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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, DC 20549

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**FORM 10-Q**

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(Mark One)

**QUARTERLY REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended December 31, 2007.

**TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission file number 000-21898

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**ARROWHEAD RESEARCH CORPORATION**

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State of incorporation)

**46-0408024**  
(I.R.S. Employer Identification No.)

**201 S. Lake Avenue, Suite 703  
Pasadena, California 91101  
(626) 304-3400**  
(Address and telephone number of principal executive offices)

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Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act 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 is a large accelerated filer, an accelerated filer a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Checked one):

Large accelerated	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>

(Do not check if a 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 classes of common equity, as of the latest practicable date is 38,715,777 shares of common stock as of February 5, 2008.

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**Arrowhead Research Corporation and Subsidiaries**  
**(A Development Stage Company)**  
**Consolidated Balance Sheets**  
**(unaudited)**

	(unaudited) December 31, 2007	September 30, 2007
<b>ASSETS</b>		
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	\$ 25,424,317	\$ 24,120,097
Trade receivable, net of allowance for doubtful account of \$46,031	270,546	273,864
Grant receivable, net of allowance for doubtful account of \$0	130,445	—
Other receivables	2,200	2,200
Prepaid sponsored research, <i>Note 7</i> .	85,130	221,053
Other prepaid research	—	278,558
Other prepaid expenses	295,477	409,656
TOTAL CURRENT ASSETS	<u>26,208,115</u>	<u>25,305,428</u>
<b>PROPERTY AND EQUIPMENT</b>		
Computers, office equipment and furniture	626,339	614,213
Research equipment	2,101,874	1,977,882
Software	133,266	107,128
Leasehold improvements	421,732	416,234
	<u>3,283,211</u>	<u>3,115,457</u>
Less: Accumulated depreciation and amortization	(1,857,186)	(1,675,998)
NET PROPERTY AND EQUIPMENT	<u>1,426,025</u>	<u>1,439,459</u>
<b>INTANGIBLE AND OTHER ASSETS</b>		
Rent deposit	195,072	169,552
Patents, <i>Note 1</i> .	2,834,522	2,938,513
TOTAL OTHER ASSETS	<u>3,029,594</u>	<u>3,108,065</u>
TOTAL ASSETS	<u><b>\$ 30,663,734</b></u>	<u><b>\$ 29,852,952</b></u>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b>CURRENT LIABILITIES</b>		
Accounts payable, <i>Note 1</i> .	\$ 880,943	\$ 1,349,105
Accrued expenses	396,697	545,703
Payroll liabilities	472,755	407,997
Accrued severance	495,000	495,000
Deferred revenue	37,999	98,570
TOTAL CURRENT LIABILITIES	<u>2,283,394</u>	<u>2,896,375</u>
<b>LONG-TERM LIABILITIES</b>		
Accrued severance, <i>Note 7</i> .	500,000	500,000
Minority interests	4,109,567	152,609
Commitment and contingencies, <i>Note 7</i> .		
<b>STOCKHOLDERS' EQUITY, <i>Note 5</i>.</b>		
Common stock	38,728	38,622
Preferred stock	-	—
Additional paid-in capital	87,373,256	84,672,783
Accumulated deficit during the development stage	(63,641,211)	(58,407,437)
TOTAL STOCKHOLDERS' EQUITY	<u>23,770,773</u>	<u>26,303,968</u>
<b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>	<u><b>\$ 30,663,734</b></u>	<u><b>\$ 29,852,952</b></u>

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

**Arrowhead Research Corporation and Subsidiaries**  
**(A Development Stage Company)**  
**Consolidated Statements of Operations**  
**(unaudited)**

	Three Months Ended December 31, 2007	Three Months Ended December 31, 2006	May 7, 2003 (Inception) through December 31, 2007
<b>REVENUE, Note 1</b>	<b>\$ 402,861</b>	<b>\$ 11,092</b>	<b>\$ 2,993,330</b>
COST OF GOODS SOLD	327,206	—	1,051,294
<b>GROSS PROFIT ON SALES</b>	<b>75,655</b>	<b>11,092</b>	<b>1,942,036</b>
<b>OPERATING EXPENSES</b>			
Salaries	2,911,290	1,725,307	23,291,433
Consulting	583,032	228,405	4,227,336
General and administrative expenses	1,697,776	939,295	14,843,169
Research and development	1,664,689	1,487,734	36,182,940
Patent amortization	103,991	103,991	1,092,954
<b>TOTAL OPERATING EXPENSES</b>	<b>6,960,778</b>	<b>4,484,732</b>	<b>79,637,832</b>
<b>OPERATING LOSS</b>	<b>(6,885,123)</b>	<b>(4,473,640)</b>	<b>(77,695,796)</b>
<b>OTHER INCOME (EXPENSES)</b>			
Gain on sale of stock in subsidiary	—	—	2,292,800
Realized and unrealized gain (loss) in marketable securities	—	—	382,264
Interest income	315,373	313,217	2,615,426
Other income	—	—	3,637
<b>TOTAL OTHER INCOME (EXPENSES)</b>	<b>315,373</b>	<b>313,217</b>	<b>5,294,127</b>
<b>LOSS BEFORE MINORITY INTERESTS</b>	<b>(6,569,750)</b>	<b>(4,160,423)</b>	<b>(72,401,669)</b>
Minority interests	1,335,976	453,253	10,178,360
<b>LOSS FROM CONTINUING OPERATIONS</b>	<b>(5,233,774)</b>	<b>(3,707,170)</b>	<b>(62,223,309)</b>
Loss from operation of discontinued Nanotechnica, Inc.	—	—	(1,342,505)
Loss on disposal of Nanotechnica, Inc. (July 2005—September 2005)	—	—	(73,797)
Provision for income taxes	—	—	(1,600)
<b>NET INCOME (LOSS)</b>	<b>\$ (5,233,774)</b>	<b>\$ (3,707,170)</b>	<b>\$ (63,641,211)</b>
Income (loss) from continuing operations per share, diluted and undiluted	\$ (0.14)	\$ (0.11)	
Net income (loss) per share, diluted and undiluted	\$ (0.14)	\$ (0.11)	
Weighted average shares outstanding, diluted and undiluted	38,626,023	34,181,399	

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

**Arrowhead Research Corporation and Subsidiaries**  
**(A Development Stage Company)**  
**Consolidated Statement of Stockholders Equity**  
**from inception through December 31, 2007**  
**(unaudited)**

	Common Stock		Additional Paid-in- Capital	Accumulated Deficit during the Development Stage	Totals
	Shares	Amount			
<b>Initial Issuance of Stock:</b>					
Common stock & warrants issued for cash @ \$0.001 per unit	3,000,000	\$ 3,000	\$ —	\$ —	\$ 3,000
Common stock & warrants issued for cash @ \$1.00 per unit	1,680,000	1,680	1,678,320	—	1,680,000
Stock issuance cost charged to additional paid-in capital	—	—	(168,000)	—	(168,000)
Net loss for period from inception to September 30, 2003	—	—	—	(95,238)	(95,238)
<b>Balance at September 30, 2003</b>	<b>4,680,000</b>	<b>4,680</b>	<b>1,510,320</b>	<b>(95,238)</b>	<b>1,419,762</b>
Exercise of stock options @ \$0.20 per share	75,000	75	14,925	—	15,000
Common stock & warrants issued for cash @ \$1.00 per unit	475,000	475	474,525	—	475,000
Common stock & warrants issued for marketable securities @ \$1.00 per unit	500,000	500	499,500	—	500,000
Stock issuance cost charged to additional paid-in capital	—	—	(96,500)	—	(96,500)
Common stock and warrants issued for cash @ \$1.50 per unit	6,608,788	6,609	9,906,573	—	9,913,182
Common stock issued in reverse acquisition	705,529	706	(151,175)	—	(150,469)
Common stock issued as a gift for \$1.09 per share	150,000	163	162,587	—	162,750
Common stock and warrants issued as stock issuance cost @ \$1.50 per unit	356,229	356	533,988	—	534,344
Stock issuance cost charged to additional paid-in capital	—	—	(991,318)	—	(991,318)
Exercise of stock option @ \$0.20 per share	75,000	75	14,925	—	15,000
Exercise of stock options @ \$1.00 per share	6,000	6	5,994	—	6,000
Stock-based compensation	—	—	175,653	—	175,653
Net loss for the year ended September 30 ,2004	—	—	—	(2,528,954)	(2,528,954)
<b>Balance at September 30, 2004</b>	<b>13,631,546</b>	<b>13,645</b>	<b>12,059,997</b>	<b>(2,624,192)</b>	<b>9,449,450</b>
Exercise of warrants @ \$1.50 per share	13,812,888	13,813	20,705,522	—	20,719,335
Exercise of stock options @ \$1.00 per share	25,000	25	24,975	—	25,000
Purchase of Insert Therapeutics shares @ \$0.28/share	502,260	502	1,999,498	—	2,000,000
Common stock issued for services	12,500	12	49,988	—	50,000
Stock-based compensation	—	—	508,513	—	508,513
Change in percentage of ownership in subsidiary	—	—	230,087	—	230,087
Net loss for the year ended September 30 ,2005	—	—	—	(6,854,918)	(6,854,918)
<b>Balance at September 30, 2005</b>	<b>27,984,194</b>	<b>27,997</b>	<b>35,578,580</b>	<b>(9,479,110)</b>	<b>26,127,467</b>
Exercise of stock options	115,794	116	341,421	—	341,537
Common stock issued @ \$4.88 per share	204,854	205	999,795	—	1,000,000
Common stock issued @ \$3.84 per share to Dr. M. Moskovits as payment for application of patents	15,000	15	57,585	—	57,600
Common stock issued @ \$3.50 per share	5,590,000	5,590	19,539,410	—	19,545,000
Common stock issued to Caltech as payment for legal fees	25,364	25	149,975	—	150,000
Purchase of Calando Pharmaceuticals, Inc. @ \$5.17/share	208,382	208	1,077,125	—	1,077,333
Stock-based compensation	—	—	1,270,339	—	1,270,339
Accelerated stock options	—	—	99,139	—	99,139
Net loss for the year ended September 30, 2006	—	—	—	(18,997,209)	(18,997,209)
<b>Balance at September 30, 2006</b>	<b>34,143,588</b>	<b>34,156</b>	<b>59,113,369</b>	<b>(28,476,319)</b>	<b>30,671,206</b>
Exercise of stock options	186,164	186	434,541	—	434,727
Common stock issued, net	2,849,446	2,849	15,149,366	—	15,152,215
Arrowhead's increase in proportionate share of Insert Therapeutics' equity	—	—	2,401,394	—	2,401,394
Common stock issued for purchase of Carbon Nanotechnologies, Inc.	1,431,222	1,431	5,398,569	—	5,400,000
Stock-based compensation	—	—	2,175,544	—	2,175,544
Net loss for the year ended September 30, 2007	—	—	—	(29,931,118)	(29,931,118)
<b>Balance at September 30, 2007</b>	<b>38,610,420</b>	<b>38,622</b>	<b>84,672,783</b>	<b>(58,407,437)</b>	<b>26,303,968</b>
Exercise of stock options	105,357	106	289,921	—	290,027
Arrowhead's increase in proportionate share of Uniym's equity	—	—	1,720,962	—	1,720,962
Stock-based compensation	—	—	689,590	—	689,590
Net loss for the three months ended December 31, 2007	—	—	—	(5,233,774)	(5,233,774)
<b>Balance at December 31, 2007</b>	<b>38,715,777</b>	<b>\$38,728</b>	<b>\$87,373,256</b>	<b>\$ (63,641,211)</b>	<b>\$ 23,770,773</b>

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

**Arrowhead Research Corporation and Subsidiaries**  
**(A Development Stage Company)**  
**Consolidated Statements of Cash Flows**  
**(unaudited)**

	Quarter ended December 31, 2007	Quarter ended December 31, 2006	Period from May 7, 2003 (Date of inception) through December 31, 2007
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>			
Net Loss	\$ (5,233,774)	\$ (3,707,170)	\$ (63,641,211)
Realized and unrealized (gain) loss on investment	—	—	(382,263)
Stock issued as gift to Caltech	—	—	162,750
Stock issued for professional services	—	—	200,000
Stock issued for in-process research and development	—	—	10,674,338
Stock-based compensation	689,591	480,812	4,918,779
Depreciation and amortization	285,178	230,578	2,894,838
Gain on sale of stock in subsidiary	—	—	(2,292,800)
Minority interests	(1,335,976)	(453,352)	(10,178,360)
Decrease/increase in:			
Receivables	(127,127)	36,997	(403,191)
Prepaid research expense	414,481	62,075	(85,131)
Other prepaid expenses	114,178	116,356	(295,477)
Deposits	(25,520)	48,158	(185,114)
Accounts payable	(468,162)	(454,871)	679,175
Accrued expenses	(149,006)	(423,560)	363,594
Deferred revenue	(60,571)	—	37,999
Preferred stock liability	—	(1,162,000)	—
Other liabilities	64,758	135,538	1,470,444
<b>NET CASH PROVIDED (USED) IN OPERATING ACTIVITIES</b>	<b>(5,831,950)</b>	<b>(5,090,439)</b>	<b>(56,061,630)</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>			
Purchase of marketable securities—US Treasury Bills	—	—	(18,575,915)
Purchase of property and equipment	(167,754)	(115,579)	(2,993,916)
Cash paid for interest in Nanotechnica	—	—	(4,000,000)
Cash paid for interest in Aonex	—	—	(5,000,000)
Cash paid for interest in Insert	—	(5,150,000)	(12,650,000)
Cash paid for interest in Calando	—	—	(8,000,000)
Cash paid for interest in Unidym	(3,000,000)	—	(10,001,000)
Cash paid for interest in Tego	(2,500,000)	—	(2,601,000)
Cash obtained from interest in Nanotechnica	—	—	4,000,000
Cash obtained from interest in Aonex	—	—	5,001,250
Cash obtained from interest in Insert	—	5,150,000	10,529,594
Cash obtained from interest in Calando	—	—	8,000,000
Cash obtained from interest in Unidym	—	—	7,001,000
Cash obtained from interest in Tego	2,500,000	—	2,601,000
Proceeds from sale of marketable securities—US Treasury Bills	—	—	18,888,265
Proceeds from sale of stock in subsidiary	10,013,897	5,136,346	17,575,167
Proceeds from sale of investments	—	—	569,913
Payment for patents	—	—	(303,440)
Restricted cash	—	—	50,773
<b>NET CASH PROVIDED BY INVESTING ACTIVITIES</b>	<b>6,846,143</b>	<b>5,020,767</b>	<b>10,091,691</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>			
Proceeds from issuance of common stock and warrants, net	290,027	316,202	68,894,256
<b>NET CASH PROVIDED BY FINANCING ACTIVITIES</b>	<b>290,027</b>	<b>316,202</b>	<b>68,894,256</b>
<b>NET INCREASE (DECREASE) IN CASH</b>	<b>1,304,220</b>	<b>246,530</b>	<b>22,924,317</b>
<b>CASH AT BEGINNING OF PERIOD</b>	<b>24,120,097</b>	<b>28,020,304</b>	
<b>CASH AT END OF PERIOD</b>	<b>\$ 25,424,317</b>	<b>\$ 28,266,834</b>	<b>\$ 22,924,317</b>
Supplementary disclosures:			
Interest paid	\$ —	\$ —	
Income tax paid	\$ 4,800	\$ 4,000	

**SUPPLEMENTAL NON CASH TRANSACTIONS**

On March 23, 2005, Arrowhead purchased 7,375,000 shares of Insert Therapeutics, Inc. common stock from two minority stockholders of Insert for 502,260 newly issued shares of Arrowhead Common Stock valued at \$2,000,000 based on the closing market price of Arrowhead Common Stock on NASDAQ on the date of the closing.

On March 31, 2006, Arrowhead purchased 964,000 shares of Calando Pharmaceuticals, Inc. common stock from minority stockholders of Calando for \$1,928,000 consisting of 208,382 newly issued shares of Arrowhead Common Stock valued at \$1,077,333 plus \$850,667 in cash. The 208,382 shares of Arrowhead common stock were valued based on the average closing price of Arrowhead's Common Stock on NASDAQ during the last ten days prior to the date of the closing.

On April 20, 2007, Arrowhead purchased the Series E Preferred Stock of Carbon Nanotechnologies, Inc. in exchange for 1,431,222 shares of Arrowhead Common Stock with an estimated fair market value of \$5,400,000.

*The accompanying notes are an integral part of these unaudited consolidated financial statements*

**Arrowhead Research Corporation**  
**Notes to Consolidated Financial Statements**  
**December 31, 2007**

Unless otherwise noted, (1) the term “Arrowhead Research” refers to Arrowhead Research Corporation, a Delaware corporation, (2) the terms “Arrowhead,” the “Company,” “we,” “us” and “our” refer to the ongoing business operations of Arrowhead and its subsidiaries, whether conducted through Arrowhead Research or a subsidiary of the Company, (3) the term “Common Stock” refers to Arrowhead Research’s Common Stock, (4) the term “Warrant” refers to warrants to purchase Company Common Stock, and (5) the term “stockholder(s)” refers to the holders of Common Stock, Warrants and any other security convertible into Common Stock.

**NOTE 1. ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES**

*Nature of Business*

Arrowhead is a development stage nanotechnology company commercializing new technologies in the areas of life sciences, electronics and energy. Arrowhead’s mission is to build value through the identification, development and commercialization of nanotechnology-related products and applications. The Company works closely with universities to source early stage deals and to generate rights to intellectual property covering promising new nanotechnologies. Arrowhead takes a portfolio approach by operating multiple subsidiaries (each a “Subsidiary,” and collectively the “Subsidiaries”) which allows the pursuit of multiple opportunities and diversifies risk. Arrowhead operates five majority-owned Subsidiaries commercializing nanotech products and applications, and has funded a number of prototype development efforts in leading university labs in exchange for the right to license the technology developed in such labs.

Arrowhead owns a majority interest in each of its Subsidiaries, securing substantial participation in any success. Each Subsidiary is staffed with its own technical and business team that focuses on its specific technology and markets while Arrowhead provides financial, strategic and administrative resources. The Company’s five majority-owned Subsidiaries are commercializing a variety of nanotech products and applications, including anti-cancer drugs, RNAi therapeutics, fullerene-based anti-oxidants, carbon-based electronics and compound semiconductor materials. Arrowhead’s business plan includes adding to its portfolio through selective acquisition and formation of new companies.

In exchange for the right to license the resultant technology developed in sponsored laboratories, Arrowhead sponsors university research. Arrowhead has worked with some of the most highly-regarded academic institutions in the country, including the California Institute of Technology (Caltech), Stanford University, Duke University and the University of Florida, in critical areas such as stem cell research, carbon electronics and molecular diagnostics.

Arrowhead is incorporated in Delaware and its principal executive offices are located in Pasadena, California.

From its inception until the acquisition of Carbon Nanotechnologies, Inc. (“CNI”) in April 2007, neither Arrowhead nor its Subsidiaries derived revenue from product sales. Arrowhead and its Subsidiaries fund research and operations from cash on hand, government grants and license royalties. In April 2007, Arrowhead acquired CNI by its merger with and into Arrowhead’s consolidated Subsidiary, Unidym, Inc. (“Unidym,” formerly known as NanoPolaris, Inc.) Unidym manufactures carbon nanotubes for the primary purpose of using them in research and development activities and derives revenues from the sale of carbon nanotubes for research and commercial applications.

*Summary of Significant Accounting Policies*

**Basis of Presentation**— This report on Form 10-Q for the three months ended December 31, 2007, should be read in conjunction with the Company’s Annual Report on Form 10-K for the year ended September 30, 2007, filed with the SEC on December 14, 2007. The accompanying unaudited consolidated financial statements have been prepared in accordance with generally accepted accounting principles for interim financial statements and with the instructions to Form 10-Q and Rule 10-01 of Regulation S-X. Accordingly, they do not include all the information and footnotes required by generally accepted accounting principles for complete financial statements. Certain prior period amounts have been reclassified to conform to the current period’s presentation. In the opinion of management, all normal recurring adjustments considered necessary for a fair presentation have been included. Operating results for the three months ended December 31, 2007 are not necessarily indicative of the results that might be expected for the year ending September 30, 2008.

**Principles of Consolidation**—The consolidated financial statements of the Company include the accounts of Arrowhead and its Subsidiaries Insert Therapeutics, Inc. (“Insert”), Calando Pharmaceuticals, Inc. (“Calando”), Unidym, Tego BioSciences Corporation (“Tego”) and Aonex Technologies, Inc. (“Aonex”). Nanotechnica, Inc. (“Nanotechnica”) is included in the results as Loss from



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Discontinued Operations. All significant intercompany accounts and transactions are eliminated in consolidation, and minority interests are accounted for in the consolidated statements of operations and the balance sheets.

Use of Estimates—The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the accompanying financial statements. Significant estimates made in preparing these financial statements include valuing of the stock of the Subsidiaries, assumptions to calculate the value of stock options, stock-based compensation expense, allowance for doubtful accounts, deferred tax asset valuation allowance, patents, minority-interest Common Stock and useful lives for depreciable and amortizable assets. Actual results could differ from those estimates.

Cash and Cash Equivalents—For purposes relating to the statement of cash flows, the Company considers all liquid debt instruments purchased with a maturity of three months or less to be cash equivalents.

Credit Risk—The Company extends credit to its customers in the normal course of business and generally does not require collateral or other security. The Company performs ongoing credit evaluations of its customers' financial condition and historically has not incurred significant credit losses.

Concentration of Credit Risk—The Company maintains checking accounts for Arrowhead and separate accounts for each Subsidiary at either of two financial institutions. These accounts are insured by the Federal Deposit Insurance Corporation (FDIC) for up to \$100,000. The Company has four wealth management accounts at the same financial institution that invest in higher yield money market accounts and in government securities. At December 31, 2007, the Company had uninsured cash deposits totaling \$25,368,181. The Company has not experienced any losses in such accounts and management believes it has placed its cash on deposit with financial institutions that are financially stable.

Property and Equipment—Property and equipment are recorded at cost. Depreciation of property and equipment is recorded on the straight-line method over the respective useful lives of the assets ranging from 3 to 7 years. Leasehold improvements are amortized over the initial term of the leases.

