority of directors. It may also deter the accumulation of large blocks of our common stock by limiting the voting power of such blocks.

Non-competition and all other restrictive covenants in most of our employment agreements will terminate upon a change of control that is not approved by our Board.

Terminating or unwinding the call spread hedge transactions or the ASR could require us to make substantial payments to the counterparty under those agreements or may increase our stock price. The costs or any increase in stock price that may arise from terminating or unwinding such agreements could make an acquisition of our company significantly more expensive to the purchaser.

Similarly, a change of control, under certain circumstances, could also result in an acceleration of the vesting of outstanding STAP awards. This, together with any increase in our stock price resulting from the announcement of a change of control, could make an acquisition of our company significantly more expensive to the purchaser.

We enter into certain license agreements that generally prohibit our counterparties to these agreements or their affiliates from taking necessary steps to acquire or merge with us, directly or indirectly throughout the term of these agreements, plus a specified period thereafter. We are also party to certain license agreements that restrict our ability to assign or transfer the rights licensed to us to third parties, including parties with whom we wish to merge, or those attempting to acquire us. These agreements often require that we obtain the prior consent of the counterparties to these agreements if we are contemplating a change of control. If our counterparties to these agreements withhold their consent, related agreements could be terminated and we would lose related license rights. For example, both Lilly and Toray have the right to terminate our license agreements relating to Adcirca and beraprost-MR, respectively, in the event of certain change of control transactions. These restrictive change of control provisions could impede or prevent mergers that could benefit our shareholders.

Because we do not intend to pay cash dividends, our shareholders must rely on stock price appreciation for any return on their investment in us.

We have never declared or paid cash dividends on our common stock. Furthermore, we do not intend to pay cash dividends in the future. As a result, the return on an investment in our common stock will depend entirely upon the future appreciation in the price of our common stock. We cannot assure you that our common stock will provide a return to investors.

Item 6. EXHIBITS

Exhibits filed as a part of this Form 10-Q are listed on the Exhibit Index, which is incorporated by reference herein.

SIGNATURES

Pursuant to the requirements 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.

October 27, 2011

UNITED THERAPEUTICS CORPORATION

/s/ MARTINE A. ROTHBLATT
By: Martine A. Rothblatt, Ph.D.
Title: *Chairman and Chief Executive Officer*

/s/ JOHN M. FERRARI
By: John M. Ferrari
Title: *Chief Financial Officer and Treasurer*

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
3.1	Amended and Restated Certificate of Incorporation of the Registrant, incorporated by reference to Exhibit 3.1 of the Registrant's Registration Statement on Form S-1 (Registration No. 333-76409).
3.2	Certificate of Amendment of Amended and Restated Certificate of Incorporation of the Registrant, incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on June 28, 2010.
3.3	Second Amended and Restated By-laws of the Registrant, incorporated by reference to Exhibit 3.2 to the Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2008.
3.4	Form of Certificate of Designations, Preferences and Rights of Series A Junior Participating Preferred Stock, incorporated by reference to Exhibit A to Exhibit 4 to the Registrant's Current Report on Form 8-K, filed December 18, 2000.
4.1	Reference is made to Exhibits 3.1, 3.2 and 3.3.
4.2	First Amended and Restated Rights Agreement, incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K filed on July 3, 2008.
4.3	Indenture, dated October 30, 2006, between the Registrant and The Bank of New York, as trustee (including form of 0.50% Convertible Senior Note due October 15, 2011), incorporated by reference to Exhibit 4.1 of Registrant's Current Report on Form 8-K filed October 30, 2006.
4.4	Indenture, dated October 17, 2011, between the Registrant and The Bank of New York Mellon Trust Company, N.A., as trustee (including form of 1.0% Convertible Senior Note due September 15, 2016), incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed October 17, 2011.
10.1	Technical Services Agreement, dated May 15, 2007, between the Registrant and Kurzweil Technologies, Inc., as amended on October 27, 2011.
10.2*	Confirmation, dated October 11, 2011, of a warrant transaction between the Registrant and Deutsche Bank AG, London Branch.
10.3*	Confirmation, dated October 11, 2011, of a note hedging transaction between the Registrant and Deutsche Bank AG, London Branch.
10.4*	Confirmation, dated October 11, 2011, of an accelerated share repurchase transaction between the Registrant and Deutsche Bank AG, London Branch.
12.1	Ratio of Earnings to Fixed Charges
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934
32.1	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101	The following financial information from our Quarterly Report on Form 10-Q for the quarter ended September 30, 2011, filed with the SEC on October 27, 2011, formatted in Extensible Business Reporting Language (XBRL): (i) the Consolidated Balance Sheets as of September 30, 2011 and December 31, 2010, (ii) the Consolidated Statements of Operations for the three- and nine-month periods ended September 30, 2011 and 2010, (iii) the Consolidated Statements of Cash Flows for the nine-month periods ended September 30, 2011 and 2010, and (iv) the Notes to Consolidated Financial Statements (1).

* Confidential treatment has been requested for portions of this document. The omitted portions of this document have been filed separately with the Securities and Exchange Commission.

(1) The XBRL related information in Exhibit 101 to this Quarterly Report on Form 10-Q shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to liability of that section and shall not be incorporated by reference into any filing or other document pursuant to the Securities Act of 1933, as amended, except as shall be expressly set forth by specific reference in such filing or document.

TECHNICAL SERVICES AGREEMENT

This Technical Services Agreement ("Agreement") is entered into this 15th day of May 2007, between United Therapeutics Corporation ("United Therapeutics") and Kurzweil Technologies, Inc. ("KTI").

In consideration of the mutual promises and covenants herein contained and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties to this Agreement agree as follows:

1. **Services.** KTI shall use its best efforts, skills and knowledge to provide services and perform work (the "Work") in three areas: (i) preparation and prosecution of new and existing patent applications and patenting strategies with respect to broadening and strengthening intellectual property rights relating to identifying and targeting diagnostic and therapeutic applications of metakaryote cells and related ideas as identified in the laboratory of Professor William G. Thilly and Eleana Gostjeva, and the preparation and filing of patents for improvements, derivative and ancillary technologies related thereto; (ii) managing patent preparation and prosecution in conjunction with United Therapeutics, and (iii) consulting on business and other new technology development. The Work shall be performed by the team of KTI employees and consultants personally led by Raymond Kurzweil, with KTI reporting to Martine Rothblatt. All Work shall be conducted in compliance with FDA and other applicable regulatory guidelines. KTI shall not perform services beyond those identified in this paragraph except at the express written request of Martine Rothblatt. KTI shall provide monthly reports describing the content and progress of all tasks performed under this Agreement, as well as hourly breakdowns of the time expended by each individual.

2. **Payment for Services.** In full and complete compensation for all services provided by KTI, and for all obligations assumed by KTI, United Therapeutics shall make the following payments to KTI:

a. **Consulting Fees.** United Therapeutics shall pay to KTI consulting fees not to exceed \$12,000 in any calendar month; provided, however, that to the extent that the amount billed by KTI in any given month is less than the monthly cap of \$12,000, the difference between \$12,000 and the amount actually billed for such month may be carried forward in order to supplement the billing in any subsequent month or months that the billing is less than \$12,000. In no event shall the consulting fees exceed \$144,000 in any given 12-month period. Such compensation shall be paid within 30 days following receipt of a detailed invoice from KTI with copies of expense receipts. Any amounts not paid within 30 days after the date of the invoice are subject to an interest charge at the rate of 1.5% per month (18% per annum). KTI shall billing the following rates for services provided hereunder:

Ray Kurzweil -- \$850 per hour
 Aaron Kleiner -- \$220 per hour
 Paul Albrecht -- \$200 per hour.

b. Expense Reimbursement. United Therapeutics shall reimburse KTI on a monthly basis for all necessary, reasonable and direct out-of-pocket expenses incurred by KTI on behalf of United Therapeutics under this Agreement upon receipt by United Therapeutics of all such receipts provided, however, that such expenses shall not exceed \$1,000 per month without advance written permission of United Therapeutics.

c. Royalties. United Therapeutics shall pay to KTI a five percent (5%) royalty on Net Sales of Products reasonably attributed to and dependent upon patent claims that were in existence, applied for, under development, or assisted by KTI during the term of this Agreement and which are covered by claims of an issued and unexpired United States patent(s) ("Covered Technology"), such royalty vesting as follows: (i) 25% (1.25%) vesting upon execution of this Agreement, and the remaining 75% (3.75%) vesting on March 15, 2008. For purposes of clarity, in the event that a given Product is covered by claims of more than one issued and unexpired patent developed by KTI, the royalty to be paid to KTI with respect to such Product shall be the same as if such Product were covered by claims of only one issued and unexpired patent. The royalty obligation contained in this Section 2(c) shall survive termination of this Agreement.

3. Term. The term of this Agreement shall commence on May 15, 2007 and will continue until terminated as provided herein.

a. This Agreement may be terminated by United Therapeutics upon thirty (30) days' advance written notice to KTI.

b. This Agreement may be terminated by KTI upon one hundred eighty (180) days' advance written notice to UT.

c. This Agreement may be terminated immediately (i) by mutual written agreement of the parties hereto; (ii) by either party upon breach by the other party of a material provision of this Agreement which breach remains uncured for more than ten (10) days following receipt of notice thereof from the non-breaching party; or, for a breach which cannot be cured within ten (10) days, for an additional period, reasonable in length, to allow the breaching party to effect a cure, provided that said party diligently pursues such cure, but in no event more than thirty (30) days following receipt of initial notice from the non-breaching party, or (iii) by either party upon the insolvency of the other party, or upon the filing of a voluntary petition in bankruptcy by the other party or to have the other party declared a bankrupt, or upon the appointment of a receiver or trustee for the other party, or upon the execution by the other party of an assignment for the benefit of creditors.

d. Upon termination for any reason other than a breach of this Agreement by KTI, KTI shall be entitled to payment for all consulting hours worked at the contract bill rate for such hours, plus reimbursable expenses incurred through the time of termination, plus the payment of royalties, if any, in accordance with Section 2(c) above.

e. KTI's obligations under Sections 4, 6, 7, 8 and 9 shall survive termination of this Agreement, and UT's obligations under Section 2(c) shall survive termination of this Agreement.

4. Warranty. UNITED THERAPEUTICS AND KTI AGREE THAT KTI WILL HAVE NO LIABILITY OR RESPONSIBILITY UNDER THE FOREGOING WARRANTY WITH RESPECT TO THE WORK INCLUDING, BUT NOT LIMITED TO ANY LIABILITY OR RESPONSIBILITY FOR ANY PRODUCTION OR OTHER COSTS WHICH RESULT FROM THE USE OF THE WORK. THE FOREGOING WARRANTY CONSTITUTES THE ONLY WARRANTY MADE BY KTI UNDER THIS AGREEMENT AND ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, ARE DISCLAIMED, INCLUDING ANY WARRANTY WITH RESPECT TO THE MERCHANTABILITY OF THE WORK OR THE FITNESS OF THE WORK FOR ANY PARTICULAR PURPOSE.

5. Limitation of Liability. THE PARTIES AGREE THAT KTI'S TOTAL LIABILITY TO UNITED THERAPEUTICS FOR ANY CLAIMS, LIABILITIES, DEMANDS, LOSSES, EXPENSES OR DAMAGES WHATSOEVER, ARISING OUT OF OR IN ANY WAY RELATED TO WORK PERFORMED BY KTI UNDER THIS AGREEMENT FROM ANY CAUSE OR CAUSES, IS LIMITED TO DIRECT DAMAGES TO THE EXTENT CAUSED BY KTI'S NEGLIGENT PERFORMANCE OF SUCH WORK OR KTI'S WILLFUL MISCONDUCT AND SHALL NOT INCLUDE LIABILITY FOR ANY (I) SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, (II) DAMAGES ARISING OUT OF LOSS OF DATA, LOSS OF USE OR LOSS OF PROFITS, OR (III) COSTS ASSOCIATED WITH THE CORRECTION OF ANY CONSTRUCTION OF THE PROJECT TO WHICH KTI'S WORK RELATES.

6. Indemnification and Insurance. Subject to the warranties and limits of liability set forth in Sections 5 and 6 above, each party shall indemnify and hold the other harmless from and against all costs and expenses, including reasonable attorneys' fees, arising out of (i) claims for bodily injury, personal injury or property damage to the extent caused by the indemnifying party's negligence in its performance of this Agreement; or (ii) a breach of the indemnifying party's obligations under this Agreement. During the term of this Agreement, KTI will maintain at least the following insurance coverages and amounts:

<u>Coverage</u>	<u>Amount</u>
(a) Worker's Compensation in the State where KTI personnel will be working	Statutory
(b) Employers' Liability	\$1,000,000 each accident \$1,000,000 disease - policy limit

<u>Coverage</u>	<u>Amount</u>
(c) Commercial General Liability including Bodily Injury and Property Damage	\$1,000,000 combined single limit per occurrence
(d) Business Automobile Insurance including Bodily Injury and Property Damage	\$1,000,000 combined single limit each accident
(e) Excess Liability	\$1,000,000 each occurrence

7. Confidentiality and Non-Disclosure.

a. All information and know-how that KTI in any way learns from United Therapeutics and all inventions, discoveries, materials, authorship, derivatives and results and proceeds which shall become the property of United Therapeutics pursuant to Section 8 below, shall be deemed to be the confidential property of United Therapeutics (hereinafter "Confidential Information"). KTI shall take all reasonable, necessary and appropriate security precautions to safeguard the Confidential Information from disclosure. KTI shall use the Confidential Information only for the purpose of performing services hereunder, and shall not use the Confidential Information for the benefit of KTI or any other person or business in any manner directly or indirectly. KTI shall not use, disclose or make available to any third parties any Confidential Information received by KTI without the prior written consent of United Therapeutics.

b. KTI's obligations of confidentiality and non-disclosure under this section shall not apply to the extent that KTI can demonstrate that such confidential information: (i) was known to KTI prior to disclosure; (ii) was not acquired directly or indirectly from United Therapeutics and which KTI lawfully had in his or her possession prior to disclosure; (iii) hereafter, through no act or omission by KTI, becomes information generally available to the public; (iv) corresponds in substance to information furnished to KTI on a non-confidential basis by any third party having a legal right to do so; or (v) was required by law to be disclosed, which disclosure shall not be made prior to notice to United Therapeutics in order to permit United Therapeutics to oppose such disclosure.

c. KTI agrees to promptly return all Confidential Information provided under this Agreement, and any copies, reproductions, or descriptions thereof, to United Therapeutics upon request or upon expiration or termination of this Agreement.

d. The obligation to hold information confidential under this Section 7 of this Agreement shall remain in force for a period of four (4) years following expiration or termination of this Agreement, notwithstanding the earlier expiration or termination of this Agreement.

e. KTI shall obtain written agreements with each KTI employee, consultant, agent or contractor prior to each such individual performing services on the Work that contains terms at least as stringent as the terms in the foregoing Sections 7(a)-(d) and expressly identifies United Therapeutics as an intended third party beneficiary of the employee's confidentiality and non-disclosure obligations to KTI in accordance with this Agreement.

8. Ownership of Intellectual Property Rights.

a. The entire right, title and interest in and to all inventions, discoveries, materials, authorship, derivatives and results and proceeds of KTI's efforts, and the efforts of its agents and contractors, in any form or media that relate to the Work in any manner, and that are in the area of technology of the Work, including without limitation, all patents, trade secrets and copyrights, shall be solely and exclusively owned by United Therapeutics, its successors licensees and assigns, and no other individual or entity shall have any interest therein of any kind or nature.

b. Patents and Trade Secrets.

1. KTI shall promptly disclose and shall and hereby does assign and transfer to United Therapeutics all right, title and interest in and to any patentable or unpatentable inventions, discoveries, and ideas which are made or conceived in whole or in part by or on behalf of KTI in the course of or as a result of the services performed hereunder, or that relate directly to, or involve the use of Confidential Information and the Work, and that are in the area of technology of the Work. In the event that KTI has any right in the Work which cannot be assigned, KTI agrees to waive enforcement worldwide of such right against United Therapeutics, its successors, distributors, licensees and assigns or, if necessary, hereby grants a fully-paid up worldwide exclusive license to United Therapeutics with the right to sublicense and assign.

2. KTI shall timely assist United Therapeutics in the filing and prosecution of patent applications covering such inventions, discoveries or ideas and will promptly execute and furnish any and all documents as may be required to establish United Therapeutics' sole and exclusive ownership thereof. KTI hereby grants United Therapeutics the exclusive right, and appoints United Therapeutics as KTI's attorney-in-fact (such power of attorney being coupled with an interest therein) to execute and prosecute an application for domestic and/or foreign patent or other statutory protection, and KTI shall execute and deliver to United Therapeutics, without charge to United Therapeutics but at United Therapeutics' expense, such other documents of registration and recordation, and do such other acts, such as give testimony in support of KTI's inventorship, as may be necessary in the opinion of United Therapeutics to vest in United Therapeutics or any other party nominated by United Therapeutics, or otherwise to

protect, the exclusive rights conveyed and/or granted to United Therapeutics pursuant to this Agreement.

3. In the event that United Therapeutics decides not to pursue patent protection for any discovery or creation made by KTI, and instead decides to protect the discovery or creation pursuant to the trade secret laws of any jurisdiction, such decision shall not be construed as a waiver of United Therapeutics' rights pursuant to this Agreement. At United Therapeutics' expense, KTI shall also take whatever steps are necessary to sustain United Therapeutics' claim to such trade secrets, including but not limited to: (i) maintaining the confidential nature of any such discoveries or creations; and (ii) testifying and providing other support and substantiation for United Therapeutics' claims with regard to the discovery or creation.

4. With respect to discoveries made by KTI, KTI employees, consultants, agents and contractors shall maintain notebooks and other records adequate to describe such discovery to others conversant in the subject of the technology and to establish the date and circumstances of such discovery. KTI employees, agents and contractors shall notify United Therapeutics of any such discoveries and shall make copies of all documents or reports relating to such discoveries available to United Therapeutics. Any discovery shall be reported to United Therapeutics regardless of whether, in KTI's opinion, a given discovery is of value to United Therapeutics, or is protectable under patent, copyright or the laws of any jurisdiction.

c. Copyrights.

1. All materials, authorship, derivatives and other work prepared by KTI, its employees, agents and contractors, in any form or media that relate to the Work, and that are in the area of the technology of the Work ("Authorship") shall be considered as "Works Made for Hire" (as that term is defined under U.S. Copyright Laws) and, as such shall be owned solely and exclusively by and for the sole and exclusive benefit of United Therapeutics.

2. In the event that it should be determined that (i) any of such Authorship shall not be considered as a Work Made for Hire for any reason, or (ii) KTI acquires any right, title or interest in or to any Authorship prepared by KTI, its employees, agents and contractors, in any such Authorship, then in either such event, KTI will and hereby does assign and transfer to United Therapeutics all right, title and interest possessed by KTI, its employees, agents and contractors, in all such Authorship and will promptly execute and furnish any and all documents as may be required to establish United Therapeutics' sole and exclusive ownership thereof. For the purpose of producing such documentation KTI hereby irrevocably appoints United Therapeutics as its attorney in fact to execute such documents on its behalf, such power of attorney being coupled with an interest therein. In the event that KTI has any right in the Work which cannot be assigned, KTI agrees to waive enforcement worldwide of such right against United

Therapeutics, its successors, distributors, licensees and assigns or, if necessary, hereby grants a fully-paid up worldwide exclusive license to United Therapeutics with the right to sublicense and assign.

d. Original Work. KTI agrees that KTI, its employees, agents and contractors, shall not include any material owned by a third party in any written, copyrightable or patentable material furnished or delivered by KTI under this Agreement without the unconditional written consent of the owner of such intellectual property rights unless specific advance written approval is obtained from United Therapeutics for inclusion of such material including third party intellectual property rights. KTI also agrees that all work (or tangible expression of an idea) that KTI, its employees, agents and contractors, create or contribute to United Therapeutics in the course of the services hereunder will be created solely by KTI, its employees, agents and contractors, will be original to employees, agents and contractors, and will be free of any third party claims or interests.

e. Use. United Therapeutics and its respective successors, licensees, and assigns shall have the sole and exclusive right to practice, or to make, use or sell products, processes or services derived from any discoveries or creations within the scope of this Agreement, whether or not patentable or copyrightable under the laws of any jurisdiction, or protected by the trade secret laws of any jurisdiction.

f. Infringement Actions. In the event that United Therapeutics shall bring an infringement suit against any third parties or shall be sued by any third parties as a result of KTI's authorship or creation, including without limitation any addition and/or modification of the aforementioned items of Confidential Information, KTI agrees to cooperate reasonably without charge to United Therapeutics, but at its request and expense, in defending against or prosecuting any such suit. This right shall be cumulative to any other rights of United Therapeutics hereunder.

g. Deliverables. All works to be delivered to United Therapeutics by KTI shall be delivered according to a schedule mutually agreed upon, or else promptly after expiration or termination of this Agreement, together with all written information, drawings, documents and materials, if any, furnished by United Therapeutics to KTI in connection with KTI's services hereunder, and not consumed by KTI in the performance of such services.

h. Agreements. KTI shall obtain written agreements with each KTI employee, consultant, agent or contractor prior to each such individual performing services on the Work that contains terms at least as stringent as the terms in the foregoing Sections 8(a)-(g) and expressly identifies United Therapeutics as an intended third party beneficiary of the employee's, agent's and contractor's intellectual property rights ownership obligations to KTI in accordance with this Agreement.

9. Miscellaneous.

- a. Independent Contractor. KTI acknowledges that KTI is an independent contractor providing services to United Therapeutics. KTI acknowledges that KTI may not enter into agreements on behalf of United Therapeutics or otherwise obligate United Therapeutics in any manner and that KTI will not represent that KTI has authority to do so. KTI shall be solely responsible for the payment of all applicable taxes associated with the compensation paid under this Agreement.
- b. Assignment or Subcontracting. KTI may not assign, delegate or subcontract any of KTI's duties except with the prior written consent of United Therapeutics.
- c. Compliance with Laws. Both parties agree to comply with all applicable laws, government regulations and government orders in the performance of this Agreement, including without limitation, compliance with relevant FDA guidelines and HIPAA.
- d. Entire Agreement and Amendment. This Agreement and its attachments constitute the entire agreement of the parties with respect to the subject matter hereof, supersedes all prior agreements and understandings, written or oral, between United Therapeutics and KTI. This Agreement may be amended only by a written agreement signed by both parties that expressly amends, terminates or supersedes this Agreement.
- e. Waiver. No waiver of any provisions of this Agreement shall be valid unless the same is in writing and signed by the party against whom such waiver is sought to be enforced. No valid waiver of any provision of this Agreement at any time shall be deemed a waiver of any other provision of this Agreement. No delay or omission by either party in exercising any right under this Agreement will operate as a waiver of that or any other right.
- f. Successors and Assigns. This Agreement, and all rights and powers granted hereby, will bind and inure to the benefit of the parties hereto and their respective successors and assigns.
- g. Governing Law. The terms of this Agreement shall be governed and construed in accordance with the laws of the State of New York. The parties agree that any dispute under this Agreement shall be decided in the federal or state courts of the State of New York and each party hereby expressly consents and submits to the exclusive personal jurisdiction and exclusive venue of the courts in the State of New York.

IN WITNESS WHEREOF, each of the parties has caused this Agreement to be signed by its duly authorized representatives on the dates indicated below

UNITED THERAPEUTICS CORPORATION



KURZWEIL TECHNOLOGIES, INC.

By: Martine Rothblatt, CEO
Printed:

Printed:

Date: 2007/05/21

Date: May 18, 2007

EIN

Appendix
ROYALTIES

1. **Royalties to KTI.** United Therapeutics shall pay to KTI a running royalty of Five Percent (5%) of Net Sales for so long as a Valid Patent Claim is in existence.

a. **Accrual of Royalties.** No royalties shall be payable on a Product distributed to Third Parties solely for marketing and advertising purposes, which must be reasonable in amount, or as a sample for testing or evaluation purposes. No royalties shall be payable on sales among United Therapeutics and its Affiliates, but royalties shall be payable on subsequent sales by United Therapeutics and its Affiliates to a Third Party.

b. **Third Party Royalties.** If United Therapeutics or its Affiliates determine, at United Therapeutics or its Affiliates' discretion and after consulting with KTI and MIT, that they are required to pay royalties to any Third Party because the manufacture, use or sale of Products infringe any patent or other intellectual property rights of such Third Party in any country because of the technology developed by KTI and MIT incorporated into such Products, United Therapeutics or its Affiliates may deduct on a pro rata basis from royalties thereafter due to KTI and MIT with respect to Net Sales of such Product in such country the royalties or such other fees paid to such Third Party.

c. **Compulsory Licenses.** Should a compulsory license be granted to a Third Party under the applicable laws of any country under the Patent Rights hereunder, the royalty rate payable hereunder for the sale of Products in such country shall be reduced by an amount equivalent to the lower royalty rate granted to such Third Party for such country.

2. **Royalty Reports; Accounting**

a. **Reports, Exchange Rates.** United Therapeutics shall furnish to KTI a quarterly written report showing in reasonably specific detail, on a country by country basis: (i) the gross sales of each Product sold by United Therapeutics and its Affiliates during the reporting period and the calculation of Net Sales from such gross sales; (ii) the royalties payable in Dollars, if any, which shall have accrued hereunder based upon Net Sales of each Product; (iii) the withholding taxes, if any, required by law to be deducted in respect of such sales; (iv) the exchange rates used in determining the amount due; and (v) the amount and explanation for any reduction in royalties in accordance with Sections 1 (a)-(c) above. With respect to sales of Products invoiced in Dollars, the gross sales, Net Sales, and royalties payable shall be expressed in Dollars. With respect to sales of Products invoiced in a currency other than Dollars, the gross sales, Net Sales and royalties payable shall be expressed in the domestic currency of the Person making the sale together with the Dollar equivalent of the royalty payable. The Dollar equivalent shall be calculated using the average exchange rate (local currency per US \$1) published in The Wall Street Journal, Western Edition, under the heading "Currency Trading," on the last business day of each month during the applicable

calendar quarter. Reports shall be due on the sixtieth (60th) day following the close of each quarter. United Therapeutics and its Affiliates shall keep complete and accurate records in sufficient detail to properly reflect all gross sales and Net Sales and to enable the royalties payable hereunder to be determined.

b. Audits. Upon the written request of KTI, and not more than once in each calendar year, United Therapeutics shall permit an independent certified public accounting firm of nationally recognized standing, selected by KTI and reasonably acceptable to United Therapeutics, at KTI's expense, to have access during normal business hours to such of the records of United Therapeutics as may be reasonably necessary to verify the accuracy of the royalty reports hereunder for any year ending not more than twenty-four (24) months prior to the date of such request. The accounting firm shall disclose to KTI only whether the royalty reports are fairly stated or not and the specific details concerning any discrepancies. No other information shall be shared. KTI shall treat all financial information subject to review under this Section 2(b) or under any sublicense agreement as confidential and shall cause its accounting firm to retain all such financial information in confidence.

3 Royalty Payments

a. Payment Terms. Royalties shown to have accrued by each royalty report provided for under Section 2(a) above shall be due and payable on the date such royalty report is due. Payment of royalties in whole or in part may be made in advance of such due date.

b. Payment Method. All royalty payments by United Therapeutics under this Agreement shall be paid in Dollars, and all such payments shall be originated from a United States bank located in the United States and made by bank check to such address as KTI shall designate. Upon the election of United Therapeutics made in writing not less than thirty (30) days prior to any payment date, United Therapeutics shall pay all royalties owing to KTI hereunder in the currency in which such royalties accrued, without conversion into Dollars.

c. Exchange Control. If at any time legal restrictions prevent the prompt remittance of part or all royalties with respect to any country where the Product is sold, payment shall be made through such lawful means or methods as United Therapeutics reasonably shall determine.

4. Definitions

a. Affiliate means any legal entity (such as a corporation, partnership, or limited liability company) that is controlled by United Therapeutics. For the purposes of this definition, the term "control" means (i) beneficial ownership of greater than fifty percent (50%) of the voting securities of a corporation or other business organization with voting securities or (ii) greater than fifty percent (50%) interest in the net assets or profits of a partnership or other business organization without voting securities

b. Dollar or \$ means United States dollars.

c. Net Sales means the gross amount billed by United Therapeutics and its Affiliates or sublicensees to Third Party purchasers of Products, less the following:

(a) customary trade, quantity, price or cash discounts to the extent actually allowed and taken or rebates to the extent actually allowed and given (including without limitation cash, governmental and managed care rebates, and hospital or other buying group chargebacks);

(b) credits, allowances, discounts, rebates, chargebacks, adjustments, rejections, returns and recalls for which the customer has been credited the original sales price;

(c) to the extent separately stated on purchase orders, invoices, or other documents of sale, any taxes or other governmental charges levied on the production, sale, transportation, delivery, or use of a Product which is paid by or on behalf of United Therapeutics, including without limitation sales, excise, inventory, value-added, and similar taxes (other than income tax);

(d) outbound transportation costs prepaid or allowed, costs of insurance in transit and exportation or importation charges; and

(e) uncollectible accounts relating to reimbursement in a six-month post-launch period provided United Therapeutics exercises appropriate diligence with respect to obtaining such reimbursement.