Intellectual Property—At December 31, 2007, intellectual property consisted of patents and patent applications licensed or purchased in the gross amount of \$570,983. A portion of the consideration paid for Insert has been allocated to the patents held by Insert. The Insert patents, in the gross amount of \$3,301,190, are being amortized over the life of these patents. The accumulated amortization of patents totaled \$1,037,651 at December 31, 2007. Patents are being amortized over 3 years to 20 years unless a patent is determined to have no foreseeable commercial value and is written down to \$1. The weighted average original amortization period is 13 years. The weighted average remaining amortization period is 11 years.

Revenue Recognition—Revenue from product sales is recognized when the related goods are shipped and all significant obligations of the Company have been satisfied. The Company recognizes license fee revenue on a straight-line basis over the term of the license. Development fees, milestone fees, collaboration fees and grant revenues are recognized upon the completion and payment of services or achievement of the mutually agreed milestones.

The Company generated revenues of \$402,860 and \$11,092 for the three months ended December 31, 2007 and 2006, respectively. The revenue for the first three months of fiscal 2008 consists of \$191,015 from grants to fund research for the development of carbon nanotube applications, \$211,845 from the sale and delivery of carbon nanotubes to third parties and \$7,900 for shipping charges. The \$11,902 of revenue in the prior year's three months resulted from a National Institute of Health grant at Calando.

Cost of Goods Sold—The Company includes direct materials, production labor and direct plant production cost (excluding depreciation) in cost of goods sold.

Research and Development—Costs and expenses that can be identified as research and development are charged to expense as incurred in accordance with Financial Accounting Standards Board ("FASB") statement No. 2, "Accounting for Research and Development Costs".

Earnings (Loss) per Share—Basic earnings (loss) per share is computed using the weighted-average number of common shares outstanding during the period. Diluted earnings (loss) per share are computed using the weighted-average number of common shares and dilutive potential common shares outstanding during the period. Dilutive potential common shares primarily consist of stock options issued to employees and consultants and warrants of the Company.

Recently Issued Accounting Standards—Management does not believe that any recently issued, but not yet effective, accounting standards, if currently adopted, would have a material effect on the accompanying financial statements.

**NOTE 2. BASIS OF CONSOLIDATION**

The consolidated financial statements for the three months ended December 31, 2007 and 2006, respectively, include the accounts of Arrowhead and its Subsidiaries Insert, Calando, Unidym, Tego and Aonex. All significant intercompany accounts and transactions are eliminated in consolidation and minority interests were accounted for in the consolidated statements of operations and the balance sheets.

**NOTE 3. ALLOWANCE FOR DOUBTFUL ACCOUNTS**

The Company accrues an allowance for doubtful accounts based on estimates of uncollectible revenues by analyzing historical collections, accounts receivable aging and other factors. Accounts receivable are written off when all collection attempts have failed. The allowance for doubtful accounts applicable to Unidym as of December 31, 2007 was \$46,031.

**NOTE 4. INVESTMENT IN SUBSIDIARIES**

*Insert Therapeutics, Inc.*

On June 4, 2004, Arrowhead purchased 24,496,553 shares of Series B Preferred Stock, representing a 62% controlling interest of Insert, a Subsidiary based in Pasadena, California, for \$1,000,000. Arrowhead also agreed to pay an additional \$4,000,000 in consideration contingent upon the attainment of certain milestones in the development of Insert's business. Since its initial investment of \$1,000,000 on June 4, 2004, Arrowhead has provided \$9,150,000 of additional capital to Insert, including \$4,000,000 of contingent consideration.

On March 23, 2005, Arrowhead purchased 7,375,000 shares of Insert common stock from two minority stockholders of Insert for 502,260 newly issued shares of Arrowhead Common Stock. The additional investment increased Arrowhead's net ownership of Insert by approximately 7%, from approximately 62% to approximately 69% of Insert's outstanding voting securities. The Arrowhead Common Stock issued in the transaction was valued at \$2,000,000 based on the closing market price of Arrowhead Common Stock on the NASDAQ Capital Market on the date of the purchase. The additional consideration paid for the 7,375,000 common shares was allocated among the assets of Insert, primarily patents.

On March 29, 2005, Arrowhead exchanged 4,000,000 shares of the Series B Preferred Stock of Insert for 4,000,000 shares of Series C Preferred Stock of Insert.

On March 31, 2005, Arrowhead sold 2,640,000 shares of its Insert Series C Preferred Stock to qualified investors for \$1.00 per share. Net proceeds of the sale were \$2,424,924. Arrowhead recognized a gain of \$2,292,800 on the sale.

In October 2006, Insert completed a \$10.3 million private placement to qualified investors, including a \$5.15 million follow-on investment by Arrowhead. The private placement sold 10,341,681 units at \$1.00 per unit, each unit consisting of a share of Series C-2 Preferred Stock and 40% warrant coverage to purchase shares of Series D Preferred Stock at an exercise price of \$1.25 per share. The warrants became callable by Insert after July 1, 2007. Arrowhead owned 68.3% of the outstanding voting stock prior to the transaction and 64.5% immediately thereafter.

The \$10.0 million raised by Insert in October 2006 resulted in a change in Arrowhead's proportionate share of Insert's equity value. In accordance with Staff Accounting Bulletins Topic 5.H, Arrowhead's proportionate share of Insert's equity value was recorded in consolidation as an equity transaction, increasing additional paid-in capital by \$2,401,394. On October 27, 2006, Insert repaid Arrowhead \$2,500,000 of working-capital loans and \$42,501 of interest incurred while the loans were outstanding.

Developing new drugs for market is a long process expected to last for years. At the time of Arrowhead's initial purchase of Insert securities in June 2004, Insert was in the process of developing unique intravenous drug delivery technologies for cancer therapeutics. The delivery system enables Insert to develop its own pharmaceutical products and provide customized drug delivery solutions for others. In addition to intravenous use, the delivery system may also be effective for use in tablets, topical ointments and inhalants. At the time of purchase, the primary assets of Insert were 14 patents and/or patent applications filed with the United States Patent and Trademark Office, as well as foreign counterparts in Europe, Japan and other countries. Insert's initial patent was issued in January 2003 for a linear cyclodextrin copolymer drug delivery technology. Two additional US patents have since been issued covering the compositions of matter, methods of use, manufacturing and purification processes and routes of delivery. The initial payment of \$1,000,000, the additional contingent consideration of \$4,000,000 and the purchase of shares from the minority shareholders for \$2,000,000 in March 2005 have been accounted for under Statement of Financial Accounting Standards ("SFAS") 141. In accordance with paragraphs 26 and 27 of SFAS 141, the \$4,000,000 of contingent consideration was accounted for as an additional cost of the acquired entity. The purchase price was allocated to the assets acquired and liabilities assumed based on their estimated fair values. The primary assets acquired are patents, which have alternative use.

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As of December 31, 2007, Arrowhead had loans outstanding to Insert totaling \$1,000,000, payable upon demand. Each loan bears simple interest at 6%. Arrowhead owned 64.2% of the outstanding, voting securities of Insert or 57% on a fully diluted basis as of December 31, 2007.

Please refer to Note 12 *Subsequent Events* for additional detail regarding the potential merger with Insert and Calando.

### *Calando Pharmaceuticals, Inc.*

On February 22, 2005, Arrowhead purchased 4,000,000 shares of common stock in a newly-formed entity, Calando, for \$250,000 cash and entered into a contribution agreement to provide up to \$3,750,000 of additional capital over time. Insert owns 480,000 shares of Calando's common stock. Calando and Insert entered into a license agreement, pursuant to which Calando has exclusive rights to Insert's technology for the delivery and therapeutic use of RNAi in Calando's research, development and business efforts. Arrowhead has provided a total of \$8,000,000 in capital to Calando consisting of the original \$4,000,000 investment, \$3,000,000 paid for Series A Preferred Stock of Calando and \$1,000,000 under the terms of the March 31, 2006 agreement to provide additional capital.

On March 31, 2006, Arrowhead purchased 5,000,000 newly issued shares of Calando's Series A Preferred Stock for \$3,000,000 from Calando and purchased 964,000 shares of common stock for \$2.00 per share from minority stockholders. The \$1,928,000 payment for the purchase of Calando common stock from selling stockholders consisted of \$850,667 in cash and 208,382 shares of Arrowhead Common Stock with an estimated value of \$1,077,333 or \$5.17 per share based on the average closing price of Arrowhead's Common Stock during the last ten trading days immediately preceding the transaction closing.

On March 31, 2006, Arrowhead entered into an agreement with Calando to provide up to \$7,000,000 of additional capital to Calando subject to the attainment of certain milestones in its preclinical testing, clinical testing and related approval processes. Arrowhead had provided \$1,000,000 to Calando pursuant to this agreement. Should Arrowhead elect not to make any additional capital contributions, the conversion ratio of Calando's Series A Preferred Stock to common stock would be adjusted to a conversion ratio from 1 to 1 (Series A Preferred to common stock) to approximately 2.5 to 1.

On August 14, 2006, Arrowhead purchased 240,000 shares of Calando common stock from a minority stockholder for an aggregate purchase price of \$480,000 or \$2.00 per share.

In October 2006, two of Calando's founders exercised warrants for Calando common stock reducing Arrowhead's combined direct and indirect ownership from 85.1% to approximately 69.8% of the outstanding voting securities of Calando, or 63.9% of Calando's outstanding securities on a fully diluted basis.

As of December 31, 2007, Arrowhead had loans outstanding to Calando totaling \$3,000,000, payable on demand. Each loan bears simple interest at 6%. Arrowhead owned 69.8% of the outstanding, voting securities of Calando, or 63.9% on a fully diluted basis as of December 31, 2007.

Please refer to Note 12 *Subsequent Events* for additional detail regarding the potential merger of Insert and Calando.

### *Unidym, Inc. (formerly NanoPolaris, Inc.)*

On April 4, 2005, Arrowhead founded NanoPolaris, Inc. ("NanoPolaris") as a wholly-owned subsidiary of Arrowhead. NanoPolaris was initially capitalized with \$1,000.

On June 13, 2006, NanoPolaris acquired substantially all of the net assets and the name "Unidym" from Unidym's founding scientist. Unidym develops carbon nanotube-based electronics. The net assets acquired included Unidym's intellectual property, prototypes and equipment, for a purchase price consisting of \$25,000 in cash, the assumption of \$75,000 of liabilities and shares of NanoPolaris common stock, with an estimated value of \$154,350. At the time of the purchase, the shares issued for the purchase represented 11.9% (10% on a fully diluted basis) of NanoPolaris' outstanding voting stock. Concurrently with the purchase, Arrowhead agreed to provide up to \$4,000,000 in additional capital contributions over the next two years. In August 2006, NanoPolaris changed its name to Unidym, Inc.

On April 20, 2007, a wholly owned subsidiary of Unidym merged with CNI, a Texas-based company involved in the development, manufacture and marketing of carbon nanotubes (the "Merger"). The combined company operates under the Unidym name, has an expansive portfolio of carbon nanotube-related patents and is one of the largest manufacturers of carbon nanotubes in the world.

In connection with the Merger, Arrowhead agreed to accelerate the \$4,000,000 capital contribution to Unidym and made payment on April 23, 2007. In aggregate consideration for the acceleration of the additional capital to Unidym and the

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transfer from Arrowhead to Unidym of rights and obligations under two sponsored research agreements, Unidym issued 448,000 shares of Unidym common stock to Arrowhead.

Prior to the Merger, certain shareholders of CNI assumed all of CNI's outstanding debt, a total of \$5,400,000, in exchange for 1,080,000 shares of Series E Preferred Stock of CNI. On the date of the Merger, Arrowhead purchased the Series E Preferred Stock in exchange for 1,431,222 shares of Arrowhead Common Stock with an estimated fair market value of \$5,400,000. The CNI Series E Preferred Stock was exchanged in the merger for 2,784,252 shares of newly authorized Unidym Series B Preferred Stock. The 2,889,000 shares of Unidym Series A Preferred Stock owned by Arrowhead were exchanged for 2,889,000 shares of Unidym Series B Preferred Stock.

In exchange for all the outstanding shares of CNI common stock, Unidym issued 5,000,000 shares of newly authorized Unidym Series A Convertible Preferred Stock with an estimated total value of \$4,200,000. The Series A Preferred Stock is convertible into 8,400,482 shares of Unidym common stock under certain conditions. Unidym also assumed CNI's 2007 Restricted Stock Unit Plan subject to which 1,104,010 shares and a warrant for 64,000 shares of Unidym common stock is issuable on the later of March 31, 2008, or an initial public offering by Unidym.

The consolidated statement of operations includes the results of the merged companies since April 21, 2007.

Prior to the Merger, Arrowhead owned 88.1% of the outstanding voting securities of Unidym. Immediately following the Merger, Arrowhead's ownership of the outstanding voting securities was 60.1%. If all options were awarded and exercised, all common stock subject to restricted stock units was issued and all preferred stock was converted, Arrowhead's interest would be 42.1% immediately following the Merger.

In December 2007, Unidym completed a private financing with strategic and financial investors, pursuant to which Unidym issued and sold an aggregate of 5,764,778 shares of its Series C Preferred Stock for \$1.80 per share. The private placement generated net cash proceeds of \$10,013,897, including \$3,000,000 invested by Arrowhead.

Immediately following the private financing, Arrowhead's ownership of the outstanding, voting securities was 51.2%. If at that point in time all options were awarded and exercised, all common stock subject to restricted stock units was issued and all preferred stock was converted, Arrowhead's interest would be 39.2%. The ownership interest remained the same at December 31, 2007.

### *Aonex Technologies, Inc.*

On April 20, 2004, Arrowhead acquired 1,000,000 shares of Series A Preferred stock in a newly-formed entity, Aonex, for \$2,000,000. The 1,000,000 shares of Series A Preferred stock represent 80% of the outstanding voting shares of Aonex. To date, Arrowhead has provided \$3,000,000 of additional capital to Aonex.

After analyzing the existing competition and scale required for success in its core markets, Aonex has opted to seek an established company with which to partner in its future commercialization efforts. This change of strategy will likely limit the return that Arrowhead is able to achieve on its investment in Aonex.

As of December 31, 2007, Arrowhead had loans outstanding to Aonex totaling \$900,000, payable upon demand. Each loan bears simple interest at 6%. As of December 31, 2007, Arrowhead owned 80.0% of the outstanding voting securities of Aonex or 50% on a fully diluted basis.

### *Tego BioSciences Corporation*

On April 20, 2007, Tego, a newly formed, wholly-owned Subsidiary of Arrowhead, acquired the assets of C Sixty, Inc., a Texas-based company developing pharmaceuticals based on the unique biochemical properties of modified fullerenes, for \$1,000. On July 3, 2007, Arrowhead capitalized Tego with a purchase of 5,000,000 shares of Tego Series A Preferred Stock for \$100,000. The Company is evaluating opportunities for Tego's technology.

On October 25, 2007, Arrowhead provided \$2.4 million in additional capital to Tego, in exchange for 15 million shares of Series A-2 Preferred Stock. The \$2.4 million is to be used for developing and commercializing pharmaceuticals based on modified fullerenes. Arrowhead owns 100% of the outstanding voting securities of Tego and 93% of the outstanding voting securities on a fully diluted basis.

**NOTE 5. STOCKHOLDERS' EQUITY**

The Company had a total of 75,000,000 authorized shares at December 31, 2007, consisting of 70,000,000 authorized shares of Common Stock, par value \$0.001, and 5,000,000 shares of authorized Preferred Stock.

At December 31, 2007, 38,715,777 shares of Common Stock were outstanding. At December 31, 2007, 1,611,500 shares and 4,738,310 shares were reserved for issuance upon exercise of options granted under Arrowhead's 2000 Stock Option Plan and 2004 Equity Incentive Plan, respectively. On December 3, 2007, an inducement grant of options to purchase 2,000,000 shares of Common Stock was made outside of Arrowhead's equity incentive plans to the Company's newly hired CEO. Arrowhead's Compensation Committee is negotiating the final terms of this grant to be memorialized in a Stock Option Agreement. Through December 31, 2007, options to purchase 1,611,500 shares were outstanding under the 2000 Stock Option Plan and options to purchase 3,448,092 shares were outstanding under the 2004 Equity Incentive Plan.

On January 24, 2006, the Company completed a private placement of 5,590,000 shares of restricted Common Stock at \$3.50 per share that generated \$19.6 million in total proceeds. The purchasers received warrants, exercisable after July 25, 2006, to purchase an additional 1,397,500 shares of restricted Common Stock at \$5.04 per share. The warrants may be called by the Company any time after July 25, 2006, if the closing price of the Company's Common Stock is \$6.50 or above for the previous 30 trading days.

On May 29, 2007, the Company completed a private placement of 2,849,466 shares of restricted Common Stock at \$5.78 per share that generated \$15.2 million in net proceeds. The purchasers received warrants to purchase an additional 712,362 shares of Common Stock at \$7.06 per share. The warrants may be called by the Company any time after May 29, 2008, if the closing price of the Company's Common Stock is \$8.47 or above for the previous 20 trading days.

The following table summarizes information about warrants outstanding at December 31, 2007:

<u>Exercise prices</u>	<u>Number of Warrants</u>	<u>Weighted Average Remaining Life in Years</u>	<u>Weighted Average Exercise Price</u>
\$ 5.04	1,397,500	8.1	\$ 5.04
\$ 7.06	712,362	9.4	\$ 7.06

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**NOTE 6. LEASES**

The Company leases the following facilities:

	Lab/Office Space	Monthly Rent	Lease Commencement	Lease Term
<b>Arrowhead</b>				
Pasadena(1)	7,388 sq ft	\$ 17,362	March 1, 2006	62 Months
New York	130 sq ft	\$ 3,600	September 1, 2007	12 Months
<b>Aonex</b>	4,000 sq ft	\$ 7,611	July 1, 2004	48 Months
<b>Calando</b>	7,000 sq ft	\$ 12,944	June 1, 2006	18 Months
<b>Insert</b>	4,354 sq ft	\$ 12,173	June 1, 2006	36 Months
<b>Unidym</b>				
Menlo Park, CA	7,000 sq ft	\$ 10,500	February 1, 2007	36 Months
Houston, TX	8,017 sq ft	\$ 13,362		Month to Month
Springfield, MO	1,900 sq ft	\$ 2,533	December 1, 2007	24 Months

- (1) Arrowhead leases corporate office space in Pasadena, which it occupied beginning March 1, 2006. The lease agreement provides Arrowhead with two months free rent which was recorded as a deferred liability and is being amortized over the life of the lease.

The Company has no plans to own any real estate and expects that all facility leases will be operating leases.

At December 31, 2007, the future minimum commitments remaining under leases were as follows:

<u>Twelve months ending September 30</u>	Facilities Leases	Equipment Leases
2008 (9 months)	\$492,318	\$ 7,794
2009	\$521,656	\$ 6,302
2010	\$283,353	\$ 1,421
2011	\$129,290	\$ 0
2012 and thereafter	\$ 0	\$ 0

Facility and equipment rent expense for the three months ended December 31, 2007 and 2006 was \$283,510 and \$187,161 respectively. From inception to date, rent expense has totaled \$2,500,197.

**NOTE 7. COMMITMENTS AND CONTINGENCIES—SUBSIDIARIES AND SPONSORED RESEARCH**

**Subsidiaries**

As of December 31, 2007, Arrowhead held a majority interest of each of the following five operating Subsidiaries:

Subsidiary	% Outstanding Voting Securities <sup>1</sup>	Technology/Product Focus
Insert Therapeutics, Inc. <i>acquired June 4, 2004</i>	64.2%	Nano-engineered drug delivery system in clinical trials with first anti-cancer compound
Calando Pharmaceuticals, Inc. <i>founded February 22, 2005</i>	69.8%	Nano-engineered RNAi therapeutics
Unidym, Inc. (formerly NanoPolaris) <i>founded April 4, 2005</i>	51.2%	Developing strategic opportunities for the commercialization of nanotube-based products
Tego BioSciences Corporation <i>founded April 20, 2007</i>	100.0%	Development of protective products based on the anti-oxidant properties of buckminsterfullerene's
Aonex Technologies, Inc. <i>founded April 20, 2004</i>	80.0%	Semiconductor nanomaterials with initial emphasis on high efficiency solar cells

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- (1) Each Subsidiary has an option plan to help motivate and retain employees. Insert has 4,335,473 outstanding warrants, primarily issued in connection with a financing event that closed in October 2006. As of December 31, 2007, assuming all options in each Subsidiary plan were awarded and exercised and all warrants were exercised, the Company would own approximately 57.0% of Insert, 63.9% of Calando, 39.2% of Unidym, 83% of Tego and 50.0% of Aonex.

Arrowhead has entered into two separate funding agreements to provide future additional capital to Calando. One is fully funded and terminated. The remaining agreement gives Arrowhead the right to provide additional capital to Calando or to forfeit a specified portion of its interest in lieu of additional future funding.

In deciding whether to make an additional capital contribution, the Company looks at such factors as progress toward a milestone, together with what and how the management is doing with their spending plan. Because the Company works closely with the senior management of each Subsidiary, the decision regarding funding milestones is made well in advance of the milestone date or event. Should Calando meet its milestones and the Company decides not to fund further, the Company would still own a majority of the outstanding voting securities of Calando.

The following table summarizes the terms and status of these additional capital contributions:

<u>Subsidiary</u>	<u>Total Capital Assuming all Contributions Made</u>	<u>Future Capital Contributions</u>	<u>Time for Additional Capital Contributions</u>
Calando Pharmaceuticals, Inc.	\$ 14,000,000	\$ 6,000,000	12 months(1)

- (1) Under its Agreement to Provide Additional Capital with Calando, Arrowhead has the right to provide Calando up to \$6,000,000 in additional capital based upon the achievement of certain development milestones. The first milestone payment of \$3,000,000 is projected to be due during the second quarter of fiscal 2008. The last of these milestone payments for \$3,000,000 is projected to be due during the fourth quarter of fiscal 2008.

If the merger of Insert and Calando is approved by the stockholders of Insert and Calando, not including Arrowhead, the Calando Agreement to Provide Additional Capital between Calando and the Company, entered into in March 2006, will be amended and terminated to accelerate the payment of the remaining \$6,000,000 payable thereunder, against receipt of the repayment of the principal and interest on all loans extended by the Company to either Insert or Calando which combined totaled \$4,050,088, including interest of \$50,088, as of December 31, 2007.

### **Sponsored Research**

By funding university research, Arrowhead has the opportunity to ascertain the technical success at low research cost and, if warranted, continue cost effective development at the university by leveraging the already existing resources available to scientists at universities, such as laboratories and equipment and a culture that encourages the exchange of ideas. Moreover, the cultivation of relationships in the academic community provides an additional window into other promising technologies. The Company normally obtains the exclusive license to the technology developed by the research it sponsors. If such technology appears to have commercial applications, the Company can form a majority-owned subsidiary to develop the technology and provide stock in the subsidiary to the scientist and the university, in order to give them an economic interest in the success of the subsidiary. Should the related technology prove to be too difficult or too expensive to commercialize, Arrowhead may terminate the license agreement and return the licensed intellectual property to the university.

Sponsored Research for the three months ended December 31, 2007 and 2006, was \$241,238 and \$313,783, respectively.

### **Sponsored Research Agreement—University of Florida**

The terms of the sponsored research agreement between Arrowhead and the University of Florida (“UF”) are summarized in the following table:

<u>Research Project</u>	<u>Period Covered</u>	<u>Total Estimated Project Cost</u>	<u>Annual Cost</u>	<u>Amount Paid as of December 31, 2007</u>	<u>Prepaid Amt as of December 31, 2007</u>
Development of flexible electronic devices—Thin film transistors (Dr. Andrew Rinzler)	Jul. 1, 2006 - Jun. 30, 2008 (2 years )	\$ 647,533	\$ 323,767	\$ 557,006	\$ 85,130

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In connection with the merger between Unidym and CNI, the rights and obligations under the sponsored research agreement with UF were transferred to Unidym.

### ***Sponsored Research Agreement—Duke University***

The terms of the sponsored research agreement between Arrowhead and Duke University (“Duke”) are summarized in the following table:

<u>Research Project</u>	<u>Period Covered</u>	<u>Total Estimated Project Cost</u>	<u>Annual Cost</u>	<u>Amount Paid as of December 31, 2007</u>	<u>Prepaid Amt as of December 31, 2007</u>
CVD Growth of Well-Aligned Individual Single Walled Carbon Nanotubes (Dr. Jie Liu)	Dec. 1, 2005 - Nov. 30, 2007 (2 years)	\$ 677,651	\$ 338,826	\$ 677,651	\$ 0

In connection with the merger between Unidym and CNI, the rights and obligations under the sponsored research agreement with Duke were transferred to Unidym.

### ***Sponsored Research Agreements—California Institute of Technology***

The terms of the sponsored research agreements between Arrowhead and the California Institute of Technology (“Caltech”) are summarized in the following table:

<u>Research Project</u>	<u>Period Covered</u>	<u>Total Estimated Project Cost</u>	<u>Annual Cost</u>	<u>Amount Paid as of December 31, 2007</u>	<u>Prepaid Amt as of December 31, 2007</u>
Drug Discovery & Diagnostics (Dr. C. Patrick Collier)	Oct. 1, 2003 - Sept. 30, 2008 (5 years)	\$1,393,806	\$ 292,540	\$1,101,266	\$ 0
Gene Regulatory Networks (Dr. Eric H. Davidson)	Jan. 1, 2007 - Dec. 31, 2009 (3 years)	\$ 765,000	\$ 255,000	\$ 254,800	\$ 0

The terms of the agreements call for funding, as indicated above, to subsidize all direct and indirect costs incurred in the performance of the research, not to exceed total estimated project cost. If any of these agreements are extended, the dollar value of costs that will be reimbursed may be modified by mutual agreement to cover additional work performed during the extension. These research agreements are terminable by either party on 60-days written notice with an obligation to satisfy outstanding obligations at the time of cancellation. After fiscal 2007 year end, Arrowhead issued notices to terminate both sponsored research agreements with Caltech. The notices were issued under the terms of the respective sponsored research agreements. Under the terms of the agreements, upon notice of termination, Caltech will not make any further commitments and take reasonable action to terminate existing commitments. The Company is responsible for any outstanding commitments that cannot be canceled. The total estimated settlement of the outstanding obligations is not expected to exceed \$210,000.

In January and July of 2007, Insert made contributions of \$50,000 each to Caltech for laboratory research in the field of synthetic polymers for use primarily in drug delivery applications. Caltech has granted Insert an exclusive license to the patent rights and improvements in the field of synthetic polymers for drug delivery.

### ***Sponsored Research Agreement—Stanford University***

Arrowhead has exclusively licensed intellectual property from Stanford University (“Stanford”) for a nanotech device designed to control the behavior of stem cells. Arrowhead has agreed to fund additional research involving the device at Stanford in exchange for the right to exclusively license and commercialize the technology.



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<u>Research Project</u>	<u>Period Covered</u>	<u>Total Estimated Project Cost</u>	<u>Annual Cost</u>	<u>Amount Paid as of December 31, 2007</u>	<u>Prepaid Amt as of December 31, 2007</u>
Microchip-based Biological Signal Delivery (Dr. Nicholas Melosh)	Jun. 1, 2005 - May 31, 2007 (2 years )	\$ 600,000	\$ 300,000	\$ 600,000	\$ 0

The initial payment was \$110,000. Arrowhead made three quarterly payments of \$70,000 each. As of December 31, 2007, all payments under this agreement had been made and the agreement had been concluded.

### ***Employment Agreements***

On May 24, 2007, the Company entered into a Severance Agreement with each of R. Bruce Stewart, the Company's Chairman and Chief Executive Officer at that time, and Joseph T. Kingsley, the Company's Interim President and Chief Financial Officer at that time, to provide for payments to the officers in the event of their retirement or the termination of their employment. The agreements provide that the executives will be entitled to receive severance payments and payments for any accrued and unused vacation time in the event that (i) the executive dies or voluntarily retires from the Company, (ii) the executive voluntarily terminates his employment other than for cause or (iii) the Company terminates the executive's employment other than for cause (each, a "Termination Event"). Upon the occurrence of a Termination Event, Mr. Stewart is entitled to receive as severance, during each of the first three years following the Termination Event, payments equal to his highest annual salary while employed by the Company, payable in equal monthly installments. Upon the occurrence of a Termination Event, Mr. Kingsley is entitled to receive as severance, during the first year following the Termination Event, payments equal, in the aggregate, to 100% of his highest annual salary while employed by the Company, payable in equal monthly installments, which payments will be reduced by any payments received by Mr. Kingsley or his estate from the Company's Long Term Disability Plan. Each agreement also provides that, if any payment to the executive is subject to excise tax under Section 4999 of the Internal Revenue Code of 1986, as amended (the "Code"), the Company will pay to the executive an amount sufficient, on an after-tax basis, to put the executive in the same position he would have been in if the excise tax was not imposed. The timing of payments under the agreements is also subject to adjustment to avoid any adverse tax treatment under Section 409A of the Code.

As of December 31, 2007, the Company had accrued \$995,000 related to these severance agreements.

### **NOTE 8. STOCK OPTIONS**

**Stock-Based Compensation**—Arrowhead has two plans that provide for equity-based compensation. Under the 2000 Stock Option Plan, 1,611,500 shares of Arrowhead's Common Stock are reserved for issuance upon exercise of non-qualified stock options. No further grants can be made under the 2000 Stock Option Plan. The 2004 Equity Incentive Plan reserves 4,738,310 shares for the grant of stock options, stock appreciation rights, restricted stock awards and performance unit/share awards by the Board of Directors to employees, consultants and others expected to provide significant services to Arrowhead. As of December 31, 2007, there were options granted and outstanding to purchase 1,611,500 and 3,448,092 shares of common stock under the 2000 Stock Option Plan and the 2004 Equity Incentive Plan, respectively. During the three months ended December 31, 2007, 215,000 options were granted under the 2004 Equity Incentive Plan.

On December 3, 2007, an inducement grant of an option to purchase two million shares of Common Stock was made outside of Arrowhead's equity incentive plans to Dr. Christopher Anzalone, the Company's new Chief Executive Officer. The option vests over 48 months with the first 41,667 shares vesting six months from the date of original grant. The option price is \$3.92 per share, the closing price of Arrowhead's stock on the date of grant. The estimated fair value at the date of grant was \$4,692,207. Arrowhead's Compensation Committee is negotiating the final terms of this grant to be memorialized in a Stock Option Agreement.

Effective October 1, 2005, the Company accounts for its stock options under SFAS 123R, using the retrospective method. The retrospective application of SFAS 123R results in an increase of the net losses reported in fiscal 2005 of \$229,025. The accumulated deficit during the development stage as of September 30, 2005, increased by \$262,106, from a loss of \$9,217,004 to \$9,479,110 as a result of the retrospective application of SFAS 123R.

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The following tables summarize information about stock options:

	<u>Number of Options Outstanding</u>	<u>Weighted- Average Exercise Price Per Share</u>
Balance at May 7, 2003	—	—
Granted	150,000	0.20
Canceled	—	—
Exercised	—	—
Balance at September 30, 2003	150,000	0.20
Granted	1,570,000	1.00
Canceled	(25,000)	1.00
Exercised	(156,000)	0.23
Balance at September 30, 2004	1,539,000	1.00
Granted	2,095,000	2.53
Canceled	(170,000)	1.00
Exercised	(25,000)	1.00
Balance at September 30, 2005	3,439,000	1.93
Granted	2,235,000	4.79
Canceled	(1,161,167)	4.27
Exercised	(115,794)	2.95
Balance at September 30, 2006	4,397,039	2.74
Granted	945,000	4.97
Canceled	(160,952)	5.32
Exercised	(186,164)	2.34
Balance at September 30, 2007	4,994,923	3.07
Granted	2,215,000	3.95
Canceled	(44,974)	3.44
Exercised	(105,357)	2.75
Balance at December 31, 2007	7,059,592	3.37
Exercisable at December 31, 2007	3,412,156	2.63

<u>Exercise Prices</u>	<u>Number of Options</u>	<u>Weighted Average Remaining Life in Years</u>	<u>Weighted Average Exercise Price</u>
\$1.00 – 6.89	7,059,592	8.3	\$ 3.37

At December 31, 2007, there were 1,290,218 options available for future grants under Arrowhead's 2004 Equity Incentive Plan. The intrinsic value of the options exercised during the three months ended December 31, 2007 was approximately \$69,000.

The fair value of the options granted by Arrowhead for the three months ended December 31, 2007 is estimated at \$5,242,094. The \$5,242,094 fair value includes \$4,692,207 related to the inducement grant described previously.

The aggregate fair value of options granted by Unidym, Calando, Insert, Tego and Aonex for the three months ended December 31, 2007, is estimated at \$96,346, \$0, \$310,000, \$0, and \$0, respectively.

As of December 31, 2007, the estimated fair value of the unvested options for Arrowhead was \$7,702,750 with a weighted average remaining amortization period of 3.1 years.

As of December 31, 2007, the estimated aggregate fair value of the unvested options for Unidym, Calando, Insert, Tego and Aonex was \$1,369,000 with a weighted average remaining amortization period of 3.3 years.

The fair value of options is estimated at the date of grant using the Black-Scholes option-pricing model with the following weighted-average assumptions: dividend yield of 0%, expected volatility of 49% to 69%, risk-free interest rate of 3.53% to 5.25%, and expected life of five years. The weighted-average fair value of

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each common share option granted by Arrowhead for the three months ended December 31, 2007 and 2006 is estimated at \$2.34 and \$2.31, respectively.

The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options, which do not have vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions, including the expected stock price volatility. Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options.

### **NOTE 9. INCOME TAXES**

The Company utilizes SFAS No. 109, "Accounting for Income Taxes," which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements or tax returns.

Under this method, deferred income taxes are recognized for the tax consequences in future years of differences between the tax bases of assets and liabilities and their financial reporting amounts at each year-end based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount expected to be realized. The provision for income taxes represents the tax payable for the period and the change during the period in deferred tax assets and liabilities.

For the three months ended December 31, 2007 and 2006, the Company had consolidated net losses of \$5,233,774 and \$3,707,170, respectively. The losses result in a deferred income tax benefit of approximately \$2,067,341 and \$1,464,000 for the three months ended December 31, 2007 and 2006, respectively, offset by an increase in the valuation allowance for the same amount for Arrowhead. Because the Company is a development stage company, management has chosen to take a 100% valuation allowance against the tax benefit until such time as management believes that its projections of future profits as well as expected future tax rates make the realization of these deferred tax assets more-likely-than-not. Significant judgment is required in the evaluation of deferred tax benefits, and differences in future results from our estimates could result in material differences in the realization of these assets.

### **NOTE 10. SEGMENT AND GEOGRAPHIC REPORTING**

The Company accounts for segments and geographic product and licensing revenues in accordance with SFAS No. 131, "Disclosure about Segments of an Enterprise and Related Information." The Company operates in a single segment: nanotechnology.

Grant and collaborations agreements are not considered to be product or licensing revenue, as the plan of operations for the Company is to sell products and/or license technology.

### **NOTE 11. RELATED PARTY TRANSACTIONS**

During the three months ended December 31, 2007, the Company's majority owned Subsidiary Unidym had product sales of \$47,218 to Sumitomo, one of Unidym's stockholders.

During the three months ended December 31, 2007, the Company's majority owned Subsidiaries Insert and Calando each paid \$22,500 in consulting fees to Dr. Mark Davis at Caltech. Dr. Davis is a director and consultant for both Insert and Calando.

### **NOTE 12. SUBSEQUENT EVENTS**

On January 14, 2008, Insert and Calando entered into an Agreement and Plan of Reorganization (the "Merger Agreement"), pursuant to which Calando is to merge with and into Insert, with Insert continuing as the surviving corporation (the "Merger").

Among other things, the Merger is conditioned upon the recapitalization of Insert and Calando to eliminate the preferred stock of each company. In the Insert recapitalization, immediately before the effective time of the Merger, each share of Insert Series B Preferred Stock, Series C Preferred Stock and Series C-2 Preferred Stock will be converted into one share of common stock, par value \$0.0001 per share, of Insert (the "Insert Common Stock"). All warrants outstanding for the purchase of Insert Series D Preferred Stock will become exercisable for a like number of shares of Insert Common Stock. In the Calando recapitalization, immediately before the effective time of the Merger, each share of Calando Series A Preferred

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Stock will be converted into one share of Calando common stock, par value \$0.0001 per share (the “Calando Common Stock”).

At the effective time of the Merger, each issued and outstanding share of Calando Common Stock, other than shares owned by any stockholders who are entitled to and who properly exercise appraisal rights under Delaware law, will be canceled and will be automatically converted into the right to receive shares of Insert Common Stock based on the relative valuation of Insert to Calando of 1 to 1.5, or a Merger share exchange ratio of 5.974126 shares of Insert Common Stock issued for each share of Calando Common Stock. Outstanding options to acquire Calando Common Stock will be converted into an option to acquire approximately 5.974126 shares of Insert Common Stock.

Insert and Calando have made representations, warranties and covenants to one another in the Merger Agreement, which will expire at the effective time of the Merger. Consummation of the Merger is conditioned upon, among other things: (i) the representations and warranties of each party to the Merger Agreement being true in all material respects as of the closing; (ii) the performance or satisfaction in all material respects of all covenants and conditions of each party to the Merger Agreement; (iii) the completion of the recapitalization of Insert and Calando; (iv) the approval by a majority of Insert’s and Calando’s stockholders (excluding the Company); and (v) the satisfaction of certain other customary closing conditions.

If the Merger is approved, the following agreements to which the Company is a party will terminate: (i) Insert’s Right of First Refusal and Co-Sale Agreement, relating to Insert, dated as of June 4, 2004, (ii) Insert’s Voting Agreement, dated as of June 4, 2004, (iii) Calando’s Amended and Restated Investors’ Rights Agreement, dated as of March 31, 2006, (iv) Calando’s Amended and Restated Voting Agreement, dated as of March 31, 2006, and (v) Calando’s Right of First Refusal and Co-Sale Agreement, dated as of March 31, 2006. Upon the effective date, the license agreement between Insert and Calando, dated as of March 14, 2005, pursuant to which Insert granted Calando worldwide exclusive rights to Insert’s intellectual property related technologies, and a broad patent application covering methods and uses for the therapeutic use of RNAi, including its linear cyclodextrin polymers, will terminate.

If the Merger is approved, pursuant to its terms, Insert will enter into an Amended and Restated Investors’ Rights Agreement (the “Restated Investors’ Rights Agreement”), restating Insert Investors’ Rights Agreement, dated as of June 4, 2004, as amended by Amendment No. 1 to Investors’ Rights Agreement, dated as of March 30, 2005, and as further amended by Amendment No. 2 to Investors’ Rights Agreement, dated as of October 25, 2006.

If the Merger is approved, the Calando Agreement to Provide Additional Capital, dated as of March 31, 2006, between Calando and the Company will be amended and terminated to accelerate the payment of the remaining \$6,000,000 payable thereunder, against receipt of the repayment of the principal and interest on all loans extended by the Company to either Insert or Calando (\$4,000,000 principal as of the date of filing).

If the Merger is approved, the Company will own 66.5% of the outstanding shares of the combined company (61% on a fully diluted basis).

The Merger was unanimously approved by the board of directors of each of Insert and Calando, and Insert and Calando have solicited the approval of the Merger by their respective stockholders.

On January 30, 2008, Arrowhead’s Form S-3 Registration Statement, originally filed on December 20, 2007, was declared effective. The prospectus allows Arrowhead to issue, from time to time in one or more offerings, shares of Common Stock and warrants to purchase common stock for an aggregate dollar amount of up to \$50 million.

It is the Company’s intent to use the net proceeds from the sale of the securities and received upon exercise of the warrants for general corporate purposes, which may include one or more of the following: working capital, research and clinical development activities, potential future acquisitions of companies and/or technologies, and capital expenditures.

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

This Quarterly Report on Form 10-Q contains forward-looking statements concerning future events and performance of the Company. When used in this report, the words "intends," "estimates," "anticipates," "believes," "plans," "may," "will," "should," "projects" or "expects" and similar expressions are included to identify forward-looking statements. These forward-looking statements are based on our current expectations and assumptions and many factors could cause our actual results to differ materially from those indicated in these forward-looking statements. You should review carefully the factors identified in this report under the caption "Risk Factors" and in our most recent Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC"). We disclaim any intent to update or announce revisions to any forward-looking statements to reflect actual events or developments. Except as otherwise indicated herein, all dates referred to in this report represent periods or dates fixed with reference to the calendar year, rather than our fiscal year ending September 30. The three-month period ended December 31, 2007, may also be referred to as the first quarter of fiscal 2008.

### **Overview**

Arrowhead is a development stage nanotechnology company commercializing new technologies in the areas of life sciences, electronics and energy. Arrowhead's mission is to build value through the identification, development and commercialization of nanotechnology-related products and applications. The Company works closely with universities to source early stage deals and to generate rights to intellectual property covering promising new nanotechnologies. Arrowhead takes a portfolio approach by operating multiple subsidiaries which allows the pursuit of multiple opportunities and diversifies risk. Currently, Arrowhead operates five majority-owned subsidiaries (the "Subsidiaries") focused on developing and commercializing nanotechnology products and applications and has funded a number of prototype development efforts in leading university labs in exchange for the right to license the technology developed in such labs.

### **Majority-owned Subsidiaries**

Arrowhead owns a majority interest in each of its Subsidiaries, securing substantial participation in any success. Each subsidiary is staffed with its own technical and business team that focuses on its specific technology and markets, while Arrowhead provides financial, strategic and administrative resources. The Company's five majority-owned Subsidiaries are focused on developing and commercializing a variety of nanotechnology products and applications, including anti-cancer drugs, RNAi therapeutics, carbon-based electronics, fullerene anti-oxidants and compound semiconductor materials. Arrowhead's business plan includes adding to its portfolio through selective acquisition and formation of new companies.

### **Sponsored Research**

Arrowhead is taking advantage of a key trend in technology innovation. More and more in recent years, fueled by government and private funding, major new discoveries and product inventions are happening at universities rather than in the research and development divisions of large corporations. Universities are patenting and licensing these inventions through technology transfer offices, and academic researchers have become interested in commercialization of their work.

In exchange for the right to license the resultant technology developed in sponsored laboratories, Arrowhead sponsors university research. Arrowhead has worked with some of the most highly-regarded academic institutions in the country, including the California Institute of Technology ("Caltech"), Stanford University ("Stanford"), Duke University ("Duke") and the University of Florida ("UF"), in critical areas such as stem cell research, carbon electronics and molecular diagnostics.

### **Subsidiaries**

At December 31, 2007, the Company had five majority-owned operating Subsidiaries: Insert Therapeutics, Inc. ("Insert"), Calando Pharmaceuticals, Inc. ("Calando"), Unidym, Inc. ("Unidym", formerly NanoPolaris, Inc.), Tego BioSciences Corporation ("Tego") and Aonex Technologies, Inc. ("Aonex"). As part of its business model, the Company will create subsidiaries to commercialize promising technologies or close subsidiaries based upon lack of progress of the Subsidiary.

Insert has developed CycloSert™, a proprietary drug delivery platform technology based on a nano-engineered class of linear cyclodextrin-containing polymers. IT-101, Insert's first therapeutic candidate, is a conjugate of Insert's patented nano-engineered drug delivery polymer and Camptothecin, a potent anti-cancer compound. Insert's investigational new drug ("IND") application for IT-101 was accepted by the U.S. Food and Drug Administration (FDA) in March 2006. A Phase I study for IT-101 began in the summer of 2006 at the City of Hope Cancer Center. Interim results from the trial were reported

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in June 2007. The report, though not conclusive, was consistent with promising efficacy. In general, IT-101 was well tolerated and pancytopenia was the dose limiting toxicity. Pharmacokinetics data were favorable and consistent with results from preclinical animal studies. In patients studied, IT101 showed longer half life, lower clearance and lower volume of distribution than seen in patients treated with other Camptothecin-based drugs. The Phase I trial is expected to be completed in 2008.