No deductions shall be made for commissions paid to individuals whether they are with independent sales agencies or regularly employed by United Therapeutics and on its payroll, or for cost of collections. Net Sales shall occur on the date of billing for a Product. If a Product is distributed at a discounted price at the discretion of United Therapeutics that is substantially lower than the customary price charged by United Therapeutics, or distributed for non-cash consideration (whether or not at a discount), Net Sales shall be calculated based on the non-discounted amount of the Product charged to a Third Party during the same reporting period or, in the absence of such sales, on the fair market value of the Product.

If a Product is distributed by United Therapeutics at a discounted price prior to United Therapeutics' receipt of approval of an NDA by the FDA (or from the governing health authority of any other country) for use of such Product in such country under a treatment IND, named patient use, compassionate use program, or similar patient access program, such distribution shall not be included in Net Sales.

Non-monetary consideration shall not be accepted by United Therapeutics, any Affiliate, or any sublicensee for any Product without the prior written consent of M.I.T., which consent shall not be unreasonably withheld, delayed or denied.

In the case of a product that contains a Product component and at least one other essential functional component ("Combination Product"), Net Sales shall mean the gross amount billed for the Combination Product less the deductions set forth above, multiplied by a proration factor that is determined as follows:

(i) If all components of the Combination Product were sold separately during the same or immediately preceding Reporting Period, the proration factor shall be determined by the formula $[A / (A+B)]$, where A is the aggregate gross sales price of all Product components during such period when sold separately from the other essential functional components, and B is the aggregate gross sales price of the other essential functional components during such period when sold separately from the Product components; or

(ii) If all components of the Combination Product were not sold separately during the same or immediately preceding Reporting Period, the proration factor shall be determined by the formula $[C / (C+D)]$, where C is the aggregate fully absorbed cost of all Product components during the prior Reporting Period and D is the aggregate fully absorbed cost of the other essential functional components during the prior Reporting Period, with such costs being determined in accordance with generally accepted accounting principles.

In no event, however, shall the foregoing proration factor be less than one half (1/2).

d. Patent Rights means all domestic and international issued patents relating to technology developed under this Agreement and which are exclusively owned by or exclusively licensed to United Therapeutics under this Agreement.

e. Person means an individual, partnership, corporation, limited liability company, trust or unincorporated organization, or a Governmental Agency.

f. Product means (i) any product and process that is reasonably attributable to and dependant upon the Patent Rights, and (ii) any product that, in whole or in part, was identified, selected or determined to have biological activity or utility by using a product or process reasonably attributable to and dependant upon the Patent Rights when the product itself or the manufacture or use of such product does not infringe any Valid Patent Claim.

g. Third Party means any individual or entity other than KTI and United Therapeutics, Medcomp, Inc. and their respective Affiliates.

h. Valid Patent Claim means a claim of an issued and unexpired United States patent included within the Patent Rights which has not been held unenforceable, unpatentable or invalid by a decision of a court or other governmental agency of competent jurisdiction, unappealable or unappealed within the time allowed for appeal, and which has not been admitted to be invalid or unenforceable through reissue, disclaimer or otherwise.

AMENDMENT to TECHNICAL SERVICES AGREEMENT

This **AMENDMENT to TECHNICAL SERVICES AGREEMENT** (this “ **Amendment** ”), dated as of October 27, 2011, is between United Therapeutics Corporation, located at 1040 Spring St., Silver Spring, MD 20910, (“ **United Therapeutics** ”) and Kurzweil Technologies, Inc., (“ **KTI** ”). Party shall mean United Therapeutics or KTI as the context dictates, and “ **Parties** ” shall mean United Therapeutics and KTI.

WHEREAS , United Therapeutics and KTI are parties to that certain Technical Services Agreement dated May 15, 2007 (the “ **TSA** ”);

WHEREAS , United Therapeutics and KTI wish to amend the TSA to align with changed circumstances.

NOW, THEREFORE , in consideration of the terms and conditions specified herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

1. **AMENDMENTS.** The TSA is hereby amended, with effect from January 1, 2012, as follows:
 - 1.1. In Section 2(a), each instance of the number “\$12,000” is replaced with “\$6,000.”
 - 1.2. In Section 2(a), the umber “\$144,000” is replaced with “\$72,000.”
2. **COUNTERPARTS** . This Amendment may be executed in counterparts and all such counterparts taken together shall be deemed to constitute one and the same instrument. If this Amendment is executed in counterparts, no signatory hereto will be bound until both parties named below have duly executed a counterpart of this Amendment.
3. **EFFECT OF AMENDMENT.** Except as specifically amended hereby, all other terms and conditions of the TSA remain in effect. To the extent that any of the terms in the TSA are inconsistent with the terms of this Amendment, the terms of this Amendment shall control.

IN WITNESS WHEREOF, the United Therapeutics and KTI, intending to be legally bound have executed this Amendment as of the date first set forth above by their respective duly authorized representatives.

Kurzweil Technologies Inc.

United Therapeutics Corporation

/s/ Raymond Kurzweil

Raymond Kurzweil , CEO

/s/ Martine Rothblatt

Martine Rothblatt , CEO

Pursuant to 17 CFR 240.24b-2, confidential information (indicated by [***]) has been omitted from Annex B and has been filed separately with the Securities and Exchange Commission pursuant to a Confidential Treatment Application filed with the Commission.

Execution Version



Deutsche Bank AG, London Branch
Winchester house
1 Great Winchester St,
London EC2N 2DB
Telephone: 44 20 7545 8000

c/o Deutsche Bank Securities Inc.
60 Wall Street
New York, NY 10005
Telephone: (212) 250-2500

DATE: October 11, 2011

TO: United Therapeutics Corporation
ATTENTION: John Ferrari, Chief Financial Officer and Treasurer
TELEPHONE: (301) 608-9292
FACSIMILE: (301) 608-3049

FROM: Deutsche Bank AG, London Branch
TELEPHONE: 44 20 7545 8193
FACSIMILE: 44 11 3336 2009

SUBJECT: Equity Derivatives Confirmation

REFERENCE NUMBER(S): 457099

The purpose of this facsimile agreement (this “**Confirmation**”) is to confirm the terms and conditions of the transaction entered into between **Deutsche Bank AG, London Branch** (“**Deutsche**”) and **United Therapeutics Corporation** (“**Counterparty**”) on the Trade Date specified below (the “**Transaction**”). This Confirmation constitutes a “Confirmation” as referred to in the ISDA Master Agreement specified below. This Confirmation constitutes the entire agreement and understanding of the parties with respect to the subject matter and terms of the Transaction and supersedes all prior or contemporaneous written and oral communications with respect thereto.

DEUTSCHE BANK AG IS NOT REGISTERED AS A BROKER OR DEALER UNDER THE U.S. SECURITIES EXCHANGE ACT OF 1934, AS AMENDED. DEUTSCHE BANK SECURITIES INC. (“AGENT”) HAS ACTED SOLELY AS AGENT IN CONNECTION WITH THE TRANSACTION AND HAS NO OBLIGATION, BY WAY OF ISSUANCE, ENDORSEMENT, GUARANTEE OR OTHERWISE WITH RESPECT TO THE PERFORMANCE OF EITHER PARTY UNDER THE TRANSACTION. AS SUCH, ALL DELIVERY OF FUNDS, ASSETS, NOTICES, DEMANDS AND COMMUNICATIONS OF ANY KIND RELATING TO THE TRANSACTION BETWEEN DEUTSCHE AND COUNTERPARTY SHALL BE TRANSMITTED EXCLUSIVELY THROUGH AGENT. DEUTSCHE BANK AG, LONDON BRANCH IS NOT A MEMBER OF THE SECURITIES INVESTOR PROTECTION CORPORATION (SIPC).

Chairman of the Supervisory Board: Clemens Börsig
Management Board: Josef Ackermann (Chairman), Hugo Bänziger, Jürgen Fitschen, Anshuman Jain, Stefan Krause, Hermann-Josef Lamberti, Rainer Neske

Deutsche Bank AG is authorised under German Banking Law (competent authority: BaFin – Federal Financial Supervising Authority) and regulated by the Financial Services Authority for the conduct of UK business; a member of the London Stock Exchange. Deutsche Bank AG is a joint stock corporation with limited liability incorporated in the Federal Republic of Germany HRB No. 30 000 District Court of Frankfurt am Main; Branch Registration in England and Wales BR000005; Registered address: Winchester House, 1 Great Winchester Street, London EC2N 2DB. Deutsche Bank Group online: <http://www.deutsche-bank.com>

The definitions contained in the 2002 ISDA Equity Derivatives Definitions (the “**Equity Definitions**”), as published by the International Swaps and Derivatives Association, Inc., are incorporated into this Confirmation. In the event of any inconsistency between the Equity Definitions and the terms of this Confirmation, the terms of this Confirmation shall govern. For the purposes of the Equity Definitions, each reference herein to a Warrant shall be deemed to be a reference to a Call or an Option, as context requires.

This Confirmation evidences a complete and binding agreement between Deutsche and Counterparty as to the terms of the Transaction to which this Confirmation relates. This Confirmation shall supplement, form a part of, and be subject to an agreement (the “**Agreement**”) in the form of the ISDA 2002 Master Agreement (the “**ISDA Form**”) as if Deutsche and Counterparty had executed an agreement in such form (without any Schedule but with the elections set forth in this Confirmation). For the avoidance of doubt, the Transaction shall be the only transaction under the Agreement.

2. The Transaction is a Warrant Transaction, which shall be considered a Share Option Transaction for purposes of the Equity Definitions, and shall have the following terms:

General:

Trade Date:	October 11, 2011.
Effective Date:	October 17, 2011.
Components:	The Transaction will be divided into individual Components, each with the terms set forth in this Confirmation, and, in particular, with the Number of Warrants and Expiration Date set forth in this Confirmation. The payments and deliveries to be made upon settlement of the Transaction will be determined separately for each Component as if each Component were a separate Transaction under the Agreement.
Warrant Style:	European.
Warrant Type:	Call.
Seller:	Counterparty.
Buyer:	Deutsche.
Shares:	The common stock, par value USD 0.01 per share, of Counterparty.
Number of Warrants:	For each Component, as set forth in Annex B to this Confirmation.
Strike Price:	USD 67.56.
Premium:	As set forth in Annex B to this Confirmation.
Premium Payment Date:	The Effective Date.
Exchange:	The NASDAQ Global Select Market.
Related Exchanges:	All Exchanges.

Calculation Agent: Deutsche. The Calculation Agent shall, upon reasonable written request by Counterparty, provide promptly a written explanation (in a commonly used file format for the storage and manipulation of financial data) displaying in reasonable detail the basis of any calculation or adjustment made by it including, where applicable, a description of the methodology and data applied, it being understood that the Calculation Agent shall not be obligated to disclose any proprietary models used by it for such calculation or adjustment.

Procedure for Exercise:

In respect of any Component:

Expiration Date: As provided in Annex B to this Confirmation (or, if such date is not a Scheduled Trading Day, the next following Scheduled Trading Day that is not already an Expiration Date for another Component); *provided* that if that date is a Disrupted Day, the Expiration Date for such Component shall be the first succeeding Scheduled Trading Day that is not a Disrupted Day and is not or is not deemed to be an Expiration Date in respect of any other Component of the Transaction hereunder; and *provided further* that if the Expiration Date has not occurred pursuant to the preceding proviso as of the Final Disruption Date (as set forth in Annex B to this Confirmation), the Final Disruption Date shall be the Expiration Date (irrespective of whether such date is an Expiration Date in respect of any other Component for the Transaction) and, notwithstanding anything to the contrary in this Confirmation or the Equity Definitions, the Relevant Price for the Expiration Date shall be the prevailing market value per Share determined by the Calculation Agent in a commercially reasonable manner. Notwithstanding the foregoing and anything to the contrary in the Equity Definitions, if a Market Disruption Event occurs on any Expiration Date, the Calculation Agent may determine that such Expiration Date is a Disrupted Day only in part, in which case the Calculation Agent shall make adjustments to the number of Warrants for the relevant Component for which such day shall be the Expiration Date and shall designate the Scheduled Trading Day determined in the manner described in the immediately preceding sentence as the Expiration Date for the remaining Warrants for such Component. Section 6.6 of the Equity Definitions shall not apply to any Valuation Date occurring on an Expiration Date.

Automatic Exercise: Applicable. Each Warrant not previously exercised will be deemed to be automatically exercised on the Expiration Time on the relevant Expiration Date.

Market Disruption Event: Section 6.3(a) of the Equity Definitions is hereby amended by deleting the words “during the one hour period that ends at the relevant Valuation Time, Latest Exercise Time, Knock-in Valuation Time or

Knock-out Valuation Time, as the case may be,” in clause (ii) thereof, and by replacing the words “or (iii) an Early Closure.” with “(iii) an Early Closure or (iv) a Regulatory Disruption, in each case that the Calculation Agent determines is material.”

Section 6.3(d) of the Equity Definitions is hereby amended by deleting the remainder of the provision following the term “Scheduled Closing Time” in the fourth line thereof.

Regulatory Disruption:

Any event that Deutsche, in its commercially reasonable discretion upon the advice of outside counsel, determines makes it appropriate with regard to any legal, regulatory or self-regulatory requirements or related policies and procedures (whether or not such requirements, policies or procedures are imposed by law or have been voluntarily adopted by Deutsche, and including without limitation Rule 10b-18, Rule 10b-5, Regulation 13D-G and Regulation 14E under the U.S. Securities Exchange Act of 1934, as amended (the “**Exchange Act**”), and Regulation M and/or analyzing Deutsche as if Deutsche were the Issuer or an affiliated purchaser of the Issuer), for Deutsche to refrain from or decrease any market activity in connection with the Transaction. Deutsche shall notify Counterparty as soon as reasonably practicable that a Regulatory Disruption has occurred and the Expiration Dates affected by it.

Settlement Terms:

In respect of any Component:

Net Share Settlement:

On each Settlement Date, Counterparty shall deliver to Deutsche a number of Shares equal to the Net Share Amount for such Settlement Date to the account specified by Deutsche, and cash in lieu of any fractional shares valued at the Relevant Price for the Valuation Date corresponding to such Settlement Date. If, in the good faith reasonable judgment of Deutsche, the Shares deliverable hereunder would not be immediately freely transferable by Deutsche under Rule 144 (“**Rule 144**”) under the U.S. Securities Act of 1933, as amended (the “**Securities Act**”) or any successor provision, then Deutsche may elect to either (x) accept delivery of such Shares notwithstanding the fact that such Shares are not immediately freely transferable by Deutsche under Rule 144 or any successor provision or (y) require that such delivery take place pursuant to the provisions set forth opposite the caption “**Registration/Private Placement Procedures**” below.

Net Share Amount:

For any Exercise Date, a number of Shares, as calculated by the Calculation Agent, equal to (x) the product of (i) the number of Warrants being exercised or deemed exercised on such Exercise Date, and (ii) the excess, if any, of the Relevant Price for the Valuation Date occurring on such Exercise Date over the Strike Price (such product, the “**Net Share Settlement Amount**”), divided by (y) such Relevant

Price.

Relevant Price:

On any Valuation Date, the volume weighted average price per Share for the regular trading session of the Exchange as displayed under the heading “Bloomberg VWAP” on Bloomberg Page UTHR.Q <equity> AQR on such Valuation Date in respect of the period from 9:30 am to 4:00 p.m. (New York City time) on such Valuation Date (or if such volume weighted average price is not available, the Calculation Agent’s reasonable, good faith estimate of such price on such Valuation Date).

Settlement Currency:

USD.

Other Applicable Provisions:

The provisions of Sections 9.1(c), 9.8, 9.9, 9.10, 9.11 (except that the Representation and Agreement contained in Section 9.11 of the Equity Definitions shall be modified by excluding any representations therein relating to restrictions, obligations, limitations or requirements under applicable securities laws as a result of the fact that Counterparty is the Issuer of the Shares) and 9.12 of the Equity Definitions will be applicable, except that all references in such provisions to “Physical Settlement” and “Physically settled” shall be read as references to “Net Share Settlement” and “Net Share Settled”. “Net Share Settled” in relation to any Warrant means that Net Share Settlement is applicable to such Warrant.

Adjustments:

In respect of any Component:

Method of Adjustment:

Calculation Agent Adjustment; *provided , however* , that the Equity Definitions shall be amended by replacing the words “diluting or concentrative” in Sections 11.2(a), 11.2(c) (in two instances) and 11.2(e)(vii) with the word “material” and by adding the words “or the Transaction” after the words “theoretical value of the relevant Shares” in Sections 11.2(a), 11.2(c) and 11.2(e)(vii); *provided further* that adjustments may be made to account for changes in expected volatility, expected dividends, expected correlation, expected stock loan rate and expected liquidity relative to the relevant Share.

Extraordinary Dividend:

Any Dividend (i) that has an ex-dividend date occurring on or after the Trade Date and on or prior to the date on which Counterparty satisfied all of its delivery obligations hereunder and (ii) the amount or value of which differs from the Ordinary Dividend Amount for such Dividend, as determined by the Calculation Agent.

Dividend:

Any dividend or distribution on the Shares (other than any dividend or distribution of the type described in Sections 11.2(e)(i), 11.2(e)(ii)(A) or 11.2(e)(ii)(B) of the Equity Definitions).

Ordinary Dividend Amount:

USD 0.00

Extraordinary Events:

New Shares:

In the definition of New Shares in Section 12.1(i) of the Equity Definitions, the text in clause (i) thereof shall be deleted in its entirety and replaced with “publicly quoted, traded or listed on any of the New York Stock Exchange, The NASDAQ Global Select Market or The NASDAQ Global Market (or their respective successors)”.

Modified Calculation Agent Adjustment:

If, in respect of any Merger Event to which Modified Calculation Agent Adjustment applies, the adjustments to be made in accordance with Section 12.2(e)(i) of the Equity Definitions would result in Counterparty being different from the issuer of the Shares, then with respect to such Merger Event, as a condition precedent to the adjustments contemplated in Section 12.2(e)(i) of the Equity Definitions, Counterparty and the issuer of the Shares shall, prior to the Merger Date, have entered into such documentation containing representations, warranties and agreements relating to securities law and other issues as requested by Deutsche that Deutsche has determined, in its reasonable discretion, to be reasonably necessary or appropriate to allow Deutsche to continue as a party to the Transaction, as adjusted under Section 12.2(e)(i) of the Equity Definitions, and to preserve its hedging or hedge unwind activities in connection with the Transaction in a manner compliant with applicable legal, regulatory or self-regulatory requirements, or with related policies and procedures applicable to Deutsche, and if such conditions are not met or if the Calculation Agent determines that no adjustment that it could make under Section 12.2(e)(i) of the Equity Definitions will produce a commercially reasonable result, then the consequences set forth in Section 12.2(e)(ii) of the Equity Definitions shall apply.

For greater certainty, the definition of “Modified Calculation Agent Adjustment” in Sections 12.2 and 12.3 of the Equity Definitions shall be amended by adding the following italicized language to the stipulated parenthetical provision: “(including adjustments to account for changes in *expected* volatility, expected dividends, *expected correlation*, *expected* stock loan rate or *expected* liquidity relevant to the Shares or to the Transaction) *from the Announcement Date to the Merger Date (Section 12.2) or Tender Offer Date (Section 12.3)*”.

Announcement Event:

If an Announcement Event occurs, the Calculation Agent will determine the economic effect of the Announcement Event on the theoretical value of each Component of the Transaction (including without limitation any change in expected volatility, expected dividends, expected correlation, expected stock loan rate or expected liquidity relevant to the Shares or to the Transaction) from the potential Announcement Date to the Expiration Date for such Component and, if such economic effect is material, the Calculation Agent may adjust the terms of the Transaction to reflect such economic effect; *provided that* notwithstanding the foregoing, if the related Merger Date or Tender Offer Date, as the case may be, occurs on or prior to the Valuation Date for such Component, the provisions appearing below opposite the captions “Consequences of Merger Event” or “Consequences of Tender Offers”, as the case may be, shall

apply instead (and, where Cancellation and Payment is applicable, the Determining Party shall take into account such economic effect in determining the Cancellation Amount); *provided , further ,* that if, following the occurrence of an Announcement Event, there is a public announcement that such previously announced transaction that could have led to a Merger Event or a Tender Offer, as the case may be, will not be consummated, the Calculation Agent will determine the combined economic effect of both the Announcement Event and such subsequent public announcement on the theoretical value of such Component (including, without limitation, any change in volatility, dividends, correlation, stock loan rate or liquidity relevant to the Shares or to such Component) from the Announcement Date to the date of such subsequent public announcement for such Component and, if such economic effect is material, on the date of such subsequent public announcement, the Calculation Agent may adjust in a commercially reasonable manner the terms of such Component to reflect such economic effect. “ **Announcement Event** ” shall mean the occurrence of a potential Announcement Date of a Merger Event or Tender Offer, if the Merger Date or Tender Offer Date does not, or is not anticipated to, occur on or prior to the Expiration Date for, or any earlier termination of, the relevant Component.

Consequences of Merger Events:

(a) Share-for-Share:	Modified Calculation Agent Adjustment.
(b) Share-for-Other:	Modified Calculation Agent Adjustment.
(c) Share-for-Combined:	Component Adjustment.
Tender Offer:	Applicable

Consequences of Tender Offers:

(a) Share-for-Share:	Modified Calculation Agent Adjustment.
(b) Share-for-Other:	Modified Calculation Agent Adjustment.
(c) Share-for-Combined:	Component Adjustment.

Nationalization, Insolvency and Delisting:	Cancellation and Payment (Calculation Agent Determination); <i>provided</i> that in addition to the provisions of Section 12.6(a)(iii) of the Equity Definitions, it shall also constitute a Delisting if the Exchange is located in the United States and the Shares are not immediately re-listed, re-traded or re-quoted on any of the New York Stock Exchange, The NASDAQ Global Select Market or The NASDAQ Global Market (or their respective successors); if the Shares are immediately re-listed, re-traded or re-quoted on any such exchange or quotation system, such exchange or quotation system shall be deemed to be the Exchange. For the avoidance of doubt, the occurrence of any event that is a Merger Event and would otherwise have been a Delisting will have the
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consequence specified for the relevant Merger Event.

Additional Disruption Events:

Change in Law:	Applicable; provided that (x) Section 12.9(a)(ii) of the Equity Definitions is hereby amended (i) by the replacement of the word “Shares” with “Hedge Positions”; (ii) by adding the phrase “announcement or statement of or” immediately after the phrase “due to the promulgation of or” in the third line thereof and adding the phrase “formal or informal” before the word “interpretation” in the same line; (iii) immediately following the word “Transaction” in clause (X) thereof, adding the phrase “in the manner contemplated by the Hedging Party on the Trade Date (unless another manner of holding, acquiring or disposing of, as applicable, Hedge Positions relating to such Transaction that is available to Hedging Party would be commercially reasonable, as reasonably determined by Hedging Party, and is not illegal)”; and (iv) by adding the words “(including, for the avoidance of doubt and without limitation, adoption or promulgation of new regulations authorized or mandated by existing statute)” after the word “regulation” in the second line thereof, (y) any determination as to whether (A) the adoption of or change in any applicable law or regulation (including, without limitation, any tax law) or (B) the promulgation of or any change in or announcement or statement of the formal or informal interpretation by any court, tribunal or regulatory authority with competent jurisdiction of any applicable law or regulation (including any action taken by a taxing authority), in each case, constitutes a “Change in Law” shall be made without regard to Section 739 of the Wall Street Transparency and Accountability Act of 2010 or any similar legal certainty provision in any legislation enacted, or rule or regulation promulgated, on or after the Trade Date and (z) Deutsche may exercise its termination rights with respect to a “Change in Law” described in clause (Y) of Section 12.9(a)(ii) of the Equity Definitions only if Deutsche determines, based upon advice of counsel, that it is generally exercising its right to terminate as a result of such event with respect to similarly situated counterparties.
Failure to Deliver:	Applicable
Insolvency Filing:	Applicable
Loss of Stock Borrow:	Applicable
Maximum Stock Loan Rate:	200 basis points per annum
Increased Cost of Stock Borrow:	Applicable
Initial Stock Loan Rate:	40 basis points per annum
Increased Cost of Hedging:	Applicable

Hedging Party:	Deutsche for all applicable Additional Disruption Events
Determining Party:	Deutsche for all applicable Additional Disruption Events
Non-Reliance:	Applicable
Agreements and Acknowledgements Regarding Hedging Activities:	Applicable
Additional Acknowledgements:	Applicable

Mutual Representations: Each of Deutsche and Counterparty represents and warrants to, and agrees with, the other party that:

- (i) **Tax Disclosure.** Notwithstanding anything to the contrary herein, in the Equity Definitions or in the Agreement, and notwithstanding any express or implied claims of exclusivity or proprietary rights, the parties (and each of their employees, representatives or other agents) are authorized to disclose to any and all persons, beginning immediately upon commencement of their discussions and without limitation of any kind, the tax treatment and tax structure of the Transaction, and all materials of any kind (including opinions or other tax analyses) that are provided by either party to the other relating to such tax treatment and tax structure.
- (ii) **Commodity Exchange Act.** It is an “eligible contract participant” within the meaning of the U.S. Commodity Exchange Act, as amended (the “**CEA**”). The Transaction has been subject to individual negotiation by the parties. The Transaction has not been executed or traded on a “trading facility” as defined in the CEA. It has entered into the Transaction with the expectation and intent that the Transaction shall be performed to its termination date.
- (iii) **Securities Act.** It is a “qualified institutional buyer” as defined in Rule 144A under the Securities Act, or an “accredited investor” as defined under the Securities Act.
- (iv) **Investment Company Act.** It is a “qualified purchaser” as defined under the U.S. Investment Company Act of 1940, as amended.
- (v) **ERISA .** The assets used in the Transaction (1) are not assets of any “plan” (as such term is defined in Section 4975 of the U.S. Internal Revenue Code (the “**Code**”)) subject to Section 4975 of the Code or any “employee benefit plan” (as such term is defined in Section 3(3) of the U.S. Employee Retirement Income Security Act of 1974, as amended (“**ERISA**”)) subject to Title I of ERISA, and (2) do not constitute “plan assets” within the meaning of Department of Labor Regulation 2510.3-101, 29 CFR Section 2510-3-101.

Counterparty Representations: In addition to the representations and warranties in the Agreement and those contained elsewhere herein, Counterparty represents, warrants and acknowledges (on the Trade Date unless otherwise specified) that:

- (i) (A) Counterparty is acting for its own account, and it has made its own independent decisions to enter into the Transaction and as to whether the Transaction is appropriate or proper for it based upon its own judgment and upon advice from such advisers as it has deemed necessary, (B) Counterparty is not relying on any communication (written or oral) of Deutsche or any of its

affiliates as investment advice or as a recommendation to enter into the Transaction (it being understood that information and explanations related to the terms and conditions of the Transaction shall not be considered investment advice or a recommendation to enter into the Transaction) and (C) no communication (written or oral) received from Deutsche or any of its affiliates shall be deemed to be an assurance or guarantee as to the expected results of the Transaction.

- (ii) Counterparty is not entering into the Transaction for the purpose of (i) creating actual or apparent trading activity in the Shares (or any security convertible into or exchangeable for the Shares) or (ii) raising or depressing or otherwise manipulating the price of the Shares (or any security convertible into or exchangeable for the Shares), in either case in violation of Section 9 of the U.S. Securities Exchange Act of 1934, as amended (the “**Exchange Act**”).
- (iii) Counterparty’s filings under the Securities Act, the Exchange Act, and other applicable securities laws that are required to be filed have been filed and, as of the respective dates thereof and as of the date of this representation, there is no misstatement of material fact contained therein or omission of a material fact required to be stated therein or necessary to make the statements made therein, in the light of the circumstances under which they were made, not misleading.
- (iv) Counterparty has not violated any applicable law (including, without limitation, the Securities Act and the Exchange Act) in any material respect in connection with the Transaction.
- (v) The representations and warranties of Counterparty set forth in Section 3 of the Agreement and Section 1 of the Purchase Agreement (the “**Purchase Agreement**”) dated as of the Trade Date between Counterparty and Deutsche Bank Securities Inc. as representative of the initial purchaser party thereto are true and correct and are hereby deemed to be repeated to Deutsche as if set forth herein.
- (vi) The Shares issuable upon exercise of all Warrants (the “**Warrant Shares**”) have been duly authorized and, when delivered pursuant to the terms of such Transaction, shall be validly issued, fully-paid and non-assessable, and such issuance of the Warrant Shares shall not be subject to any preemptive or similar rights and shall, upon such issuance, be accepted for listing or quotation on the Exchange.
- (vii) Counterparty is not as of the Trade Date and as of the date on which Counterparty delivers any Termination Delivery Units, and shall not be after giving effect to the transactions contemplated hereby, “insolvent” (as such term is defined in Section 101(32) of the U.S. Bankruptcy Code (Title 11 of the United States Code) (the “**Bankruptcy Code**”).
- (viii) Counterparty is not, and after giving effect to the transactions contemplated hereby will not be, an “investment company” as such term is defined in the U.S. Investment Company Act of 1940, as amended.
- (ix) Without limiting the generality of Section 13.1 of the Equity Definitions, Counterparty acknowledges that Deutsche is not making any representations or warranties with respect to the treatment of the Transaction under ASC Topic 260, *Earnings Per Share*, ASC Topic 815, *Derivatives and Hedging*, or ASC Topic 480, *Distinguishing Liabilities from Equity* and ASC 815-40, *Derivatives and Hedging — Contracts in Entity’s Own Equity* (or any successor issue statements) or under FASB’s Liabilities & Equity Project, or under any other accounting guidance.