Calando is designing, developing and commercializing novel RNAi therapeutics to treat diseases and other medical conditions by combining effective RNAi therapeutics with patented and proprietary delivery technologies. Calando's first therapeutic candidate is designed for the treatment of cancer. Calando expects to file an IND application in early-mid 2008.

Unidym is developing high-performance, cost-effective carbon nanotube-based products for the electronics industry. Through license of intellectual property from several universities and by virtue of its April 2007 merger with Texas-based Carbon Nanotechnologies, Inc. ("CNI"), Unidym has assembled exclusive commercial rights related to carbon nanotube manufacture and applications. The merger also provided Unidym with the ability to manufacture carbon nanotubes on a larger scale. Unidym's initial product is a transparent conductive film designed to replace the expensive and brittle metal oxide films currently used in electronic products like flat panel displays, touch screens, OLEDs and thin film solar cells. In addition to its product development efforts, Unidym manufactures and sells carbon nanotubes to customers and has entered in joint development agreements to incorporate its carbon nanotube films into existing products.

On April 20, 2007, Tego, a newly formed, wholly-owned subsidiary of Arrowhead, acquired the assets of C Sixty, Inc., a Texas-based company developing pharmaceuticals based on the unique biochemical properties of modified fullerenes. Initially, Tego is collaborating with the National Cancer Institute's Nanotechnology Characterization Lab ("NCL") for preclinical studies to measure the ability of a Tego fullerene formulation to protect against harmful side effects of two anti-cancer drugs, cisplatin and adriamycin. The first stage of the studies used NCL's resources. In October 2007, Arrowhead invested \$2.4 million into Tego in exchange for 15 million shares of Series A-2 Preferred Stock. The \$2.4 million is to be used for developing and commercializing pharmaceutical products based on the modified fullerenes.

Aonex is developing engineered wafers to enable manufacturers of blue and white LEDs to reduce their production costs and create higher efficiency devices. After analyzing the existing competition and scale required for success in its core markets, Aonex has opted to seek an established company with which to partner in its future commercialization efforts. Aonex is continuing to develop its technology in a phase down mode while it explores possibilities for collaboration with other companies.

### ***Critical Accounting Policies and Estimates***

Management makes certain judgments and uses certain estimates and assumptions when applying accounting principles generally accepted in the United States in the preparation of our Consolidated Financial Statements. We evaluate our estimates and judgments on an on-going basis and base our estimates on historical experience and on assumptions that we believe to be reasonable under the circumstances. Our experience and assumptions form the basis for our judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may vary from what we anticipate and different assumptions or estimates about the future could change our reported results. We believe the following accounting policies are the most critical to us, in that they are important to the portrayal of our consolidated financial statements and require our most difficult, subjective or complex judgments in the preparation of our consolidated financial statements. For further information, see *Note 1, Organization and Significant Accounting Policies*, to our Consolidated Financial Statements which outlines our application of significant accounting policies and new accounting standards.

#### *Revenue Recognition*

Revenue from product sales is recorded when persuasive evidence exists that an arrangement existed, title had passed and delivery has occurred, the price was fixed and determinable, and collection is reasonably assured.

We may generate revenue from product sales, technology licenses, collaborative research and development arrangements, and research grants. Revenue under technology licenses and collaborative agreements typically consists of nonrefundable and/or guaranteed technology license fees, collaborative research funding, and various milestone and future product royalty or profit-sharing payments.

Revenue associated with up-front license fees and research and development funding payments, under collaborative agreements, is recognized ratably over the relevant periods specified in the agreement, generally the research and development period. Revenue from substantive milestones and future product royalties is recognized as earned based on the completion of the milestones and product sales, as defined in the respective agreements. Payments received in advance of recognition as revenue are recorded as deferred revenue.

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### *Research and Development Expenses*

Research and development expenses include salaries and benefits, trial (including pre-clinical, clinical and other) and manufacturing costs, purchased in-process research expenses, contract and other outside service fees, and facilities and overhead costs related to our research and development efforts. Research and development expenses also consist of costs incurred for proprietary and collaborative research and development. Research and development costs are expensed as incurred.

### *Impairment of Long-lived Assets*

We review our long-lived assets for impairment whenever events or changes in business circumstances indicate that the carrying amount of assets may not be fully recoverable or that our assumptions about the useful lives of these assets are no longer appropriate. If an impairment is indicated, the asset is written down to its estimated fair value based on quoted fair market values.

### *Intellectual Property*

Intellectual property consists of patents and patent applications internally developed, licensed from universities or other third parties or obtained through acquisition. Patents and patent applications are reviewed for impairment whenever events or circumstances indicate that the carrying amount may not be recoverable, and any impairment found is written off. Licensed or internally developed patents are written off over the life of the patent unless impairment occurs. Purchased patents are written off over three years, unless an impairment occurs sooner.

## **Results of Operations**

The Company had a consolidated net loss of approximately \$5.2 million for the three months ended December 31, 2007, versus a consolidated net loss of \$3.7 million for the same three months in the prior year. The increased loss is the result of a combination of factors. The Company has rapidly expanded its capability to develop thin-film carbon nanotube processes and added the capacity to manufacture carbon nanotubes, with Unidym's acquisition of CNI, during the past year. The Company is also incurring additional expense for the final studies in preparing for the filing of its Investigational New Drug Application for Calando.

## **Revenues**

The Company generated revenues of \$402,861 during the three months ended December 31, 2007 compared to \$11,092 in the same period last year. The current period revenues consist of \$191,016 in grants to Unidym to fund research and \$211,845 from sales and delivery of carbon nanotubes by Unidym. Prior year revenues of \$11,092 resulted from a National Institute of Health grant at Calando.

## **Operating Expenses**

### *Three Months ended December 31, 2007 and 2006*

The Company had operating expenses of \$7.0 million during the three months ended December 31, 2007, compared to \$4.5 million in the same three months last year.

Operating expenses increased over the same period in the prior year as the Company significantly expanded its Unidym operations, adding locations in Menlo Park, California and Houston, Texas, through the acquisition of CNI in April of 2007.

The Phase I clinical trial of Insert's drug IT-101 continues and Calando is completing the process of preparing its IND Application for its CALAA-01 drug candidate to be submitted in early-mid 2008.

The Company added scientific and executive talent increasing its full-time head count by 17 from approximately 41 to 58 during the past year. Unidym's head count increased by 23 full-time employees. In anticipation of the merger of Insert and Calando, and the resulting duplication, their combined headcount was reduced by 8 full-time employees. Year over year increases in each major revenue and expense category are the result of the scale-up of the Unidym operations and the continuing clinical trials by Insert and Calando, and the hiring of additional scientific and administrative personnel at the Subsidiaries.

The analysis below details the operating expenses and discusses the expenditures of the Company within the major categories.

For purposes of comparison, the amounts for the three months ended December 31, 2007 and 2006, respectively, are shown in the tables below. Prior period amounts have been reclassified to conform to the current period presentation.

***Salary & Wage Expenses***

Arrowhead employs management, administrative and technical staff at the Arrowhead corporate offices and at the Subsidiaries. Salary and wage expense consists of salary, benefits, and non-cash charges related to equity based compensation in the form of stock options. Salary and benefits can be divided into two major categories: general and administrative compensation-related expenses, and research and development (R&D) compensation-related expenses, depending on the primary activities of each employee. The following table details salary and related expenses for the three months ended December 31, 2007 and 2006.

**For the Three Months ended December 31, 2007 and December 31, 2006**  
(in thousands)

	Three Months Ended	% of	Three Months Ended	% of	Increase (Decrease)	
	Dec 31, 2007	Expense Category	Dec 31, 2006	Expense Category	\$	%
G&A – compensation-related	\$ 1,141	39%	\$ 596	34%	\$ 545	91%
Stock-based compensation	\$ 690	24%	\$ 481	28%	\$ 209	43%
R&D – compensation-related	\$ 1,080	37%	\$ 649	38%	\$ 431	66%
Total	\$ 2,911	100%	\$ 1,726	100%	\$ 1,185	69%

General and Administrative (G&A) compensation expense increased in the three months ended December 31, 2007, compared to the three months ended December 31, 2006 due to the hiring of several new positions. New positions hired included Chief Executive Officers at Arrowhead (December 2007), Unidym (June 2007) and Insert/Calando (November 2007). Unidym also hired the new positions of Vice President of Business Development (July 2007), Chief Financial Officer (September 2007), and Vice President of Finance (October 2007). Tego hired the new position of Vice President of Finance (December 2007). The increase in G&A salaries also includes the impact of the annual pay increases for existing staff. In addition, two administrative staff were added with the merger of CNI into Unidym. The Company and its Subsidiaries will continue to selectively hire additional executives and administrative staff consistent with its business strategies and operational needs.

Stock-based compensation is a non-cash charge related to the issuance and vesting of stock options to new and existing employees. This expense is recorded pursuant to the adoption of SFAS 123R, which requires expensing of stock-based compensation for all options vested. Stock options are awarded to new full time employees and to existing employees. While the number of options has increased overall, this number will vary from period to period depending on hiring, on terminations and on awards to new and existing employees. The inducement grant of 2 million options to Arrowhead's new CEO resulted in approximately \$96,000 in additional stock based compensation expense in the current period compared to the same period in the prior year.

Research and development (R&D) compensation expense increased in the three months ended December 31, 2007 compared to the same period the prior year due primarily to Unidym's addition of 7 full time employees including research scientists and process engineers. R&D compensation also increased as a result of Unidym's acquisition of CNI with CNI's 15 research and development related staff. On a consolidated basis, the increase in Unidym's R&D compensation expense was partially offset by reductions in the research and development staff at Insert and Calando in anticipation of their merger. In late November 2007, Insert's R&D staff was reduced by 8 employees. The Company expects that salaries and wages will continue to grow during fiscal 2008 as more people are selectively hired to support development within the Subsidiaries.



[Table of Contents](#)***General & Administrative Expenses***

The following table details G&A expenses for the three month periods ended December 31, 2007 and 2006.

**For the Three Months ended December 31, 2007 and December 31, 2006**  
(in thousands)

	Three Months Ended	% of	Three Months Ended	% of	Increase (Decrease)	
	Dec 31, 2007	Expense Category	Dec 31, 2006	Expense Category	\$	%
Professional/outside services	\$ 564	33%	\$ 195	20%	\$ 369	189%
Recruiting	\$ 88	5%	\$ 169	18%	\$ (81)	(47)%
Patent expense	\$ 428	24%	\$ 101	11%	\$ 327	324%
Facilities and related	\$ 70	4%	\$ 82	9%	\$ (12)	(15)%
Travel	\$ 111	7%	\$ 131	14%	\$ (20)	(15)%
Business insurance	\$ 201	12%	\$ 91	10%	\$ 110	11%
Depreciation	\$ 47	3%	\$ 46	5%	\$ 1	2%
Communications and technology	\$ 79	5%	\$ 37	4%	\$ 42	11%
Office expenses	\$ 78	5%	\$ 53	5%	\$ 25	47%
Other	\$ 32	2%	\$ 34	4%	\$ (2)	(6)%
Total	\$ 1,698	100%	\$ 939	100%	\$ 759	81%

Professional/outside services include general legal, accounting and other outside services retained by the Company and its Subsidiaries. All periods include normally occurring legal and accounting expenses related to SEC compliance and other corporate matters. Additional audit expenses were incurred because, for the first time, the Company produced stand-alone audited financials for each of the Subsidiaries. The increase over the prior year results from additional legal costs associated with the proposed merger of Calando and Insert amounting to approximately \$250,000, and legal work for Unidym in the closing of the private placement amounting to approximately \$77,000.

Recruiting expense was higher in the prior year period due to the payment of approximately \$150,000 to hire a president for Insert in the first three months of fiscal 2007. The current year expense results from the recruitment of scientific and executive positions filled at Calando, Insert and Unidym. Recruiting fees are expected to continue as the Company builds out its management team and the teams of its Subsidiaries.

Patent expense increased as a result of the addition of the patent portfolio that was acquired by the merger of Unidym and Carbon Nanotechnologies, Inc. in April 2007 and as a result of increased patent activity by Insert and Calando. Patent expenses for Unidym of approximately \$150,000 for the current period include payments to Rice University and UCLA for legal fees related to Unidym's licensed technology as well as legal fees on patents filed by Unidym. Patent expenses incurred by Insert of approximately \$200,000 relate primarily to extending intellectual property protection for Insert's products to Europe. The Company expects to continue to invest in patent protection as the Company extends and maintains protection for its current portfolios and files new patent applications as its products applications are improved. The cost will vary depending on the needs to the Company.

The decrease in facilities and related expense during the three months ended December 31, 2007, compared to the prior periods, reflects the termination of a lease for office space in Pasadena in February 2007. Facilities expense related to the Arrowhead corporate office has been allocated to G&A and facilities expense related to the Subsidiaries has been allocated to R&D. See below.

Travel expense includes recurring expenses related to travel by the Company as management travels to and from Company locations in Pasadena and Menlo Park, California and Houston, Texas. Travel expense is also incurred as Company management pursues new business initiatives and collaborations with other companies and for marketing, investor relations and public relations. The current period's expenses are slightly less than those of the prior period as travel expense fluctuates from quarter to quarter depending on current projects. This expense is expected to increase as the Company adds more business development personnel.

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Insurance expense has increased due to increases in limits and coverage for new clinical trials and the expansion of Unidym's operations since the same period in the prior year. This expense is expected to continue to increase as the Company grows.

The increase in communications and technology expense is primarily related to the addition of two Unidym locations, the purchase of equipment for new employees, and configuration of data networks among Menlo Park, California, and Pasadena, California, and Houston, Texas.

### **Research and Development Expenses**

Of Arrowhead's expenses during the three months ended December 31, 2007, approximately \$1.7 million were related to research and development ("R&D") activities by Arrowhead's Subsidiaries. Currently, Arrowhead operates five majority-owned Subsidiaries, each commercializing a nanotech products or applications, and also funds sponsored research efforts in leading university labs in exchange for the right to license the technology developed in such labs. Each Subsidiary is staffed with its own technical team that focuses on its specific technology and markets while Arrowhead provides financial, strategic and administrative resources.

The following table details R&D expenses for the three months ended December 31, 2007 and 2006.

#### **For the Three Months ended December 31, 2007 and December 31, 2006** (in thousands)

	Three Months Ended	% of	Three Months Ended	% of	Increase (Decrease)	
	Dec 31, 2007	Expense Category	Dec 31, 2006	Expense Category	\$	%
Outside labs & contract services	\$ 623	37%	\$ 747	51%	\$ (124)	(17)%
Laboratory supplies & services	\$ 163	10%	\$ 125	8%	\$ 38	30%
Facilities related	\$ 285	17%	\$ 144	10%	\$ 141	98%
Sponsored research	\$ 241	14%	\$ 314	21%	\$ (73)	(23)%
Depreciation-R&D-related	\$ 134	8%	\$ 81	5%	\$ 53	65%
Other research expenses	\$ 219	13%	\$ 77	5%	\$ 142	184%
<b>Total</b>	<b>\$ 1,665</b>	<b>100%</b>	<b>\$ 1,488</b>	<b>100%</b>	<b>\$ 177</b>	<b>12%</b>

Outside labs & contract services decreased as the types of expenses incurred has changed between periods. The process development and preclinical trial expenses for Insert are related to preclinical work for pipeline candidates, but have decreased from the prior year as Insert focuses on the preparation for Phase II clinical trials for its drug candidate IT-101. The current year first quarter expense includes the outsourced preclinical studies in preparation for an INDA filing by Calando, and outsourced manufacture of Calando's therapeutic candidate for clinical studies and Tego's beginning operations. Unidym incurred approximately \$47,000 of outside lab and contract services expense during the first three months of the fiscal year compared to approximately \$7,000 of such expenses in the prior year. The increase in Unidym expenses are related to the scale up of the operations to develop the manufacturing processes for carbon nanotubes and the manufacture of thin film conductive materials. Development expenses for Unidym are expected to increase sharply in the coming quarters. Outside laboratory & contract services expenses will continue to fluctuate depending upon where a particular project is in its development, approval or trial process.

Laboratory supplies and services consist primarily of materials, supplies and services consumed in the laboratory. Of the approximately \$163,000 shown above, \$95,000 relates to small tools and materials used in the R&D of carbon nanotube manufacturing processes and conductive thin film applications. Prior year amounts were primarily related to research activities at Calando and Insert.

Facilities related expenses increased over the same period in prior years due to the addition of Unidym's laboratory space in Menlo Park, California in February 2007 and Unidym's Texas location in April of 2007. These expenses are expected to remain stable in the near future as no additional facilities are projected to be added in fiscal 2008. Tego and the other Subsidiaries expected to be added in fiscal 2008 are planning to conduct their R&D through sponsored research agreement(s) and funding to university and/or contract research organizations.

Sponsored research expense decreased for the three months ended December 31, 2007, compared to the same period for the prior year, as projects were completed (Stanford & Duke) or terminated (Caltech). No new research projects were

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added during the three months ended December 31, 2007. The expense for the project at the University of Florida was transferred to Unidym in April 2007.

Increased depreciation expense is primarily due to the addition of depreciable equipment at Unidym's Houston and Menlo Park facilities.

The table below sets forth the approximate amount of Arrowhead's cash expenses for research and development at each Subsidiary for the periods described below.

Name of Subsidiary / Project	R&D Cash Expenses for the Three Months Ended December 31, 2007	R&D Cash Expenses for the Three Months Ended December 31, 2006	Project Cost from Inception of Project Through December 31, 2007
Calando Pharmaceuticals, Inc. / CALAA-01	\$ 1.6 Million	\$ 1.2 Million	\$ 10.7 Million
Insert Therapeutics/ IT 101	\$ 1.1 Million	\$ 1.6 Million	\$ 15.8 Million
Unidym, Inc. / Thin Films of Carbon Nanotubes	\$ 2.6 Million	\$ 0.4 Million	\$ 9.1 Million
Aonex Technologies, Inc. / Wafer Fabrication	\$ 0.1 Million	\$ 0.2 Million	\$ 5.9 Million
Tego BioSciences Corporation	\$ 0.2 Million	\$ 0.0 Million	\$ 0.2 Million
Total of all Subsidiaries	\$ 5.6 Million	\$ 3.4 Million	\$ 41.7 Million

### **Insert Therapeutics, Inc.**

Insert was purchased by the Company in June 2004. Insert's primary asset was a license from Caltech for patents and other intellectual property for the use of cyclodextrin polymers in drug delivery applications. In fiscal 2005, Insert continued research and development of its anti-cancer therapeutic IT-101, which uses the technology covered by the Caltech patents. IT-101 is a conjugate of the cyclodextrin polymer and the anti-cancer agent, Camptothecin. On March 14, 2006, Insert's IND application for IT-101 was accepted by the FDA and Insert began a Phase I clinical trial at the City of Hope in the third quarter of calendar 2006. Insert is also preparing for Phase II trials of IT-101 and has reduced its previous emphasis on increasing its pipeline of products. Insert has investigated conjugates of the cyclodextrin delivery molecule as well as two other potent anti-cancer agents, epotholones and tubulysins, and a steroid treatment for chronic inflammation. Research and development expenses related to IT-101 are reflected in the tables above. Insert's R&D activities related to IT-101 and other pipeline candidates are preliminary, and there is no assurance that they will be successful. It is not possible at this time to accurately determine the final cost of IT-101, the completion date, or when revenue will commence.

### **Calando Pharmaceuticals, Inc.**

Calando's lead product candidate, CALAA-01, is a formulation containing Calando's proprietary drug delivery technology with a siRNA duplex targeting the M2 subunit of ribonucleotide reductase, a well-established cancer target. Calando is preparing an IND application for filing with the FDA and expects to begin its first clinical trial in 2008. Calando's research and development efforts on CALAA-01 are preliminary, and there is no assurance that this compound will be successful. Advancing this development candidate into human clinical trials is dependent on FDA review and approval of Calando's IND application. Research and development expenses related to CALAA-01 are reflected in the tables above. It is not possible at this time to accurately determine the final cost of CALAA-01, the completion date, or when revenue will commence. If the merger between Calando and Insert is approved (please see Note 12 Subsequent Events, for an explanation of the proposed merger), the merged company should have sufficient capital to fund its operations until the second quarter of fiscal 2008. Please refer to the Liquidity and Capital Resources discussion on page 28 for additional information.

### **Unidym, Inc.**

Arrowhead founded NanoPolaris (now operating as Unidym) in April 2005. Since inception, the company has aggregated intellectual property related to carbon nanotube manufacturing and product applications. The portfolio has been built through licensing of patents and other intellectual property from various universities, through sponsored research, and by the acquisition of Unidym, Inc., a UCLA spin out developing transparent electrodes, and a merger with CNI, a Texas-based company manufacturing and selling carbon nanotubes and developing products containing carbon nanotubes. Unidym is currently generating revenue by producing and selling carbon nanotubes, and is anticipated to generate future revenue by continuing to produce and sell carbon nanotubes, products and product applications using carbon nanotubes and to a lesser amount, beginning in 12 to 24 months, by licensing technology to third parties.

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Development, manufacturing and sale of cost effective electronic products incorporating carbon nanotubes may require significant additional investment and take a long time. There are a variety of technical, cost and marketing barriers that must be overcome. It is not possible at this time to predict the final cost of developing Unidym's transparent conductive film or other carbon nanotube products, the final cost of scaling up the manufacturing process for cost effective production of carbon nanotubes for products, or when or if Unidym will generate significant licensing revenue or become profitable. Unidym closed a private placement for net cash proceeds of \$10,013,897 in December 2007.

### **Tego BioSciences Corporation**

In April 2007, Tego was formed to acquire the assets of C Sixty, Inc. Tego is focused on developing and commercializing pharmaceuticals based on the unique biochemical properties of modified buckminsterfullerenes (also known as fullerenes or buckyballs). Tego's product pipeline includes therapeutics targeting acute and chronic central nervous system degenerative diseases, other neuronal degenerative diseases and, potentially, toxicity caused by chemotherapy and radiation. Tego is also exploring the use of modified fullerenes as contrast agents in magnetic resonance imaging (MRI).

Initially, Tego does not plan to expand its internal staff to develop these pharmaceutical products. Rather, for the first eighteen months, the company intends to use third parties to perform most of the development work with a small staff located in Houston, Texas, to direct and oversee the progress of research and development, collaborations and licensing of the intellectual property. A new President and CEO was appointed effective October 25, 2007. On the same date, the Company invested \$2.4 million in Tego to enable the Subsidiary to contract development with third parties.

### **Aonex Technologies, Inc.**

Aonex is currently seeking a partner to help in the continued development of blue and white LEDs. Aonex engineers wafers that are comprised of thin films of materials suitable for fabrication of blue and white LEDs, and that have been bonded onto specially engineered support wafers using a proprietary process. By optimizing the support wafer's properties, Aonex is able to simplify the manufacture of high efficiency LED structures, improve yields, and offer a viable path to larger wafer sizes (and corresponding lower costs). Aonex has performed testing of prototypes of its products and is shipping samples to potential partners.

### **Factors Affecting Further R&D Expenses**

The Company expects that R&D expenses will continue to increase in the foreseeable future as it adds personnel, expands its pre-clinical research, begins clinical trial activities, and increases its regulatory compliance capabilities. The amount of these increases is difficult to predict due to the uncertainty inherent in the timing and extent of progress in the Company's research programs. As the Company's research efforts mature, it will continue to review the direction of its research based on an assessment of the value of possible commercial applications emerging from these efforts.

In addition to these general factors, specific factors that will determine the eventual cost to complete the current projects at Insert and Calando include the following:

- the number, size and duration of clinical trials required to gain FDA approval;
- the costs of producing supplies of the drug candidates needed for clinical trials and regulatory submissions;
- the efficacy and safety profile of the drug candidates; and
- the costs and timing of, and the ability to secure, regulatory approvals.

It is possible that the completion of studies could be delayed for a variety of reasons, including difficulties in enrolling patients, delays in manufacturing, incomplete or inconsistent data from the pre-clinical or clinical trials, and difficulties evaluating the trial results. Any delay in completion of a trial would increase the cost of that trial, which would harm the Company's results of operations. Due to these uncertainties, the Company cannot reasonably estimate the size, nature or timing of the costs to complete or the amount or timing of the net cash inflows from Insert or Calando's current activities. Until the Company obtains further relevant pre-clinical and clinical data, it will not be able to estimate its future expenses related to the Subsidiaries' programs or when, if ever, and to what extent, the Company will receive cash inflows from resulting products.

### ***Sponsored Research***

In the first three months of fiscal 2008, the Company continued to sponsor research at Caltech (commencing in October 2003), Duke (commencing in December 2005) and the UF (commencing in August 2006). The number of research projects fluctuates as the Company adds or terminates projects.

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As the Company grows, sponsored research may increase as more opportunities are identified. As part of the merger of Unidym and CNI, the Duke and UF sponsored research projects were transferred from Arrowhead to Unidym. In November and December 2007, the two projects at Caltech were cancelled as the Company did not see any near term benefits to continuing the research. The final run off charges are being negotiated.

### **Consulting**

Consulting fees total approximately \$583,000 for the three months ended December 31, 2007, compared to approximately \$228,000 in the same period in the prior year. Of the total year-to-date consulting fees, approximately \$290,000 was incurred at Unidym, \$140,000 at Calando, \$105,000 at Insert, \$43,000 at Tego and \$5,000 at Arrowhead.

Unidym incurred approximately \$219,000 in consulting fees related to manufacturing processes for carbon nanotubes and an additional \$71,000 for business strategy and technical consultation and travel.

Calando incurred approximately \$125,000 for scientific, regulatory and clinical consulting, and approximately \$15,000 for manufacturing consultation.

Insert incurred approximately \$91,000 for scientific, regulatory, clinical consulting during the first three months of fiscal 2008 and an additional \$14,000 for business strategy and travel.

Tego incurred approximately \$6,000 for scientific advisory services and \$37,000 for business strategy consulting services from Tego's functioning CEO according to his consulting agreement as billed through his consulting company.

### **Leveraged Technology and Revenue Strategy**

Arrowhead continues to follow its strategy to leverage technology, which is being or has been developed at universities. By doing so, Arrowhead benefits from work done at those universities and through majority-owned Subsidiaries, which can commercialize the most promising technologies developed from sponsored research and other sources. Although the Company is likely to produce prototypes and develop manufacturing processes, other than carbon nanotubes, it may not ultimately manufacture products that are developed. The Company has three primary strategies to potentially generate product sales revenue:

- License the products and processes to a third party for a royalty or other payment. By licensing, the Company would not be required to allocate resources to build a sales or a production infrastructure and could use those resources to develop additional products.
- Retain the rights to the products and processes, but contract with a third party for production. The Company would then market the finished products. This approach would require either the establishment of a sales and distribution network or collaboration with a supplier who has an established sales and distribution network, but would not require investment in production equipment.
- Build production capability in order to produce and market the end products. This last approach would likely require the most capital to build the production, sales and distribution infrastructure.

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On a case-by-case basis, the Company will choose the strategy which, in the opinion of management, will generate the highest return for the Company.

On April 20, 2007, Unidym and CNI merged, giving Unidym the manufacturing capability to make carbon nanotubes that it uses internally for product development and sells externally to third parties. Prior to this merger, the only revenue generated by the Company was through grants from public and private entities and through one licensing deal. While the ultimate goal of the Company is to generate revenue through the sale of products and/or the licensing of technology, the Company records revenue from grants and from development fees. Revenue from grants and development fees are considered to be reimbursements for efforts performed on behalf of third parties and not part of the Company's primary strategy to generate revenue on an ongoing basis.

Unidym generated combined revenues from grants and sales of carbon nanotubes totaling approximately \$402,861 during the first three months of fiscal 2008, as compared to \$0 in the same period for the prior year.

During the first three months of fiscal 2007, Calando generated approximately \$11,000 in revenue applicable to a grant with the National Institute of Health.

Except for the sale of carbon nanotubes, the Company does not expect any significant product sales in fiscal 2008. Therefore, operating losses can be expected to continue before any substantial revenue is generated. To partially offset these losses, the Company is pursuing other means of funding such as governmental grants, licenses, contracts and collaborations with third parties. The award of grants and contracts depends on numerous factors, many of which are not in the Company's control and, therefore, it is difficult to predict if this strategy will be successful.

### **Liquidity and Capital Resources**

Since inception in May 2003, the Company has incurred significant losses. As of December 31, 2007, the Company had \$25.4 million in cash and cash equivalents compared to \$28.3 million in cash and cash equivalents and marketable securities at December 31, 2006. The Company's investment objectives are primarily to preserve capital and liquidity and secondarily to obtain investment income. The Company invests excess cash in certificates of deposit, U.S. government obligations and high grade commercial paper.

The Company's operating activities have required significant amounts of cash. This trend will continue through fiscal 2008 as the Company's Subsidiaries continue to develop and refine their products and technology. During this period the Company does not expect to generate significant amounts of revenue. It is projected that the Company and its Subsidiaries will continue to add staff, property and equipment during fiscal 2008. In addition, the Company expects to continue to invest in new sponsored research projects and new business opportunities. At December 31, 2007, the Company had the right to provide, in its sole discretion, an additional \$6 million to Calando if certain milestones are reached at specified times. These capital commitments will be used to repay loans and interest for funds previously advanced by the Company, and for research and development, for business development and salaries. The remainder of the Company cash will be used to fund ongoing operations. The Company believes that the cash on hand at December 31, 2007, is sufficient to meet all existing obligations and fund existing operations of Arrowhead and the Subsidiaries through the fourth quarter of fiscal 2008.

In the past, Arrowhead has been able to raise sufficient capital through equity financing and private placement of securities. The Company expects to be able to continue to raise capital in the future. However, if the Company is unable to raise additional capital, we may have to reduce our activities.

### **Off-Balance Sheet Arrangements**

We do not have and have not had any off-balance sheet arrangements or relationships.

### **Contractual Obligations and Commitments**

Our contractual commitments as of December 31, 2007 are summarized below by category in the following table:

	<u>Total</u>	<u>Less than 1 year</u>	<u>&gt;1-3 Years</u>	<u>&gt;3-5 Years</u>	<u>More than 5 Years</u>
Operating Lease Obligation	\$1,442,134	\$644,021	\$724,233	\$73,880	\$—
Sponsored Research(1)	\$309,160	\$409,160	\$0	\$0	\$—

(1) The sponsored research obligations in the table above include our commitments to Duke, UF and Caltech. Two sponsored research projects at Caltech were cancelled in October and December 2007.

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In addition, the Company has contracts to provide material, testing and contract services to the Subsidiaries. None of those contracts goes beyond one year and almost all contracts are month to month.

### **ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.**

We manage our fixed income investment portfolio in accordance with our Investment Policy that has been approved by our Board of Directors. The primary objectives of our Investment Policy are to preserve principal, maintain a high degree of liquidity to meet operating needs, and obtain competitive returns subject to prevailing market conditions. Investments are made primarily in certificates of deposit, U.S. government agency debt securities and high grade commercial paper. Management may use additional investment vehicles as long as the vehicle meets the Investment Objectives and Minimum Acceptable Credit Quality. Our Investment Policy specifies credit quality standards for our investments. We do not own derivative financial instruments in our investment portfolio.

As of December 31, 2007, we had no debt, no derivative instruments outstanding and no financing arrangements that were not reflected in our balance sheet.

### **ITEM 4. CONTROLS AND PROCEDURES.**

Our chief executive officer and our chief financial officer, after evaluating our “disclosure controls and procedures” (as defined in Rules 13a-15(e) and 15-d-15(e) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) as of the end of the period covered by this Quarterly Report on Form 10-Q, have concluded that as of December 31, 2007, our disclosure controls and procedures are effective to ensure that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms, and to ensure that information required to be disclosed by us in such reports is accumulated and communicated to our management, including our chief executive officer and chief financial officer where appropriate, to allow timely decisions regarding required disclosure.

No change in the Company’s internal controls over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) occurred during the Company’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, these controls subsequent to the date this evaluation was carried out.

## **PART II—OTHER INFORMATION**

### **ITEM 1. LEGAL PROCEEDINGS.**

None.

### **ITEM 1A. RISK FACTORS**

An investment in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described under Item 1A of Part I of our Annual Report on Form 10-K for the year ended September 30, 2007 together with all other information contained or incorporated by reference in this report before you decide to invest in our common stock. The risks described in our annual report have not materially changed since that report was filed, except as described below. If any of the risks described in this report or in our annual report actually occurs, our business, financial condition, results of operations and our prospects could be materially and adversely affected.

#### ***We may be liable for damages, or events giving rise to damages, that took place prior to the merger of Unidym and CNI.***

One of the purposes of structuring the combination of Unidym and CNI as a reverse triangular merger was to shield Unidym from any unknown liabilities that occurred prior to the Merger. Although some courts have reasoned that a parent company is not subject to liabilities resulting from activities of a subsidiary prior to a reverse triangular merger, plaintiffs may succeed in holding Unidym liable for damages, or events giving rise to damages, that took place prior to the Merger. This risk will be heightened if and to the extent that Unidym continues to operate CNI’s business in the same manner as that business was operated by CNI prior to the Merger. If plaintiffs are successful in holding Unidym liable for damages relating to pre-Merger operations of CNI’s business or other events giving rise to claims for damages, Arrowhead’s and Unidym’s business could be adversely and materially affected.

#### ***Any drugs developed by our Subsidiaries may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, thereby harming our business.***

Increasing expenditures for healthcare have been the subject of considerable public attention in the United States. Both private and government entities are seeking ways to reduce or contain healthcare costs. Numerous proposals that would effect

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changes in the United States healthcare system have been introduced or proposed in Congress and in some state legislatures, including reductions in the cost of prescription products and changes in the levels at which consumers and healthcare providers are reimbursed for purchases of pharmaceutical products.

The ability of Insert and Calando to market products successfully will depend in part on the extent to which third-party payers are willing to reimburse patients for the costs of their products and related treatments. These third-party payers include government authorities, private health insurers and other organizations, such as health maintenance organizations. Third party payers are increasingly challenging the prices charged for medical products and services. In addition, the trend toward managed healthcare and government insurance programs could result in lower prices and reduced demand for Insert's and Calando's products. Cost containment measures instituted by healthcare providers and any general healthcare reform could affect Insert's and Calando's ability to sell products and may have a material adverse effect on them, thereby diminishing the value of the Company's interest in these Subsidiaries. We cannot predict the effect of future legislation or regulation concerning the healthcare industry and third party coverage and reimbursement on our business.

***There may be a difference in the investment valuations that we used when making initial and subsequent investments in our Subsidiaries and actual market values.***

Our investments in our Subsidiaries were the result of negotiation with Subsidiary management and equity holders, and the investment valuations were not independently verified. Traditional methods used by independent valuation analysts include a discounted cash flow analysis and a comparable company analysis. We have not generated a positive cash flow to date and do not expect to generate significant cash flow in the near future. Additionally, we believe that there exist comparable public companies to provide a meaningful valuation comparison. Accordingly, we have not sought independent valuation analysis in connection with our investments and may have invested in our various holdings at higher or lower valuations than an independent source would have recommended. There may be no correlation between the investment valuations that we used over the years for our investments and the actual market values. If we should eventually sell all or a part of any of our consolidated business or that of a Subsidiary, the ultimate sale price may be for a value substantially lower or higher than previously determined by us, which could materially and adversely impair the value of our Common Stock.

***We may need to raise additional capital in the near future, and, if we are unable to secure adequate funds on acceptable terms, we may be unable to support our business plan.***

Our plan of operations is to provide substantial amounts of research project funding and financial support for majority-owned Subsidiaries over an extended period of time. We may not have sufficient capital in the near future to support all of these projects. Accordingly, we may need to raise additional capital in the near term, and we may seek to do so by conducting one or more private placements of equity securities, selling additional securities in a registered public offering, or through a combination of one or more of such financing alternatives. There can be no assurance that any additional capital resources that we need will be available when needed or on terms acceptable to us. If we are unable to obtain additional capital on acceptable terms when needed, we may be required to take actions that harm our business and our ability to achieve cash flow in the future, including possibly delaying or reducing implementation of certain aspects of our plan of operations, deferring or abandoning one or more of our research programs, or curtailing or ceasing operations of one or more of our Subsidiaries.

### **ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS.**

Sales of unregistered securities have been previously reported on Current Reports on Form 8-K filed by the registrant on April 25, 2007 and May 29, 2007.

### **ITEM 3. DEFAULTS UPON SENIOR SECURITIES.**

None.

### **ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS.**

None

### **ITEM 5. OTHER INFORMATION.**

None.



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### ITEM 6. EXHIBITS.

<u>Exhibit Number</u>	<u>Document Description</u>
10.1	Stock Purchase Agreement by and between Arrowhead Research and Tego BioSciences Corporation (1)
10.2	Subscription Agreement by and between Arrowhead Research and Unidym, Inc. (includes as exhibits the forms of Amended and Restated Investors Rights Agreement by and between Arrowhead Research and Unidym, Inc.; the Amended and Restated Right of First Refusal and Co-Sale Agreement by and between Arrowhead Research and Unidym, Inc. and the Amended and Restated Voting Agreement by and between Arrowhead Research and Unidym, Inc.)*
10.3	Form of Amended and Restated Investors Rights Agreement by and between Arrowhead Research and Unidym, Inc. (incorporated herein by reference from Exhibit 10.2)*
10.4	Form of Amended and Restated Right of First Refusal and Co-Sale Agreement by and between Arrowhead Research and Unidym, Inc. (incorporated herein by reference from Exhibit 10.2)*
10.5	Form of Amended and Restated Right of First Refusal and Co-Sale Agreement by and between Arrowhead Research and Unidym, Inc. (incorporated herein by reference from Exhibit 10.2)*
10.6**	Employment Agreement by and among Insert Therapeutics, Inc., Calando Pharmaceuticals, Inc. and Larry Stambaugh (2)
10.7**	Offer Letter to Christopher Anzalone for employment at Arrowhead Research (3)
31.1	Section 302 Certification of Chief Executive Officer*
31.2	Section 302 Certification of Chief Financial Officer *
32.1	Section 1350 Certification by Principal Executive Officer*
32.2	Section 1350 Certification by Principal Financial Officer*

\* Filed herewith

\*\* Compensation arrangement

- (1) Incorporated by reference from the Current Report on Form 8-K, filed by registrant on October 30, 2007.
- (2) Incorporated by reference from the Current Report on Form 8-K, filed by registrant on November 6, 2007.
- (3) Incorporated by reference from the Current Report on Form 8-K, filed by registrant on December 3, 2007.

**SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Issuer has caused this Quarterly Report on Form 10-Q to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: February 8, 2008

ARROWHEAD RESEARCH CORPORATION.

By: /s/ Paul C. McDonnell

Paul C. McDonnell  
Chief Financial Officer

**UNIDYM, INC.**  
**SUBSCRIPTION AGREEMENT**  
**SERIES C PREFERRED STOCK**

**SUBSCRIPTION AGREEMENT**

THIS SUBSCRIPTION AGREEMENT (this "**Agreement**") is made as of the last date indicated on the signature pages hereto between Unidym, Inc., a Delaware corporation (the "**Company**"), and the undersigned investor party hereto ("**Investor**").

**RECITALS**

WHEREAS, the Company wishes to sell up to an aggregate of 8,333,333 shares of the Company's Series C Preferred Stock ("**Shares**") to one or more investors at a purchase price of \$1.80 per Share, and the Investor wishes to purchase Shares from the Company.

NOW, THEREFORE, in consideration of the mutual covenants, agreements and conditions, and upon acknowledgement of each of the parties of the receipt of valuable consideration, the parties herein agree as follows:

**1. Purchase and Sale of Shares.**

1.1 **The Initial Closing.** At the Initial Closing (as defined below), the Company shall issue and sell to Investor such number of Shares as is set forth immediately below Investor's name on the signature pages hereto. Investor shall pay an amount equal to \$1.80 times the number of Shares to be purchased by the Investor (the "**Purchase Price**") in cash (by check or wire transfer) or by cancellation of indebtedness in United States Dollars to the Company to be held in escrow until the Initial Closing, for release to the Company thereafter. Promptly after the Initial Closing, the Company shall deliver to Investor a duly executed certificate representing the Shares which Investor is purchasing hereunder. The purchase and sale transaction contemplated hereby will close on the first business day immediately following the satisfaction of the Initial Closing conditions set forth herein, which is targeted to be no later than 5:00 p.m., Pacific Time on October 17, 2007, as such date and time may be modified by the Company in its sole discretion (such day, the "**Initial Closing**").

**1.2 Additional Closing(s).**

(a) **Conditions of Additional Closing(s).** At any time and from time to time during the 90 day period following the Initial Closing (the "**Additional Closing Period**"), the Company may, at one or more additional closings (each an "**Additional Closing**"), without obtaining the signature, consent or permission of Investor, offer and sell to other investors (the "**New Investors**"), at a price of \$1.80 per Share, up to that number of Shares that is equal to 8,333,333 Shares less the number of Shares actually issued and sold by the Company at the Initial Closing. New Investors may include persons or entities who are already owners of shares of the Company's Series C Preferred Stock or other capital stock. At least one New Investor must be an institutional investor that purchases a minimum of 1,111,111 Shares; provided, that this requirement may be waived by holders of a majority of the then-outstanding Series C Preferred Stock.

(b) **Amendments.** The Company and the New Investors purchasing Shares at each Additional Closing will execute a Subscription Agreement in substantially the same form hereof, and the New Investors will, to the extent not already a party thereto, execute counterpart signature pages to the Investors' Rights Agreement (as defined in Section 4.6), the ROFR Agreement (as defined in Section 4.7) and the Voting Agreement (as defined in Section 4.8) (the Investors' Rights Agreement, ROFR Agreement and Voting Agreement, collectively, the "**Related Agreements**"). Such New Investors will, upon delivery to the Company of such signature pages, become parties to, and bound by, the Related Agreements, each to the same extent as if they had been an Investor at the Initial Closing.

(c) Status of New Investors. Upon the completion of each Additional Closing as provided in this Section 1.2, each New Investor will be deemed to be an "Investor" for all purposes of the Related Agreements.

2. Representations and Warranties of the Company. The Company hereby represents and warrants to Investor, that the statements in the following paragraphs of this Section 2 are all true and complete as of October 15, 2007:

2.1 Organization, Good Standing and Qualification. The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware. The Company is duly qualified to transact business and is in good standing in each jurisdiction in which the failure to so qualify would reasonably be expected to have a material adverse effect on (a) the present or future business, assets, operations, of the Company, taken as a whole or (b) the Company's ability to perform this Agreement or the Related Agreements (as defined below) (a "**Material Adverse Effect**").

2.2 Capitalization and Voting Rights.

(a) Authorized Stock. As of October 15, 2007, there are authorized for issuance 40,000,000 shares of common stock, par value \$0.0001 (the "**Common Stock**") and 19,173,252 shares of preferred stock, par value \$0.0001 (the "**Preferred Stock**"), of which 5,000,000 shares are designated as Series A Convertible Preferred Stock ("**Series A Preferred Stock**"), 5,673,252 shares are designated as Series B Senior Convertible Preferred Stock ("**Series B Preferred Stock**"), and 8,500,000 shares are designated as Series C Senior Convertible Preferred Stock ("**Series C Preferred Stock**"). As of October 15, 2007, the outstanding stock of the Company consists of the following:

(i) Common Stock. Three Million Seven Hundred Fifty Five Thousand (3,755,000) shares of issued and outstanding Common Stock.

(ii) Five Million (5,000,000) shares of issued and outstanding Series A Preferred Stock, which shares of Series A Preferred Stock are convertible into 1.680096462 shares of Common Stock upon (x) an involuntary or voluntary liquidation, dissolution and winding up of the Company, (y) a Deemed Liquidation Event (as such term is defined in the Restated Certificate) or (z) a Qualified IPO (as such term is defined in the Restated Certificate).

(iii) Five Million Six Hundred Seventy Three Thousand Two Hundred and Fifty Two (5,673,252) shares of issued and outstanding Series B Preferred Stock, which shares of Series B Preferred Stock are convertible into 1.000042304 shares of Common Stock.