- (x) Counterparty understands, agrees and acknowledges that no obligations of Deutsche to it hereunder, if any, shall be entitled to the benefit of deposit insurance and that such obligations shall not be guaranteed by any affiliate of Deutsche or any governmental agency.

Counterparty Covenants: In addition to the covenants in the Agreement and those contained elsewhere herein, Counterparty hereby covenants that:

- (i) Counterparty shall promptly provide written notice to Deutsche upon obtaining knowledge of the occurrence of any event that would constitute an Event of Default, a Potential Event of Default, a Potential Adjustment Event, a Merger Event or any other Extraordinary Event; *provided, however*, that should Counterparty be in possession of material non-public information regarding Counterparty, Counterparty shall not communicate such information to Deutsche.
- (ii) Counterparty shall not (a) violate or (b) take any action, or refrain from taking any action, that in either case could reasonably be expected to cause Deutsche or any of its affiliates to violate any applicable law (including, without limitation, the Securities Act and the Exchange Act) in any material respect in connection with the Transaction.
- (iii) Counterparty shall deliver to Deutsche an opinion of counsel, dated as of the Effective Date and reasonably acceptable to Deutsche in form and substance, with respect to the matters set forth in Section 3(a) of the Agreement and such other matters as Deutsche may reasonably request, and containing customary assumptions, qualifications and exceptions reasonably acceptable to Deutsche.

Miscellaneous:

Effectiveness. If, on or prior to the Effective Date, Deutsche reasonably determines that it is advisable to cancel the Transaction because of concerns that Deutsche's related hedging activities could be viewed as not complying with applicable securities laws, rules or regulations, the Transaction shall be cancelled and shall not become effective, and neither party shall have any obligation to the other party in respect of the Transaction.

Netting and Set-Off. Except for the Accelerated Share Repurchase transaction entered between the parties on the date hereof, the parties hereto agree that the Transaction shall not be subject to netting or set off with any other transaction.

Qualified Financial Contracts. It is the intention of the parties that, in respect of Counterparty, (a) the Transaction shall constitute a "qualified financial contract" within the meaning of 12 U.S.C. Section 1821(e)(8)(D)(i) and (b) a Non-defaulting Party's rights under Sections 5 and 6 of the Agreement constitute rights of the kind referred to in 12 U.S.C. Section 1821(e)(8)(A).

Method of Delivery. Whenever delivery of funds or other assets is required hereunder by or to Counterparty, such delivery shall be effected through Agent. In addition, all notices, demands and communications of any kind relating to the Transaction between Deutsche and Counterparty shall be transmitted exclusively through Agent.

Status of Claims in Bankruptcy. Deutsche acknowledges and agrees that this Confirmation is not intended to convey to Deutsche rights with respect to the Transaction that are senior to the claims of common stockholders in any U.S. bankruptcy proceedings of Counterparty; *provided* that nothing herein shall limit or shall be deemed to limit Deutsche's right to pursue remedies in the event of a breach by

Counterparty of its obligations and agreements with respect to the Transaction either outside of a bankruptcy proceeding or (subject only to the limitation on seniority in the preceding clause) within a bankruptcy proceeding; *provided, further*, that nothing herein shall limit or shall be deemed to limit Deutsche's rights in respect of any transactions other than the Transaction.

No Collateral. Notwithstanding any provision of this Confirmation, the Agreement, Equity Definitions, or any other agreement between the parties to the contrary, the obligations of Counterparty under the Transaction are not secured by any collateral.

Securities Contract; Swap Agreement. The parties hereto agree and acknowledge that Deutsche is a "financial institution," "swap participant" and "financial participant" within the meaning of Sections 101(22), 101(53C) and 101(22A) of the Bankruptcy Code. The parties hereto further agree and acknowledge (A) that this Confirmation is (i) a "securities contract," as such term is defined in Section 741(7) of the Bankruptcy Code, with respect to which each payment and delivery hereunder or in connection herewith is a "termination value," "payment amount" or "other transfer obligation" within the meaning of Section 362 of the Bankruptcy Code and a "settlement payment" or a "transfer" within the meaning of Section 546 of the Bankruptcy Code, and (ii) a "swap agreement," as such term is defined in Section 101(53B) of the Bankruptcy Code, with respect to which each payment and delivery hereunder or in connection herewith is a "termination value," a "payment amount" or "other transfer obligation" within the meaning of Section 362 of the Bankruptcy Code and a "transfer" within the meaning of Section 546 of the Bankruptcy Code, and (B) that Deutsche is entitled to the protections afforded by, among other sections, Section 362(b)(6), 362(b)(17), 362(b)(27), 362(o), 546(e), 546(g), 546(j), 548(d)(2), 555, 560 and 561 of the Bankruptcy Code.

Alternative Calculations and Payment on Early Termination and on Certain Extraordinary Events. If one party owes the other party any amount in connection with the Transaction pursuant to Sections 12.2, 12.3, 12.6, 12.7 or 12.9 of the Equity Definitions (except in the case of an Extraordinary Event in which the consideration or proceeds to be paid to holders of Shares as a result of such event consists solely of cash) or pursuant to Section 6(d)(ii) of the Agreement (except in the case of an Event of Default in which Counterparty is the Defaulting Party or a Termination Event in which Counterparty is the Affected Party, other than (x) an Event of Default of the type described in Section 5(a)(iii), (v), (vi) or (vii) of the Agreement or (y) a Termination Event of the type described in Section 5(b)(i), (ii), (iii), (iv), (v) or (vi) of the Agreement that in the case of either (x) or (y) resulted from an event or events outside Counterparty's control) (if owed by Counterparty, a "**Counterparty Payment Obligation**" and if owed by Deutsche, a "**Deutsche Payment Obligation**"), Counterparty shall have the right, in its sole discretion, to satisfy any such Counterparty Payment Obligation or to require Deutsche to satisfy any Deutsche Payment Obligation by delivery of Termination Delivery Units (as defined below) by giving irrevocable telephonic notice to Deutsche, confirmed in writing within one Scheduled Trading Day, between the hours of 9:00 a.m. and 4:00 p.m. New York time on the Early Termination Date or other date the transaction is terminated, as applicable ("**Notice of Counterparty Termination Delivery**"). Within a commercially reasonable period of time following receipt of a Notice of Counterparty Termination Delivery, Counterparty shall deliver to Deutsche a number of Termination Delivery Units having a cash value equal to the amount of such Counterparty Payment Obligation or Deutsche shall deliver to Counterparty a number of Termination Delivery Units having a cash value equal to the amount of such Deutsche Payment Obligation, as applicable (such number of Termination Delivery Units to be delivered to be determined by the Calculation Agent as the number of whole Termination Delivery Units that could be sold over a commercially reasonable period of time to generate proceeds (or purchased over a commercially reasonable period with an amount, as applicable) equal to the cash equivalent of such payment obligation). In addition, if, in the good faith reasonable judgment of Deutsche, for any reason, the Termination Delivery Units deliverable pursuant to this paragraph would not be immediately freely transferable by Deutsche under Rule 144 or any successor provision, then Deutsche may elect either to (x) accept delivery of such Termination Delivery Units notwithstanding any restriction on transfer or (y) require that such delivery take place pursuant to the provisions set forth opposite the caption "**Registration/Private Placement Procedures**" below. If the provisions set forth in this paragraph are

applicable, the provisions of Sections 9.8, 9.9, 9.10, 9.11 (modified as described above) and 9.12 of the Equity Definitions shall be applicable, except that all references to “Shares” shall be read as references to “Termination Delivery Units.”

“ **Termination Delivery Unit** ” means (a) in the case of a Termination Event, an Event of Default or an Extraordinary Event (other than an Insolvency, Nationalization, Merger Event or Tender Offer), one Share or (b) in the case of an Insolvency, Nationalization, Merger Event or Tender Offer, a unit consisting of the number or amount of each type of property received by a holder of one Share (without consideration of any requirement to pay cash or other consideration in lieu of fractional amounts of any securities) in such Insolvency, Nationalization, Merger Event or Tender Offer. If a Termination Delivery Unit consists of property other than cash or New Shares and Counterparty provides irrevocable written notice to the Calculation Agent on or prior to the Closing Date that it elects to deliver (or receive) cash, New Shares or a combination thereof (in such proportion as Counterparty designates) in lieu of such other property, the Calculation Agent shall replace such property with cash, New Shares or a combination thereof as components of a Termination Delivery Unit in such amounts, as determined by the Calculation Agent in its discretion by commercially reasonable means, as shall have a value equal to the value of the property so replaced. If such Insolvency, Nationalization, Merger Event or Tender Offer involves a choice of consideration to be received by holders, such holder shall be deemed to have elected to receive the maximum possible amount of cash.

Registration/Private Placement Procedures. If, in the reasonable opinion of Deutsche, following any delivery of Shares or Termination Delivery Units to Deutsche hereunder, such Shares or Termination Delivery Units would be in the hands of Deutsche subject to any applicable restrictions with respect to any registration or qualification requirement or prospectus delivery requirement for such Shares or Termination Delivery Units pursuant to any applicable federal or state securities law (including, without limitation, any such requirement arising under Section 5 of the Securities Act as a result of such Shares or Termination Delivery Units being “restricted securities”, as such term is defined in Rule 144) (such Shares or Termination Delivery Units, “ **Restricted Shares** ”), then delivery of such Restricted Shares shall be effected pursuant to either clause (i) or (ii) of Annex A hereto at the election of Counterparty, unless waived by Deutsche. Notwithstanding the foregoing, solely in respect of any Warrants exercised or deemed exercised on any Exercise Date, Counterparty shall elect, prior to the first Settlement Date for the first Exercise Date, a Private Placement Settlement (as defined in Annex A hereto) or Registration Settlement (as defined in Annex A hereto) for all deliveries of Restricted Shares for all such Exercise Dates which election shall be applicable to all Settlement Dates for such Warrants and the procedures in clause (i) or clause (ii) of Annex A hereto shall apply for all such delivered Restricted Shares on an aggregate basis commencing after the final Settlement Date for such Warrants. The Calculation Agent shall make commercially reasonable adjustments to settlement terms and provisions under this Confirmation to reflect a single Private Placement Settlement or Registration Settlement for such aggregate Restricted Shares delivered hereunder. If the Private Placement Settlement or the Registration Settlement shall not be effected as set forth in clauses (i) or (ii) of Annex A, as applicable, then failure to effect such Private Placement Settlement or such Registration Settlement shall constitute an Event of Default with respect to which Counterparty shall be the Defaulting Party.

Share Deliveries. Counterparty acknowledges and agrees that, to the extent that Deutsche is not then an affiliate, as such term is used in Rule 144, of Counterparty and has not been such an affiliate of Counterparty for 90 days (it being understood that Deutsche shall not be considered such an affiliate of Counterparty solely by reason of its right to receive Shares pursuant to a Transaction hereunder), any Shares or Termination Delivery Units delivered hereunder at any time after one year from the Premium Payment Date shall be eligible for resale under Rule 144 or any successor provision, and Counterparty agrees to promptly remove, or cause the transfer agent for such Shares or Termination Delivery Units to remove, any legends referring to any restrictions on resale under the Securities Act from the certificates representing such Shares or Termination Delivery Units. Counterparty further agrees that with respect to any Shares or Termination Delivery Units delivered hereunder at any time after 6 months from the Premium Payment Date but prior to 1 year from the Premium Payment Date, to the extent that

Counterparty then satisfies the current information requirement of Rule 144, Counterparty shall promptly remove, or cause the transfer agent for such Shares or Termination Delivery Units to remove, any legends referring to any such restrictions or requirements from the certificates representing such Share or Termination Delivery Units upon delivery by Deutsche to Counterparty or such transfer agent of any customary seller's and broker's representation letters in connection with resales of such Shares or Termination Delivery Units pursuant to Rule 144, without any further requirement for the delivery of any certificate, consent, agreement, opinion of counsel, notice or any other document, any transfer tax stamps or payment of any other amount or any other action by Deutsche. Counterparty further agrees and acknowledges that Deutsche shall run a holding period under Rule 144 with respect to the Warrants and/or any Shares or Termination Delivery Units delivered hereunder notwithstanding the existence of any other transaction or transactions between Counterparty and Deutsche relating to the Shares. Counterparty further agrees that Shares or Termination Delivery Units delivered hereunder prior to the date that is 6 months from the Premium Payment Date may be freely transferred by Deutsche to its affiliates, and Counterparty shall effect such transfer without any further action by Deutsche. Notwithstanding anything to the contrary herein, Counterparty agrees that any delivery of Shares or Termination Delivery Units shall be effected by book-entry transfer through the facilities of the Clearance System if, at the time of such delivery, the certificates representing such Shares or Termination Delivery Units would not contain any restrictive legend as described above. Notwithstanding anything to the contrary herein, to the extent the provisions of Rule 144 or any successor rule are amended, or the applicable interpretation thereof by the Securities and Exchange Commission or any court changes after the Trade Date, the agreements of Counterparty herein shall be deemed modified to the extent necessary, in the opinion of outside counsel of Counterparty, to comply with Rule 144, including Rule 144(b) or any successor provision, as in effect at the time of delivery of the relevant Shares or Termination Delivery Units.

No Material Non-Public Information. On each day during the period beginning on the Trade Date and ending on the day on which Deutsche has informed Counterparty in writing that Deutsche has completed all purchases or sales of Shares or other transactions to hedge initially its exposure with respect to the Transaction, Counterparty represents and warrants to Deutsche that it is not aware of any material nonpublic information concerning itself or the Shares.

Limit on Beneficial Ownership. Notwithstanding any other provisions hereof, Deutsche may not exercise any Warrant hereunder, Automatic Exercise shall not apply with respect thereto, and no delivery hereunder (including pursuant to provisions opposite the headings “ **Alternative Calculations and Counterparty Payments on Early Termination and on Certain Extraordinary Events**,” “ **Registration/Private Placement Procedures**,” “ **Limitation on Delivery of Shares**” or Annex A) shall be made, to the extent (but only to the extent) that the receipt of any Shares upon such exercise or delivery would result in the Equity Percentage (as defined below) exceeding 9% or an Ownership Trigger (as defined below) being met. Any purported delivery hereunder shall be void and have no effect to the extent (but only to the extent) that such delivery would result in the Equity Percentage exceeding 9% or an Ownership Trigger being met. If any delivery owed to Deutsche or exercise hereunder is not made, in whole or in part, as a result of this provision, Counterparty's obligation to make such delivery and Deutsche's right to exercise a Warrant shall not be extinguished and Counterparty shall make such delivery as promptly as practicable after, but in no event later than one Clearance System Business Day after, Deutsche gives notice to Counterparty that such exercise or delivery would not result in the Equity Percentage exceeding 9% or an Ownership Trigger being met.

Repurchase Notices. On any day Counterparty effects any repurchases of Shares (including pursuant to the Share buy-back program publicly disclosed on October 11, 2011 in which Counterparty's board of directors approved the buy-back of Shares worth not more than USD300,000,000 during the period ending October 3, 2013), Counterparty shall promptly provide Deutsche with a written notice of such repurchase (a “ **Repurchase Notice**”) if, following such repurchase, the Warrant Equity Percentage (as defined below) is (a) equal to or greater than 11% and (b) greater by 0.5% or more than the Warrant Equity Percentage set forth in the immediately preceding Repurchase Notice (or, in the case of the first

such Repurchase Notice, greater by 0.5% or more than the Warrant Equity Percentage as of the date hereof). The “ **Warrant Equity Percentage** ” as of any day is the fraction, expressed as a percentage, (1) the numerator of which is the “Number of Warrants”, and (2) the denominator of which is the number of Shares outstanding on such day. Counterparty agrees to indemnify and hold harmless Deutsche and its affiliates and their respective officers, directors, employees, affiliates, advisors, agents and controlling person (each, an “ **Indemnified Person** ”) from and against any and all losses (including losses relating to Deutsche’s hedging activities as a consequence of becoming, or of the risk of becoming, an “insider” as defined under Section 16 of the Exchange Act, including without limitation, any forbearance from hedging activities or cessation of hedging activities and any losses in connection therewith with respect to this Transaction), claims, damages, judgments, liabilities and expense (including reasonable attorney’s fees), joint or several, which an Indemnified Person actually may become subject to, as a result of Counterparty’s failure to provide Deutsche with a Repurchase Notice on the day and in the manner specified herein, and to reimburse, upon written request, each of such Indemnified Persons for any reasonable legal or other expenses incurred in connection with investigating, preparing for, providing testimony or other evidence in connection with or defending any of the foregoing. If any suit, action, proceeding (including any governmental or regulatory investigation), claim or demand shall be brought or asserted against the Indemnified Person, such Indemnified Person shall promptly notify Counterparty in writing, and Counterparty, upon request of the Indemnified Person, shall retain counsel reasonably satisfactory to the Indemnified Person to represent the Indemnified Person and any others Counterparty may designate in such proceeding and shall pay the fees and expenses of such counsel related to such proceeding. Counterparty shall be relieved from liability to the extent that the Indemnified Person fails promptly to notify Counterparty of any action commenced against it in respect of which indemnity may be sought hereunder; *provided* that failure to notify Counterparty (x) shall not relieve Counterparty from any liability hereunder to the extent it is not materially prejudiced as a result thereof and (y) shall not, in any event, relieve Counterparty from any liability that it may have otherwise than on account of this indemnity agreement. Counterparty shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, Counterparty agrees to indemnify any Indemnified Person from and against any loss or liability by reason of such settlement or judgment. Counterparty shall not, without the prior written consent of the Indemnified Person, effect any settlement of any pending or threatened proceeding in respect of which any Indemnified Person is or could have been a party and indemnity could have been sought hereunder by such Indemnified Person, unless such settlement includes an unconditional release of such Indemnified Person from all liability on claims that are the subject matter of such proceeding on terms reasonably satisfactory to such Indemnified Person. If the indemnification provided for in this paragraph is unavailable to an Indemnified Person or insufficient in respect of any losses, claims, damages or liabilities referred to therein, then Counterparty, in lieu of indemnifying such Indemnified Person thereunder, shall contribute to the amount paid or payable by such Indemnified Person as a result of such losses, claims, damages or liabilities. The remedies provided for in this paragraph are not exclusive and shall not limit any rights or remedies that may otherwise be available to any Indemnified Person at law or in equity. The indemnity and contribution agreements contained in this paragraph shall remain operative and in full force and effect regardless of the termination of the Transaction.

Limitation On Delivery of Shares. Notwithstanding anything herein or in the Agreement to the contrary, in no event shall Counterparty be required to deliver Shares in connection with the Transaction in excess of 8,911,721 Shares (the “**Maximum Delivery Amount**”). Counterparty represents and warrants (which shall be deemed to be repeated on each day that the Transaction is outstanding) that the Maximum Delivery Amount is equal to or less than the number of authorized but unissued Shares of Counterparty that are not reserved for future issuance in connection with transactions in the Shares (other than the Transaction) on the date of the determination of the Maximum Delivery Amount (such Shares, the “**Available Shares**”). In the event Counterparty shall not have delivered the full number of Shares otherwise deliverable as a result of this paragraph (the resulting deficit, the “**Deficit Shares**”), Counterparty shall be continually obligated to deliver, from time to time until the full number of Deficit Shares have been delivered pursuant to this paragraph, Shares when, and to the extent, that (i) Shares are repurchased, acquired or otherwise received by Counterparty or any of its subsidiaries after the Trade Date (whether or not in exchange for cash, fair value or any other consideration), (ii) authorized and unissued Shares reserved for issuance in respect of other transactions prior to such date which prior to the relevant date become no longer so reserved and (iii) Counterparty additionally authorizes any unissued Shares that are not reserved for other transactions. Counterparty shall immediately notify Deutsche of the occurrence of any of the foregoing events (including the number of Shares subject to clause (i), (ii) or (iii) and the corresponding number of Shares to be delivered) and promptly deliver such Shares thereafter. Counterparty shall not enter into any transaction, or take any other action, that would, but for the “Strike Price Adjustment” provision below, result in an adjustment to Maximum Delivery Amount that would result in the issuance of a number of Shares that would require stockholder approval under the continued listing standards of the Exchange without having obtained prior stockholder approval. Notwithstanding the provisions of Section 5(a)(ii) of the Agreement, in the event of a failure by Counterparty to comply with the agreement set forth in this provision, there shall be no grace period for remedy of such failure.

Strike Price Adjustment. Notwithstanding anything to the contrary in the Agreement, this Confirmation or the Equity Definitions (but without limiting Deutsche’s right to adjust any variable relevant to the exercise, settlement, payment or other terms of the Transaction, other than the Strike Price and the Warrant Entitlement), in no event shall the Strike Price or Warrant Entitlement be adjusted to the extent that, after giving effect to such adjustment, the Strike Price *divided* by the Warrant Entitlement would be less than USD 39.74, in each case, other than any such adjustment in connection with stock splits or similar changes in Counterparty’s capitalization (such as those described in the definitions of Potential Adjustment Event and Merger Event under the Equity Definitions (without any modification to the Equity Definitions pursuant to this Confirmation)). For the avoidance of doubt, this “Strike Price Adjustment” provision shall not be subject to any adjustment or modification under the Equity Definitions or this Confirmation.

Additional Termination Event. The occurrence of any of the following shall constitute an Additional Termination Event with respect to which (1) Counterparty shall be the sole Affected Party and (2) the Transaction shall be the sole Affected Transaction; *provided* that with respect to any Additional Termination Event, Deutsche may choose to treat part of the Transaction as the sole Affected Transaction, and, upon termination of the Affected Transaction, a Transaction with terms identical to those set forth herein except with a Number of Warrants equal to the unaffected number of Warrants shall be treated for all purposes as the Transaction, which shall remain in full force and effect:

- (i) Deutsche reasonably determines that it is advisable to terminate a portion of the Transaction (the “**Affected Portion**”) so that Deutsche’s related hedging activities will comply with applicable securities laws, rules or regulations; *provided* that, notwithstanding the foregoing provisions of this Section, Deutsche shall treat only the Affected Portion of the Transaction as the Affected Transaction (it being understood that the Affected Portion may be 100%);
- (ii) The Shares are not approved for listing on the New York Stock Exchange, The NASDAQ Global Select Market or The NASDAQ Global Market (or any of their respective successors);

(iii) any “person” or “group” (as such terms are used for purposes of Sections 13(d) and 14(d) of the Exchange Act or any successor provisions, including any group acting for the purpose of acquiring, holding, voting or disposing of securities within the meaning of Rule 13d-5(b)(1) under the Exchange Act or any successor provision) is or becomes the “beneficial owner” (as that term is used in Rule 13d-3 under the Exchange Act as in effect on the Effective Date, except that the number of shares of Counterparty’s voting stock will be deemed to include, in addition to all outstanding shares of Counterparty’s voting stock and shares of voting stock not outstanding that are subject to options, warrants, rights to purchase or conversion privileges exercisable within 60 days of the date of determination (“ **unissued shares** ”) deemed to be held by the “person” or “group” or other person with respect to which the determination is being made, all unissued shares deemed to be held by all other persons), directly or indirectly, of shares representing 50% or more of the total voting power of all outstanding classes of Counterparty’s capital stock or other interests normally entitled (without regard to the occurrence of any contingency) to vote in the election of the board of directors, managers or trustees (“ **voting stock** ”) or has the power, directly or indirectly, to elect a majority of the members of Counterparty’s board of directors, unless the exception provided in clause (iv)(2) below applies;

(iv) Counterparty consolidates with, consummates a binding share exchange with, or merges with or into, another person, or Counterparty sells, assigns, conveys, transfers, leases or otherwise disposes of all or substantially all of its assets, or any person consolidates with, or merges with or into, Counterparty, in any such event, other than any transaction:

(1) pursuant to which the persons that “beneficially owned,” directly or indirectly, the shares of Counterparty’s voting stock immediately prior to such transaction “beneficially own,” directly or indirectly, shares of Counterparty’s voting stock representing at least a majority of the total voting power of all outstanding classes of voting stock of the surviving or transferee person and such holders’ proportional voting power immediately after such transaction vis-à-vis each other with respect to the securities they receive in such transaction shall be in substantially the same proportions as their respective voting power vis-à-vis each other immediately prior to such transaction; or

(2) in which at least 90% of the consideration paid for the Shares (other than cash payments for fractional shares or pursuant to dissenters’ appraisal rights) consists of shares of common stock traded on the New York Stock Exchange, The NASDAQ Global Market or The NASDAQ Global Select Market (or any of their respective successors) (or which will be so traded immediately following such transaction)

(v) (a) individuals who on the Effective Date constituted Counterparty’s board of directors and (b) any new directors whose election to Counterparty’s board of directors or whose nomination for election by Counterparty’s stockholders was approved by at least a majority of the directors at the time of such election or nomination still in office either who were directors on the Effective Date or whose election or nomination for election was previously so approved, cease for any reason to constitute a majority of Counterparty’s board of directors; or

(vi) the holders of Counterparty’s capital stock approve any plan or proposal for liquidation or dissolution of Counterparty.

Transfer or Assignment. Notwithstanding any provision of the Agreement to the contrary, Deutsche may, subject to applicable law, freely transfer and assign all of its rights and obligations under the Transaction without the consent of Counterparty. Deutsche shall notify Counterparty of any transfer or assignment made hereunder.

If, as determined in Deutsche’s sole reasonable discretion based on advice of counsel, (a) at any time (1) the Equity Percentage exceeds 8.5% or (2) Deutsche, Deutsche Group (as defined below) or any person whose ownership position would be aggregated with that of Deutsche or Deutsche Group (Deutsche,

Deutsche Group or any such person, a “**Deutsche Person**”) under Section 203 of the Delaware General Corporation Law (the “**DGCL Takeover Statute**”) or other federal, state or local (including non-U.S.) laws, regulations or regulatory orders applicable to ownership of Shares (“**Applicable Laws**”), owns, beneficially owns, constructively owns, controls, holds the power to vote or otherwise meets a relevant definition of ownership, or could be reasonably viewed as meeting any of the foregoing, in excess of a number of Shares equal to (x) the number of Shares that would give rise to reporting, registration, filing or notification obligations or other requirements (including obtaining prior approval by a state, federal or non-U.S. regulator) of a Deutsche Person under Applicable Laws (including, without limitation, “interested shareholder” or “acquiring Person” status under the DGCL Takeover Statute) and with respect to which such requirements have not been met or the relevant approval has not been received (this clause (2)(x), the “**Ownership Trigger**”) minus (y) 1% of the number of Shares outstanding on the date of determination (either such condition described in clause (1) or (2), an “**Excess Ownership Position**”), and (b) Deutsche is unable, after commercially reasonable efforts, to effect a transfer or assignment on pricing and terms and within a time period reasonably acceptable to it of all or a portion of this Transaction pursuant to the preceding paragraph such that an Excess Ownership Position no longer exists, Deutsche may designate any Scheduled Trading Day as an Early Termination Date with respect to a portion (the “**Terminated Portion**”) of this Transaction, such that an Excess Ownership Position no longer exists following such partial termination; *provided*, however, that Deutsche agrees to use commercially reasonable efforts to establish and maintain its Hedge Positions in a manner that will not cause an Excess Ownership Position to arise. In the event that Deutsche so designates an Early Termination Date with respect to a portion of this Transaction, a payment shall be made pursuant to Section 6 of the Agreement as if (i) an Early Termination Date had been designated in respect of a Transaction having terms identical to this Transaction and a Number of Warrants equal to the Terminated Portion (allocated among the Components thereof in the discretion of Deutsche), (ii) Counterparty shall be the sole Affected Party with respect to such partial termination and (iii) such Transaction shall be the only Terminated Transaction (and, for the avoidance of doubt, the provisions set forth under the caption “**Alternative Calculations and Counterparty Payment on Early Termination and on Certain Extraordinary Events**” shall apply to any amount that is payable by Counterparty to Deutsche pursuant to this sentence). The “**Equity Percentage**” as of any day is the fraction, expressed as a percentage, (A) the numerator of which is the number of Shares that Deutsche and any of its affiliates subject to aggregation with Deutsche for purposes of the “beneficial ownership” test under Section 13 of the Exchange Act and all persons who may form a “group” (within the meaning of Rule 13d-5(b)(1) under the Exchange Act) with Deutsche (collectively, “**Deutsche Group**”) “beneficially own” (within the meaning of Section 13 of the Exchange Act) without duplication on such day (or, to the extent that the equivalent calculation under Section 16 of the Exchange Act and the rules and regulations thereunder results in a higher number, such number) and (B) the denominator of which is the number of Shares outstanding on such day.

Designation by Deutsche. Notwithstanding any other provision in this Confirmation to the contrary requiring or allowing Deutsche to purchase, sell, receive or deliver any shares or other securities to or from Counterparty, Deutsche may designate any of its affiliates to purchase, sell, receive or deliver such shares or other securities and otherwise to perform Deutsche’s obligations in respect of the Transaction and any such designee may assume such obligations. Deutsche shall be discharged of its obligations to Counterparty to the extent of any such performance.

Amendments to Equity Definitions. (a) Section 12.9(b)(iv) of the Equity Definitions is hereby amended by: (i) deleting (1) subsection (A) in its entirety, (2) the phrase “or (B)” following subsection (A) and (3) the phrase “in each case” in subsection (B); (ii) replacing “will lend” with “lends” in subsection (B); and (iii) deleting the phrase “neither the Non-Hedging Party nor the Lending Party lends Shares in the amount of the Hedging Shares or” in the penultimate sentence; and (b) Section 12.9(b)(v) of the Equity Definitions is hereby amended by: (i) adding the word “or” immediately before subsection “(B)” and deleting the comma at the end of subsection (A); (ii) (1) deleting subsection (C) in its entirety, (2) deleting the word “or” immediately preceding subsection (C) and (3) deleting the penultimate sentence in its entirety and replacing it with the sentence “The Hedging Party will determine the Cancellation

Amount payable by one party to the other”; and (iii) deleting subsection (X) in its entirety and the words “or (Y)” immediately following subsection (X).

Tax Matters. For the purposes of Section 3(f) of the Agreement, Deutsche represents that, as of the time any payment is made after December 31, 2012, (i) if it is a “foreign financial institution” within the meaning of section 1471(d)(4) of the Internal Revenue Code of 1986 as amended (the “**Code**”), it meets the requirements of section 1471(b) of the Code and has not elected the application of section 1471(b)(3) of the Code, and (ii) if it is a “non-financial foreign entity” within the meaning of section 1472(d) of the Code, it meets the requirements of section 1472(b) of the Code, unless one or more of the exceptions of Code section 1472(c) are applicable with respect to such payment. The parties hereto agree that for the Transaction “Indemnifiable Tax” shall not include any Tax imposed pursuant to section 1471 or 1472 of the Code.

Matters Related to Agent. Each party agrees and acknowledges that (i) Agent acts solely as agent on a disclosed basis with respect to the Transaction, and (ii) Agent has no obligation, by guaranty, endorsement or otherwise, with respect to the obligations of either Counterparty or Deutsche hereunder, either with respect to the delivery of cash or Shares, either at the beginning or the end of the Transaction. In this regard, each of Counterparty and Deutsche acknowledges and agrees to look solely to the other for performance hereunder, and not to Agent.

Severability; Illegality. If compliance by either party with any provision of the Transaction would be unenforceable or illegal, (a) the parties shall negotiate in good faith to resolve such unenforceability or illegality in a manner that preserves the economic benefits of the transactions contemplated hereby and (b) the other provisions of the Transaction shall not be invalidated, but shall remain in full force and effect.

Waiver of Jury Trial. EACH PARTY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY SUIT, ACTION OR PROCEEDING RELATING TO THE TRANSACTION. EACH PARTY (I) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF THE OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF SUCH A SUIT, ACTION OR PROCEEDING, SEEK TO ENFORCE THE FOREGOING WAIVER AND (II) ACKNOWLEDGES THAT IT AND THE OTHER PARTY HAVE BEEN INDUCED TO ENTER INTO THE TRANSACTION, AS APPLICABLE, BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS PROVIDED HEREIN.

Governing law : The law of the State of New York.

Contact information. For purposes of the Agreement (unless otherwise specified in the Agreement), the addresses for notice to the parties shall be:

(a) Counterparty

United Therapeutics Corporation
1040 Spring St.
Silver Spring, MD 20910
Attention: John Ferrari, Chief Financial Officer and Treasurer
Fax: (301) 608-3049

(b) Deutsche
Deutsche Bank AG, London Branch
c/o Deutsche Bank Securities Inc.
60 Wall Street
New York, NY 10005

Attention: Andrew Yaeger
Faiz Khan

Telephone: (212) 250-2717
(212) 250-0668

Email: andrew.yaeger@db.com
faiz.khan@db.com

This Confirmation may be executed in several counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

Counterparty hereby agrees to check this Confirmation and to confirm that the foregoing correctly sets forth the terms of the Transaction by signing in the space provided below and returning to Deutsche a facsimile of the fully-executed Confirmation to Deutsche at 44 113 336 2009. Originals shall be provided for your execution upon your request.

We are very pleased to have executed the Transaction with you and we look forward to completing other transactions with you in the near future.

Very truly yours,

DEUTSCHE BANK AG, LONDON BRANCH

By: /s/ Michael Sanderson
Name: Michael Sanderson
Title: Managing Director

By: /s/ Lars Kestner
Name: Lars Kestner
Title: Managing Director

DEUTSCHE BANK SECURITIES INC.,
acting solely as Agent in connection with this Transaction

By: /s/ Michael Sanderson
Name: Michael Sanderson
Title: Managing Director

By: /s/ Lars Kestner
Name: Lars Kestner
Title: Managing Director

Counterparty hereby agrees to, accepts and confirms the terms of the foregoing as of the Trade Date.

UNITED THERAPEUTICS CORPORATION

By: /s/ John Ferrari
Name: John Ferrari
Title: CFO

[Signature Page to Warrant]

Registration Settlement and Private Placement Settlement

- (i) If Counterparty elects to settle the Transaction pursuant to this clause (i) (a “ **Private Placement Settlement** ”), then delivery of Restricted Shares by Counterparty shall be effected in customary private placement procedures with respect to such Restricted Shares reasonably acceptable to Deutsche; *provided* that Counterparty may not elect a Private Placement Settlement if, on the date of its election, it has taken, or caused to be taken, any action that would make unavailable either the exemption pursuant to Section 4(2) of the Securities Act for the sale by Counterparty to Deutsche (or any affiliate designated by Deutsche) of the Restricted Shares or the exemption pursuant to Section 4(1) or Section 4(3) of the Securities Act for resales of the Restricted Shares by Deutsche (or any such affiliate of Deutsche). The Private Placement Settlement of such Restricted Shares shall include customary representations, covenants, blue sky and other governmental filings and/or registrations, indemnities to Deutsche, due diligence rights (for Deutsche or any buyer of the Restricted Shares designated by Deutsche), opinions and certificates, and such other documentation as is customary for private placement agreements of similar size, all reasonably acceptable to Deutsche. In the event of a Private Placement Settlement, the Net Share Settlement Amount or the Counterparty Payment Obligation, respectively, shall be deemed to be the Net Share Settlement Amount or the Counterparty Payment Obligation, respectively, *plus* an additional amount (determined from time to time by the Calculation Agent in its commercially reasonable judgment) attributable to interest that would be earned on such Net Share Settlement Amount or the Counterparty Payment Obligation, respectively, (increased on a daily basis to reflect the accrual of such interest and reduced from time to time by the amount of net proceeds received by Deutsche as provided herein) at a rate equal to the open Federal Funds Rate plus 50 basis points per annum for the period from, and including, such Settlement Date or the date on which the Counterparty Payment Obligation is due, respectively, to, but excluding, the related date on which all the Restricted Shares have been sold and calculated on an Actual/360 basis.
- (ii) If Counterparty elects to settle the Transaction pursuant to this clause (ii) (a “ **Registration Settlement** ”), then Counterparty shall promptly (but in any event no later than the beginning of the Resale Period) file and use its reasonable best efforts to make effective under the Securities Act a registration statement or supplement or amend an outstanding registration statement in form and substance reasonably satisfactory to Deutsche, to cover the resale of such Restricted Shares (and any Make-whole Shares) in accordance with customary resale registration procedures, including covenants, conditions, representations, underwriting discounts (if applicable), commissions (if applicable), indemnities, due diligence rights, opinions and certificates, and such other documentation as is customary for equity resale underwriting agreements, all reasonably acceptable to Deutsche. If Deutsche, in its sole reasonable discretion, is not satisfied with such procedures and documentation, Private Placement Settlement shall apply. If Deutsche is satisfied with such procedures and documentation, it shall sell the Restricted Shares (and any Make-whole Shares) pursuant to such registration statement during a period (the “ **Resale Period** ”) commencing on the Exchange Business Day following delivery of such Restricted Shares (and any Make-whole Shares) and ending on the earliest of (i) the Exchange Business Day on which Deutsche completes the sale of all Restricted Shares or, in the case of settlement of Termination Delivery Units, a sufficient number of Restricted Shares so that the realized net proceeds of such sales exceed the Counterparty Payment Obligation, (ii) the date upon which all Restricted Shares (and any Make-whole Shares) have been sold or transferred pursuant to Rule 144 (or similar provisions then in force) and (iii) the date upon which all Restricted Shares (and any Make-whole Shares) may be sold or transferred by a non-affiliate pursuant to Rule 144 (or any similar provision then in force) without any further restriction whatsoever.
- (iii) If (ii) above is applicable and the Net Share Settlement Amount or the Counterparty Payment Obligation, as applicable, exceeds the realized net proceeds from such resale, or if (i) above is applicable and the Freely Tradeable Value (as defined below) of the Shares owed pursuant to the Net Share Settlement Amount, or the Counterparty Payment Obligation (in each case as adjusted pursuant to (i) above), as applicable, exceeds the realized net proceeds from such resale, Counterparty shall transfer to Deutsche by the open of the regular trading session on the Exchange

on the Exchange Business Day immediately following the last day of the Resale Period the amount of such excess (the “ **Additional Amount** ”), at its option, either in cash or in a number of Restricted Shares (“ **Make-whole Shares** ”, *provided* that the aggregate number of Restricted Shares and Make-whole Shares delivered shall not exceed the Maximum Delivery Amount) that, based on the Relevant Price on the last day of the Resale Period (as if such day was the “ **Valuation Date** ” for purposes of computing such Relevant Price), has a value equal to the Additional Amount. If Counterparty elects to pay the Additional Amount in Make-whole Shares, Counterparty shall elect whether the requirements and provisions for either Private Placement Settlement or Registration Settlement shall apply to such payment. This provision shall be applied successively until the Additional Amount is equal to zero, subject to “ **Limitation on Delivery of Shares** ”. “ **Freely Tradeable Value** ” means the value of the number of Shares delivered to Deutsche which such Shares would have if they were freely tradeable (without prospectus delivery) upon receipt by Deutsche, as determined by the Calculation Agent by reference to the Relevant Price for freely tradeable Shares as of the Valuation Date, or other date of valuation used to determine the delivery obligation with respect to such Shares, or by other commercially reasonable means.

(a) The Premium and Final Disruption Date for the Transaction are set forth below:

Premium: [***]

Final Disruption Date: [***]

(b) For each Component of the Transaction, the Number of Warrants and Expiration Date is set forth below.

Component Number	Number of Warrants	Expiration Date
[***]	[***]	[***]

Pursuant to 17 CFR 240.24b-2, confidential information (indicated by [***]) has been omitted from Annex A and has been filed separately with the Securities and Exchange Commission pursuant to a Confidential Treatment Application filed with the Commission.

Execution Version



Deutsche Bank AG, London Branch
Winchester house
1 Great Winchester St,
London EC2N 2DB
Telephone: 44 20 7545 8000

c/o Deutsche Bank Securities Inc.
60 Wall Street
New York, NY 10005
Telephone: (212) 250-2500

DATE: October 11, 2011

TO: United Therapeutics Corporation
ATTENTION: John Ferrari, Chief Financial Officer and Treasurer
TELEPHONE: (301) 608-9292
FACSIMILE: (301) 608-3049

FROM: Deutsche Bank AG, London Branch
TELEPHONE: 44 20 7545 8193
FACSIMILE: 44 11 3336 2009

SUBJECT: Equity Derivatives Confirmation

REFERENCE NUMBER(S): 457098

The purpose of this facsimile agreement (this “**Confirmation**”) is to confirm the terms and conditions of the transaction entered into between **Deutsche Bank AG, London Branch** (“**Deutsche**”) and **United Therapeutics Corporation** (“**Counterparty**”) on the Trade Date specified below (the “**Transaction**”). This Confirmation constitutes a “Confirmation” as referred to in the ISDA Master Agreement specified below. This Confirmation constitutes the entire agreement and understanding of the parties with respect to the subject matter and terms of the Transaction and supersedes all prior or contemporaneous written and oral communications with respect thereto.

DEUTSCHE BANK AG IS NOT REGISTERED AS A BROKER OR DEALER UNDER THE U.S. SECURITIES EXCHANGE ACT OF 1934, AS AMENDED. DEUTSCHE BANK SECURITIES INC. (“AGENT”) HAS ACTED SOLELY AS AGENT IN CONNECTION WITH THE TRANSACTION AND HAS NO OBLIGATION, BY WAY OF ISSUANCE, ENDORSEMENT, GUARANTEE OR OTHERWISE WITH RESPECT TO THE PERFORMANCE OF EITHER PARTY UNDER THE TRANSACTION. AS SUCH, ALL DELIVERY OF FUNDS, ASSETS, NOTICES, DEMANDS AND COMMUNICATIONS OF ANY KIND RELATING TO THE TRANSACTION BETWEEN DEUTSCHE AND COUNTERPARTY SHALL BE TRANSMITTED EXCLUSIVELY THROUGH AGENT. DEUTSCHE BANK AG, LONDON BRANCH IS NOT A MEMBER OF THE SECURITIES INVESTOR PROTECTION CORPORATION (SIPC).

Chairman of the Supervisory Board: Clemens Börsig Management
Board: Josef Ackermann (Chairman), Hugo Bänziger, Jürgen
Fitschen, Anshuman Jain, Stefan Krause, Hermann-Josef Lamberti,
Rainer Neske

Deutsche Bank AG is authorised under German Banking Law (competent authority: BaFin – Federal Financial Supervising Authority) and regulated by the Financial Services Authority for the conduct of UK business; a member of the London Stock Exchange. Deutsche Bank AG is a joint stock corporation with limited liability incorporated in the Federal Republic of Germany HRB No. 30 000 District Court of Frankfurt am Main; Branch Registration in England and Wales BR000005; Registered address: Winchester House, 1 Great Winchester Street, London EC2N 2DB. Deutsche Bank Group online: <http://www.deutsche-bank.com>

The definitions contained in the 2002 ISDA Equity Derivatives Definitions (the “**Equity Definitions**”), as published by the International Swaps and Derivatives Association, Inc., are incorporated into this Confirmation. In the event of any inconsistency between the Equity Definitions and the terms of this Confirmation, the terms of this Confirmation shall govern. For the purposes of the Equity Definitions, each reference herein to a Note Hedging Unit shall be deemed to be a reference to a Call or an Option, as context requires.

This Confirmation evidences a complete and binding agreement between Deutsche and Counterparty as to the terms of the Transaction to which this Confirmation relates. This Confirmation shall supplement, form a part of, and be subject to an agreement (the “**Agreement**”) in the form of the ISDA 2002 Master Agreement (the “**ISDA Form**”) as if Deutsche and Counterparty had executed an agreement in such form (without any Schedule but with the elections set forth in this Confirmation). For the avoidance of doubt, the Transaction shall be the only transaction under the Agreement.

2. The Transaction shall be considered a Share Option Transaction for purposes of the Equity Definitions, and shall have the following terms:

General:

Trade Date:	October 11, 2011.
Effective Date:	The closing date for the initial issuance of the Convertible Notes.
Transaction Style:	As described below under “Procedure for Exercise”.
Transaction Type:	Note Hedging Units.
Seller:	Deutsche.
Buyer:	Counterparty.
Shares:	The common stock, par value USD 0.01 per share, of Counterparty.
Convertible Notes:	1.0% Senior Convertible Notes of Counterparty due September 15, 2016, offered pursuant to the Offering Memorandum dated October 11, 2011 and issued pursuant to the indenture to be dated on or about October 17, 2011, by and between Counterparty and The Bank of New York Mellon Trust Company, N.A., as trustee (as may be amended, modified or supplemented from time to time, but only if such amendment, modification or supplement is consented to by Deutsche in writing, the “ Indenture ”). Counterparty shall provide Deutsche with a copy of the executed Indenture on the Effective Date. In the event of any inconsistency between the terms defined in the Indenture or defined in the Offering Memorandum and this Confirmation, this Confirmation shall govern. For the avoidance of doubt, references herein to provisions of the Indenture are based on the description of the Convertible Notes set forth in the Offering Memorandum. If any relevant provisions of the Indenture differ in any material respect from those described in the Offering Memorandum or if any relevant sections of the Indenture are thereafter changed or added following execution of this Confirmation, the parties will amend this Confirmation in good faith to preserve the economic intent of the parties.

Number of Note Hedging Units:	250,000
Note Hedging Unit Entitlement:	USD1,000 divided by the Strike Price. Notwithstanding anything to the contrary herein or in the Agreement (including without limitation the provisions of Calculation Agent Adjustment), in no event shall the Note Hedging Unit Entitlement at any time be greater than the “Conversion Rate” (as such term is defined in the Indenture, as described in the Offering Memorandum under “Description of Notes — Conversion of Notes — General”) at such time.
Strike Price:	USD 47.69
Premium:	As set forth in Annex A to this Confirmation.
Premium Payment Date:	The Effective Date.
Exchange:	The NASDAQ Global Select Market.
Related Exchanges:	All Exchanges.
Calculation Agent:	Deutsche. The Calculation Agent shall, upon reasonable written request by Counterparty, provide promptly a written explanation (in a commonly used file format for the storage and manipulation of financial data) displaying in reasonable detail the basis of any calculation or adjustment made by it including, where applicable, a description of the methodology and data applied, it being understood that the Calculation Agent shall not be obligated to disclose any proprietary models used by it for such calculation or adjustment.
Procedure for Exercise:	
Potential Exercise Dates:	Each Conversion Date.
Conversion Date:	Each “Conversion Date” as defined in the Indenture, as described in the Offering Memorandum under “Description of Notes — Conversion of Notes — General” for Relevant Convertible Notes (as defined below).
Required Exercise on Conversion Dates:	On each Conversion Date, a number of Note Hedging Units equal to the number of Convertible Notes in denominations of USD 1,000 principal amount submitted for conversion in respect of such Conversion Date in accordance with the terms of the Indenture (such Convertible Notes, the “ Relevant Convertible Notes ” for such Conversion Date) shall be exercised automatically, subject to “Notice of Exercise” below.
Expiration Date:	September 15, 2016
Multiple Exercise:	Applicable, as provided under “Required Exercise on Conversion Dates”.
Automatic Exercise:	As provided under “Required Exercise on Conversion Dates”.

Notice of Exercise:

Notwithstanding anything to the contrary in the Equity Definitions, in order to exercise any Note Hedging Units, Counterparty must notify Deutsche in writing (and use reasonable efforts to confirm receipt by telephone to either Andrew Yaeger (telephone: (212) 250-2717) or Faiz Khan (telephone: (212) 250-0668) or to such other person as Deutsche may indicate in writing to Counterparty) prior to 5:00 PM, New York City time, on the day that is two Scheduled Trading Days prior to the first day of the “Conversion Period”, as defined in the Indenture, as described in the Offering Memorandum under “Description of Notes — Conversion of Notes — Settlement upon Conversion”, relating to the Relevant Convertible Notes converted on the Conversion Date relating to the relevant Exercise Date (the “**Notice Deadline**”) of (i) the number of Note Hedging Units being exercised on such Exercise Date, (ii) the scheduled commencement date of the “Conversion Period” and (iii) the scheduled settlement date under the Indenture for the Relevant Convertible Notes converted on the Conversion Date corresponding to such Exercise Date; *provided* that in respect of Relevant Convertible Notes with a Conversion Date during the period (the “**Final Conversion Period**”) beginning on, and including the 25th “Scheduled Trading Day”, as defined in the Indenture (as described in the Offering Memorandum under “Description of Notes — Conversion of Notes — Conversion upon Satisfaction of Market Price Condition”), prior to the “Maturity Date”, as provided in the Indenture (as described in the first paragraph under “Description of Notes — General”), for the Convertible Notes and ending on the close of business on the second “Scheduled Trading Day” immediately preceding the “Maturity Date”, the Notice Deadline shall be 5:00 PM, New York City time, on the “Scheduled Trading Day” immediately preceding the “Maturity Date” and the contents of such notice shall be as described in clause (i) above; *provided further* that notwithstanding the foregoing and except in respect of a Conversion Date during the Final Conversion Period, such notice (and the related exercise of Note Hedging Units) shall be effective if given after the Notice Deadline, but prior to 4:00 PM New York City time, on the fifth Exchange Business Day following the Notice Deadline, in which event the Calculation Agent shall have the right to adjust the Convertible Obligation as appropriate to reflect the additional costs (including, but not limited to, hedging mismatches and market losses) and expenses incurred by Deutsche in connection with its hedging activities (including the unwinding of any hedge position) as a result of Deutsche not having received such notice on or prior to the Notice Deadline.

Settlement Terms:

Net Share Settlement:

In lieu of the obligations set forth in Sections 8.1 and 9.1 of the Equity Definitions, and subject to “Notice of Exercise” above, in respect of any Exercise Date occurring on a Conversion Date, Deutsche shall deliver to Counterparty, on the related Settlement Date, the Settlement Amount. For the avoidance of doubt, to the extent Deutsche is obligated to

deliver Shares hereunder, the provisions of Sections 9.8, 9.9, 9.10, 9.11 and 9.12 of the Equity Definitions shall be applicable to any such delivery of Shares, except that all references in such provisions to “Physical Settlement” and “Physically-settled” shall be read as references to “Net Share Settlement” and “Net Share Settled”; and *provided* that the Representation and Agreement contained in Section 9.11 of the Equity Definitions shall be modified by excluding any representations therein relating to restrictions, obligations, limitations or requirements under applicable securities laws as a result of the fact that Counterparty is the issuer of the Shares.

Settlement Amount:

A number of Shares equal to the aggregate number of Shares that Counterparty is obligated to deliver to the holder(s) of the Relevant Convertible Notes converted on such Conversion Date pursuant to the provisions of the Indenture described in the Offering Memorandum under “Description of Notes — Conversion of Notes — Settlement upon Conversion” except that such aggregate number of Shares shall be determined without taking into consideration any rounding pursuant to the provisions of the Indenture described in the Offering Memorandum under “Description of Notes — Conversion of Notes — Settlement upon Conversion” and shall be rounded down to the nearest whole number and cash shall be delivered in lieu of fractional Shares, if any, resulting from such rounding (the “**Convertible Obligation**”); *provided* that such obligation shall be determined excluding any Shares or cash that Counterparty is obligated to deliver to holder(s) of the Relevant Convertible Notes as a result of any adjustments to the “Conversion Rate” for the issuance of additional Shares or cash as set forth in the provisions of the Indenture described in the Offering Memorandum under “Description of Notes — Adjustment to Conversion Rate upon Conversion upon a Make Whole Adjustment Event” (a “**Fundamental Change Adjustment**”) or any adjustment to the “Conversion Price” for any voluntary adjustment pursuant to the provisions of the Indenture described in the seventh to last paragraph in the Offering memorandum under “Description of Notes — Conversion of Notes — Conversion Price Adjustments” (i.e., the paragraph commencing with “To the extent permitted by law and any applicable rules of the Nasdaq Global Select Market...”) (a “**Discretionary Adjustment**”); *provided further* that, if such exercise relates to the conversion of Relevant Convertible Notes in connection with which holders thereof are entitled to receive additional Shares or cash pursuant to a Fundamental Change Adjustment, then, notwithstanding the foregoing, the Settlement Amount shall include such additional Shares or cash, except that the Settlement Amount shall be capped so that the value of the Settlement Amount per Note Hedging Unit (with the value of the Shares included in the Settlement Amount determined by the Calculation Agent using the volume-weighted average price per share on the last day of the relevant “Conversion Period”) does not exceed the amount as determined by the Calculation Agent that would be payable by Seller pursuant to Section 6 of the Agreement if such Conversion Date were an Early Termination Date resulting from an Additional Termination Event with respect to which

the Transaction (except that, for purposes of determining such amount (x) the Number of Note Hedging Units shall be deemed to be equal to the number of Note Hedging Units exercised on such Exercise Date and (y) such amount payable will be determined as if the section of the Indenture regarding a Fundamental Change Adjustment were deleted) was the sole Affected Transaction and Counterparty was the sole Affected Party (determined without regard to provisions under “ **Alternative Calculations and Payment on Early Termination and on Certain Extraordinary Events** ” in this Confirmation). If Counterparty is permitted or required to exercise discretion under the terms of the Indenture with respect to any determination, calculation or adjustment relevant to conversion of the Convertible Notes including, but not limited to, the volume-weighted average price of the Shares, Counterparty shall consult with Deutsche with respect thereto prior to making such determination, calculation or adjustment. For the avoidance of doubt, if the “Daily Conversion Value”, as defined in the Indenture (as described in the Offering Memorandum under “Description of Notes — Conversion of Notes — Settlement upon Conversion”) for each of the “Trading Days”, as defined in the Indenture (as described in the Offering Memorandum under “Description of Notes — Conversion of Notes — Conversion upon Satisfaction of Market Price Condition”), in the relevant “Conversion Period” is less than or equal to USD 1,000 *divided by* the number of “Trading Days” in the relevant “Conversion Period”, Deutsche will have no delivery obligation hereunder.

Notice of Delivery Obligation:

No later than the Scheduled Trading Day immediately following the last day of the relevant “Conversion Period” Counterparty shall give Deutsche notice of the final number of Shares (and cash in lieu of fractional shares) comprising the Convertible Obligation; *provided* that, with respect to any Exercise Date occurring during the Final Conversion Period, Counterparty may provide Deutsche with a single notice of an aggregate number of Shares (and cash in lieu of fractional Shares) comprising the Convertible Obligations for all Exercise Dates occurring in such period (it being understood, for the avoidance of doubt, that the requirement of Counterparty to deliver such notice shall not limit Counterparty’s obligations with respect to Notice of Exercise, as set forth above, in any way).

Settlement Date:

In respect of an Exercise Date occurring on a Conversion Date, the settlement date for the Shares to be delivered under the Relevant Convertible Notes under the terms of the Indenture; *provided* that the Settlement Date will not be prior to the later of (i) the date that is one Settlement Cycle following the final day of the “Conversion Period”, as defined in the Indenture (as described in the Offering Memorandum under “Description of Notes — Conversion of Notes — Settlement Upon Conversion”), and (ii) the Exchange Business Day immediately following the date on which Counterparty gives notice to Deutsche of such Settlement Date prior to 5:00 PM, New York City time.

Settlement Currency:	USD.
Restricted Certificated Shares:	Notwithstanding anything to the contrary in the Equity Definitions, Deutsche may, in whole or in part, deliver Shares in certificated form representing the Settlement Amount to Counterparty in lieu of delivery through the Clearance System.
Share Adjustments:	
Potential Adjustment Events:	Notwithstanding Section 11.2(e) of the Equity Definitions, a “Potential Adjustment Event” means any occurrence of any event or condition, as set forth in the provisions of the Indenture described in the Offering Memorandum under “Description of Notes — Conversion of Notes — Conversion Price Adjustment” (other than a Discretionary Adjustment) that would result in an adjustment to the Conversion Price of the Convertible Notes; <i>provided</i> that in no event shall there be any adjustment hereunder as a result of an adjustment to the “Conversion Rate” or “Conversion Price” pursuant to a Fundamental Change Adjustment or a Discretionary Adjustment.
Method of Adjustment:	Calculation Agent Adjustment, which means that, notwithstanding Section 11.2(c) of the Equity Definitions, upon the occurrence of any Potential Adjustment Event (other than a Fundamental Change Adjustment or a Discretionary Adjustment), the Calculation Agent shall make an adjustment to any one or more of the Strike Price, Number of Note Hedging Units, the Note Hedging Unit Entitlement and any other variable relevant to the exercise, settlement, payment or other terms of the Transaction corresponding to the analogous adjustments made pursuant to the terms of the Indenture in respect of such event.
Extraordinary Events:	
Merger Events:	Notwithstanding Section 12.1(b) of the Equity Definitions, a “Merger Event” means the occurrence of any event or condition set forth in the provisions of the Indenture described in the Offering Memorandum under “Description of Notes — Conversion of Notes — Adjustment to Conversion Rights upon Certain Reclassifications, Business Combinations, Asset Sales and Corporate Events”.
Notice of Merger Consideration:	Upon the occurrence of a Merger Event that causes the Shares to be converted into or exchanged for more than a single type of consideration (determined based in part upon the form of election of the holders of Shares), Counterparty shall promptly (but in any event prior to the effective date of the Merger Event) notify the Calculation Agent of the weighted average of the kind and amounts of consideration to be received by the holders of Shares in any Merger Event who affirmatively make such an election.
Consequences of Merger Events:	Notwithstanding Section 12.2 of the Equity Definitions, upon the occurrence of a Merger Event, the Calculation Agent shall make the

corresponding adjustment in respect of any adjustment under the Indenture to any one or more of the nature of the Shares, the Strike Price, the Number of Note Hedging Units, the Note Hedging Unit Entitlement and any other variable relevant to the exercise, settlement, payment or other terms of the Transaction, to the extent an analogous adjustment is made under the Indenture; *provided* that such adjustment shall be made without regard to any adjustment to the Conversion Rate for the issuance of additional Shares or cash pursuant to a Fundamental Change Adjustment or an adjustment to the Conversion Price for a Discretionary Adjustment; and *provided further* that if, with respect to a Merger Event, the consideration for the Shares includes (or, at the option of a holder of Shares, may include) shares (or depositary receipts with respect to shares) of an entity or person not organized under the laws of the United States, any State thereof or the District of Columbia, Cancellation and Payment (Calculation Agent Determination) shall apply.