(iv) No shares of issued and outstanding Series C Preferred Stock.

Upon the Initial Closing, the rights, preferences and privileges of each series of Preferred Stock will be as stated in the Restated Certificate and as provided by law.

(b) Valid Issuance. The outstanding shares of Common Stock and Preferred Stock are all duly and validly authorized and issued, fully paid and nonassessable.

(c) Rights to Acquire. Except for (i) the conversion privileges of the Preferred Stock, (ii) the rights of first refusal (the "**Existing Refusal Rights**") provided in Section 4 of the Amended and Restated Investors' Rights Agreement, dated as of April 20, 2007, by and among the Company

and such investors (the “**Existing Investors’ Rights Agreement**”), (iii) the Five Million (5,000,000) shares of Common Stock reserved for issuance under to employees, consultants and/or directors pursuant to the Company’s 2006 Stock Option/Stock Issuance Plan (the “**Option Plan**”), of which options to purchase an aggregate of Three Million Three Hundred Seventy-Eight Thousand Two Hundred Twenty Seven (3,778,227) shares of Common Stock granted to employees, consultants and/or directors are currently outstanding, (iv) outstanding warrants to purchase Sixty Four Thousand (64,000) shares of Common Stock and (vi) outstanding restricted stock units for the issuance of One Million One Hundred and Ten Thousand and Ten (1,104,010) shares of Common Stock, there are not outstanding any options, warrants, rights (including conversion or preemptive rights) or agreements for the purchase or acquisition from the Company of any shares of its capital stock. In connection with the Initial Closing, the Existing Investors’ Rights Agreement will be amended and restated in its entirety to read in the form attached to this Agreement as Exhibit A.

(d) Voting of Shares. Other than the Amended and Restated Voting Agreement, dated as of April 20, 2007, by and among the Company and certain holders of Common Stock and Preferred Stock signatory thereto (the “**Existing Voting Agreement**”), the Company is not a party or subject to any agreement or understanding and, to the Company’s knowledge, there is no agreement or understanding between any persons and/or entities which affects or relates to the voting or giving of written consents with respect to any security or by a director of the Company. In connection with the Initial Closing, the Existing Voting Agreement will be amended and restated in its entirety to read in the form attached to this Agreement as Exhibit B.

(e) Market Stand-Off. To the Company’s best knowledge, all outstanding shares of preferred stock of the Company and all capital stock of the Company issuable upon the exercise of outstanding employee incentive stock options are subject to a one hundred eighty (180) day “market stand-off” restriction upon an initial public offering by the Company resulting in at least \$20 Million in gross proceeds pursuant to a registration statement filed with the Securities and Exchange Commission (“**SEC**”) pursuant to the Securities Act of 1933, as amended (the “**Act**”).

2.3 Subsidiaries. Except for 100% ownership of Unidym Acquisition, LLC (the “**Acquisition LLC**”) formed for the purpose of the merger with Carbon Nanotechnologies, Inc. and the minority ownership position in Nanotech Catheter Solutions LLC pursuant to the license agreement with Nanotech Catheter Solutions, the Company does not presently own or control, directly or indirectly, any interest in any other corporation, association, or other business entity. The Company is not a participant in any joint venture, partnership, or similar arrangement.

2.4 Authorization. All corporate action on the part of the Company, its officers, directors and stockholders necessary for the authorization, execution and delivery of this Agreement, the Related Agreements, the performance of all obligations of the Company hereunder and thereunder, and the authorization, sale and issuance of the Shares being sold hereunder, and the Common Stock issuable upon conversion of the Shares, has been taken or will be taken prior to the Initial Closing. As of the Initial Closing, this Agreement and the Related Agreements constitute valid and legally binding obligations of the Company, enforceable in accordance with their respective terms, except (i) as limited by applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors’ rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies, and (iii) to the extent the indemnification provisions contained in the Related Agreements may be limited by applicable federal or state securities laws.

2.5 Valid Issuance of Preferred and Common Stock. The Shares that are being purchased by Investor hereunder, when issued, sold and delivered in accordance with the terms of this Agreement for the consideration expressed herein, will be duly and validly issued, fully paid and nonassessable and will be free of restrictions on transfer, other than restrictions on transfer (i) under this

Agreement, the Investor's Rights Agreement and the ROFR Agreement, (ii) under applicable state and federal securities laws and (iii) otherwise imposed as a result of actions taken by Investor. The Common Stock issuable upon conversion of the Shares purchased under this Agreement has been duly and validly reserved for issuance and, upon issuance in accordance with the terms of the Company's Restated Certificate of Incorporation in the form attached hereto as Exhibit C (the "**Restated Certificate**"), will be duly and validly issued, fully paid and nonassessable and will be free of restrictions on transfer, other than restrictions on transfer (i) under this Agreement, the Investor's Rights Agreement and the ROFR Agreement, (ii) under applicable state and federal securities laws and (iii) otherwise imposed as a result of actions taken by Investor.

2.6 Governmental Consents. No consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority on the part of the Company is required in connection with the consummation of the transactions contemplated by this Agreement and the Related Agreements, except for such consents, approvals, orders, authorizations, registrations, qualifications, designations, declarations or filings which are not required to be obtained prior to the Initial Closing, and such filings as are required pursuant to applicable federal and state securities laws and blue sky laws, which filings will be effected within the required statutory period.

2.7 Offering. Subject in part to the truth and accuracy of Investor's representations set forth in Section 2.20 of this Agreement, the offer, sale and issuance of the Shares as contemplated by this Agreement are exempt from the registration requirements of the Act, and the qualification or registration requirements of applicable state blue sky laws, as such registration requirements and laws currently exist.

2.8 Litigation. There is no action, suit, proceeding or investigation pending or, to the Company's knowledge, currently threatened in writing against the Company that questions the validity of this Agreement or the Related Agreements, or the right of the Company to enter into such agreements or to consummate the transactions contemplated hereby and thereby, or that would reasonably be expected to result in a Material Adverse Effect. The Company is not a party or subject to the provisions of any order, writ, injunction, judgment or decree of any court or government agency or instrumentality. There is no action, suit, proceeding or investigation by the Company currently pending or that the Company currently intends to initiate.

2.9 Proprietary Information Agreements. Each current employee of the Company has executed a Proprietary Information and Inventions Agreement in substantially the form provided to Investor upon request by Investor. The Company is not aware that any such employee is in violation thereof.

2.10 Compliance with Other Instruments. The Company is not in violation of any provision of its Restated Certificate or Bylaws nor, to its knowledge, of any instrument, judgment, order, writ, decree or contract, statute, rule or regulation to which the Company is subject and a violation of which would reasonably be expected to have a Material Adverse Effect. The execution, delivery and performance of this Agreement and the Related Agreements, and the consummation of the transactions contemplated hereby and thereby will not result in any such violation, or be in conflict with or constitute, with or without the passage of time and giving of notice, either a default under any such provision or an event that results in the creation of any lien, charge or encumbrance upon any assets of the Company or the suspension, revocation, impairment, forfeiture or nonrenewal of any material permit, license, authorization or approval applicable to the Company, its business or operations or any of its assets or properties.

2.11 Agreements; Action. Except for agreements explicitly contemplated hereby, there are no agreements or understandings between the Company and any of its officers, directors, affiliates or any affiliate thereof (except for transactions with Acquisition LLC, of which the Company is a wholly

owned subsidiary, and except for quarterly allocations for services performed by Arrowhead) and except as set forth on Schedule 2.11.

(a) there are no agreements, understandings, instruments, contracts, judgments, orders, writs or decrees to which the Company is a party or by which it is bound that may involve (i) obligations (contingent or otherwise) of, or payments to the Company, in excess of \$10,000, other than obligations of, or payments to, the Company arising from purchase or sale agreements entered into in the ordinary course of business, or (ii) provisions materially restricting the development, manufacture or distribution of the Company's products or services, and

(b) The Company has not (i) declared or paid any dividends or authorized or made any distribution upon or with respect to any class or series of its capital stock, (ii) incurred any indebtedness for money borrowed or any other liabilities individually in excess of \$10,000 or, in the case of indebtedness and/or liabilities individually less than \$10,000, in excess of \$25,000 in the aggregate, (iii) made any loans or advances to any person, other than ordinary advances for travel expenses, or (iv) sold, exchanged or otherwise disposed of any of its assets or rights.

For the purposes of subsections (b) and (c) above, all indebtedness, liabilities, agreements, understandings, instruments and contracts involving the same person or entity (including persons or entities the Company has reason to believe are affiliated therewith) shall be aggregated for the purpose of meeting the individual minimum dollar amounts of such subsections.

2.12 Related-Party Transactions. No employee, officer or director of the Company or member of his or her immediate family is indebted to the Company, nor is the Company indebted (or committed to make loans or extend or guarantee credit) to any of them. To the best of the Company's knowledge, other than in Arrowhead Research Corporation, a Delaware corporation ("**Arrowhead**") or in any of Arrowhead's subsidiaries or Acquisition LLC, none of such persons has any direct or indirect ownership interest in any firm or corporation with which the Company is affiliated or with which the Company has a business relationship, or any firm or corporation that competes with the Company, except that employees, officers or directors of the Company and members of their immediate families may own stock in publicly traded companies that may compete with the Company. No member of the immediate family of any officer or director of the Company is directly or indirectly interested in any material contract with the Company.

2.13 No Undisclosed Liabilities. Except as set forth in the consolidated financial statements of Arrowhead at June 30, 2007 and for the three months then ended, the Company does not have any liabilities (whether accrued, absolute, unliquidated, contingent or otherwise, whether or not known to the Company, whether due or to become due and regardless of when asserted) arising out of transactions entered into at or prior to the Initial Closing, or any action or inaction at or prior to the Initial Closing or any state of facts existing at or prior to the Initial Closing other than (i) liabilities and obligations that have arisen after June 30, 2007 in the ordinary course of business (none of which is material and none of which is a liability resulting from breach of contract, breach of warranty, tort, infringement, claim or lawsuit), (ii) obligations under contracts and commitments incurred in the ordinary course of business that would not be required to be reflected in financial statements prepared in accordance with generally accepted accounting principles, or (iii) \$500,000 transferred by Arrowhead to the Company to purchase Shares under the same terms and conditions as the New Investors. The Company is not a guarantor or indemnitor of any indebtedness of any other person, firm or corporation.

2.14 Permits. The Company has all franchises, permits, licenses and any similar authority necessary for the conduct of its business as now being conducted by it, except to the extent the lack of which would not reasonably be expected to have a Material Adversely Effect. The Company is not in



default under any of such franchises, permits, licenses or other similar authority which would be reasonably expected to have a Material Adverse Effect.

2.15 Environmental and Safety Laws. To its knowledge, the Company is not in violation of any applicable statute, law or regulation relating to the environment or occupational health and safety, and, to its knowledge, no material expenditures are or will be required in order to comply with any such existing statute, law or regulation.

2.16 Disclosure. The Company has fully provided Investor with all the information that Investor has requested in writing for deciding whether to purchase the Shares. Neither this Agreement (including all the exhibits and schedules hereto) nor any other statements or certificates made or delivered in connection herewith contains any untrue statement of a material fact or omits to state a material fact necessary to make the statements herein or therein not misleading in light of the circumstances under which they were made.

2.17 Registration Rights. Except as provided in the Existing Investors' Rights Agreement and except for the Shares to be sold in this Offering, the Company has not granted or agreed to grant any registration rights, including piggyback rights, to any person or entity. In connection with the Initial Closing, the Existing Investors' Rights Agreement will be amended and restated in its entirety to read in the form attached to this Agreement as Exhibit A.

2.18 Title to Property and Assets. The property and assets used by the Company in its business are owned by the Company free and clear of all mortgages, liens, loans and encumbrances, except for (i) statutory liens for the payment of current taxes that are not yet delinquent and (ii) for liens, encumbrances and security interests that arise in the ordinary course of business and minor defects in title, none of which, individually or in the aggregate, would reasonably be expected to have a Material Adverse Effect. With respect to the property and assets it leases, the Company is in compliance with such leases and, to its knowledge, holds a valid leasehold interest free of any liens, claims or encumbrances, subject to clauses (i)-(ii) of the foregoing sentence, except to the extent the failure to be in compliance or hold a valid leasehold interest would not reasonably be expected to have a Material Adverse Effect.

2.19 Labor Agreements and Actions. The Company is not bound by or subject to any contract, commitment or arrangement with any labor union, and no labor union has requested or, to the Company's knowledge, has sought to represent any of the employees, representatives or agents of the Company. There is no strike or other labor dispute involving the Company pending, or to the Company's knowledge, threatened in writing, that would reasonably be expected to have a Material Adverse Effect, nor is the Company aware of any labor organization activity involving its employees. The Company is not aware that any officer or key employee, or that any group of key employees, intends to terminate their employment with the Company, nor does the Company have a present intention to terminate the employment of any of the foregoing. The employment of each officer and employee of the Company is terminable at the will of the Company. The Company is not a party to or bound by any currently effective employment contract, deferred compensation agreement, bonus plan, incentive plan, profit sharing plan, retirement agreement or other employee compensation agreement, except that pursuant to his employment arrangement, the CEO of the Company is entitled to certain severance payments and acceleration of options if he is terminated or constructively terminated without cause. To its knowledge, the Company has complied in all material respects with all applicable state and federal equal employment opportunity and other laws related to employment.

2.20 Brokers Fees. The Company expects to pay third-party finders or advisors finder's fees (in cash and/or equity) for Shares placed by such third party. For the sake of clarity, no finder's fees will be paid for Shares not placed by a third-party finder or advisor.

2.21 Intellectual Property. To its knowledge, the Company has rights to all intellectual property it needs to operate its business as currently conducted, other than intellectual property that it reasonably believes is invalid or it can obtain rights to through a license or cross-licensing arrangement.

2.22 Tax Returns and Payments. There are no federal, state, county, local or foreign taxes dues and payable by the Company which have not been timely paid. There are no accrued and unpaid federal, state, county, local or foreign taxes of the Company which are due, whether or not assessed or disputed. There have been no examinations or audits of any tax returns or reports by any applicable federal, state, local or foreign governmental agency. The Company has duly and timely filed all federal, state, county, local and foreign tax returns required to have been filed by it and there are in effect no waivers of applicable statutes of limitations with respect to taxes for any year.

2.23 Insurance. The Company has in full force and effect fire and casualty insurance policies with extended coverage, sufficient in amount (subject to reasonable deductions) to allow it to replace any of its properties that might be damaged or destroyed.

2.24 ERISA. The Company has made all required contributions and has no liability to any such employee benefit plan, other than liability for health plan continuation coverage described in Part 6 of Title I(B) of Employee Retirement Income Security Act of 1974, as amended, and has complied in all material respects with all applicable laws for any such employee benefit plan.

3. Representations and Warranties of Investor. Investor hereby represents, warrants and covenants to the Company that:

3.1 Authorization. Investor has full power and authority to enter into this Agreement and the Related Agreements to which it is a party, and each such agreement constitutes its valid and legally binding obligation, enforceable in accordance with its terms except (i) as limited by applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies, and (iii) to the extent the indemnification provisions contained in the Related Agreements may be limited by applicable federal or state securities laws.

3.2 Purchase Entirely for Own Account. This Agreement is made with Investor in reliance upon Investor's representation to the Company, which by Investor's execution of this Agreement, Investor hereby confirms that the Shares will be acquired for investment for Investor's own account, not as a nominee or agent, and not with a view to the resale or distribution of any part thereof, and that Investor has no present intention of selling, granting any participation in or otherwise distributing the same. By executing this Agreement, Investor further represents that Investor does not have any contract, undertaking, agreement or arrangement with any person to sell, transfer or grant participations to such person or to any third person, with respect to any of the Shares.

3.3 Disclosure of Information. Investor believes it has received all the information it considers necessary or appropriate for deciding whether to purchase the Shares. Investor further represents that it has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of the Shares and the business, properties, prospects and financial condition of the Company. The foregoing, however, does not limit or modify the representations and warranties of the Company in Section 2 of this Agreement or the right of Investor to rely thereon.

3.4 Investment Experience. Investor is an investor in securities of companies in the development stage and acknowledges that he/she/it is able to bear the economic risk of its investment, and has such knowledge and experience in financial or business matters that it is capable of evaluating the

merits and risks of the investment in the Shares. If other than an individual, Investor also represents it has not been organized for the purpose of acquiring the Shares.

3.5 Accredited Investor. Investor is an “accredited investor” within the meaning of SEC Rule 501 of Regulation D and has reviewed Schedule 3.5 before making this representation to the Company. All of the information in the Investor Questionnaire delivered by Investor to the Company in connection with Investor’s purchase of the Shares remains complete, true and correct as of the Initial Closing or the Additional Closing, as applicable.

3.6 Restricted Securities. Investor understands that the Shares it is purchasing are characterized as “restricted securities” under the federal securities laws inasmuch as they are being acquired from the Company in a transaction not involving a public offering, and that under such laws and applicable regulations, such Shares may be resold without registration under the Act only in certain limited circumstances. In the absence of an effective registration statement covering the Shares or an available exemption from registration under the Act, the Shares (and any Common Stock issued on conversion of the Shares) must be held indefinitely.

3.7 No Brokers. Investor has not taken any action which would give rise to any claim by any person for brokerage commissions, finder's fees or similar payments relating to this Agreement or the transactions contemplated hereby.

3.8 Legends. It is understood that the certificates evidencing the Shares may bear one or all of the following legends:

(a) “These securities have not been registered under the Securities Act of 1933, as amended. They may not be sold, offered for sale, pledged or hypothecated in the absence of a registration statement in effect with respect to the securities under such Act or an opinion of counsel satisfactory to the Company that such registration is not required or unless sold pursuant to Rule 144 of such Act.”

(b) Legends required to indicate that the Shares are subject to the terms of the Investors Rights Agreement and ROFR Agreement.

(c) Any legend required by applicable laws.

4. Conditions to Investor’s Obligations at Closing. The following conditions must be satisfied by the Company, unless waived by Investor, in Investor’s sole and absolute discretion.

4.1 Representations and Warranties. The representations and warranties of the Company contained in Section 2 shall be true on and as of the Initial Closing with the same effect as though such representations and warranties had been made on and as of the date of the Initial Closing.

4.2 Performance. The Company shall have performed and complied with all agreements, obligations and conditions contained in this Agreement that are required to be performed or complied with by it on or before the Initial Closing.

4.3 Qualifications. All authorizations, approvals or permits, if any, of any governmental authority or regulatory body of the United States or of any state that are required in connection with the lawful issuance and sale of the Shares pursuant to this Agreement shall be duly obtained and effective, other than such authorizations, approvals or permits or other filings which may be timely made after such issuance and sale of the Shares.

4.4 Restated Certificate. The Company shall have filed the Restated Certificate with the Delaware Secretary of State.

4.5 Proceedings and Documents. All corporate and other proceedings in connection with the transactions contemplated at the Initial Closing and all documents incident thereto shall be reasonably satisfactory in form and substance to Investor, and Investor shall have received all such counterpart original and certified or other copies of such documents as may be reasonably requested.

4.6 Investors' Rights Agreement. The Company, certain of the Company's existing stockholders and Investor shall have executed and delivered the Amended and Restated Investors' Rights Agreement in the form attached to this Agreement as Exhibit B (the "**Investors' Rights Agreement**").

4.7 ROFR Agreement. The Company, certain of the Company's existing stockholders, and Investor shall have executed and delivered the Amended and Restated Right of First Refusal and Co-Sale Agreement in the form attached to this Agreement as Exhibit C (the "**ROFR Agreement**").

4.8 Voting Agreement. The Company, certain of the Company's existing stockholders and Investor shall have executed and delivered the Amended and Restated Voting Agreement in the form attached to this Agreement as Exhibit D (the "**Voting Agreement**").

4.9 Waiver of Existing Refusal Rights. In connection with the transactions contemplated by this Agreement, the holders of Preferred Stock shall have waived their Existing Refusal Rights.

4.10 Minimum Shares Purchased. A minimum of 4,444,444 Shares shall be purchased by investors at the Initial Closing for a minimum aggregate purchase price of \$7,999,999.20. Of those Shares, a minimum of 1,111,111 Shares must be purchased at the Initial Closing by an institutional investor.

4.11 General. The holders of Common Stock and/or Preferred Stock shall have amended any other agreement or arrangement, or given any further consent required to allow the Company to execute and perform this Agreement and the Related Agreements.

5. Conditions to the Company's Obligations at Closing. The following conditions must be satisfied by Investor, unless waived in writing by the Company, in the Company's sole and absolute discretion.

5.1 Representations and Warranties. The representations and warranties of the Investor contained in Section 3 shall be true on and as of the Initial Closing or the Additional Closing (as applicable) with the same effect as though such representations and warranties had been made on and as of the date of such closing.

5.2 Payment of the Purchase Price. Investor shall have delivered to the Company the purchase price for the Shares.

5.3 Restated Certificate. The Company shall have filed the Restated Certificate with the Delaware Secretary of State.

5.4 Securities Exemptions. The offer and sale of the Shares to Investor pursuant to this Agreement shall be exempt from the registration requirements of the

Securities Act of 1933, as amended, the qualification requirements of the California General Corporation Law and the registration and/or qualification requirements of all other applicable state securities laws.

5.5 Proceedings and Documents. All corporate and other proceedings in connection with the transactions contemplated at the Initial Closing or the Additional Closing (as applicable) and all documents incident thereto shall be reasonably satisfactory in form and substance to the Company, and the Company shall have received all such counterpart original and certified or other copies of such documents as may be reasonably requested.

5.6 Investors' Rights Agreement. The Company, certain of the Company's existing stockholders, and Investor shall have executed and delivered the Investors' Rights Agreement.

5.7 ROFR Agreement. The Company, certain of the Company's existing stockholders, and Investor shall have executed and delivered the ROFR Agreement.

5.8 Voting Agreement. The Company, certain of the Company's existing stockholders, Arrowhead, and Investor shall have executed and delivered the Voting Agreement.