Nationalization, Insolvency and Delisting:

Cancellation and Payment (Calculation Agent Determination); *provided* that in addition to the provisions of Section 12.6(a)(iii) of the Equity Definitions, it shall also constitute a Delisting if the Exchange is located in the United States and the Shares are not immediately re-listed, re-traded or re-quoted on any of the New York Stock Exchange, The NASDAQ Global Select Market or The NASDAQ Global Market (or their respective successors); if the Shares are immediately re-listed, re-traded or re-quoted on any such exchange or quotation system, such exchange or quotation system shall be deemed to be the Exchange. For the avoidance of doubt, the occurrence of any event that is a Merger Event and would otherwise have been a Delisting will have the consequence specified for the relevant Merger Event.

Additional Disruption Events:

Change in Law:

Applicable; *provided* that (x) Section 12.9(a)(ii) of the Equity Definitions is hereby amended (i) by the replacement of the word “Shares” with “Hedge Positions”; (ii) by adding the phrase “announcement or statement of or” immediately after the phrase “due to the promulgation of or” in the third line thereof and adding the phrase “formal or informal” before the word “interpretation” in the same line; (iii) immediately following the word “Transaction” in clause (X) thereof, adding the phrase “in the manner contemplated by the Hedging Party on the Trade Date (unless another manner of holding, acquiring or disposing of, as applicable, Hedge Positions relating to such Transaction that is available to Hedging Party would be commercially reasonable, as reasonably determined by Hedging Party, and is not illegal)”; and (iv) by adding the words “(including, for the avoidance of doubt and without limitation, adoption or promulgation of new regulations authorized or mandated by existing statute)” after the word “regulation” in the second line thereof, (y) any determination as to whether (A) the adoption of or change in any applicable law or regulation (including, without limitation, any tax law) or (B) the promulgation of or any change in or announcement or statement of the formal or informal interpretation by any court, tribunal or regulatory authority with

competent jurisdiction of any applicable law or regulation (including any action taken by a taxing authority), in each case, constitutes a “Change in Law” shall be made without regard to Section 739 of the Wall Street Transparency and Accountability Act of 2010 or any similar legal certainty provision in any legislation enacted, or rule or regulation promulgated, on or after the Trade Date and (z) Deutsche may exercise its termination rights with respect to a “Change in Law” described in clause (Y) of Section 12.9(a)(ii) of the Equity Definitions only if Deutsche determines, based upon advice of counsel, that it is generally exercising its right to terminate as a result of such event with respect to similarly situated counterparties.

Insolvency Filing:

Applicable

Hedging Disruption:

Applicable; *provided* that Section 12.9(a)(v) of the Equity Definitions is hereby modified by inserting the following sentence at the end of such section: “Such inability described in phrases (A) or (B) above shall not constitute a “Hedging Disruption” if such inability results solely from the Hedging Party’s creditworthiness or financial position, or from particular actions or transactions undertaken by the Hedging Party with third parties unrelated to the hedging of the Transaction.”

Hedging Party:

Deutsche for all applicable Additional Disruption Events

Determining Party:

Deutsche for all applicable Additional Disruption Events

Acknowledgements:

Non-Reliance:

Applicable

Agreements and Acknowledgements
Regarding Hedging Activities:

Applicable

Additional Acknowledgements:

Applicable

Mutual Representations: Each of Deutsche and Counterparty represents and warrants to, and agrees with, the other party that:

- (i) **Tax Disclosure.** Notwithstanding anything to the contrary herein, in the Equity Definitions or in the Agreement, and notwithstanding any express or implied claims of exclusivity or proprietary rights, the parties (and each of their employees, representatives or other agents) are authorized to disclose to any and all persons, beginning immediately upon commencement of their discussions and without limitation of any kind, the tax treatment and tax structure of the Transaction, and all materials of any kind (including opinions or other tax analyses) that are provided by either party to the other relating to such tax treatment and tax structure.
- (ii) **Commodity Exchange Act.** It is an “eligible contract participant” within the meaning of the U.S. Commodity Exchange Act, as amended (the “CEA”). The Transaction has been subject to individual negotiation by the parties. The Transaction has not been executed or traded on a “trading facility” as defined in the CEA. It has entered into the Transaction with the expectation and intent that the

Transaction shall be performed to its termination date.

- (iii) **Securities Act.** It is a “qualified institutional buyer” as defined in Rule 144A under the U.S. Securities Act of 1933, as amended (the “**Securities Act**”), or an “accredited investor” as defined under the Securities Act.
- (iv) **Investment Company Act.** It is a “qualified purchaser” as defined under the U.S. Investment Company Act of 1940, as amended.
- (v) **ERISA .** The assets used in the Transaction (1) are not assets of any “plan” (as such term is defined in Section 4975 of the U.S. Internal Revenue Code (the “**Code**”)) subject to Section 4975 of the Code or any “employee benefit plan” (as such term is defined in Section 3(3) of the U.S. Employee Retirement Income Security Act of 1974, as amended (“**ERISA**”)) subject to Title I of ERISA, and (2) do not constitute “plan assets” within the meaning of Department of Labor Regulation 2510.3-101, 29 CFR Section 2510-3-101.
- (vi) **Tax Matters .** For purposes of Section 4(a)(i) and (ii) of the Agreement, (i) Counterparty agrees to deliver to Deutsche one duly executed and completed United States Internal Revenue Service Form W-9 (or successor thereto) and (ii) Deutsche agrees to deliver to Counterparty one duly executed and completed United States Internal Revenue Form W-8ECI (or successor thereto).

Counterparty Representations: In addition to the representations and warranties in the Agreement and those contained elsewhere herein, Counterparty represents, warrants and acknowledges (on the Trade Date unless otherwise specified) that:

- (i) Counterparty is not as of the Trade Date, and shall not be after giving effect to the transactions contemplated hereby, “insolvent” (as such term is defined in Section 101(32) of the U.S. Bankruptcy Code (Title 11 of the United States Code) (the “**Bankruptcy Code**”)) and Counterparty would be able to purchase a number of Shares equal to the Number of Shares in compliance with the laws of the jurisdiction of Counterparty’s incorporation or organization.
- (ii) Counterparty has the capacity and authority to invest directly in the Shares underlying the Transaction and has not entered into the Transaction with the intent to avoid any regulatory filings.
- (iii) Counterparty’s financial condition is such that it has no need for liquidity with respect to its investment in the Transaction and no need to dispose of any portion thereof to satisfy any existing or contemplated undertaking or indebtedness.
- (iv) Counterparty’s investments in and liabilities in respect of the Transaction, which it understands are not readily marketable, are not disproportionate to its net worth, and Counterparty is able to bear any loss in connection with the Transaction, including the loss of its entire investment in the Transaction.
- (v) The representations and warranties of Counterparty set forth in Section 3 of the Agreement and Section 1 of the Purchase Agreement dated as of October 11, 2011 between Counterparty and Deutsche Bank Securities Inc. as representative of the initial purchaser thereto (the “**Purchase Agreement**”) are true and correct and are hereby deemed to be repeated to Deutsche as if set forth herein.

- (vi) Counterparty understands, agrees and acknowledges that Deutsche has no obligation or intention to register the Transaction under the Securities Act, any state securities law or other applicable federal securities law.
- (vii) Counterparty is not, and after giving effect to the transactions contemplated hereby will not be, an “investment company” as such term is defined in the U.S. Investment Company Act of 1940, as amended.
- (viii) Counterparty understands, agrees and acknowledges that no obligations of Deutsche to it hereunder shall be entitled to the benefit of deposit insurance and that such obligations shall not be guaranteed by any affiliate of Deutsche or any governmental agency.
- (ix) (A) Counterparty is acting for its own account, and it has made its own independent decisions to enter into the Transaction and as to whether the Transaction is appropriate or proper for it based upon its own judgment and upon advice from such advisers as it has deemed necessary, (B) Counterparty is not relying on any communication (written or oral) of Deutsche or any of its affiliates as investment advice or as a recommendation to enter into the Transaction (it being understood that information and explanations related to the terms and conditions of the Transaction shall not be considered investment advice or a recommendation to enter into the Transaction) and (C) no communication (written or oral) received from Deutsche or any of its affiliates shall be deemed to be an assurance or guarantee as to the expected results of the Transaction.
- (x) Without limiting the generality of Section 13.1 of the Equity Definitions, Counterparty acknowledges that Deutsche is not making any representations or warranties with respect to the treatment of the Transaction under ASC Topic 260, *Earnings Per Share*, ASC Topic 815, *Derivatives and Hedging*, or ASC Topic 480, *Distinguishing Liabilities from Equity* and ASC 815-40, *Derivatives and Hedging — Contracts in Entity’s Own Equity* (or any successor issue statements) or under FASB’s Liabilities & Equity Project, or under any other accounting guidance.
- (xi) Counterparty is not entering into the Transaction for the purpose of (i) creating actual or apparent trading activity in the Shares (or any security convertible into or exchangeable for the Shares) or (ii) raising or depressing or otherwise manipulating the price of the Shares (or any security convertible into or exchangeable for the Shares), in either case in violation of Section 9 of the U.S. Securities Exchange Act of 1934, as amended (the “**Exchange Act**”).
- (xii) Counterparty’s filings under the Securities Act, the Exchange Act, and other applicable securities laws that are required to be filed have been filed and, as of the respective dates thereof and as of the date of this representation, there is no misstatement of material fact contained therein or omission of a material fact required to be stated therein or necessary to make the statements made therein, in the light of the circumstances under which they were made, not misleading.
- (xiii) Counterparty has not violated any applicable law (including, without limitation, the Securities Act and the Exchange Act) in any material respect in connection with the Transaction.
- (xiv) The Transaction and any repurchase of the Shares by Counterparty in connection with the Transaction have been approved by Counterparty’s board of directors.
- (xv) No state or local (including non-U.S. jurisdictions) or non-U.S. federal law, rule, regulation or regulatory order applicable to the Shares or the Issuer would give rise to any reporting, consent, registration or other requirement (including without limitation a requirement to obtain prior approval from any person or entity) as a result of Deutsche or its affiliates owning or holding (however defined)

Shares in connection with Deutsche's hedging of the Transaction.

Counterparty Covenants: In addition to the covenants in the Agreement and those contained elsewhere herein, Counterparty hereby covenants that:

- (i) Counterparty shall promptly provide written notice to Deutsche upon obtaining knowledge of the occurrence of any event that would constitute an Event of Default, a Potential Event of Default, a Potential Adjustment Event, a Merger Event or any other Extraordinary Event; *provided, however*, that should Counterparty be in possession of material non-public information regarding Counterparty, Counterparty shall not communicate such information to Deutsche.
- (ii) Counterparty shall deliver to Deutsche an opinion of counsel, dated as of the Effective Date and reasonably acceptable to Deutsche in form and substance, with respect to the matters set forth in Section 3(a) of the Agreement and such other matters as Deutsche may reasonably request, and containing customary assumptions, qualifications and exceptions reasonably acceptable to Deutsche.
- (iii) Counterparty shall not (a) violate or (b) take any action, or refrain from taking any action, that in either case could reasonably be expected to cause Deutsche or any of its affiliates to violate any applicable law (including, without limitation, the Securities Act and the Exchange Act) in any material respect in connection with the Transaction.
- (iv) Counterparty shall, on each Potential Exercise Date and on any day on which Shares may be delivered to Counterparty pursuant to the Transaction, have the capacity and authority to invest directly in the Shares underlying the Transaction.
- (v) Any repurchase of Shares by Counterparty in connection with the Transaction will be pursuant to a publicly announced share repurchase program approved by Counterparty's board of directors and such repurchase shall be publicly disclosed in Counterparty's periodic filings under the Exchange Act and its financial statements and notes thereto when so required.

Miscellaneous:

Netting and Set-Off. The parties hereto agree that the Transaction shall not be subject to netting or set off with any other transaction, notwithstanding anything to the contrary contained in the confirmation or other agreement with respect to any other transaction.

Qualified Financial Contracts. It is the intention of the parties that, in respect of Counterparty, (a) the Transaction shall constitute a "qualified financial contract" within the meaning of 12 U.S.C. Section 1821(e)(8)(D)(i) and (b) a Non-defaulting Party's rights under Sections 5 and 6 of the Agreement constitute rights of the kind referred to in 12 U.S.C. Section 1821(e)(8)(A).

Method of Delivery. Whenever delivery of funds or other assets is required hereunder by or to Counterparty, such delivery shall be effected through Agent. In addition, all notices, demands and communications of any kind relating to the Transaction between Deutsche and Counterparty shall be transmitted exclusively through Agent.

Staggered Settlement. Deutsche may, by notice to Counterparty prior to any Settlement Date (a " **Nominal Settlement Date** "), elect to deliver the Shares deliverable on such Nominal Settlement Date on two or more dates (each, a " **Staggered Settlement Date** ") or at two or more times on the Nominal Settlement Date as follows: (i) in such notice, Deutsche will specify to Counterparty the related Staggered Settlement Dates (each of which will be on or prior to such Nominal Settlement Date, but not prior to the beginning of the related

“Conversion Period”) or delivery times and how it will allocate the Shares it is required to deliver under “Net Share Settlement” above among the Staggered Settlement Dates or delivery times; and (ii) the aggregate number of Shares that Deutsche will deliver to Counterparty hereunder on all such Staggered Settlement Dates and delivery times will equal the number of Shares that Deutsche would otherwise be required to deliver on such Nominal Settlement Date.

Additional Termination Events. The occurrence of (i) an “Event of Default” with respect to Counterparty under the terms of the Convertible Notes as set forth in the provisions of the Indenture described in the Offering Memorandum under “Description of Notes — Events of Default” with respect to which the Convertible Notes are declared immediately due and payable under the terms of the Indenture, (ii) an Amendment Event or (iii) a Repayment Event shall be an Additional Termination Event with respect to which the Transaction is the sole Affected Transaction and Counterparty is the sole Affected Party and Deutsche shall be the party entitled to designate an Early Termination Date pursuant to Section 6(b) of the Agreement; *provided* that in the case of a Repayment Event the Transaction shall be subject to termination only in respect of the portion of the Transaction corresponding to the number of Convertible Notes that cease to be outstanding in connection with or as a result of such Repayment Event; *provided further* that if, ten Scheduled Trading Days after the occurrence of any Repayment Event, Deutsche has not designated an Early Termination Date in respect of the applicable portion of the Transaction, Counterparty may designate an Early Termination Date in respect of such portion of the Transaction. For the avoidance of doubt, any such designation by Counterparty shall not alter the manner of calculation of any termination amount in respect of the terminated portion of the Transaction or limit the period over which Deutsche may complete any hedging unwind activity. Counterparty will provide prompt notice to Deutsche of the occurrence of any Repayment Event.

“ **Amendment Event** ” means that Counterparty amends, modifies, supplements or obtains a waiver with respect to any term of the Indenture or the Convertible Notes (i) governing the principal amount, coupon, maturity, repurchase obligation of Counterparty, redemption right of Counterparty, any term relating to conversion of the Convertible Notes (including changes to the conversion price, conversion settlement dates or conversion conditions), (ii) which amendment, modification, supplement or waiver would require consent of the holders of not less than 100% of the principal amount of the Convertible Notes to amend or (iii) which amendment, modification, supplement or waiver could reasonably be expected to have a material adverse effect on this Transaction or Deutsche’s ability to hedge all or a portion of this Transaction. For the avoidance of doubt, Counterparty electing to decrease the Conversion Price pursuant to a Discretionary Adjustment shall not constitute an Amendment Event.

“ **Repayment Event** ” means that (A) any Convertible Notes are repurchased (whether in connection with or as a result of a change of control, howsoever defined, or for any other reason) by Counterparty or any of its subsidiaries, (B) any Convertible Notes are delivered to Counterparty or any of its subsidiaries in exchange for delivery of any property or assets of Counterparty or any of its subsidiaries (howsoever described), (C) any principal of any of the Convertible Notes is repaid prior to the final maturity date of the Convertible Notes (whether following acceleration of the Convertible Notes or otherwise), or (D) any Convertible Notes are exchanged by or for the benefit of the holders thereof for any other securities of Counterparty or any of its affiliates (or any other property, or any combination thereof) pursuant to any exchange offer or similar transaction; *provided* that, in the case of clause (B) and clause (D), conversions of the Convertible Notes pursuant to the terms of the Indenture as in effect on the date hereof shall not be Repayment Events.

Disposition of Hedge Shares. Counterparty hereby agrees that if, in the good faith reasonable judgment of Deutsche, the Shares (the “ **Hedge Shares** ”) acquired by Deutsche or any of its affiliates (collectively for the purposes of this paragraph only, “ **Deutsche** ”) for the purpose of hedging its obligations pursuant to the Transaction cannot be sold in the public market by Deutsche without registration under the Securities Act, Counterparty shall, at its election: (i) in order to allow Deutsche to sell the Hedge Shares in a registered offering, make available to Deutsche an effective registration statement under the Securities Act to cover the resale of such Hedge Shares and (A) enter into an agreement, in form and substance reasonably satisfactory to Deutsche, substantially in the form of an underwriting agreement for a registered offering, (B) provide accountant’s “comfort” letters in customary form for registered offerings of equity securities, (C) provide disclosure opinions of nationally recognized outside counsel to Counterparty reasonably acceptable to Deutsche, (D) provide other

customary opinions, certificates and closing documents customary in form for registered offerings of equity securities and (E) afford Deutsche a reasonable opportunity to conduct a “due diligence” investigation with respect to Counterparty customary in scope for underwritten offerings of equity securities; *provided*, *however*, that if Deutsche, in its sole reasonable discretion, is not satisfied with access to due diligence materials, the results of its due diligence investigation, or the procedures and documentation for the registered offering referred to above, then clause (ii) or clause (iii) of this paragraph shall apply at the election of Counterparty; (ii) in order to allow Deutsche to sell the Hedge Shares in a private placement, enter into a private placement agreement substantially similar to private placement purchase agreements customary for private placements of equity securities of similar size, in form and substance satisfactory to Deutsche, including customary representations, covenants, blue sky and other governmental filings and/or registrations, indemnities to Deutsche, due diligence rights (for Deutsche or any designated buyer of the Hedge Shares from Deutsche), opinions and certificates and such other documentation as is customary for private placements agreements of similar size, all reasonably acceptable to Deutsche (in which case, the Calculation Agent shall make any adjustments to the terms of the Transaction that are necessary, in its commercially reasonable judgment, to compensate Deutsche for any discount from the public market price of the Shares incurred on the sale of Hedge Shares in a private placement); or (iii) purchase the Hedge Shares from Deutsche at the VWAP Price on such Exchange Business Days, and in the amounts, requested by Deutsche. “**VWAP Price**” means, on any Exchange Business Day, the per Share volume-weighted average price as displayed under the heading “Bloomberg VWAP” on Bloomberg page UTHR.Q <equity> AQR (or any successor thereto) in respect of the period from 9:30 a.m. to 4:00 p.m. (New York City time) on such Exchange Business Day (or if such volume-weighted average price is unavailable, the market value of one Share on such Exchange Business Day, as determined by the Calculation Agent using a volume-weighted method). This paragraph shall survive the termination, expiration or early unwind of the Transaction.

Status of Claims in Bankruptcy. Deutsche acknowledges and agrees that this Confirmation is not intended to convey to Deutsche rights with respect to the Transaction that are senior to the claims of common stockholders in any U.S. bankruptcy proceedings of Counterparty; *provided* that nothing herein shall limit or shall be deemed to limit Deutsche’s right to pursue remedies in the event of a breach by Counterparty of its obligations and agreements with respect to the Transaction either outside of a bankruptcy proceeding or (subject only to the limitation on seniority in the preceding clause) within a bankruptcy proceeding; *provided*, *further*, that nothing herein shall limit or shall be deemed to limit Deutsche’s rights in respect of any transactions other than the Transaction.

No Collateral. Notwithstanding any provision of this Confirmation, the Agreement, Equity Definitions, or any other agreement between the parties to the contrary, the obligations of Counterparty under the Transaction are not secured by any collateral.

Securities Contract; Swap Agreement. The parties hereto agree and acknowledge that Deutsche is a “financial institution,” “swap participant” and “financial participant” within the meaning of Sections 101(22), 101(53C) and 101(22A) of the Bankruptcy Code. The parties hereto further agree and acknowledge (A) that this Confirmation is (i) a “securities contract,” as such term is defined in Section 741(7) of the Bankruptcy Code, with respect to which each payment and delivery hereunder or in connection herewith is a “termination value,” “payment amount” or “other transfer obligation” within the meaning of Section 362 of the Bankruptcy Code and a “settlement payment” or a “transfer” within the meaning of Section 546 of the Bankruptcy Code, and (ii) a “swap agreement,” as such term is defined in Section 101(53B) of the Bankruptcy Code, with respect to which each payment and delivery hereunder or in connection herewith is a “termination value,” a “payment amount” or “other transfer obligation” within the meaning of Section 362 of the Bankruptcy Code and a “transfer” within the meaning of Section 546 of the Bankruptcy Code, and (B) that Deutsche is entitled to the protections afforded by, among other sections, Section 362(b)(6), 362(b)(17), 362(b)(27), 362(o), 546(e), 546(g), 546(j), 548(d) (2), 555, 560 and 561 of the Bankruptcy Code.

Repurchase Notices. On any day Counterparty effects any repurchase of Shares (including pursuant to the Share buy-back program publicly disclosed on October 11, 2011 in which Counterparty’s board of directors approved the buy-back of Shares worth not more than USD300,000,000 during the period ending October 3, 2013), Counterparty shall promptly give Deutsche a written notice of such repurchase (a “**Repurchase Notice**”)

if, following such repurchase, the Unit Equity Percentage as determined on such day is (a) equal to or greater than 11% and (b) greater by 0.5% or more than the Unit Equity Percentage included in the immediately preceding Repurchase Notice (or, in the case of the first such Repurchase Notice, greater by 0.5% or more than the Unit Equity Percentage as of the date hereof) . The “ **Unit Equity Percentage** ” as of any day is the fraction, expressed as a percentage, (i) the numerator of which is the product of the number of Note Hedging Units and the Note Hedging Unit Entitlement, and (ii) the denominator of which is the number of Shares outstanding on such day. Counterparty agrees to indemnify and hold harmless Deutsche and its affiliates and their respective officers, directors, employees, advisors, agents and controlling persons (each, a “ **Section 16 Indemnified Person** ”) from and against any and all losses (including losses relating to Deutsche’s hedging activities as a consequence of becoming, or of the risk of becoming, a Section 16 “insider”, including without limitation, any forbearance from hedging activities or cessation of hedging activities and any losses in connection therewith with respect to the Transaction), claims, damages, judgments, liabilities and expenses (including reasonable attorney’s fees), joint or several, to which a Section 16 Indemnified Person may become subject, as a result of Counterparty’s failure to provide Deutsche with a Repurchase Notice on the day and in the manner specified in this paragraph, and to reimburse, upon written request, each of such Section 16 Indemnified Persons for any reasonable legal or other expenses incurred in connection with investigating, preparing for, providing testimony or other evidence in connection with or defending any of the foregoing. If any suit, action, proceeding (including any governmental or regulatory investigation), claim or demand shall be brought or asserted against the Section 16 Indemnified Person, such Section 16 Indemnified Person shall promptly notify Counterparty in writing, and Counterparty, upon request of the Section 16 Indemnified Person, shall retain counsel reasonably satisfactory to the Section 16 Indemnified Person to represent the Section 16 Indemnified Person and any others Counterparty may designate in such proceeding and shall pay the fees and expenses of such counsel related to such proceeding. Counterparty shall be relieved from liability to the extent that the Section 16 Indemnified Person fails promptly to notify Counterparty of any action commenced against it in respect of which indemnity may be sought hereunder; *provided* that failure to notify Counterparty (x) shall not relieve Counterparty from any liability hereunder to the extent it is not materially prejudiced as a result thereof and (y) shall not, in any event, relieve Counterparty from any liability that it may have otherwise than on account of this indemnity agreement. Counterparty shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, Counterparty agrees to indemnify any Section 16 Indemnified Person from and against any loss or liability by reason of such settlement or judgment. Counterparty shall not, without the prior written consent of the Section 16 Indemnified Person, effect any settlement of any pending or threatened proceeding in respect of which any Section 16 Indemnified Person is or could have been a party and indemnity could have been sought hereunder by such Section 16 Indemnified Person, unless such settlement includes an unconditional release of such Section 16 Indemnified Person from all liability on claims that are the subject matter of such proceeding on terms reasonably satisfactory to such Section 16 Indemnified Person. If the indemnification provided for in this paragraph is unavailable to a Section 16 Indemnified Person or insufficient in respect of any losses, claims, damages or liabilities referred to therein, then Counterparty, in lieu of indemnifying such Section 16 Indemnified Person thereunder, shall contribute to the amount paid or payable by such Section 16 Indemnified Person as a result of such losses, claims, damages or liabilities. The remedies provided for in this paragraph are not exclusive and shall not limit any rights or remedies that may otherwise be available to any Section 16 Indemnified Person at law or in equity. The indemnity and contribution agreements contained in this paragraph shall remain operative and in full force and effect regardless of the termination of the Transaction.

Alternative Calculations and Payment on Early Termination and on Certain Extraordinary Events. If one party owes the other party any amount in connection with the Transaction pursuant to Sections 12.2, 12.3 (and “Consequences of Merger Events” above), 12.6, 12.7 or 12.9 of the Equity Definitions (except in the case of an Extraordinary Event in which the consideration or proceeds to be paid to holders of Shares as a result of such event consists solely of cash) or pursuant to Section 6(d)(ii) of the Agreement (except in the case of an Event of Default in which Counterparty is the Defaulting Party or a Termination Event in which Counterparty is the Affected Party, other than (x) an Event of Default of the type described in Section 5(a)(iii), (v), (vi) or (vii) of the Agreement or (y) a Termination Event of the type described in Section 5(b)(i), (ii), (iii), (iv), (v) or (vi) of the Agreement that in the case of either (x) or (y) resulted from an event or events outside Counterparty’s control) (if owed by Counterparty, a “ **Counterparty Payment Obligation** ” and if owed by Deutsche, a “ **Deutsche Payment Obligation** ”), Counterparty shall have the right, in its sole discretion, to satisfy any such

Counterparty Payment Obligation or to require Deutsche to satisfy any such Deutsche Payment Obligation by delivery of Termination Delivery Units (as defined below) by giving irrevocable telephonic notice to Deutsche, confirmed in writing within one Scheduled Trading Day, between the hours of 9:00 a.m. and 4:00 p.m. New York time on the Early Termination Date or other date the transaction is terminated, as applicable (“**Notice of Termination Delivery**”). Within a commercially reasonable period of time following receipt of a Notice of Termination Delivery, Counterparty shall deliver to Deutsche a number of Termination Delivery Units having a cash value equal to the amount of such Counterparty Payment Obligation or Deutsche shall deliver to Counterparty a number of Termination Delivery Units having a cash value equal to the amount of such Deutsche Payment Obligation (such number of Termination Delivery Units to be delivered to be determined by the Calculation Agent as the number of whole Termination Delivery Units that could be sold over a commercially reasonable period of time to generate proceeds (or purchased over a commercially reasonable period of time with an amount, as applicable) equal to the cash equivalent of such payment obligation). In the case of a Counterparty Payment Obligation, the parties agree to enter into customary and commercially reasonable documentation relating to the registered or exempt resale of such Termination Delivery Units. If the provisions set forth in this paragraph are applicable, the provisions of Sections 9.8, 9.9, 9.10, 9.11 (modified as described above) and 9.12 of the Equity Definitions shall be applicable, except that all references to “Shares” shall be read as references to “Termination Delivery Units.”

“**Termination Delivery Unit**” means (a) in the case of a Termination Event, an Event of Default or an Extraordinary Event (other than an Insolvency, Nationalization or Merger Event), one Share or (b) in the case of an Insolvency, Nationalization or Merger Event, a unit consisting of the number or amount of each type of property received by a holder of one Share (without consideration of any requirement to pay cash or other consideration in lieu of fractional amounts of any securities) in such Insolvency, Nationalization or Merger Event. If a Termination Delivery Unit consists of property other than cash or New Shares and Counterparty provides irrevocable written notice to the Calculation Agent on or prior to the Closing Date that it elects to deliver (or receive) cash, New Shares or a combination thereof (in such proportion as Counterparty designates) in lieu of such other property, the Calculation Agent shall replace such property with cash, New Shares or a combination thereof as components of a Termination Delivery Unit in such amounts, as determined by the Calculation Agent in its discretion by commercially reasonable means, as shall have a value equal to the value of the property so replaced. If such Insolvency, Nationalization or Merger Event involves a choice of consideration to be received by holders, such holder shall be deemed to have elected to receive the maximum possible amount of cash.

Rule 10b-18. Except as disclosed to Deutsche in writing prior to the date on which the offering of the Convertible Notes was first announced, Counterparty represents and warrants to Deutsche that it has not made any purchases of blocks by or for itself or any of its Affiliated Purchasers pursuant to the one block purchase per week exception in Rule 10b-18(b)(4) under the Exchange Act during each of the four calendar weeks preceding, and during the week of, such date (“**Rule 10b-18 purchase**,” “**blocks**” and “**Affiliated Purchaser**” each as defined in Rule 10b-18 under the Exchange Act). Counterparty agrees and acknowledges that it shall not, and shall cause its affiliates and Affiliated Purchasers not to, directly or indirectly (including by means of a derivative instrument) enter into any transaction to purchase any Shares during the period beginning on such date and ending on the day on which Deutsche has informed Counterparty in writing that it has completed all purchases of Shares or other transactions to hedge initially its exposure to the Transaction, except as provided in the Accelerated Share Repurchase transaction entered into between the parties on the date hereof.