5.9 Waiver of Existing Refusal Rights. In connection with the transactions contemplated by this Agreement, the holders of Preferred Stock shall have waived the Existing Refusal Rights.

5.10 Minimum Shares Purchased. A minimum of 4,444,444 Shares shall be purchased by investors at the Initial Closing for a minimum aggregate purchase price of \$7,999,999.20. Of those Shares, a minimum of 1,111,111 Shares must be purchased at the Initial Closing by an institutional investor.

5.11 General. The holders of Common Stock and/or Preferred Stock shall have amended any other agreement or arrangement, or given any further consent required to allow the Company to execute and perform this Agreement and the Related Agreements.

## 6. Miscellaneous.

6.1 Survival. The warranties, representations and covenants of the Company and Investor contained in or made pursuant to this Agreement shall survive the execution and delivery of this Agreement and the Initial Closing or the Additional Closing (as applicable) and shall in no way be affected by any investigation of the subject matter thereof made by or on behalf of Investor or the Company.

6.2 Successors and Assigns. Except as otherwise provided herein, the terms and conditions of this Agreement shall inure to the benefit of, and be binding upon, the respective successors and assigns of the parties (including transferees of any Shares). Nothing in this Agreement, express or implied, is intended to confer upon any party, other than the parties hereto or their respective successors and assigns, any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

6.3 Governing Law. This Agreement shall be governed by and construed under the laws of the State of California as applied to agreements among California residents entered into and to be performed entirely within California, except with respect to conflict of laws.

6.4 Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

6.5 Notices. All notices required or permitted hereunder shall be in writing and shall be deemed effectively given: (i) upon personal delivery to the party to be notified, (ii) when sent by confirmed telex or facsimile if sent during normal business hours of the recipient, if not, then on the next business day; (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (iv) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the address as set forth on the signature page hereof or at such other address as such party may designate by ten (10) days' advance written notice to the other parties hereto.

6.6 Responsibility for Brokers Fees. Investor indemnifies and holds harmless the Company from any liability for any commission or compensation in the nature of a finders' fee (and the costs and expenses of defending against such liability or asserted liability) for which Investor or any of its officers, partners, employees or representatives is responsible. The Company indemnifies and holds harmless Investor from any liability for any commission or compensation in the nature of a finders' fee (and the costs and expenses of defending against such liability or asserted liability) for which the Company or any of its officers, employees or representatives is responsible.

6.7 Aggregation of Stock. All issued and outstanding shares of the Series C Preferred Stock and Common Stock issued upon conversion thereof held or acquired by affiliated entities or persons shall be aggregated together for the purpose of determining the availability of any rights under this Agreement.

6.8 Amendments and Waivers. Any term of this Agreement may be amended, and the observance of any term of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and Investor.

6.9 Severability. If one or more provisions of this Agreement are held to be unenforceable under applicable law, such provision shall be excluded from this Agreement and the balance of the Agreement shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms.

6.10 Entire Agreement. This Agreement and the documents referred to herein constitute the entire agreement among the parties, and this Agreement supersedes all prior written and oral agreements, and all contemporaneous oral agreements, relating to the subject matter hereof.

6.11 Counterparts; Facsimile/PDF Signatures. This Agreement may be executed in two or more counterparts, and by facsimile signatures or portable document format (.pdf or similar format), each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

[SIGNATURE PAGE FOLLOWS]

Dated: 10/29/07

**COMPANY:**

UNIDYM, INC.  
a Delaware corporation

By: /s/ ARTHUR L. SWIFT  
Arthur L. Swift  
CEO & President

Address: 1430 O'Brien Drive  
Menlo Park, CA 94025

**I HEREBY REPRESENT THAT I HAVE READ AND UNDERSTOOD THE SUBSCRIPTION AGREEMENT.**

Dated: **October 29, 2007**

**Subscription:** I hereby subscribe for the following number of Shares at the Purchase Price indicated:

Total Number of Shares: **1,666,667**

Total Purchase Price (\$1.80 Per Share): **\$3,000,000.00**

**Arrowhead Research Corporation**

Please print the exact name(s) in which the Shares will be issued

Print Name of Signer: **R Bruce Stewart**

Signature: /s/ **R Bruce Srewart**

Title of Signer (if purchaser is an entity): **CEO**

Social Security # or Tax Id#: **46-0408024**

Address: **201 S. Lake Ave, Suite 703**

City, State & Zip: **Pasadena, CA 91101**

Phone: **(626) 304-2400**

Facsimile: **(626) 304-3401**

Email: \_\_\_\_\_



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**Exhibit A**

Form of  
Amended and Restated Investors' Rights Agreement

## AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

This Amended and Restated Investors' Rights Agreement (the "**Agreement**") is made as of the October [\_\_\_], 2007, by and between **Unidym, Inc.**, a Delaware corporation (the "**Company**"), each of the investors listed on Schedule A hereto (each of which is referred to in this Agreement as an "**Investor**") and each of the stockholders listed on Schedule B hereto (each of which is referred to in this Agreement as a "**Stockholder**").

### RECITALS

**WHEREAS**, the Company, certain of the Investors, and certain of the Stockholders entered into an Amended and Restated Investors' Rights Agreement dated as of April 20, 2007 (the "**Prior Agreement**");

**WHEREAS**, certain new investors (the "**Series C Investors**") have agreed to purchase shares of the Company's Series C Preferred Stock (the "**Series C Stock**") pursuant to a certain Series C Preferred Stock Subscription Agreement between the Company and each such Series C Investor dated of even date herewith or hereafter (each a "**Series C Agreement**"), and the Series C Agreement provides that, as a condition to the Series C Investor's purchase of Series C Stock thereunder, the Company will enter into this Agreement and the Series C Investor will be granted the rights set forth herein;

**WHEREAS**, the Company and the parties to the Prior Agreement desire to enter into this Agreement in order to amend, restate and replace their rights and obligations under the Prior Agreement with the rights and obligations set forth in this Agreement. Section 6.8 of the Prior Agreement provides that the Prior Agreement may be amended by the written consent of (i) the Company, (ii) the holders of at least a majority of the Registrable Securities then outstanding and held by the Stockholders and (iii) the holders of at least a majority of the Registrable Securities then outstanding and held by the Investors;

**WHEREAS**, the Investors, Stockholders and the Company hereby agree that this Agreement shall govern, among other things, the rights of the Investors to cause the Company to register shares of the Company's Common Stock issuable to the Investors, to participate in future equity offerings by the Company and certain other matters as set forth in this Agreement; and

**WHEREAS**, the Company has provided its written consent to amend the Prior Agreement, the undersigned Stockholders to this Agreement hold a majority of the Registrable Securities outstanding and the undersigned Investors to this Agreement hold a majority of the Registrable Securities outstanding.

**NOW, THEREFORE**, in consideration of the foregoing and the promises and covenants contained herein, the sufficiency of which is hereby acknowledged, the parties agree as follows:

1. **Definitions.** For purposes of this Agreement:

1.1. The term "**Affiliate**" means with respect to any individual, corporation, partnership, association, trust, or any other entity (in each case, a "**Person**"), any Person which, directly or indirectly, controls, is controlled by or is under common control with such Person, including, without limitation, any general partner, officer or director of such Person and any venture capital fund now or hereafter existing which is controlled by or under common control with one or more general partners or shares the same management company with such Person.

1.2. "**Arrowhead**" means to Arrowhead Research Corporation, a Delaware corporation.

- 1.3. The term “**Board**” means the Board of Directors of the Company.
- 1.4. The term “**Certificate of Incorporation**” means the Certificate of Incorporation of the Company, as amended to date.
- 1.5. The term “**Common Stock**” means shares of the Company’s common stock, par value \$0.0001 per share.
- 1.6. The term “**Exchange Act**” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.
- 1.7. The term “**Form S-3**” means such form under the Securities Act as in effect on the date hereof or any registration form under the Securities Act subsequently adopted by the SEC which permits inclusion or incorporation of substantial information by reference to other documents filed by the Company with the SEC.
- 1.8. The term “**GAAP**” means generally accepted accounting principles.
- 1.9. The term “**Holder**” means any Person owning or having the right to acquire Registrable Securities or any assignee thereof in accordance with Section 6.2 hereof.
- 1.10. The term “**Initiating Holders**” means, collectively, any Holders who properly initiate a registration request under this Agreement.
- 1.11. The term “**Investor**” means the Investors listed on Schedule A hereto.
- 1.12. The term “**Investor-Designated Director**” means any Arrowhead Director (as defined in the Voting Agreement).
- 1.13. The term “**IPO**” means the Company’s first underwritten public offering of its Common Stock pursuant to an effective registration statement under the Securities Act, resulting in at least Twenty Million (\$20,000,000) of gross proceeds to the Company.
- 1.14. The term “**New Securities**” means equity or debt securities of the Company, whether now authorized or not, or rights, options, or warrants to purchase said equity securities, or securities of any type whatsoever that are, or may become, convertible into or exchangeable into or exercisable for said equity securities.
- 1.15. The term “**Qualified Public Offering**” means the Company’s firm commitment underwritten public offering of its Common Stock pursuant to an effective registration statement under the Securities Act, resulting in a per share price to the public of at least Three Dollars (\$3.00) (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock).
- 1.16. The term “**register**,” “**registered**,” and “**registration**” refer to a registration effected by preparing and filing a registration statement or similar document in compliance with the Securities Act, and the declaration or ordering of effectiveness of such registration statement or document.
- 1.17. The term “**Registrable Securities**” means (i) the Common Stock issuable or issued upon conversion of the Series A Preferred Stock, the Series B Preferred Stock or the Series C Preferred Stock (ii) shares of Common Stock issued to George Gruner (provided, however, that such shares of Common

Stock shall not be deemed Registrable Securities and the holders of such Common Stock shall not be deemed Holders for the purposes of the first paragraph of Sections 2.1 or 2.11 or Sections 2.12 and 6.8), (iii) any Common Stock of the Company issued as (or issuable upon the conversion or exercise of any warrant, right or other security which is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of the shares referenced in clauses (i) and (ii) above, and (iv) any Common Stock of the Company held by Arrowhead, excluding in all cases, however, (a) any Registrable Securities sold by a Holder in a transaction in which such Holder's rights under Section 2 hereof are not assigned, (b) any shares for which registration rights have terminated pursuant to Section 2.15 of this Agreement, or (c) any Registrable Securities registered or sold to the public either pursuant to a registration statement or SEC Rule 144.

1.18. The term “**Registrable Securities then outstanding**” means the number of shares determined by adding the number of shares of Common Stock outstanding which are, and the number of shares of Common Stock issuable pursuant to then exercisable or convertible securities which are, Registrable Securities.

1.19. The term “**Sale of the Company**” means (A) a transaction or series of related transactions in which a Person, or a group of related Persons, acquires from stockholders of the Company shares representing fifty percent (50%) or more of the outstanding voting power of the Company, (B) a merger or consolidation in which (a) the Company is a constituent party or (b) a subsidiary of the Company is a constituent party and the Company issues shares of its capital stock pursuant to such merger or consolidation, *except* any such merger or consolidation involving the Company or a subsidiary in which the shares of capital stock of the Company outstanding immediately prior to such merger or consolidation continue to represent, or are converted or exchanged for shares of capital stock which represent, immediately following such merger or consolidation at least a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; or (C) the sale, lease, exclusive license, transfer or other disposition, in a single transaction or series of related transactions, by the Company or any subsidiary of the Company of all or substantially all the assets of the Company and its subsidiaries taken as a whole except where such sale, lease, transfer or other disposition is to a wholly owned subsidiary of the Company.

1.20. The term “**SEC**” means the Securities and Exchange Commission.

1.21. The term “**SEC Rule 144**” means Rule 144 promulgated by the SEC under the Securities Act.

1.22. The term “**SEC Rule 144(k)**” means Rule 144(k) promulgated by the SEC under the Securities Act.

1.23. The term “**SEC Rule 145**” means Rule 145 promulgated by the SEC under the Securities Act.

1.24. The term “**Securities Act**” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

1.25. The term “**Series A Preferred Stock**” means shares of the Company's Series A Preferred Stock, par value \$0.0001 per share.

1.26. The term “**Series B Preferred Stock**” means shares of the Company’s Series B Preferred Stock, par value \$0.0001 per share.

1.27. The term “**Series C Preferred Stock**” means shares of the Company’s Series C Preferred Stock, par value \$0.0001 per share.

1.28. The term “**Violation**” means losses, claims, damages, or liabilities (joint or several) to which a party hereto may become subject under the Securities Act, the Exchange Act or other federal or state law, insofar as such losses, claims, damages, or liabilities (or actions in respect thereof) arise out of or are based upon any of the following statements, omissions or violations: (i) any untrue statement or alleged untrue statement of a material fact contained in such registration statement, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto, (ii) the omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading, or (iii) any violation or alleged violation by any other party hereto, of the Securities Act, the Exchange Act, any state securities law or any rule or regulation promulgated under the Securities Act, the Exchange Act or any state securities law.

1.29. The term “**Voting Agreement**” means the Amended and Restated Voting Agreement dated of even date herewith by and among the Company, the Investors and Stockholders, as such agreement may be amended from time to time.

2. Registration Rights. The Company covenants and agrees as follows:

2.1 Request for Registration.

(a) If the Company shall receive at any time after the earlier of (i) 5 years after the date of this Agreement or (ii) 180 days after the effective date of the first registration statement for a public offering of securities of the Company (other than a registration statement relating either to the sale of securities to employees of the Company pursuant to a stock option, stock purchase or similar plan or a SEC Rule 145 transaction), a written request from the Holders who hold in excess of thirty percent (30%) of the Registrable Securities then outstanding that the Company file a registration statement under the Securities Act covering the registration of the Registrable Securities then outstanding with an anticipated aggregate offering price (net of underwriting discounts and commissions) of at least Ten Million Dollars (\$10,000,000), then the Company shall:

(i) within ten (10) days of the receipt thereof, give written notice of such request to all Holders;

(ii) as soon as practicable, and in any event within sixty (60) days of the receipt of such request, file a registration statement under the Securities Act covering all Registrable Securities which the Holders request to be registered, subject to the limitations of subsection 2.1(b), within twenty (20) days of the mailing of such notice by the Company in accordance with Section 6.5; and

(iii) use its best efforts to cause such registration statement to be declared effective by the SEC as soon as practicable.

(b) If the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to subsection 2.1(a) and the Company shall include such information in the written notice referred to in subsection 2.1(a). The underwriter will be selected by the Company and shall be reasonably acceptable to a majority in interest of the Initiating Holders. In such event, the right of any Holder to include such Holder’s Registrable Securities in such registration shall be conditioned upon such Holder’s

participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company as provided in subsection 2.3(e)) enter into an underwriting agreement in customary form with the underwriter or underwriters selected for such underwriting. Notwithstanding any other provision of this Section 2.1, if the underwriter advises the Initiating Holders in writing that marketing factors require a limitation of the number of shares to be underwritten, then the Initiating Holders shall so advise all Holders of Registrable Securities which would otherwise be underwritten pursuant hereto, and the number of shares of Registrable Securities that may be included in the underwriting shall be allocated among all Holders of Registrable Securities, including the Initiating Holders, in proportion (as nearly as practicable) to the number of Registrable Securities of the Company owned by each Holder; provided, however, that the number of shares of Registrable Securities held by the Holders to be included in such underwriting shall not be reduced unless all other securities are first entirely excluded from the underwriting. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest 100 shares.

(c) The Company shall not be obligated to effect, or to take any action to effect, any registration

(i) pursuant to this Section 2.1:

(i) In any particular jurisdiction in which the Company would be required to execute a general consent to service of process in effecting such registration, unless the Company is already subject to service in such jurisdiction and except as may be required under the Securities Act;

(ii) After the Company has effected two (2) registrations pursuant to this Section 2.1 and such registrations have been declared or ordered effective;

(iii) If the Initiating Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made pursuant to Section 2.11, below; or

(iv) If the Registrable Securities to be included in the registration statement could be sold without restriction under SEC Rule 144(k) within a ninety (90) day period and the Company is currently subject to the periodic reporting requirements of Sections 12(g) or 15(d) of the Exchange Act, or

(ii) pursuant to any other provision of this Agreement:

(i) In any particular jurisdiction in which the Company would be required to execute a general consent to service of process in effecting such registration, unless the Company is already subject to service in such jurisdiction and except as may be required under the Securities Act; or

(ii) If the Registrable Securities to be included in the registration statement could be sold without restriction under SEC Rule 144(k) within a ninety (90) day period and the Company is currently subject to the periodic reporting requirements of Sections 12(g) or 15(d) of the Exchange Act.

(d) Notwithstanding the foregoing, if the Company shall furnish to Holders requesting a registration statement pursuant to this Section 2.1 a certificate signed by the Chief Executive Officer of the Company stating that in the good faith judgment of the Board it would be materially detrimental to the Company and its stockholders for such registration statement to be filed and it is therefore necessary to defer the filing of such registration statement, the Company shall have the right to defer taking action with respect to such filing for a period of not more than ninety (90) days after receipt of the request of the Initiating Holders; provided, however, that the Company may not utilize this right more than once in any twelve-month period.

A registration statement shall not be counted until such time as such registration statement has been declared effective by the SEC (unless the Initiating Holders withdraw their request for such registration (other than as a result of information concerning the business or financial condition of the Company which is made known to the Investors after the date on which such registration was requested) and elect not to pay the registration expenses therefor pursuant to Section 2.5). A registration statement shall not be counted if, as a result of an exercise of the underwriter's cut-back provisions, fewer than seventy-five percent (75%) of the total number of Registrable Securities that Holders have requested to be included in such registration statement are actually included.

2.2. Company Registration. If the Company proposes to register (including for this purpose a registration effected by the Company for stockholders other than the Holders) any of its stock or other securities under the Securities Act in connection with the public offering of such securities solely for cash (other than a registration statement relating either to the sale of securities to employees of the Company pursuant to a stock option, stock purchase or similar plan or an SEC Rule 145 transaction, a registration on any form which does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities or a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities which are also being registered), the Company shall, at such time, promptly give each Holder written notice of such registration. Upon the written request of each Holder given within twenty (20) days after mailing of such notice by the Company in accordance with Section 6.6, the Company shall, subject to the provisions of Section 2.7, cause to be registered under the Securities Act all of the Registrable Securities that each such Holder has requested to be registered. The Company shall have the right to terminate or withdraw any registration initiated by it under this Section 2.2 prior to the effectiveness of such registration whether or not any Holder has elected to include securities in such registration. The expenses of such withdrawn registration shall be borne by the Company in accordance with Section 2.6, hereof.

2.3. Obligations of the Company. Whenever required under this Section 2 to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible,

(a) prepare and file with the SEC a registration statement with respect to such Registrable Securities and use its reasonable best efforts to cause such registration statement to become effective, and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such registration statement effective for a period of up to one hundred twenty (120) days or, if earlier, until the distribution contemplated in the Registration Statement has been completed; provided, however, that (i) such 120-day period shall be extended for a period of time equal to the period the Holder refrains from selling any securities included in such registration at the request of an underwriter of Common Stock (or other securities) of the Company; and (ii) in the case of any registration of Registrable Securities on Form S-3 which are intended to be offered on a continuous or delayed basis, subject to compliance with applicable SEC rules, such 120-day period shall be extended, if necessary, to keep the registration statement effective until all such Registrable Securities are sold;

(b) prepare and file with the SEC such amendments and supplements to such registration statement and the prospectus used in connection with such registration statement as may be necessary to comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such registration statement;

(c) furnish to the Holders such numbers of copies of a prospectus, including a preliminary prospectus, in conformity with the requirements of the Securities Act, and such other documents as they may reasonably request in order to facilitate the disposition of Registrable Securities owned by them;

(d) use its reasonable best efforts to register and qualify the securities covered by such registration statement under such other securities or Blue Sky laws of such jurisdictions as shall be reasonably requested by the Holders; provided that the Company shall not be required in connection therewith or as a condition thereto to qualify to do business or to file a general consent to service of process in any such states or jurisdictions, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act;

(e) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the managing underwriter of such offering. Each Holder participating in such underwriting shall also enter into and perform its obligations under such an agreement;

(f) cause all such Registrable Securities registered pursuant to this Agreement hereunder to be listed on a national securities exchange or trading system and each securities exchange and trading system on which similar securities issued by the Company are then listed;

(g) provide a transfer agent and registrar for all Registrable Securities registered pursuant hereunder and a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration;

(h) use its reasonable best efforts to furnish, at the request of any Holder requesting registration of Registrable Securities pursuant to this Section 2, on the date on which such Registrable Securities are sold to the underwriter, (i) an opinion, dated such date, of the counsel representing the Company for the purposes of such registration, in form and substance as is customarily given to underwriters in an underwritten public offering, addressed to the underwriters, if any, and (ii) a "comfort" letter dated such date, from the independent certified public accountants of the Company, in form and substance as is customarily given by independent certified public accountants to underwriters in an underwritten public offering, addressed to the underwriters, if any.

2.4. Furnish Information. It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Section 2 with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as shall be reasonably required to effect the registration of such Holder's Registrable Securities.

2.5. Expenses of Demand Registration. All expenses, other than underwriting discounts and commissions, incurred in connection with registrations, filings or qualifications pursuant to Section 2.1, including (without limitation) all registration, filing and qualification fees, printers' and accounting fees, fees and disbursements of counsel for the Company and the reasonable fees and disbursements of one counsel for the selling Holders, shall be borne by the Company; provided, however, that the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Section 2.1



if the registration request is subsequently withdrawn at the request of the Holders of a majority of the Registrable Securities to be registered (in which case all participating Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration), unless the Holders of a majority of the Registrable Securities agree to forfeit their right to one demand registration pursuant to Section 2.

2.6. Expenses of Company Registration. The Company shall bear and pay all expenses incurred in connection with any registration, filing or qualification of Registrable Securities with respect to the registrations pursuant to Section 2.2 hereof for each Holder (which right may be assigned as provided in Section 6.2 hereof), including (without limitation) all registration, filing, and qualification fees, printers and accounting fees relating or apportionable thereto and the fees and disbursements of one counsel for the selling Holders selected by them, but excluding underwriting discounts and commissions relating to Registrable Securities.