Regulation M. Counterparty was not on the date on which the offering of the Convertible Notes was first announced, has not since such date and prior to the date hereof, and is not on the date hereof, engaged in a distribution, as such term is used in Regulation M under the Exchange Act, of any securities of Counterparty, other than a distribution meeting the requirements of the exception set forth in Sections 101(b)(10) and 102(b)(7) of Regulation M under the Exchange Act. Counterparty shall not, until the day on which Deutsche has informed Counterparty in writing that it has completed all purchases of Shares or other transactions to hedge initially its exposure to the Transaction, engage in any such distribution.

No Material Non-Public Information. On each day (i) during the period beginning on the day on which the offering of the Convertible Notes was first announced and ending on the Effective Date and (ii) on which

Counterparty designates an Early Termination Date pursuant to “ **Additional Termination Events** ” above, Counterparty represents and warrants to Deutsche that it is not aware of any material nonpublic information concerning itself or the Shares.

Right to Extend. Deutsche may postpone any Potential Exercise Date or postpone or extend any other date of valuation or delivery with respect to some or all of the relevant Note Hedging Units (in which event the Calculation Agent shall make appropriate adjustments to the Settlement Amount for such Note Hedging Units), if Deutsche determines, in its reasonable discretion (in the case of clause (ii) below, based on the advice of counsel), that such extension is reasonably necessary or appropriate to (i) preserve Deutsche’s hedging or hedge unwind activity hereunder in light of existing liquidity conditions or (ii) enable Deutsche to effect purchases of Shares in connection with its hedging, hedge unwind or settlement activity hereunder in a manner that would, if Deutsche were the Issuer or an affiliated purchaser of the Issuer, be in compliance with applicable legal, regulatory or self-regulatory requirements, or with related policies and procedures applicable to Deutsche (provided that such requirements, policies or procedures are generally applicable in similar situations and applied to the Transaction in a non-discriminatory manner).

Transfer or Assignment. Counterparty may not transfer any of its rights or obligations under the Transaction without the prior written consent of Deutsche. Deutsche may transfer or assign (1) all or a portion of its Note Hedging Units hereunder at any time to any affiliate of Deutsche or (2) the Terminated Portion under the conditions and pursuant to the provisions set forth in the immediately following paragraph to any other recognized dealer in transactions such as the Transaction, in each case with a rating (or whose guarantor has a rating) for its long term, unsecured and unsubordinated indebtedness of A+ or better by Standard & Poor’s Ratings Services or its successor (“ **S&P** ”), or A1 or better by Moody’s Investors Service, Inc. or its successor (“ **Moody’s** ”) or, if either S&P or Moody’s ceases to rate such debt, at least an equivalent rating or better by a substitute agency rating mutually agreed by Counterparty and Deutsche, without the consent of Counterparty; *provided* that in the case of clause (1), Counterparty will not, as a result of such transfer and/or assignment, be required under the Agreement or this Confirmation to (x) pay to the transferee or assignee an amount greater than the amount that it would have been required to pay to Deutsche in the absence of such transfer or assignment or (y) receive from the transferee or assignee an amount less than the amount that Counterparty would have received from Deutsche in the absence of such transfer or assignment, in each case based on the circumstances in effect on the date of such transfer. Deutsche shall provide Counterparty with written notice of any such transfer or assignment.

If, as determined in Deutsche’s sole reasonable discretion based on advice of counsel, (a) at any time (1) the Equity Percentage exceeds 8.5% or (2) Deutsche, Deutsche Group (as defined below) or any person whose ownership position would be aggregated with that of Deutsche or Deutsche Group (Deutsche, Deutsche Group or any such person, a “ **Deutsche Person** ”) under Section 203 of the Delaware General Corporation Law (the “ **DGCL Takeover Statute** ”) or other federal, state or local (including non-U.S.) laws, regulations or regulatory orders applicable to ownership of Shares (“ **Applicable Laws** ”), owns, beneficially owns, constructively owns, controls, holds the power to vote or otherwise meets a relevant definition of ownership, or could be reasonably viewed as meeting any of the foregoing, in excess of a number of Shares equal to (x) the number of Shares that would give rise to reporting, registration, filing or notification obligations or other requirements (including obtaining prior approval by a state, federal or non-U.S. regulator) of a Deutsche Person under Applicable Laws (including, without limitation, “interested shareholder” or “acquiring Person” status under the DGCL Takeover Statute) and with respect to which such requirements have not been met or the relevant approval has not been received *minus* (y) 1% of the number of Shares outstanding on the date of determination (either such condition described in clause (1) or (2), an “ **Excess Ownership Position** ”), and (b) Deutsche is unable, after commercially reasonable efforts, to effect a transfer or assignment on pricing and terms and within a time period reasonably acceptable to it of all or a portion of this Transaction pursuant to the preceding paragraph such that an Excess Ownership Position no longer exists, Deutsche may designate any Scheduled Trading Day as an Early Termination Date with respect to a portion (the “ **Terminated Portion** ”) of this Transaction, such that an Excess Ownership Position no longer exists following such partial termination; *provided* , however, that Deutsche agrees to use commercially reasonable efforts to establish and maintain its Hedge Positions in a manner that will not cause an Excess Ownership Position to arise. In the event that Deutsche so designates an Early Termination Date with respect to a portion of this Transaction, a payment shall be made pursuant to Section 6 of the

Agreement as if (i) an Early Termination Date had been designated in respect of a Transaction having terms identical to this Transaction and a Number of Note Hedging Units equal to the Terminated Portion, (ii) Counterparty shall be the sole Affected Party with respect to such partial termination and (iii) such Transaction shall be the only Terminated Transaction (and, for the avoidance of doubt, the provisions set forth under the caption “ **Alternative Calculations and Payment on Early Termination and on Certain Extraordinary Events** ” shall apply to any amount that is payable by Deutsche to Counterparty pursuant to this sentence). The “ **Equity Percentage** ” as of any day is the fraction, expressed as a percentage, (A) the numerator of which is the number of Shares that Deutsche and any of its affiliates subject to aggregation with Deutsche for purposes of the “beneficial ownership” test under Section 13 of the Exchange Act and all persons who may form a “group” (within the meaning of Rule 13d-5(b)(1) under the Exchange Act) with Deutsche (collectively, “ **Deutsche Group** ”) “beneficially own” (within the meaning of Section 13 of the Exchange Act) without duplication on such day (or to the extent that the equivalent calculation under Section 16 of the Exchange Act and the rules and regulations thereunder results in a higher number, such number) and (B) the denominator of which is the number of Shares outstanding on such day.

Designation by Deutsche. Notwithstanding any other provision in this Confirmation to the contrary requiring or allowing Deutsche to purchase, sell, receive or deliver any shares or other securities to or from Counterparty, Deutsche may designate any of its affiliates to purchase, sell, receive or deliver such shares or other securities and otherwise to perform Deutsche’s obligations in respect of the Transaction and any such designee may assume such obligations. Deutsche shall be discharged of its obligations to Counterparty to the extent of any such performance.

Matters Related to Agent. Each party agrees and acknowledges that (i) Agent acts solely as agent on a disclosed basis with respect to the Transaction, and (ii) Agent has no obligation, by guaranty, endorsement or otherwise, with respect to the obligations of either Counterparty or Deutsche hereunder, either with respect to the delivery of cash or Shares, either at the beginning or the end of the Transaction. In this regard, each of Counterparty and Deutsche acknowledges and agrees to look solely to the other for performance hereunder, and not to Agent.

Severability; Illegality. If compliance by either party with any provision of the Transaction would be unenforceable or illegal, (a) the parties shall negotiate in good faith to resolve such unenforceability or illegality in a manner that preserves the economic benefits of the transactions contemplated hereby and (b) the other provisions of the Transaction shall not be invalidated, but shall remain in full force and effect.

Waiver of Jury Trial. EACH PARTY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY SUIT, ACTION OR PROCEEDING RELATING TO THE TRANSACTION. EACH PARTY (I) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF THE OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF SUCH A SUIT, ACTION OR PROCEEDING, SEEK TO ENFORCE THE FOREGOING WAIVER AND (II) ACKNOWLEDGES THAT IT AND THE OTHER PARTY HAVE BEEN INDUCED TO ENTER INTO THE TRANSACTION, AS APPLICABLE, BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS PROVIDED HEREIN.

Early Unwind. In the event the sale of the initial issuance of the Convertible Notes is not consummated with the initial purchaser thereof for any reason by the close of business in New York on October 17, 2011 (or such later date as agreed upon by the parties) (October 17, 2011 or such later date as agreed upon being the “ **Early Unwind Date** ”), the Transaction shall automatically terminate (the “ **Early Unwind** ”) on the Early Unwind Date and (a) the Transaction and all of the respective rights and obligations of Deutsche and Counterparty under the Transaction shall be cancelled and terminated and (b) each party shall be released and discharged by the other party from and agrees not to make any claim against the other party with respect to any obligations or liabilities of the other party arising out of and to be performed in connection with the Transaction either prior to, on or after the Early Unwind Date. Deutsche and Counterparty represent and acknowledge to the other that, upon an Early Unwind, all obligations with respect to the Transaction shall be deemed fully and finally discharged.

Limitations on Settlement by Counterparty. Notwithstanding anything herein or in the Agreement to the contrary, in no event shall Counterparty be required to deliver Shares in connection with the Transaction in excess of 500,000 Shares (the “ **Maximum Delivery Amount** ”). Counterparty represents and warrants (which shall be deemed to be repeated on each day that the Transaction is outstanding) that the Maximum Delivery Amount is equal to or less than the number of authorized but unissued Shares of Counterparty that are not reserved for future issuance in connection with transactions in the Shares (other than the Transaction) on the date of the determination of the Maximum Delivery Amount (such Shares, the “ **Available Shares** ”). In the event Counterparty shall not have delivered the full number of Shares otherwise deliverable as a result of this paragraph (the resulting deficit, the “ **Deficit Shares** ”), Counterparty shall be continually obligated to deliver, from time to time until the full number of Deficit Shares have been delivered pursuant to this paragraph, Shares when, and to the extent, that (i) Shares are repurchased, acquired or otherwise received by Counterparty or any of its subsidiaries after the Trade Date (whether or not in exchange for cash, fair value or any other consideration), (ii) authorized and unissued Shares reserved for issuance in respect of other transactions prior to such date which prior to the relevant date become no longer so reserved and (iii) Counterparty additionally authorizes any unissued Shares that are not reserved for other transactions. Counterparty shall immediately notify Deutsche of the occurrence of any of the foregoing events (including the number of Shares subject to clause (i), (ii) or (iii) and the corresponding number of Shares to be delivered) and promptly deliver such Shares thereafter. Notwithstanding the provisions of Section 5(a)(ii) of the Agreement, in the event of a failure by Counterparty to comply with the agreement set forth in this provision, there shall be no grace period for remedy of such failure.

Governing law : The law of the State of New York.

Contact information. For purposes of the Agreement (unless otherwise specified in the Agreement), the addresses for notice to the parties shall be:

(a) Counterparty

United Therapeutics Corporation
1040 Spring St.
Silver Spring, MD 20910
Attention: John Ferrari, Chief Financial Officer and Treasurer
Fax: (301) 608-3049

(b) Deutsche
Deutsche Bank AG, London Branch
c/o Deutsche Bank Securities Inc.
60 Wall Street
New York, NY 10005

Attention: Andrew Yaeger
Faiz Khan

Telephone: (212) 250-2717
(212) 250-0668

Email: andrew.yaeger@db.com
faiz.khan@db.com

This Confirmation may be executed in several counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

Counterparty hereby agrees to check this Confirmation and to confirm that the foregoing correctly sets forth the terms of the Transaction by signing in the space provided below and returning to Deutsche a facsimile of the fully-executed Confirmation to Deutsche at 44 113 336 2009. Originals shall be provided for your execution upon your request.

We are very pleased to have executed the Transaction with you and we look forward to completing other transactions with you in the near future.

Very truly yours,

DEUTSCHE BANK AG, LONDON BRANCH

By: /s/ Michael Sanderson
Name: Michael Sanderson
Title: Managing Director

By: /s/ Lars Kestner
Name: Lars Kestner
Title: Managing Director

DEUTSCHE BANK SECURITIES INC.,
acting solely as Agent in connection with this Transaction

By: /s/ Michael Sanderson
Name: Michael Sanderson
Title: Managing Director

By: /s/ Lars Kestner
Name: Lars Kestner
Title: Managing Director

Counterparty hereby agrees to, accepts and confirms the terms of the foregoing as of the Trade Date.

UNITED THERAPEUTICS CORPORATION

By: /s/ John Ferrari
Name: John Ferrari
Title: CFO

[Signature Page to Note Hedge]

The Premium for the Transaction is set forth below:

Premium: [***]

Pursuant to 17 CFR 240.24b-2, confidential information (indicated by [***]) has been omitted from Annex B and has been filed separately with the Securities and Exchange Commission pursuant to a Confidential Treatment Application filed with the Commission.

Execution Version



Deutsche Bank AG, London Branch
Winchester house
1 Great Winchester St, London EC2N 2DB
Telephone: 44 20 7545 8000

c/o Deutsche Bank Securities Inc.
60 Wall Street
New York, NY 10005
Telephone: 212-250-2500

Opening Transaction

DATE: October 11, 2011

TO: United Therapeutics Corporation
ATTENTION: John Ferrari, Chief Financial Officer and Treasurer
TELEPHONE: (301) 608-9292
FACSIMILE: (301) 608-3049

FROM: Deutsche Bank AG, London Branch
TELEPHONE: 44 20 7545 8193
FACSIMILE: 44 11 3336 2009

SUBJECT: Accelerated Share Repurchase

REFERENCE NUMBER(S): 457100

The purpose of this facsimile agreement (this “**Confirmation**”) is to confirm the terms and conditions of the transaction entered into between **Deutsche Bank AG, London Branch** (“**Deutsche**”) and **United Therapeutics Corporation** (“**Counterparty**”) on the Trade Date specified below (the “**Transaction**”). This Confirmation constitutes a “Confirmation” as referred to in the ISDA Master Agreement specified below. This Confirmation constitutes the entire agreement and understanding of the parties with respect to the subject matter and terms of the Transaction and supersedes all prior or contemporaneous written and oral communications with respect thereto.

DEUTSCHE BANK AG IS NOT REGISTERED AS A BROKER OR DEALER UNDER THE U.S. SECURITIES EXCHANGE ACT OF 1934, AS AMENDED. DEUTSCHE BANK SECURITIES INC. (“AGENT”) HAS ACTED SOLELY AS AGENT IN CONNECTION WITH THE TRANSACTION AND HAS NO OBLIGATION, BY WAY OF ISSUANCE, ENDORSEMENT, GUARANTEE OR OTHERWISE WITH RESPECT TO THE PERFORMANCE OF EITHER PARTY UNDER THE TRANSACTION. AS SUCH, ALL DELIVERY OF FUNDS, ASSETS, NOTICES, DEMANDS AND COMMUNICATIONS OF ANY KIND RELATING TO THE TRANSACTION BETWEEN DEUTSCHE AND COUNTERPARTY SHALL BE TRANSMITTED EXCLUSIVELY THROUGH AGENT. DEUTSCHE BANK AG, LONDON

Chairman of the Supervisory Board: Clemens Börsig Management
Board: Josef Ackermann (Chairman), Hugo Bänziger, Jürgen
Fitschen, Anshuman Jain, Stefan Krause, Hermann-Josef Lamberti,
Rainer Neske

Deutsche Bank AG is authorised under German Banking Law (competent authority: BaFin – Federal Financial Supervising Authority) and regulated by the Financial Services Authority for the conduct of UK business; a member of the London Stock Exchange. Deutsche Bank AG is a joint stock corporation with limited liability incorporated in the Federal Republic of Germany HRB No. 30 000 District Court of Frankfurt am Main; Branch Registration in England and Wales BR000005; Registered address: Winchester House, 1 Great Winchester Street, London EC2N 2DB. Deutsche Bank Group online: <http://www.deutsche-bank.com>

BRANCH IS NOT A MEMBER OF THE SECURITIES INVESTOR PROTECTION CORPORATION (SIPC).

The definitions contained in the 2002 ISDA Equity Derivatives Definitions (the “**Equity Definitions**”), as published by the International Swaps and Derivatives Association, Inc., are incorporated into this Confirmation. In the event of any inconsistency between the Equity Definitions and the terms of this Confirmation, the terms of this Confirmation shall govern.

This Confirmation evidences a complete and binding agreement between Deutsche and Counterparty as to the terms of the Transaction to which this Confirmation relates. This Confirmation shall supplement, form a part of, and be subject to an agreement (the “**Agreement**”) in the form of the ISDA 2002 Master Agreement (the “**ISDA Form**”) as if Deutsche and Counterparty had executed an agreement in such form (without any Schedule but with the elections set forth in this Confirmation). For the avoidance of doubt, the Transaction shall be the only transaction under the Agreement.

1. The Transaction constitutes a Share Forward Transaction for the purposes of the Equity Definitions. Set forth below are the terms and conditions that shall govern such Transaction.

General Terms:

Trade Date:	October 11, 2011
Effective Date:	October 17, 2011
Convertible Notes:	1.0% Senior Convertible Notes of Counterparty due September 15, 2016, offered pursuant to the Offering Memorandum dated October 11, 2011.
Buyer:	Counterparty
Seller:	Deutsche Bank AG, London Branch
Shares:	The common stock, par value \$0.01 per share, of Counterparty (Ticker: UTHR)
Exchange:	The NASDAQ Global Select Market
Related Exchange(s):	All Exchanges.
Prepayment/Variable Obligation:	Applicable
Prepayment Amount:	USD 212,000,000
Prepayment Date:	The Effective Date.

Valuation:

VWAP Price:	For any Exchange Business Day, as determined by the Calculation Agent based on the NASDAQ 10b-18 Volume Weighted Average Price per Share for the regular trading session of the Exchange in respect of the period from 9:30 a.m. to 4:00 p.m. (New York City time) on such Exchange Business Day, as published by on Bloomberg page “UTHR.Q <Equity> AQR_SEC” (or any successor thereto), subject to “Valuation Disruption” below, or if such price is not so reported on such Exchange Business Day for any reason, such VWAP Price shall be as reasonably determined by the Calculation Agent. For purposes of calculating the VWAP Price, the Calculation Agent will include only those trades that are reported during the period of time during which Counterparty could purchase its own shares under Rule 10b-18(b)(2) and are effected pursuant
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to the conditions of Rule 10b-18(b)(3), each under the Securities Exchange Act of 1934, as amended (the “ **Exchange Act** ”) (such trades, “ **Rule 10b-18 eligible transactions** ”).

Forward Price:	The arithmetic average of the VWAP Prices for the Exchange Business Days in the Calculation Period, subject to “Valuation Disruption” below.
Forward Price Adjustment Amount:	As set forth in Annex B.
Calculation Period:	The period from, and including, the Calculation Period Start Date to, and including, the Termination Date.
Calculation Period Start Date:	The first Scheduled Trading Day immediately following the Trade Date.
Termination Date:	The Scheduled Termination Date; <i>provided</i> that Seller shall have the right, from time to time, to designate any Exchange Business Day (which shall not be after the Scheduled Termination Date) on or after the First Acceleration Date to be the Termination Date (the “ Accelerated Termination Date ”) with respect to all, or any portion that is at least \$50 million, of the Prepayment Amount for such Transaction by delivering notice to Counterparty of any such designation prior to 11:59 p.m. New York City time on the Exchange Business Day immediately following the designated Accelerated Termination Date. If Seller designates an Accelerated Termination Date with respect to less than all of the Prepayment Amount (such portion, the “ Accelerated Portion ”), then upon the occurrence of such Accelerated Termination Date, the Transaction shall be considered two Transactions with terms identical to those of the original Transaction, except that (1) the first such resulting Transaction (the “ Accelerated Transaction ”) shall have (x) a Prepayment Amount equal to the Accelerated Portion, (y) a Delivered Number, rounded down to the nearest whole number, equal to the corresponding number for the original Transaction <i>multiplied by</i> a fraction the numerator of which is the Accelerated Portion and the denominator of which is the Prepayment Amount for the original Transaction and (z) a Termination Date occurring on such Accelerated Termination Date and (2) the second such resulting Transaction (the “ Remaining Transaction ”) shall have (x) a Prepayment Amount equal to the Prepayment Amount for the Transaction immediately preceding such Accelerated Termination Date <i>minus</i> the Accelerated Portion and (y) a Delivered Number equal to the corresponding number for the Transaction immediately preceding such Accelerated Termination Date <i>minus</i> the corresponding number for the Accelerated Transaction. For the avoidance of doubt, following settlement of the Accelerated Transaction, the Remaining Transaction shall be treated for all purposes as the sole Transaction hereunder and may be subject to a further Accelerated Termination Date as set forth above. Any notice to be delivered by Seller of an Accelerated Termination Date pursuant to the foregoing shall specify an Accelerated Portion, if applicable.
Scheduled Termination Date:	As set forth in Annex B.
First Acceleration Date:	As set forth in Annex B.
Valuation Disruption:	The definition of “Market Disruption Event” in Section 6.3(a) of the Equity Definitions is hereby amended by deleting the words “at any time during the one-hour period that ends at the relevant Valuation Time, Latest Exercise Time, Knock-in Valuation Time or Knock-out Valuation Time, as the case may be” and inserting the words “at any time on any Scheduled Trading Day during the

Calculation Period, Share Termination Valuation Period or Settlement Valuation Period” after the word “material,” in the third line thereof.

Section 6.3(d) of the Equity Definitions is hereby amended by deleting the remainder of the provision following the term “Scheduled Closing Time” in the fourth line thereof.

Notwithstanding anything to the contrary in the Equity Definitions, if a Disrupted Day occurs (a) in the Calculation Period, the Calculation Agent may, in its good faith and commercially reasonable discretion, postpone the Scheduled Termination Date by a number of Scheduled Trading Days not greater than the number of such Disrupted Days, or (b) in the Share Termination Valuation Period or the Settlement Valuation Period, the Calculation Agent may, in its good faith and commercially reasonable discretion, extend the Share Termination Valuation Period or Settlement Valuation Period by a number of Scheduled Trading Days not greater than the number of such Disrupted Days. The Calculation Agent may determine whether (i) such Disrupted Day is a Disrupted Day in full, in which case the VWAP Price or value of Share Termination Delivery Units, as applicable, for such Disrupted Day shall not be included for purposes of determining the Forward Price, the Share Termination Unit Price or the Settlement Price, as the case may be, or (ii) such Disrupted Day is a Disrupted Day only in part, in which case (x) the VWAP Price or value of Share Termination Delivery Units, as applicable, for such Disrupted Day shall be determined by the Calculation Agent based on Rule 10b-18 eligible transactions in the Shares or based on transactions in the Share Termination Delivery Units, as applicable, on such Disrupted Day taking into account the nature and duration of such Market Disruption Event and (y) in the case of a Disrupted Day during the Calculation Period or a Settlement Valuation Period, the Calculation Agent shall determine any Forward Price or Settlement Price based on an appropriately weighted average instead of the arithmetic average described in the definition thereof. Any Scheduled Trading Day on which the Exchange is scheduled to close prior to its normal close of trading shall be deemed to be a Disrupted Day in full. Following the occurrence of a Disrupted Day, the Calculation Agent shall, as soon as reasonably practicable after the occurrence of such Disrupted Day, notify Counterparty in writing of (x) any such weighting, extension or suspension and (y) unless the Disrupted Day was caused by a Regulatory Disruption, the circumstances giving rise to such Disrupted Day.

The occurrence of a Disrupted Day during the Calculation Period, the Share Termination Valuation Period or the Settlement Valuation Period, as the case may be, and on each of the nine immediately following Scheduled Trading Days will constitute an Additional Termination Event, with Counterparty as the sole Affected Party and the Transaction hereunder as the Affected Transaction.

Settlement Terms:

Settlement Procedures:

If the Number of Shares to be Delivered is positive, Physical Settlement shall be applicable; *provided* that Seller does not, and shall not, make the agreement or the representations solely related to the restrictions imposed by applicable securities laws set forth in Section 9.11 of the Equity Definitions with respect to any Shares delivered by Seller to Counterparty under any Transaction. If the Number of Shares to be Delivered is negative, then the Counterparty Settlement Provisions in Annex A shall apply.

Number of Shares to be Delivered:	A number of Shares equal to (a) the Collared Number of Shares <i>minus</i> (b) the number of Shares delivered by Seller pursuant to “Initial Share Delivery” below (the “ Delivered Number ”); <i>provided</i> that such number of Shares shall not be a number less than zero unless Section 8 shall apply.
Collared Number of Shares:	A number of Shares (rounded to the nearest whole Share) equal to (a) the Prepayment Amount <i>divided by</i> (b) the Forward Price <i>minus</i> the Forward Price Adjustment Amount; <i>provided</i> that the Forward Price <i>minus</i> the Forward Price Adjustment Amount shall not exceed the Cap Price nor be less than the Floor Price.
Cap Price:	As set forth in Annex B.
Floor Price:	As set forth in Annex B.
Excess Dividend Amount:	For the avoidance of doubt, all references to the Excess Dividend Amount shall be deleted from Section 9.2(a)(iii) of the Equity Definitions.
Settlement Date:	If the Number of Shares to be Delivered is positive, the date that is one Settlement Cycle immediately following the Termination Date.
Settlement Currency:	USD
Initial Share Delivery:	Seller shall deliver a number of Shares equal to the Initial Shares on the Initial Share Delivery Date in accordance with Section 9.4 of the Equity Definitions, with the Initial Share Delivery Date deemed to be a “Settlement Date” for purposes of such Section 9.4.
Initial Share Delivery Date:	The Effective Date.
Initial Shares:	As set forth in Annex B.
Share Adjustments:	
Potential Adjustment Event:	Notwithstanding anything to the contrary in Section 11.2(e) of the Equity Definitions, an Extraordinary Dividend shall not constitute a Potential Adjustment Event. It shall constitute an additional Potential Adjustment Event if the Scheduled Termination Date for the Transaction is postponed pursuant to “Valuation Disruption” above, in which case the Calculation Agent may, in its commercially reasonable discretion, adjust any relevant terms of any such Transaction as the Calculation Agent determines appropriate to account for the economic effect on the Transaction of such postponement.
Extraordinary Dividend:	For any calendar quarter, any dividend or distribution on the Shares with an ex-dividend date occurring during such calendar quarter, if (i) such dividend or distribution is not a dividend or distribution of the type described in Section 11.2(e)(i) or Section 11.2(e)(ii)(A) of the Equity Definitions and (ii) in the case of a cash dividend, the amount per Share of such cash dividend, taken together with the amount of all previous cash dividends with ex-dividend dates occurring in the same calendar quarter, exceeds the Ordinary Dividend Amount.
Ordinary Dividend Amount:	USD0.00

Method of Adjustment:

Calculation Agent Adjustment

Extraordinary Events:

Consequences of Merger Events:

- | | |
|-------------------------|---------------------------------------|
| (a) Share-for-Share: | Modified Calculation Agent Adjustment |
| (b) Share-for-Other: | Cancellation and Payment |
| (c) Share-for-Combined: | Component Adjustment |

Tender Offer:

Applicable; *provided* that (i) Section 12.1(d) of the Equity Definitions shall be amended by replacing the word “results” with the words “may result” in the second line thereof, (ii) Section 12.1(l) of the Equity Definitions shall be amended (x) by deleting the parenthetical in the fifth line thereof, (y) by replacing “that” in the fifth line thereof with “whether or not such announcement” and (z) by adding immediately after the words “Tender Offer” in the fifth line thereof “, and any publicly announced change or amendment to such an announcement (including the announcement of an abandonment of such intention)” and (iii) Section 12.3(d) of the Equity Definitions shall be amended (x) by replacing the words “Tender Offer Date” with “Tender Offer Date or Announcement Date, as applicable,” and (y) by replacing each occurrence of the words “Tender Offer” with “Tender Offer or announcement, as applicable.”

Consequences of Tender Offers:

- | | |
|-------------------------|---------------------------------------|
| (a) Share-for-Share: | Modified Calculation Agent Adjustment |
| (b) Share-for-Other: | Modified Calculation Agent Adjustment |
| (c) Share-for-Combined: | Modified Calculation Agent Adjustment |

Nationalization, Insolvency or
Delisting:

Cancellation and Payment; *provided* that in addition to the provisions of Section 12.6(a)(iii) of the Equity Definitions, it shall also constitute a Delisting if the Exchange is located in the United States and the Shares are not immediately re-listed, re-traded or re-quoted on any of the New York Stock Exchange, The NASDAQ Global Select Market or The NASDAQ Global Market (or their respective successors); if the Shares are immediately re-listed, re-traded or re-quoted on any such exchange or quotation system, such exchange or quotation system shall be deemed to be the Exchange.

Additional Disruption Events:

- | | |
|--------------------|--|
| (a) Change in Law: | Applicable; <i>provided</i> that (x) Section 12.9(a)(ii) of the Equity Definitions is hereby amended (i) by the replacement of the word “Shares” with “Hedge Positions”; (ii) by adding the phrase “announcement or statement of or” immediately after the phrase “due to the promulgation of or” in the third line thereof and adding the phrase “formal or informal” before the word “interpretation” in the same line; (iii) immediately following the word “Transaction” in clause (X) thereof, adding the phrase “in the manner contemplated by the |
|--------------------|--|

Hedging Party on the Trade Date (unless another manner of holding, acquiring or disposing of, as applicable, Hedge Positions relating to such Transaction that is available to Hedging Party would be commercially reasonable, as reasonably determined by Hedging Party, and is not illegal)”; and (iv) by adding the words “(including, for the avoidance of doubt and without limitation, adoption or promulgation of new regulations authorized or mandated by existing statute)” after the word “regulation” in the second line thereof, (y) any determination as to whether (A) the adoption of or change in any applicable law or regulation (including, without limitation, any tax law) or (B) the promulgation of or any change in or announcement or statement of the formal or informal interpretation by any court, tribunal or regulatory authority with competent jurisdiction of any applicable law or regulation (including any action taken by a taxing authority), in each case, constitutes a “Change in Law” shall be made without regard to Section 739 of the Wall Street Transparency and Accountability Act of 2010 or any similar legal certainty provision in any legislation enacted, or rule or regulation promulgated, on or after the Trade Date and (z) Deutsche may exercise its termination rights with respect to a “Change in Law” described in clause (Y) of Section 12.9(a)(ii) of the Equity Definitions only if Deutsche determines, based upon advice of counsel, that it is generally exercising its right to terminate as a result of such event with respect to similarly situated counterparties.

(b) Failure to Deliver: Applicable

(c) Insolvency Filing: Applicable

(d) Loss of Stock Borrow: Applicable

Maximum Stock Loan Rate: 200 basis points per annum

(e) Increased Cost of Stock Borrow: Applicable

Initial Stock Loan Rate: 40 basis points per annum

Hedging Party: For all applicable Additional Disruption Events, Seller

Determining Party: For all applicable Extraordinary Events, Seller. The Determining Party shall, upon reasonable written request by Counterparty, provide promptly a written explanation (in a commonly used file format for the storage and manipulation of financial data) displaying in reasonable detail the basis of any determination made by it including, where applicable, a description of the methodology and data applied, it being understood that the Determining Party shall not be obligated to disclose any proprietary models used by it for such determination.

Additional Termination Event(s): Notwithstanding anything to the contrary in the Equity Definitions, if, as a result of an Extraordinary Event, the Transaction would be cancelled or terminated (whether in whole or in part) pursuant to Article 12 of the Equity Definitions, an

Additional Termination Event (with such terminated Transaction (or portions thereof) being the Affected Transaction and Counterparty being the sole Affected Party) shall be deemed to occur, and, in lieu of Sections 12.7, 12.8 and 12.9 of the Equity Definitions, Seller may elect for Section 6 of the Agreement to apply to such Affected Transaction.

The declaration by the Issuer of any Extraordinary Dividend, the ex-dividend date for which occurs or is scheduled to occur during the Relevant Dividend Period, will constitute an Additional Termination Event, with Counterparty as the sole Affected Party and the Transaction hereunder as the Affected Transaction.

Relevant Dividend Period: The period from and including the Trade Date to and including the Relevant Dividend Period End Date.

Relevant Dividend Period End Date: If the Number of Shares to be Delivered is negative, the last day of the Settlement Valuation Period; otherwise, the Termination Date.

Non-Reliance/Agreements and Acknowledgements Regarding Hedging Activities/Additional Acknowledgements: Applicable

Seller Payment Instructions: Bank of New York
ABA 021-000-018
Deutsche Bank Securities, Inc.
A/C 8900327634
FFC: United Therapeutics Corp

Counterparty's Contact Details for Purpose of Giving Notice: To be provided by Counterparty

Seller's Contact Details for Purpose of Giving Notice: Deutsche Bank AG, London Branch
c/o Deutsche Bank Securities Inc.
60 Wall Street
New York, NY 10005

Attention: David Sullivan
Andrew Yaeger
Faiz Khan

Telephone: (212) 250-4580
(212) 250-2717
(212) 250-0668

Email: dave.sullivan@db.com
andrew.yaeger@db.com
faiz.khan@db.com

Calculation Agent: Seller. The Calculation Agent shall, upon reasonable written request by Counterparty, provide promptly a written explanation (in a commonly used file format for the storage and manipulation of financial data) displaying in reasonable detail the basis of any calculation or adjustment made by it including,

where applicable, a description of the methodology and data applied, it being understood that the Calculation Agent shall not be obligated to disclose any proprietary models used by it for such calculation or adjustment.

2. Additional Mutual Representations, Warranties and Covenants.

(a) Eligible Contract Participant. In addition to the representations, warranties and covenants in the Agreement, each party represents, warrants and covenants to the other party that it is an “eligible contract participant”, as defined in the U.S. Commodity Exchange Act (as amended), and is entering into the Transaction hereunder as principal (and not as agent or in any other capacity, fiduciary or otherwise) and not for the benefit of any third party.

(b) Accredited Investor and Qualified Institutional Buyer. Each party acknowledges that the offer and sale of the Transaction to it is intended to be exempt from registration under the Securities Act of 1933, as amended (the “**Securities Act**”), by virtue of Section 4 (2) thereof. Accordingly, each party represents and warrants to the other that (i) it has the financial ability to bear the economic risk of its investment in such Transaction and is able to bear a total loss of its investment and (ii) it is an “accredited investor” as that term is defined under Regulation D under the Securities Act.

3. Additional Representations, Warranties and Covenants of Counterparty. In addition to the representations, warranties and covenants in the Agreement, Counterparty represents, warrants and covenants to Seller that:

(a) The purchase of Shares by Counterparty from Seller pursuant to, and Counterparty’s entry into, the Transaction will not violate Rule 13e-1 or Rule 13e-4 under the Exchange Act.

(b) It is not entering into the Transaction (i) on the basis of, and is not aware of, any material non-public information with respect to Counterparty or the Shares, (ii) in anticipation of, in connection with, or to facilitate, a distribution of its securities, a self tender offer or a third-party tender offer or (iii) to create actual or apparent trading activity in the Shares (or any security convertible into or exchangeable for the Shares) or to raise or depress or otherwise manipulate the price of the Shares (or any security convertible into or exchangeable for the Shares).

(c) The Transaction is being entered into pursuant to a publicly disclosed Share buy-back program and its Board of Directors has approved the use of one or more accelerated share repurchase transactions to effect the Share buy-back program.

(d) Without limiting the generality of Section 13.1 of the Equity Definitions, Counterparty acknowledges that neither Seller nor any of its affiliates is making any representations or warranties with respect to the treatment of the Transaction under any accounting standards including, but not limited to, ASC Topic 260, Earnings Per Share, ASC Topic 815, Derivatives and Hedging, or ASC Topic 480, Distinguishing Liabilities from Equity and ASC 815-40, Derivatives and Hedging — Contracts in Entity’s Own Equity.

(e) As of the Trade Date, Counterparty is in compliance with its reporting obligations under the Exchange Act and its most recent Annual Report on Form 10-K, together with all reports subsequently filed by it pursuant to the Exchange Act, taken together and as amended and supplemented to the date of this representation, do not, as of their respective filing dates, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(f) Counterparty shall report the Transaction to the extent required under the Exchange Act and the rules and regulations thereunder.

(g) The Shares are not, and Counterparty will not engage in a “distribution” (as defined in Regulation M promulgated under the Exchange Act) of the Shares or of any security for which the Shares are a “reference security” (as defined in Regulation M promulgated under the Exchange Act) at any time during any Regulation M

Period (as defined below) for the Transaction. “ **Regulation M Period** ” means (i) the Relevant Period (as defined below) and (ii) the Share Termination Valuation Period, if any, and the Settlement Valuation Period, if any, for such Transaction. “ **Relevant Period** ” means the period commencing on the Trade Date for the Transaction and ending on the earlier of (i) the Scheduled Termination Date and (ii) the last Additional Relevant Day (as defined below) for such Transaction, or such earlier day as elected by Seller and communicated to Counterparty on such day (or, if later, the First Acceleration Date without regard to any acceleration thereof pursuant to “Special Provisions for Acquisition Transaction Announcements” below). “ **Additional Relevant Day(s)** ” means the five Exchange Business Days immediately following the Calculation Period.

(h) As of the Trade Date, the Prepayment Date, the Initial Share Delivery Date, the Settlement Date, and the date of any Second Settlement, Counterparty is not, and will not be, “insolvent” (as such term is defined under Section 101(32) of the U.S. Bankruptcy Code (Title 11 of the United States Code) (the “ **Bankruptcy Code** ”)) and Counterparty would be able to purchase a number of Shares with a value equal to the Prepayment Amount in compliance with the laws of the jurisdiction of Counterparty’s incorporation and any contractual restrictions applicable to Counterparty or its assets.

(i) Counterparty is not, and after giving effect to the Transaction will not be, required to register as an “investment company” as such term is defined in the Investment Company Act of 1940, as amended.

(j) Counterparty has not and will not enter into agreements similar to the Transaction described herein where any initial hedge period, calculation period, relevant period or settlement valuation period (each however defined) in such other transaction will overlap at any time (including as a result of extensions in such initial hedge period, calculation period, relevant period or settlement valuation period as provided in the relevant agreements) with any Relevant Period or, if applicable, any Settlement Valuation Period under this Confirmation. In the event that the initial hedge period, relevant period, calculation period or settlement valuation period in any other similar transaction overlaps with any Relevant Period or, if applicable, or Settlement Valuation Period under this Confirmation as a result of any postponement of the Scheduled Termination Date or extension of the Settlement Valuation Period pursuant to “Valuation Disruption” above, Counterparty shall promptly amend such transaction to avoid any such overlap.

(k) Counterparty shall deliver to Deutsche an opinion of counsel, dated as of the Effective Date and reasonably acceptable to Deutsche in form and substance, with respect to the matters set forth in Section 3(a) of the Agreement and such other matters as Deutsche may reasonably request, and containing customary assumptions, qualifications and exceptions reasonably acceptable to Deutsche.

(l) Counterparty received on October 3, 2011 a letter from Deutsche regarding FINRA Rule 5320 and does not object to the practices described in such letter.

4. Regulatory Disruption. In the event that Seller concludes, in its reasonable good faith discretion based on the advice of counsel, that it is appropriate with respect to any legal, regulatory or self-regulatory requirements or related policies and procedures, whether or not such requirements, policies or procedures are imposed by law or have been voluntarily adopted by Seller (provided that such requirements, policies or procedures relate to legal or regulatory issues and are generally applicable in similar situations and applied to the Transaction in a non-discriminatory manner), for it to refrain from or decrease any market activity on any Scheduled Trading Day or Days during the Calculation Period or, if applicable, the Share Termination Valuation Period or the Settlement Valuation Period, Seller may by written notice to Counterparty elect to deem that a Market Disruption Event has occurred and will be continuing on such Scheduled Trading Day or Days.

5. 10b5-1 Plan. Counterparty represents, warrants and covenants to Seller that:

(a) Counterparty is entering into this Confirmation and the Transaction hereunder in good faith and not as part of a plan or scheme to evade the prohibitions of Rule 10b5-1 under the Exchange Act (“ **Rule 10b5-1** ”) or any other antifraud or anti-manipulation provisions of the federal or applicable state securities laws and that it has not entered into or altered and will not enter into or alter any corresponding or hedging transaction or position with respect to the Shares. Counterparty and Seller each acknowledges that it is the intent of the parties that the Transaction entered into under this Confirmation comply with the requirements of paragraphs (c)(1)(i)(A) and (B) of

Rule 10b5-1 and the Transaction entered into under this Confirmation shall be interpreted to comply with the requirements of Rule 10b5-1(c).

(b) Counterparty will not seek to control or influence Seller's decision to make any "purchases or sales" (within the meaning of Rule 10b5-1(c)(1)(i)(B)(3)) under the Transaction entered into under this Confirmation, including, without limitation, Seller's decision to enter into any hedging transactions. Counterparty represents and warrants that it has consulted with its own advisors as to the legal aspects of its adoption and implementation of this Confirmation under Rule 10b5-1.

(c) Counterparty acknowledges and agrees that any amendment, modification, waiver or termination of this Confirmation must be effected in accordance with the requirements for the amendment or termination of a "plan" as defined in Rule 10b5-1(c). Without limiting the generality of the foregoing, any such amendment, modification, waiver or termination shall be made in good faith and not as part of a plan or scheme to evade the prohibitions of Rule 10b-5, and no such amendment, modification or waiver shall be made at any time at which Counterparty or any officer, director, manager or similar person of Counterparty is aware of any material non-public information regarding Counterparty or the Shares.

6. Counterparty Purchases. Counterparty (or any "affiliated purchaser" as defined in Rule 10b-18 under the Exchange Act (" **Rule 10b-18** ")) shall not, without the prior written consent of Seller, directly or indirectly purchase any Shares (including by means of a derivative instrument), listed contracts on the Shares or securities that are convertible into, or exchangeable or exercisable for Shares (including, without limitation, any Rule 10b-18 purchases of blocks (as defined in Rule 10b-18)) during any Relevant Period or, if applicable, the Share Termination Valuation Period or the Settlement Valuation Period, except through Seller. Notwithstanding the foregoing, Seller agrees that, commencing on the one month anniversary of the Effective Date and concluding on the final day of the Relevant Period or, if applicable, the Share Termination Valuation Period or the Settlement Valuation Period, Counterparty may, on each Exchange Business Day, purchase through Seller or its affiliate, the greater of (i) 20,000 Shares and (ii) a number of Shares equal to 2.5% of such Exchange Business Day's trading volume in the Shares. Counterparty represents and warrants to Seller that neither it nor any "affiliated purchaser" (as defined in Rule 10b-18) has made any purchases of blocks pursuant to the proviso in Rule 10b-18(b)(4) during either (i) the four full calendar weeks immediately preceding the Trade Date or (ii) during the calendar week in which the Trade Date occurs.

7. Special Provisions for Merger Transactions. Notwithstanding anything to the contrary herein or in the Equity Definitions:

(a) Counterparty agrees that it:

(i) will not during the Relevant Period or, if applicable, the Share Termination Valuation Period or the Settlement Valuation Period for any Transaction make, or, to the extent it is in Counterparty's reasonable control, permit to be made, any public announcement (as defined in Rule 165(f) under the Securities Act) of any Merger Transaction or potential Merger Transaction unless such public announcement is made prior to the opening or after the close of the regular trading session on the Exchange for the Shares;

(ii) shall promptly (but in any event prior to the next opening of the regular trading session on the Exchange) notify Seller following any such announcement that such announcement has been made; and

(iii) shall promptly (but in any event prior to the next opening of the regular trading session on the Exchange) provide Seller with written notice specifying (i) Counterparty's average daily Rule 10b-18 Purchases (as defined in Rule 10b-18) during the three full calendar months immediately preceding the announcement date that were not effected through Seller or its affiliates and (ii) the number of Shares purchased pursuant to the proviso in Rule 10b-18(b)(4) under the Exchange Act for the three full calendar months preceding the announcement date. Such written notice shall be deemed to be a certification by Counterparty to Seller that such information is true and correct. In addition, Counterparty shall promptly notify Seller of the earlier to occur of the completion of such transaction and the completion of the vote by

target shareholders. Counterparty acknowledges that any such notice may cause the terms of the Transaction to be adjusted or such Transaction to be terminated; accordingly, Counterparty acknowledges that its delivery of such notice must comply with the standards set forth in Section 5 above.

(b) Upon the public announcement of any Merger Transaction, without prejudice to the provisions in Sections 12.2 or 12.3 of the Equity Definitions relating to the occurrence of a Merger Event or the announcement or occurrence of a Tender Offer or Section 8 below, Seller in its commercially reasonable discretion may (i) make adjustments to the terms of the Transaction, including, without limitation, the Scheduled Termination Date or the Forward Price Adjustment Amount, and/or suspend the Calculation Period, any Share Termination Valuation Period and/or any Settlement Valuation Period as the Calculation Agent reasonably determines appropriate to account for the economic effect on the Transaction of such announcement or (ii) treat the occurrence of such public announcement as an Additional Termination Event with Counterparty as the sole Affected Party and the Transaction hereunder as the Affected Transaction and with the amount under Section 6(e) of the Agreement determined taking into account the fact that the Calculation Period or Settlement Valuation Period, as the case may be, had fewer Scheduled Trading Days than originally anticipated.

“ **Merger Transaction** ” means any merger, acquisition or similar transaction involving a recapitalization as contemplated by Rule 10b-18(a)(13)(iv) under the Exchange Act.

8. Special Provisions for Acquisition Transaction Announcements. (a) Without prejudice to the provisions in Sections 12.2 and 12.3 of the Equity Definitions relating to the occurrence of a Merger Event or the announcement or occurrence of a Tender Offer or Section 7 above, (A) if an Acquisition Transaction Announcement occurs on or after the Trade Date and on or prior to the scheduled First Acceleration Date for the Transaction, then (i) the Calculation Agent shall make adjustments to the terms of this Transaction as the Calculation Agent determines appropriate to account for the economic effect on the Transaction of such Acquisition Transaction Announcement (and, for the avoidance of doubt, in such event the Number of Shares to be Delivered may be reduced below zero); and (ii) the First Acceleration Date shall be the date of such Acquisition Transaction Announcement and (B) if a Friendly Transaction Announcement occurs after the scheduled First Acceleration Date and on or prior to the date that is one Settlement Cycle immediately following the Termination Date for the Transaction (the “ **First Settlement Date** ”), then the Calculation Agent shall make adjustments to the terms of this Transaction as the Calculation Agent determines appropriate to account for the economic effect on the Transaction of such Friendly Transaction Announcement (and, for the avoidance of doubt, in such event the Number of Shares to be Delivered may be reduced below zero). If a Friendly Transaction Announcement occurs after the First Settlement Date for the Transaction or any earlier date of termination or cancellation of the Transaction pursuant to Section 6 of the Agreement or Article 12 of the Equity Definitions, then a second settlement of the Transaction (a “ **Second Settlement** ”) shall occur (notwithstanding such earlier termination or cancellation) with a Number of Shares to be Delivered equal to the lesser of (i) zero and (ii) (x) the Number of Shares to be Delivered reflecting any adjustments determined pursuant to subclause (B) of the first sentence of this paragraph as if such Friendly Transaction Announcement occurred prior to such First Settlement Date minus (y) the Number of Shares to be Delivered previously determined pursuant to Section 1 of this Confirmation (provided that in the case of a Second Settlement occurring after such an early termination or cancellation, a Number of Shares to be Delivered shall not be determined and instead a Forward Cash Settlement Amount will be determined as provided in Annex A). If the Number of Shares to be Delivered for any settlement of any Transaction is a negative number as a result of the application of this Section 8, or if a Second Settlement is to occur pursuant to the immediately preceding sentence, then the terms of the Counterparty Settlement Provisions in Annex A shall apply.

(b) “ **Friendly Transaction Announcement** ” means (i) an Acquisition Transaction Announcement by Counterparty or its board of directors prior to the First Settlement Date or any earlier date of termination or cancellation of the relevant Transaction pursuant to Section 6 of the Agreement or Article 12 of the Equity Definitions (such date, the “ **Actual Termination Date** ”), (ii) (A) an announcement by Counterparty or its board of directors prior to the date three months following the Scheduled Termination Date that an Acquisition Transaction that is the subject of an Acquisition Transaction Announcement occurring prior to the Actual Termination Date has been approved, agreed to, recommended by or otherwise consented to by Counterparty or its board of directors or (B) consummation prior to the date three months following the Scheduled Termination Date of an Acquisition Transaction that is the subject of an Acquisition Transaction Announcement occurring prior to the Actual Termination Date, or (iii) where Counterparty or its board of directors has a legal obligation to make a

recommendation to its shareholders in respect of any such Acquisition Transaction prior to the date three months following the Scheduled Termination Date, the absence of a recommendation that its shareholders reject such transaction.

(c) “**Acquisition Transaction Announcement**” means (i) the announcement of an Acquisition Transaction, (ii) an announcement that Counterparty or any of its subsidiaries has entered into an agreement, a letter of intent or an understanding designed to result in an Acquisition Transaction, (iii) the announcement of the intention to solicit or enter into, or to explore strategic alternatives or other similar undertaking that may include (as stated in such announcement), an Acquisition Transaction, or (iv) any other announcement that in the reasonable judgment of the Calculation Agent is reasonably likely to result in an Acquisition Transaction. For the avoidance of doubt, announcements as used in the definition of Acquisition Transaction Announcement refer to any public announcement whether made by the Issuer or a third party.

(d) “**Acquisition Transaction**” means (i) any Merger Event (for purposes of this definition, the definition of Merger Event shall be read with the references therein to “100%” being replaced by “20%” and references to “50%” being replaced by “75%” and without reference to the clause beginning immediately following the definition of Reverse Merger therein to the end of such definition), Tender Offer (as modified in clause (i) of the *proviso* opposite the caption “Tender Offer” in Section 1 above) or Merger Transaction or any other transaction involving the merger of Counterparty with or into any third party, (ii) the sale or transfer of all or substantially all of the assets of Counterparty, (iii) a recapitalization, reclassification, binding share exchange or other similar transaction with respect to Counterparty, (iv) any acquisition by Counterparty or any of its subsidiaries where the aggregate consideration to be transferred by Counterparty or its subsidiaries at the closing of the transaction exceeds 50% of the market capitalization of Counterparty as calculated immediately prior to such announcement, (v) any lease, exchange, transfer, disposition (including by way of spin-off or distribution) of assets (including any capital stock or other ownership interests in subsidiaries) or other similar event by Counterparty or any of its subsidiaries where the aggregate consideration to be received by Counterparty or its subsidiaries at the closing of the transaction exceeds 20% of the market capitalization of Counterparty as calculated immediately prior to such announcement and (vi) any transaction in which Counterparty or its board of directors has a legal obligation to make a recommendation to its shareholders in respect of such transaction (whether pursuant to Rule 14e-2 under the Exchange Act or otherwise).

9. Acknowledgments. (a) The parties hereto intend for:

(i) the Transaction to be a “securities contract” as defined in Section 741(7) of the Bankruptcy Code and a “forward contract” as defined in Section 101(25) of the Bankruptcy Code, and the parties hereto to be entitled to the protections afforded by, among other Sections, Sections 362(b)(6), 362(b)(27), 362(o), 546(e), 546(j), 555, 556, 560 and 561 of the Bankruptcy Code;

(ii) the Agreement to be a “master netting agreement” as defined in Section 101(38A) of the Bankruptcy Code;

(iii) a party’s right to liquidate, terminate or accelerate the Transaction, net out or offset termination values or payment amounts, and to exercise any other remedies upon the occurrence of any Event of Default or Termination Event under the Agreement with respect to the other party or any Extraordinary Event that results in the termination or cancellation of the Transaction to constitute a “contractual right” (as defined in the Bankruptcy Code); and

(iv) all payments for, under or in connection with the Transaction, all payments for the Shares (including, for the avoidance of doubt, payment of the Prepayment Amount) and the transfer of such Shares to constitute “settlement payments” and “transfers” (as defined in the Bankruptcy Code).

(b) Counterparty acknowledges that:

(i) during the term of the Transaction, Seller and its affiliates may buy or sell Shares or other securities or buy or sell options or futures contracts or enter into swaps or other derivative securities in order to establish, adjust or unwind its hedge position with respect to such Transaction;

(ii) Seller and its affiliates may also be active in the market for the Shares other than in connection with hedging activities in relation to the Transaction;

(iii) Seller shall make its own determination as to whether, when or in what manner any hedging or market activities in Counterparty's securities shall be conducted and shall do so in a manner that it deems appropriate to hedge its price and market risk with respect to the Forward Price and the VWAP Price;

(iv) any market activities of Seller and its affiliates with respect to the Shares may affect the market price and volatility of the Shares, as well as the Forward Price and VWAP Price, each in a manner that may be adverse to Counterparty; and

(v) the Transaction is a derivatives transaction in which it has granted Seller an option; Seller may purchase shares for its own account at an average price that may be greater than, or less than, the price paid by Counterparty under the terms of such Transaction.

10. Amendments to Equity Definitions.

(i) Section 11.2(a) of the Equity Definitions is hereby amended by deleting the words "a diluting or concentrative effect on the theoretical value of the relevant Shares" and replacing them with the words "an economic effect on the Transaction";

(ii) The first sentence of Section 11.2(c) of the Equity Definitions, prior to clause (A) thereof, is hereby amended to read as follows: '(c) If "Calculation Agent Adjustment" is specified as the Method of Adjustment in the related Confirmation of a Share Option Transaction or Share Forward Transaction, then following the announcement or occurrence of any Potential Adjustment Event, the Calculation Agent will determine whether such Potential Adjustment Event has an economic effect on the Transaction and, if so, will (i) make appropriate adjustment(s), if any, to any one or more of: and clause (B) thereof is hereby amended by inserting, after "the Forward Price," "Cap Price," "the Floor Price," and the portion of such sentence immediately preceding clause (ii) thereof is hereby amended by deleting the words "diluting or concentrative" and the words "(provided that no adjustments will be made to account solely for changes in volatility, expected dividends, stock loan rate or liquidity relative to the relevant Shares)" and replacing such latter phrase with the words "(and, for the avoidance of doubt, adjustments may be made to account solely for changes in volatility, stock loan rate or liquidity relative to the relevant Shares)";

(iii) Section 11.2(e)(vii) of the Equity Definitions is hereby amended by deleting the words "a diluting or concentrative effect on the theoretical value of the relevant Shares" and replacing them with the words "an economic effect on the Transaction";

(iv) Section 12.9(b)(iv) of the Equity Definitions is hereby amended by (I) deleting (1) subsection (A) in its entirety, (2) the phrase "or (B)" following subsection (A) and (3) the phrase "in each case" in subsection (B); (II) replacing "will lend" with "lends" in subsection (B); and (III) deleting the phrase "neither the Non-Hedging Party nor the Lending Party lends Shares in the amount of the Hedging Shares or" in the penultimate sentence; and

(v) Section 12.9(b)(v) of the Equity Definitions is hereby amended by (A) adding the word "or" immediately before subsection "(B)" and deleting the comma at the end of subsection (A); and (B)(1) deleting subsection (C) in its entirety, (2) deleting the word "or" immediately preceding subsection (C), (3) replacing in the penultimate sentence the words "either party" with "the Hedging Party" and (4) deleting clause (X) in the final sentence through and including "or (Y)".

11. Credit Support Documents. The parties hereto acknowledge that the Transaction hereunder is not secured by any collateral that would otherwise secure the obligations of Counterparty herein or pursuant to the Agreement.

12. Set-off.

(i) The parties agree to amend Section 6 of the Agreement by deleting Section 6(f) thereto and replacing such section with the following:

“(f) Upon the occurrence of an Event of Default or Termination Event with respect to a party who is the Defaulting Party or the Affected Party (“X”), the other party (“Y”) will have the right (but not be obliged) without prior notice to X or any other person to set-off or apply any obligation of X owed to Y (or any Affiliate of Y) (whether or not matured or contingent and whether or not arising under the Agreement, and regardless of the currency, place of payment or booking office of the obligation) against any obligation of Y (or any Affiliate of Y) owed to X (whether or not matured or contingent and whether or not arising under the Agreement, and regardless of the currency, place of payment or booking office of the obligation). Y will give notice to the other party of any set-off effected under this Section 6(f).

Amounts (or the relevant portion of such amounts) subject to set-off may be converted by Y into the Termination Currency at the rate of exchange at which such party would be able, acting in a reasonable manner and in good faith, to purchase the relevant amount of such currency. If any obligation is unascertained, Y may in good faith estimate that obligation and set-off in respect of the estimate, subject to the relevant party accounting to the other when the obligation is ascertained. Nothing in this Section 6(f) shall be effective to create a charge or other security interest. This Section 6 (f) shall be without prejudice and in addition to any right of set-off, combination of accounts, lien or other right to which any party is at any time otherwise entitled (whether by operation of law, contract or otherwise).”

(ii) Notwithstanding anything to the contrary in the foregoing, Seller agrees not to set off or net amounts due from Counterparty with respect to any Transaction against amounts due from Seller to Counterparty with respect to contracts or instruments that are not Equity Contracts. “**Equity Contract**” means any transaction or instrument that does not convey to Seller rights, or the ability to assert claims, that are senior to the rights and claims of common stockholders in the event of Counterparty’s bankruptcy.

13. Delivery of Shares. Notwithstanding anything to the contrary herein, Seller may, by prior notice to Counterparty, satisfy its obligation to deliver any Shares or other securities on any date due (an “**Original Delivery Date**”) by making separate deliveries of Shares or such securities, as the case may be, at more than one time on or prior to such Original Delivery Date, so long as the aggregate number of Shares and other securities so delivered on or prior to such Original Delivery Date is equal to the number required to be delivered on such Original Delivery Date.

14. Share Termination Alternative. If either party would owe the other party any amount pursuant to Article 12 of the Equity Definitions or Section 6(d)(ii) of the Agreement (a “**Payment Obligation**”), Counterparty shall have the right, in its sole discretion, to satisfy or to require Seller to satisfy, as the case may be, any such Payment Obligation, in whole or in part, by the Share Termination Alternative (as defined below) by giving irrevocable telephonic notice to Seller, confirmed in writing within one Scheduled Trading Day, no later than 9:30 A.M. New York City time on the Early Termination Date or date on which the Transaction is terminated (“**Notice of Share Termination**”); *provided* that if Seller would owe Counterparty the Payment Obligation and Counterparty does not elect to require Seller to satisfy such Payment Obligation by the Share Termination Alternative in whole, Seller shall have the right, in its sole discretion, to elect to satisfy any portion of such Payment Obligation that Counterparty has not so elected by the Share Termination Alternative, notwithstanding Counterparty’s failure to elect or election to the contrary; and *provided further* that (A) Counterparty shall not have the right to so elect (but, for the avoidance of

doubt, Seller shall have the right to so elect) in the event of (i) an Insolvency, a Nationalization, a Merger Event or a Tender Offer, in each case, in which the consideration or proceeds to be paid to holders of Shares consists solely of cash or (ii) an Event of Default in which Counterparty is the Defaulting Party or a Termination Event in which Counterparty is the Affected Party, which Event of Default or Termination Event resulted from an event or events within Counterparty's control and (B) Counterparty may only so elect if Counterparty represents and warrants to Seller in writing on the date it notifies Seller of its election that, as of such date, Counterparty is not aware of any material non-public information concerning Counterparty or the Shares and is so electing in good faith and not as part of a plan or scheme to evade compliance with the federal securities laws. Upon such Notice of Share Termination, the following provisions shall apply on the Scheduled Trading Day immediately following the Early Termination Date or date on which the Transaction is terminated with respect to the Payment Obligation or such portion of the Payment Obligation for which the Share Termination Alternative has been elected (the "**Applicable Portion**"). For the avoidance of doubt, the Calculation Agent shall not include in the Payment Obligation the economic effect of any Extraordinary Dividend so declared to holders of record as of any date occurring prior the Settlement Date or, if the provisions of Annex A apply, the Cash Settlement Payment Date.

Share Termination Alternative:	Applicable and means, if delivery pursuant to the Share Termination Alternative is owed by Seller, that Seller shall deliver to Counterparty the Share Termination Delivery Property on the date on which the Payment Obligation would otherwise be due pursuant to Article 12 of the Equity Definitions or Section 6(d)(ii) of the Agreement, as applicable, or such later date as the Seller may reasonably determine (the " Share Termination Payment Date "), in satisfaction of the Payment Obligation or the Applicable Portion, as the case may be. If delivery pursuant to the Share Termination Alternative is owed by Counterparty, paragraphs 2 through 7 of Annex A shall apply as if such delivery were a settlement of the Transaction to which Net Share Settlement (as defined in Annex A) applied, the Cash Settlement Payment Date were the Early Termination Date, the Forward Cash Settlement Amount were zero (0) <i>minus</i> the Payment Obligation (or the Applicable Portion, as the case may be) owed by Counterparty, and "Shares" as used in Annex A were replaced by "Share Termination Delivery Units."
Share Termination Delivery Property:	A number of Share Termination Delivery Units, as calculated by the Calculation Agent, equal to the Payment Obligation (or the Applicable Portion, as the case may be) <i>divided by</i> the Share Termination Unit Price. The Calculation Agent shall adjust the Share Termination Delivery Property by replacing any fractional portion of a security therein with an amount of cash equal to the value of such fractional security based on the values used to calculate the Share Termination Unit Price.
Share Termination Unit Price:	Either (x) the value of property contained in one Share Termination Delivery Unit on the date such Share Termination Delivery Units are to be delivered as Share Termination Delivery Property or (y) an appropriately weighted average of the values of such property over a valuation period reasonably selected by Seller in good faith and a commercially reasonable manner following the relevant Early Termination Date or date on which the Transaction is terminated (the " Share Termination Valuation Period "), at Seller's election, in each case such value or average of values to be determined by the Calculation Agent by commercially reasonable means and notified by the Calculation Agent to the parties prior to the Share Termination Payment Date.
Share Termination Delivery Unit:	In the case of a Termination Event, Event of Default, Delisting or Additional Disruption Event, one Share or, in the case of an Insolvency, Nationalization, Merger Event, Announcement Date or Tender Offer, one Share or a unit consisting of the number or amount of each type of property received by a holder of one Share (without consideration of any requirement to pay cash or

other consideration in lieu of fractional amounts of any securities) in such Insolvency, Nationalization, Merger Event or Tender Offer. If such Insolvency, Nationalization, Merger Event or Tender Offer involves a choice of consideration to be received by holders, such holder shall be deemed to have elected to receive the maximum possible amount of cash.

Failure to Deliver:

Applicable

Other applicable provisions:

If Share Termination Alternative is applicable, the provisions of Sections 9.8, 9.9, 9.10, 9.11 (except that the Representation and Agreement contained in Section 9.11 of the Equity Definitions shall be modified by excluding any representations therein relating to restrictions, obligations, limitations or requirements under applicable securities laws arising as a result of the fact that Counterparty is the issuer of the Shares or any portion of the Share Termination Delivery Units) and 9.12 of the Equity Definitions will be applicable as if "Physical Settlement" applied to the Transaction, except that all references to "Shares" shall be read as references to "Share Termination Delivery Units".

15. Calculations and Payment Date upon Early Termination. The parties acknowledge and agree that in calculating a Close-out Amount pursuant to Section 6 of the Agreement Seller may (but need not) in good faith and using commercially reasonable discretion determine losses (or gains) without reference to actual losses (or gains) incurred but based on expected losses (or gains) assuming a commercially reasonable (including without limitation with regard to reasonable legal and regulatory guidelines) risk bid were used to determine loss (or gain) to avoid awaiting the delay associated with closing out any hedge or related trading position in a commercially reasonable manner prior to or sooner following the designation of an Early Termination Date. Notwithstanding anything to the contrary in Section 6(d)(ii) of the Agreement, all amounts calculated as being due in respect of an Early Termination Date under Section 6(e) of the Agreement will be payable on the day that notice of the amount payable is effective; *provided* that if Counterparty elects to receive Shares or Share Termination Delivery Units in accordance with Section 14, such Shares or Share Termination Delivery Units shall be delivered on a date selected by Seller as promptly as practicable.

16. Additional Termination Provisions. Notwithstanding anything to the contrary in Section 6 of the Agreement, an Additional Termination Event will occur (with Counterparty as the sole Affected Party and the Transaction to which this Confirmation relates as the sole Affected Transaction) if the closing price of the Shares on the Exchange for any two consecutive Exchange Business Days during the period from, but excluding, the Trade Date to, and including, the First Acceleration Date is below the Termination Price (as set forth in Annex B), and in such case Deutsche may, by not more than 20 days notice to Counterparty and notwithstanding any subsequent closing price of the Shares on the Exchange, designate a day not earlier than the day such notice is effective as the "Early Termination Date" for purposes of the Agreement.

17. Early Unwind. In the event the sale of Convertible Notes is not consummated with the initial purchaser thereof for any reason by the close of business in New York on October 17, 2011 (the "**Early Unwind Date**"), the Transaction shall, unless otherwise agreed by the parties, automatically terminate (the "**Early Unwind**") on the Early Unwind Date and (a) the Transaction and all of the respective rights and obligations of Seller and Counterparty under the Transaction shall be cancelled and terminated and (b) each party shall be released and discharged by the other party from and agrees not to make any claim against the other party with respect to any obligations or liabilities of the other party arising out of and to be performed in connection with the Transaction either prior to, on or after the Early Unwind Date; *provided* that, other than in cases involving a breach by Deutsche or an affiliate thereof of the Purchase Agreement, dated as of October 11, 2011, between Counterparty and Deutsche Bank Securities Inc. as representative of the initial purchaser party to such agreement, Counterparty shall pay to Seller an amount in cash equal to the aggregate amount of losses, costs and expenses relating to the unwinding of the derivatives and other hedging activities of Seller or its affiliates in respect of the Transaction (including market losses incurred in disposing of any Shares purchased by Seller or its affiliates in connection with such hedging activities). The amount payable by Counterparty shall be Seller's (or its affiliates) actual unwind cost of such derivatives and other hedging activities as Seller notifies Counterparty in writing, together with reasonable detail as to Seller's calculation of such costs (such amount, "**Seller's Unwind Costs**"), and shall be paid in immediately

available funds on the Early Unwind Date. In lieu of delivering cash to the Seller pursuant to the immediately preceding sentence, Counterparty may elect to deliver to Seller a number of Shares with a value, as determined by the Calculation Agent, equal to Seller's Unwind Costs (such Shares, the "**Early Unwind Shares**") and, in which event, the parties shall enter into customary and commercially reasonable documentation relating to the registered or exempt resale of such Shares. Seller and Counterparty represent and acknowledge to the other that, subject to the proviso included in the preceding sentence, upon an Early Unwind, all obligations with respect to the Transaction shall be deemed fully and finally discharged.

18. Delivery of Cash. For the avoidance of doubt, nothing in this Confirmation shall be interpreted as requiring Counterparty to deliver cash in respect of the settlement of the Transactions contemplated by this Confirmation following payment by Counterparty of the relevant Prepayment Amount, except in circumstances where the required cash settlement thereof is permitted for classification of the contract as equity by ASC Topic 815-40, Derivatives and Hedging — Contracts in Entity's Own Equity as in effect on the relevant Trade Date (including, without limitation, where Counterparty so elects to deliver cash or fails timely to elect to deliver Shares or Share Termination Delivery Units in respect of the settlement of such Transactions).

19. Claim in Bankruptcy. Seller acknowledges and agrees that this Confirmation is not intended to convey to it rights with respect to the Transaction that are senior to the claims of common stockholders in the event of Counterparty's bankruptcy.

20. Governing Law. The Agreement, this Confirmation and all matters arising in connection with the Agreement and this Confirmation shall be governed by, and construed and enforced in accordance with, the laws of the State of New York (without reference to its choice of laws doctrine other than Title 14 of Article 5 of the New York General Obligations Law). **THE PARTIES HERETO IRREVOCABLY SUBMIT TO THE EXCLUSIVE JURISDICTION OF THE COURTS OF THE STATE OF NEW YORK AND THE UNITED STATES COURT FOR THE SOUTHERN DISTRICT OF NEW YORK IN CONNECTION WITH ALL MATTERS RELATING HERETO AND WAIVE ANY OBJECTION TO THE LAYING OF VENUE IN, AND ANY CLAIM OF INCONVENIENT FORUM WITH RESPECT TO, THESE COURTS.**

19. Waiver of Trial by Jury. **EACH OF THE PARTIES HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO A TRIAL BY JURY WITH RESPECT TO ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS CONFIRMATION, THE AGREEMENT OR THE TRANSACTION.**

20. Offices.

(a) The Office of Seller is London.

(b) The Office of Counterparty is Silver Spring, Maryland.

21. Method of Delivery. Whenever delivery of funds or other assets is required hereunder by or to Counterparty, such delivery shall be effected through DBSI. In addition, all notices, demands and communications of any kind relating to any Transaction between Deutsche and Counterparty shall be transmitted exclusively through DBSI.

22. Matters Related to Agent. Each party agrees and acknowledges that (i) Agent acts solely as agent on a disclosed basis with respect to the Transaction, and (ii) Agent has no obligation, by guaranty, endorsement or otherwise, with respect to the obligations of either Counterparty or Deutsche hereunder, either with respect to the delivery of cash or Shares, either at the beginning or the end of the Transaction. In this regard, each of Counterparty and Deutsche acknowledges and agrees to look solely to the other for performance hereunder, and not to Agent.

This Confirmation may be executed in several counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

Counterparty hereby agrees to check this Confirmation and to confirm that the foregoing correctly sets forth the terms of the Transaction by signing in the space provided below and returning to Deutsche a facsimile of the fully-executed Confirmation to Deutsche at 44 113 336 2009. Originals shall be provided for your execution upon your request.

We are very pleased to have executed the Transaction with you and we look forward to completing other transactions with you in the near future.

Very truly yours,

DEUTSCHE BANK AG, LONDON BRANCH

By: /s/ Michael Sanderson
Name: Michael Sanderson
Title: Managing Director

By: /s/ Lars Kestner
Name: Lars Kestner
Title: Managing Director

DEUTSCHE BANK SECURITIES INC.,
acting solely as Agent in connection with this Transaction

By: /s/ Michael Sanderson
Name: Michael Sanderson
Title: Managing Director

By: /s/ Lars Kestner
Name: Lars Kestner
Title: Managing Director

Counterparty hereby agrees to, accepts and confirms the terms of the foregoing as of the Trade Date.

UNITED THERAPEUTICS CORPORATION

By: /s/ John Ferrari
Name: John Ferrari
Title: CFO

[Signature Page to Collared ASR]

ANNEX A

COUNTERPARTY SETTLEMENT PROVISIONS

1. The following Counterparty Settlement Provisions shall apply to the extent indicated under the Confirmation:

Settlement Currency:	USD
Settlement Method Election:	Applicable; <i>provided</i> that (i) Section 7.1 of the Equity Definitions is hereby amended by deleting the word “Physical” in the sixth line thereof and replacing it with the words “Net Share” and (ii) the Electing Party may make a settlement method election only if the Electing Party represents and warrants to Seller in writing on the date it notifies Seller of its election that, as of such date, the Electing Party is not aware of any material non-public information concerning Counterparty or the Shares and is electing the settlement method in good faith and not as part of a plan or scheme to evade compliance with the federal securities laws.
Electing Party:	Counterparty
Settlement Method Election Date:	The earlier of (i) the Scheduled Termination Date and (ii) the second Exchange Business Day immediately following the Accelerated Termination Date (in which case the election under Section 7.1 of the Equity Definitions shall be made no later than 10 minutes prior to the open of trading on the Exchange on such second Exchange Business Day), as the case may be; <i>provided</i> that if a Friendly Transaction Announcement occurs after the First Settlement Date, the Settlement Method Election Date for the Second Settlement shall be the date of the Friendly Transaction Announcement.
Default Settlement Method:	Cash Settlement
Forward Cash Settlement Amount:	The Number of Shares to be Delivered <i>multiplied by</i> the Settlement Price; <i>provided</i> that in the case of a Second Settlement occurring after an early termination or cancellation of the Transaction pursuant to Section 6 of the Agreement or Article 12 of the Equity Definitions, the Forward Cash Settlement Amount shall equal the <i>lesser of</i> (i) zero and (ii)(x) the Payment Obligation that would have been calculated for such early termination or cancellation if the adjustments by the Calculation Agent to account for the economic effect on the Transaction had been given effect prior to such early termination or cancellation <i>minus</i> (y) the actual Payment Obligation calculated for such early termination or cancellation.
Settlement Price:	The average of the VWAP Prices (or, in the case of a Second Settlement, the Relevant Prices) for the Exchange Business Days in the Settlement Valuation Period, subject to Valuation Disruption as specified in the Confirmation or, in the case of a

Second Settlement, subject to Section 6.6(a) of the Equity Definitions as if such dates were Valuation Dates.

Settlement Valuation Period:	A number of Scheduled Trading Days selected by Seller in its reasonable discretion, beginning on the Scheduled Trading Day immediately following the earlier of (i) the Scheduled Termination Date or (ii) the Exchange Business Day immediately following the Termination Date or, in the case of a Second Settlement, the date of the Friendly Transaction Announcement.
Cash Settlement:	If Cash Settlement is applicable, then Buyer shall pay to Seller the absolute value of the Forward Cash Settlement Amount on the Cash Settlement Payment Date.
Cash Settlement Payment Date:	The date one Settlement Cycle following the last day of the Settlement Valuation Period.
Net Share Settlement Procedures:	If Net Share Settlement is applicable, Net Share Settlement shall be made in accordance with paragraphs 2 through 7 below.

2. Net Share Settlement shall be made by delivery on the Cash Settlement Payment Date of a number of Shares satisfying the conditions set forth in paragraph 3 below (the “**Registered Settlement Shares**”), or a number of Shares not satisfying such conditions (the “**Unregistered Settlement Shares**”), in either case with a value equal to the absolute value of the Forward Cash Settlement Amount, with such Shares’ value based on the value thereof to Seller (which value shall, in the case of Unregistered Settlement Shares, take into account a commercially reasonable illiquidity discount), in each case as determined by the Calculation Agent.

3. Counterparty may only deliver Registered Settlement Shares pursuant to paragraph 2 above if:

(a) a registration statement covering public resale of the Registered Settlement Shares by Seller (the “**Registration Statement**”) shall have been filed with the Securities and Exchange Commission under the Securities Act and been declared or otherwise become effective on or prior to the date of delivery, and no stop order shall be in effect with respect to the Registration Statement; a printed prospectus relating to the Registered Settlement Shares (including any prospectus supplement thereto, the “**Prospectus**”) shall have been delivered to Seller, in such quantities as Seller shall reasonably have requested, on or prior to the date of delivery;

(b) the form and content of the Registration Statement and the Prospectus (including, without limitation, any sections describing the plan of distribution) shall be satisfactory to Seller;

(c) as of or prior to the date of delivery, Seller and its agents shall have been afforded a reasonable opportunity to conduct a due diligence investigation with respect to Counterparty customary in scope for underwritten offerings of equity securities of similar size and by similar companies and the results of such investigation are satisfactory to Seller, in its discretion; and

(d) as of the date of delivery, an agreement (the “**Underwriting Agreement**”) shall have been entered into with Seller in connection with the public resale of the Registered Settlement Shares by Seller substantially similar to underwriting agreements customary for underwritten offerings of equity securities of similar size and by similar companies, in form and substance reasonably satisfactory to Seller, which Underwriting

Agreement shall include, without limitation, provisions substantially similar to those contained in such underwriting agreements relating, without limitation, to the indemnification of, and contribution in connection with the liability of, Seller and its affiliates and the provision of customary opinions, accountants' comfort letters and lawyers' negative assurance letters.

4. If Counterparty delivers Unregistered Settlement Shares pursuant to paragraph 2 above:

(a) all Unregistered Settlement Shares shall be delivered to Seller (or any affiliate of Seller designated by Seller) pursuant to the exemption from the registration requirements of the Securities Act provided by Section 4(2) thereof;

(b) as of or prior to the date of delivery, Seller and any potential purchaser of any such shares from Seller (or any affiliate of Seller designated by Seller) identified by Seller shall be afforded a commercially reasonable opportunity to conduct a due diligence investigation with respect to Counterparty customary in scope for private placements of equity securities of similar size (including, without limitation, the right to have made available to them for inspection all financial and other records, pertinent corporate documents and other information reasonably requested by them);

(c) as of the date of delivery, Counterparty shall enter into an agreement (a "**Private Placement Agreement**") with Seller (or any affiliate of Seller designated by Seller) in connection with the private placement of such shares by Counterparty to Seller (or any such affiliate) and the private resale of such shares by Seller (or any such affiliate), substantially similar to private placement purchase agreements customary for private placements of equity securities of similar size by similar companies, in form and substance commercially reasonably satisfactory to Seller, which Private Placement Agreement shall include, without limitation, provisions substantially similar to those contained in such private placement purchase agreements relating, without limitation, to the indemnification of, and contribution in connection with the liability of, Seller and its affiliates and the provision of customary opinions, accountants' comfort letters and lawyers' negative assurance letters, and shall provide for the payment by Counterparty of all reasonable fees and expenses of Seller (or an affiliate thereof) in connection with such resale, including all reasonable fees and expenses of counsel for Seller, and shall contain representations, warranties, covenants and agreements of Counterparty reasonably necessary or advisable to establish and maintain the availability of an exemption from the registration requirements of the Securities Act for such resales; and

(d) in connection with the private placement of such shares by Counterparty to Seller (or any such affiliate) and the private resale of such shares by Seller (or any such affiliate), Counterparty shall, if so requested by Seller, prepare, in cooperation with Seller, a private placement memorandum in form and substance reasonably satisfactory to Seller.

5. Seller, itself or through an affiliate (the "**Selling Agent**") or any underwriter(s), will sell all, or such lesser portion as may be required hereunder, of the Registered Settlement Shares or Unregistered Settlement Shares and any Makewhole Shares (as defined below) (together, the "**Settlement Shares**") delivered by Counterparty to Seller pursuant to paragraph 6 below commencing on the Cash Settlement Payment Date and continuing until the date on which the aggregate Net Proceeds (as such term is defined below) of such sales, as determined by Seller, is equal to the absolute value of the Forward Cash Settlement Amount (such date, the "**Final Resale Date**"). If the proceeds of any sale(s) made by Seller, the Selling Agent or any underwriter(s), net of any fees and commissions (including, without limitation, underwriting or placement fees) customary for similar transactions under the circumstances at the time of the offering, together with carrying charges and expenses incurred in connection with the offer and sale of the Shares (including, but without limitation to, the covering of any over-allotment or short position (syndicate or otherwise)) (the "**Net Proceeds**") exceed the absolute value of the Forward Cash Settlement Amount, Seller will refund, in USD, such excess to Counterparty on the date that is three (3) Currency Business Days following the Final Resale Date, and, if any portion of the Settlement Shares remains unsold, Seller shall return to Counterparty on that date such unsold Shares.

6. If the Calculation Agent determines that the Net Proceeds received from the sale of the Registered Settlement Shares or Unregistered Settlement Shares or any Makewhole Shares, if any, pursuant to this paragraph 6 are less than the absolute value of the Forward Cash Settlement Amount (the amount in USD by which the Net Proceeds are less than the absolute value of the Forward Cash Settlement Amount being the "**Shortfall**") and

the date on which such determination is made, the “ **Deficiency Determination Date** ”), Counterparty shall on the Exchange Business Day next succeeding the Deficiency Determination Date (the “ **Makewhole Notice Date** ”) deliver to Seller, through the Selling Agent, a notice of Counterparty’s election that Counterparty shall either (i) pay an amount in cash equal to the Shortfall on the day that is one (1) Currency Business Day after the Makewhole Notice Date, or (ii) deliver additional Shares. If Counterparty elects to deliver to Seller additional Shares, then Counterparty shall deliver additional Shares in compliance with the terms and conditions of paragraph 3 or paragraph 4 above, as the case may be (the “ **Makewhole Shares** ”), on the first Clearance System Business Day which is also an Exchange Business Day following the Makewhole Notice Date in such number as the Calculation Agent reasonably believes would have a market value on that Exchange Business Day equal to the Shortfall. Such Makewhole Shares shall be sold by Seller in accordance with the provisions above; *provided* that if the sum of the Net Proceeds from the sale of the originally delivered Shares and the Net Proceeds from the sale of any Makewhole Shares is less than the absolute value of the Forward Cash Settlement Amount then Counterparty shall, at its election, either make such cash payment or deliver to Seller further Makewhole Shares until such Shortfall has been reduced to zero.

7. Notwithstanding the foregoing or any provision in this Confirmation, in no event shall the aggregate number of Settlement Shares, Makewhole Shares or Early Unwind Shares be greater than the Reserved Shares *minus* the amount of any Shares actually delivered by Counterparty under any other Transaction(s) under this Confirmation (the result of such calculation, the “ **Capped Number** ”). Counterparty represents and warrants (which shall be deemed to be repeated on each day that the Transaction is outstanding) that the Capped Number is equal to or less than the number of Shares determined according to the following formula:

$$A - B$$

Where A = the number of authorized but unissued shares of the Counterparty that are not reserved for future issuance on the date of the determination of the Capped Number; and

B = the maximum number of Shares required to be delivered to third parties if Counterparty elected Net Share Settlement of all transactions in the Shares (other than the Transaction in the Shares under this Confirmation) with all third parties that are then currently outstanding and unexercised.

“ **Reserved Shares** ” means initially, 9,483,868 Shares.

ANNEX B

The Forward Price Adjustment Amount, Scheduled Termination Date, First Acceleration Date, Cap Price, Floor Price, Initial Shares and Termination Price are set forth below.

Forward Price Adjustment Amount: [***]

Scheduled Termination Date: [***]

First Acceleration Date: [***]

Cap Price: [***]

Floor Price: [***]

Initial Shares: [***]

Termination Price: [***]

United Therapeutics Corporation
Ratio of Earnings to Fixed Charges
(Unaudited)

	Nine Months Ended September 30, 2011	Year Ended December 31,				
		2010	2009	2008	2007	2006
		(\$ in thousands, except for ratio of earnings to fixed charges)				
Earnings:						
Earnings (losses) from continuing operations before income taxes	\$ 239,127	\$ 155,150	\$ 18,620	\$ (84,613)	\$ 3,941	\$ 37,439
Add:						
Loss from equity investee	110	160	141	226	321	491
Fixed charges	16,702	20,089	18,326	17,357	16,855	3,589
Less: capitalized interest	(446)	(103)	(5,154)	(4,757)	(689)	—
Earnings (losses), as adjusted	<u>\$ 255,493</u>	<u>\$ 175,296</u>	<u>\$ 31,933</u>	<u>\$ (71,787)</u>	<u>\$ 20,428</u>	<u>\$ 41,519</u>
Fixed charges:						
Interest expense (1)	\$ 16,256	\$ 19,714	\$ 12,875	\$ 11,439	\$ 14,281	\$ 2,417
Capitalized interest	446	103	5,154	4,757	689	—
Portion of rentals representative of interest factor	—	272	297	1,161	1,885	1,172
Fixed charges	<u>\$ 16,702</u>	<u>\$ 20,089</u>	<u>\$ 18,326</u>	<u>\$ 17,357</u>	<u>\$ 16,855</u>	<u>\$ 3,589</u>
Ratio of earnings to fixed charges	<u>15.30</u>	<u>8.73</u>	<u>1.74</u>	<u>(4.14)</u>	<u>1.21</u>	<u>11.57</u>
Excess of fixed charges over earnings	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 89,144</u>	<u>\$ —</u>	<u>\$ —</u>

(1) Includes amortization of debt discount and issue costs

NOTE: The ratio of earnings to fixed charges should be read in conjunction with the Consolidated Financial Statements and related Notes to the Consolidated Financial Statements and Management's Discussion and Analysis of Financial Condition and Results of Operations contained in our Annual Report on Form 10-K for the year ended December 31, 2010, and this Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2011.

**CERTIFICATION PURSUANT TO RULE 13a-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934**

I, Martine A. Rothblatt, certify that:

1. I have reviewed this quarterly report on Form 10-Q of United Therapeutics Corporation;
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(s) 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(s) 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.

Date: October 27, 2011

/s/ MARTINE A. ROTHBLATT

By: Martine A. Rothblatt, Ph.D.

Title: *Chairman and Chief Executive Officer*

**CERTIFICATION PURSUANT TO RULE 13a-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934**

I, John M. Ferrari, certify that:

1. I have reviewed this quarterly report on Form 10-Q of United Therapeutics Corporation;
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(s) 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(s) 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.

Date: October 27, 2011

/s/ JOHN M. FERRARI

By: John M. Ferrari

Title: *Chief Financial Officer and Treasurer*

**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 of United Therapeutics Corporation (the "Company") Form 10-Q for the period ended September 30, 2011 as filed with the Securities and Exchange Commission (the "Report"), I, Martine A. Rothblatt, Chief Executive Officer of the Company, certify, to the best of my knowledge, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 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.

October 27, 2011

/s/ MARTINE A. ROTHBLATT

Martine A. Rothblatt, Ph.D.

Chairman and Chief Executive Officer

United Therapeutics Corporation

THE FOREGOING CERTIFICATION IS BEING FURNISHED SOLELY PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002 AND IS NOT BEING FILED AS PART OF THE FORM 10-Q OR AS A SEPARATE DISCLOSURE DOCUMENT.

A SIGNED ORIGINAL OF THIS WRITTEN STATEMENT REQUIRED BY SECTION 906, OR OTHER DOCUMENT AUTHENTICATING, ACKNOWLEDGING, OR OTHERWISE ADOPTING THE SIGNATURE THAT APPEARS IN TYPED FORM WITHIN THE ELECTRONIC VERSION OF THIS WRITTEN STATEMENT REQUIRED BY SECTION 906, HAS BEEN PROVIDED TO UNITED THERAPEUTICS CORPORATION AND WILL BE RETAINED BY UNITED THERAPEUTICS CORPORATION AND FURNISHED TO THE SECURITIES AND EXCHANGE COMMISSION OR ITS STAFF UPON REQUEST.

**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 of United Therapeutics Corporation (the "Company") on Form 10-Q for the period ended September 30, 2011 as filed with the Securities and Exchange Commission (the "Report"), I, John M. Ferrari, Chief Financial Officer of the Company, certify, to the best of my knowledge, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 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.

October 27, 2011

/s/ JOHN M. FERRARI

John M. Ferrari
Chief Financial Officer and Treasurer
United Therapeutics Corporation

THE FOREGOING CERTIFICATION IS BEING FURNISHED SOLELY PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002 AND IS NOT BEING FILED AS PART OF THE FORM 10-Q OR AS A SEPARATE DISCLOSURE DOCUMENT.

A SIGNED ORIGINAL OF THIS WRITTEN STATEMENT REQUIRED BY SECTION 906, OR OTHER DOCUMENT AUTHENTICATING, ACKNOWLEDGING, OR OTHERWISE ADOPTING THE SIGNATURE THAT APPEARS IN TYPED FORM WITHIN THE ELECTRONIC VERSION OF THIS WRITTEN STATEMENT REQUIRED BY SECTION 906, HAS BEEN PROVIDED TO UNITED THERAPEUTICS CORPORATION AND WILL BE RETAINED BY UNITED THERAPEUTICS CORPORATION AND FURNISHED TO THE SECURITIES AND EXCHANGE COMMISSION OR ITS STAFF UPON REQUEST.