2.7. Underwriting Requirements. In connection with any offering involving an underwriting of shares of the Company's capital stock pursuant to Section 2.2, the Company shall not be required to include any of the Holders' securities in such underwriting unless they accept the terms of the underwriting as agreed upon between the Company and its underwriters, and then only in such quantity as the underwriters determine in their sole discretion will not jeopardize the success of the offering by the Company subject to the limitations set forth below. If the total number of securities, including Registrable Securities, requested by stockholders to be included in such offering exceeds the amount of securities to be sold other than by the Company that the underwriters determine in their reasonable discretion is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities, which the underwriters and the Company determine in their sole discretion will not jeopardize the success of the offering. In no event shall any Registrable Securities be excluded from such offering unless all other stockholders' securities have been first excluded. In the event that the underwriters determine that less than all of the Registrable Securities requested to be registered can be included in such offering, then the Registrable Securities that are included in such offering shall be apportioned pro rata among the selling Holders based on the number of Registrable Securities held by all selling Holders or in such other proportions as shall mutually be agreed to by all such selling Holders. Notwithstanding the foregoing, in no event shall the amount of securities of the selling Holders included in the offering be reduced below thirty percent (30%) of the total amount of securities included in such offering, unless such offering is the Company's IPO in which case the selling Holders may be excluded beyond this amount if the underwriters make the determination described above and no other stockholder's securities are included in such offering. For purposes of the preceding parenthetical concerning apportionment, for any selling stockholder which is a Holder of Registrable Securities and which is an investment fund, partnership, limited liability company or corporation, the partners, members, retired partners, retired members, stockholders and Affiliates of such Holder, or the estates and family members of any such partners, retired partners, members and retired members and any trusts for the benefit of any of the foregoing persons shall be deemed to be a single "selling Holder", and any pro-rata reduction with respect to such "selling Holder" shall be based upon the aggregate amount of shares carrying registration rights owned by all entities and individuals included in such "selling Holder," as defined in this sentence.

2.8. Delay of Registration. No Holder shall have any right to obtain or seek an injunction or restraining order or otherwise delay any registration pursuant to this Agreement as the result of any controversy that might arise with respect to the interpretation or implementation of this Section 2.

2.9. Indemnification. In the event any Registrable Securities are included in a registration statement under this Section 2:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each Holder, the partners, members, officers, directors and stockholders of each Holder, legal counsel and accountants for each Holder, any underwriter (as defined in the Securities Act) for such Holder and each person, if any, who controls such Holder or underwriter within the meaning of the Securities Act or the Exchange Act, against any Violation and the Company will pay to each such Holder, underwriter, controlling person or other aforementioned person, any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability, or action as such expenses are incurred; provided, however, that the indemnity agreement contained in this subsection 2.9(a) shall not apply to amounts paid in settlement of any such loss, claim, damage, liability, or action if such settlement is effected without the consent of the Company (which consent shall not be unreasonably withheld), nor shall the Company be liable in any such case for any such loss, claim, damage, liability, or action to the extent that it arises out of or is based upon a Violation which occurs in reliance upon and in conformity with written information furnished expressly for use in connection with such registration by any such Holder, underwriter, controlling person or other aforementioned person.

(b) To the extent, permitted by law, each selling Holder will severally and not jointly indemnify and hold harmless the Company, each of its directors, each of its officers who has signed the registration statement, each person, if any, who controls the Company within the meaning of the Securities Act, legal counsel and accountants for the Company, any underwriter, any other Holder selling securities in such registration statement and any controlling person of any such underwriter or other Holder, against any losses, claims, damages, or liabilities (joint or several) to which any of the foregoing persons may become subject, under the Securities Act, the Exchange Act or other federal or state law, insofar as such losses, claims, damages, or liabilities (or actions in respect thereto) arise out of or are based upon any Violation, in each case to the extent (and only to the extent) that such Violation occurs in reliance upon and in conformity with written information furnished by such Holder expressly for use in connection with such registration; and each such Holder will pay any legal or other expenses reasonably incurred by any person intended to be indemnified pursuant to this subsection 2.9(b), in connection with investigating or defending any such loss, claim, damage, liability, or action; provided, however, that the indemnity agreement contained in this subsection 2.9(b) shall not apply to amounts paid in settlement of any such loss, claim, damage, liability or action if such settlement is effected without the consent of the Holder, which consent shall not be unreasonably withheld; provided, further, that, in no event shall any indemnity under this subsection 2.9(b) exceed the net proceeds from the offering received by such Holder, except in the case of fraud or willful misconduct by such Holder.

(c) Promptly after receipt by an indemnified party under this Section 2.9 of notice of the commencement of any action (including any governmental action), such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Section 2.9, deliver to the indemnifying party a written notice of the commencement thereof and the indemnifying party shall have the right to participate in, and, to the extent the indemnifying party so desires, jointly with any other indemnifying party similarly noticed, to assume the defense thereof with counsel mutually satisfactory to the parties; provided, however, that an indemnified party (together with all other indemnified parties which may be represented without conflict by one counsel) shall have the right to retain one separate counsel, with the fees and expenses to be paid by the indemnifying party, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such proceeding. The failure to deliver written notice to the indemnifying party within a reasonable time of the commencement of any such action, if prejudicial to its ability to defend such action, shall relieve such indemnifying party of any liability to the indemnified party under this Section 2.9, but the omission so to deliver written notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this Section 2.9.

(d) In order to provide for just and equitable contribution to joint liability under the Securities Act in any case in which either (i) any Holder exercising rights under this Agreement, or any controlling person of any such Holder, makes a claim for indemnification pursuant to this Section 2.9 but it is judicially determined (by the entry of a final judgment or decree by a court of competent jurisdiction and the expiration of time to appeal or the denial of the last right of appeal) that such indemnification may not be enforced in such case notwithstanding the fact that this Section 2.9 provides for indemnification in such case, or (ii) contribution under the Securities Act may be required on the part of any such selling Holder or any such controlling person in circumstances for which indemnification is provided under this Section 2.9, then, and in each such case, the Company and such Holder will contribute to the aggregate losses, claims, damages or liabilities to which they may be subject (after contribution from others) in such proportion as is appropriate to reflect the relative fault of the indemnifying party on the one hand and of the indemnified party on the other in connection with the statements or omissions that resulted in such loss, liability, claim, damage, or expense as well as any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission; provided however, that, in any such case, (I) no such Holder will be required to contribute any amount in excess of the public offering price of all such Registrable Securities offered and sold by such Holder pursuant to such registration statement, and (II) no person or entity guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any person or entity who was not guilty of such fraudulent misrepresentation; provided further, that in no event shall a Holder's liability pursuant to this Section 2.9(d), when combined with the amounts paid or payable by such holder pursuant to Section 2.9(b), exceed the proceeds from the offering (net of any underwriting discounts or commissions) received by such Holder, except in the case of willful fraud by such Holder.

(e) Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with the underwritten public offering are in conflict with the foregoing provisions, the provisions in the underwriting agreement shall control.

(f) Unless otherwise superseded by an underwriting agreement entered into in connection with the underwritten public offering, the obligations of the Company and Holders under this Section 2.9 shall survive the completion of any offering of Registrable Securities in a registration statement under this Section 2, and otherwise and shall survive the termination of this Agreement.

2.10. Reports Under Exchange Act. With a view to making available to the Holders the benefits of Sec Rule 144 promulgated under the Securities Act and any other rule or regulation of the SEC that may at any time permits a Holder to sell securities of the Company to the public without registration or pursuant to a registration on Form S-3, the Company agrees to:

(a) make and keep public information available, as those terms are understood and defined in SEC Rule 144, at all times after the effective date of the first registration statement filed by the Company for the offering of its securities to the general public so long as the Company is subject to the periodic reporting requirements under Sections 13 or 15(d) of the Exchange Act;

(b) file with the SEC in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act;

and

(c) furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request (i) a written statement by the Company that it has complied with the reporting requirements of SEC Rule 144, the Securities Act and the Exchange Act (at any time after it has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after it so qualifies), (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company, and (iii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC which permits the selling of any such securities without registration or pursuant to such form.

2.11. **Form S-3 Registration.** In case the Company shall receive from Holders of Registrable Securities then outstanding a written request or requests that the Company effect a registration on Form S-3 and any related qualification or compliance with respect to all or a part of the Registrable Securities owned by such Holder or Holders, the Company will:

(a) promptly give written notice of the proposed registration, and any related qualification or compliance, to all other Holders; and

(b) as soon as practicable, effect such registration and all such qualifications and compliances as may be so requested and as would permit or facilitate the sale and distribution of all or such portion of such Holder's or Holders' Registrable Securities as are specified in such request, together with all or such portion of the Registrable Securities of any other Holder or Holders joining in such request as are specified in a written request given within 15 days after receipt of such written notice from the Company; provided, however, that the Company shall not be obligated to effect any such registration, qualification or compliance, pursuant to this Section 2.11: (1) if Form S-3 is not then available for such offering by the Holders; (2) if the Holders, together with the holders of any other securities of the Company entitled to inclusion in such registration, propose to sell Registrable Securities and such other securities (if any) at an aggregate price to the public (net of any underwriters' discounts or commissions) of less than One Million Dollars (\$1,000,000); (3) if the Company shall furnish to the Holders a certificate signed by the President of the Company stating that in the good faith judgment of the Board, it would be materially detrimental to the Company and its stockholders for such Form S-3 Registration to be effected at such time, in which event the Company shall have the right to defer the filing of the Form S-3 registration statement for a period of not more than ninety (90) days after receipt of the request of the Holder or Holders under this Section 2.11; provided, however, that the Company shall not utilize this right more than once in any twelve month period, and, provided further that the Company shall not register any securities for the account of itself or any other stockholder during such ninety day period (other than a registration relating solely to the sale of securities of participants in a Company stock plan, a registration relating to a corporate reorganization or transaction under SEC Rule 145, a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities, or a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities that are also being registered); (4) if the Company has, within the twelve (12) month period preceding the date of such request, already effected two (2) registrations on Form S-3 for the Holders pursuant to this Section 2.11; or (5) in any particular jurisdiction in which the Company would be required to qualify to do business or to execute a general consent to service of process in effecting such registration, qualification or compliance; or (6) during the period ending one hundred eighty (180) days after the effective date of a registration statement subject to Section 2.2 hereof.

(c) Subject to the foregoing, the Company shall file a registration statement covering the Registrable Securities and other securities so requested to be registered as soon as practicable after receipt of the request or requests of the Holders. All expenses incurred in connection with a registration requested pursuant to Section 2.11, including (without limitation) all registration, filing, qualification,

printer's and accounting fees and the reasonable fees and disbursements of counsel for the selling Holder or Holders and counsel for the Company, but excluding any underwriters' discounts or commissions associated with Registrable Securities, shall be borne by the Company. Registrations effected pursuant to this Section 2.11 shall not be counted as demands for registration or registrations effected pursuant to Sections 2.1.

(d) If the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as part of their request made pursuant to this Section 2.11 and the Company shall include such information in the written notice referred to in Section 2.11(a). The provisions of Section 2.1(b) shall be applicable to such request (with the substitution of Section 2.11, for references to Section 2.1).

2.12. Limitations on Subsequent Registration Rights. From and after the date of this Agreement, the Company shall not, without the prior written consent of the Holders of a majority of the Registrable Securities then outstanding, enter into any agreement with any holder or prospective holder of any securities of the Company which would allow such holder or prospective holder (a) to include such securities in any registration unless under the terms of such agreement, such holder or prospective holder may include such securities in any such registration only to the extent that the inclusion of such securities will not reduce the amount of the Registrable Securities of the Holders that are included or (b) to demand registration of any securities held by such holder or prospective holder.

2.13. "Market Stand-Off" Agreement. Each Holder hereby agrees that it will not, without the prior written consent of the managing underwriter, during the period commencing on the date of the final prospectus relating to the Company's IPO and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days which period may be extended upon the request of the managing underwriter for an additional period of up to fifteen (15) days if the Company issues or proposes to issue an earnings or other public release within fifteen (15) days of the expiration of the 180-day lockup period) (i) lend, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock held immediately prior to the effectiveness of the Registration Statement for such offering, or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Common Stock, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or other securities, in cash or otherwise. The foregoing provisions of this Section 2.13 shall apply only to the Company's IPO, shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, and shall only be applicable to the Holders if all officers, directors and greater than one percent (1%) stockholders of the Company enter into similar agreements. The underwriters in connection with the Company's IPO are intended third-party beneficiaries of this Section 2.13 and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto. Each Holder further agrees to execute such agreements as may be reasonably requested by the underwriters in the Company's IPO that are consistent with this Section 2.13 or that are necessary to give further effect thereto. Any discretionary waiver or termination of the restrictions of any or all of such agreements by the Company or the underwriters shall apply to all Holders subject to such agreements pro rata based on the number of shares subject to such agreements, except that, notwithstanding the foregoing, the Company and the underwriters may, in their sole discretion, waive or terminate these restrictions with respect to up to 100,000 shares of the Company's Common Stock.

In order to enforce the foregoing covenant, the Company may impose stop-transfer instructions with respect to the Registrable Securities of each Holder (and the shares or securities of every other person subject to the foregoing restriction) until the end of such period.

#### 2.14. Termination of Registration Rights

(a) No Holder shall be entitled to exercise any right provided for in this Section 2, after five (5) years following the consummation of a Qualified Public Offering.

(b) In addition, the right of any Holder to exercise any right provided for in this Section 2, including the right to request registration or inclusion in a registration, shall terminate when all shares of Registrable Securities held by such Holder can be sold without restriction under SEC Rule 144(k).

### 3. Inspection Rights and Confidentiality.

3.1. Inspection. The Company shall permit an Investor or Stockholder, at such Investor's or Stockholder's expense, to visit and inspect the Company's properties, to examine its books of account and records and to discuss the Company's affairs, finances and accounts with its officers, all at such reasonable times as may be reasonably requested by the Investor or Stockholder; provided, however, that the Company shall not be obligated pursuant to this Section 3.1, to provide access to any information which it reasonably considers to be a trade secret or similar confidential information or would adversely affect the attorney-client privilege between the Company and its counsel. The covenant set forth in this Section 3.1 shall terminate and be of no further force or effect (i) immediately prior to the consummation of an IPO, (ii) when the Company first becomes subject to the periodic reporting requirements of Sections 12(g) or 15(d) of the Exchange Act; or (iii) upon a Sale of the Company, whichever event shall first occur.

3.2. Confidentiality. Each Investor agrees that such Investor will keep confidential and will not disclose, divulge or use for any purpose, other than to monitor its investment in the Company, any confidential information obtained from the Company pursuant to the terms of this Agreement, unless such confidential information (i) is known or becomes known to the public in general (other than as a result of a breach of this Section 3.2 by such Investor), (ii) is or has been independently developed or conceived by the Investor without use of the Company's confidential information or (iii) is or has been made known or disclosed to the Investor by a third party without a breach of any obligation of confidentiality such third party may have to the Company; provided, however, that an Investor may disclose confidential information (a) to its attorneys, accountants, consultants, and other professionals to the extent necessary to obtain their services in connection with monitoring its investment in the Company, (b) to any prospective investor of any Registrable Securities from such Investor as long as such prospective investor agrees to be bound by the provisions of this Section 3.2 or executes a similar confidentiality agreement, (c) to any Affiliate, partner, member, stockholder, prospective investor or acquirer or wholly owned subsidiary of such Investor or such other person with whom Investor is considering entering into a strategic relationship as long as such person agrees to be bound by the provisions of this Section 3.2 or executes a similar confidentiality agreement or (d) as may otherwise be required by law (including without limitation disclosure of financial and other information required to be made in regulatory filings by Arrowhead), provided that the Investor takes reasonable steps to minimize the extent of any such required disclosure. The Company acknowledges that the Investors may be in the business of venture capital investing and therefore review the business plans and related proprietary information of many enterprises, including enterprises which may have products or services which compete directly or indirectly with those of the Company. Nothing in this Agreement shall preclude or in any way restrict the Investors from investing or participating in any particular enterprise whether or not such enterprise has products or services which compete with those of the Company.

#### 4. Right of First Offer; First Refusal Right on Future Rounds: Directed Shares

4.1. Right of First Offer. Subject to the terms and conditions specified in this Section 4.1, and applicable securities laws, in the event the Company proposes to offer or sell any New Securities, the Company shall first make an offering of such New Securities to each Investor and Stockholder (for purposes of this Section 4.1 only, each a “**Major Investor**,” and collectively, “**Major Investors**”) in accordance with the following provisions of this Section 4.1. A Major Investor shall be entitled to apportion the right of first offer hereby granted it among itself and its partners, members and Affiliates in such proportions as it deems appropriate.

(a) The Company shall deliver a notice, in accordance with the provisions of Section 6.6 hereof (the “**Offer Notice**”), to each of the Major Investors stating (i) its bona fide intention to offer such New Securities, (ii) the number of such New Securities to be offered, and (iii) the price and terms, if any, upon which it proposes to offer such New Securities.

(b) By written notification received by the Company, within twenty (20) calendar days after mailing of the Offer Notice, each of the Major Investors may elect to purchase or obtain, at the price and on the terms specified in the Offer Notice, up to that portion of such New Securities which equals the proportion that the number of shares of Common Stock issued and held (and any other securities convertible into, or otherwise exercisable or exchangeable for, shares of Common Stock) by such Major Investor bears to the total number of shares of Common Stock of the Company then outstanding (assuming full conversion and exercise of all convertible or exercisable securities). The Company shall promptly, in writing, inform each Major Investor that elects to purchase all the shares available to it (each, a “**Fully-Exercising Investor**”) of any other Major Investor’s failure to do likewise. During the ten (10) day period commencing after receipt of such information, each Fully-Exercising Investor shall be entitled to obtain that portion of the New Securities for which Major Investors were entitled to subscribe but which were not subscribed for by the Major Investors which is equal to the proportion that the number of shares of Common Stock issued and held by such Fully-Exercising Investor bears to the total number of shares of Common Stock issued and held by all Fully-Exercising Investors who wish to purchase such unsubscribed shares.

(c) If all New Securities referred to in the Offer Notice are not elected to be purchased or obtained as provided in Section 4.1(b) hereof, the Company may, during the ninety (90) day period following the expiration of the period provided in Section 4.1(b) hereof, offer the remaining unsubscribed portion of such New Securities (collectively, the “**Refused Securities**”) to any person or persons at a price not less than, and upon terms no more favorable to the offeree than, those specified in the Offer Notice. If the Company does not enter into an agreement for the sale of the New Securities within such period, or if such agreement is not consummated within thirty (30) days of the execution thereof, the right provided hereunder shall be deemed to be revived and such New Securities shall not be offered unless first reoffered to the Major Investors in accordance with this Section 4.1.

(d) The right of first offer in this Section 4.1 shall not be applicable to: (i) shares of Common Stock issued or deemed issued to employees or directors of, or consultants to, the Company or any of its subsidiaries pursuant to a plan, agreement, or arrangement approved by the Board; (ii) shares of Series C Preferred Stock issued in a transaction or series of transactions in a bona fide private financing transaction of the Company; (iii) shares of Common Stock issued in an IPO; (iii) the issuance of securities pursuant to the conversion or exercise of convertible or exercisable securities outstanding on the date hereof; (iv) securities issued in connection with any stock split or stock dividend of the Company; (v) the issuance of securities in connection with a bona fide business acquisition of or by the Company, whether by merger, consolidation, sale of assets, sale or exchange of stock or otherwise unanimously approved by the Board; (vi) the issuance of stock, warrants or other securities or rights to persons or entities with which the Company has business relationships provided such issuances are for other than primarily capital raising purposes and provided that at the time of any such issuance, the aggregate of such issuance

and similar issuances in the preceding twelve month period do not exceed one percent (1%) of the then outstanding Common Stock of the Company (assuming full conversion and exercise of all convertible and exercisable securities); or (vii) the issuance of up to an aggregate of 250,000 shares of Common Stock, or the grant of options or warrants therefor, in connection with any present or future borrowing, line of credit, leasing or similar financing arrangement approved by the Board, including at least one Investor-Designated Director and by a majority of the members of the Board who are not employees of the Company or any subsidiary.

(e) In lieu of complying with the provisions of this Section 4.1, the Company may elect to give notice to the Major Investors within thirty (30) days after the issuance of New Securities. Such notice shall describe the type, price and terms of the New Securities: Each Major Investor shall have twenty (20) days from the date of receipt of such notice to elect to purchase up to the number of New Securities that would, if purchased by such Major Investor, maintain such Major Investor's percentage ownership position, calculated as set forth in Section 4.1(b) prior to giving effect to the issuance of such New Securities. The closing of such sale shall occur within sixty (60) days of the date of notice to the Major Investors.

4.2. Directed IPO Shares. In the event of an IPO, the Company will use its reasonable best efforts to cause the managing underwriter(s) of such IPO to designate a number of shares equal to ten percent (10%) of the Company's shares of Common Stock to be offered in such IPO for sale under a "directed shares program" and shall instruct such underwriter(s) to allocate no less than fifty percent (50%) of such directed shares program to be sold to persons or entities designated by the Investor, pro rata on the basis of the number of shares held by each such holder. The shares designated by the underwriter(s) for sale under a directed shares program are referred to herein as "directed shares." The Investors acknowledge that, despite the Company's use of its reasonable best efforts, the underwriter(s) may determine in their sole discretion that it is not advisable to designate all such shares as directed shares in the IPO, in which case the number of designated shares may be reduced or no directed shares may be designated, as applicable. The Investors also acknowledge that notwithstanding the terms of this Agreement, the sale of any directed shares to any person or entity pursuant to this Agreement will only be made in compliance with Rule 2110 of the National Association of Securities Dealers, Inc. Conduct Rules, IM-21 10-1 and federal, state and local laws, rules and regulations.

4.3. Termination. The provisions of Section 4.1 shall terminate (i) immediately prior to the consummation of a Qualified Public Offering, (ii) when the Company first becomes subject to the periodic reporting requirements of Sections 12(g) or 15(d) of the Exchange Act; or (iii) upon a Sale of the Company, whichever event shall first occur. The provisions of Section 4.2 shall terminate upon a Sale of the Company.

## 5. Additional Covenants

5.1. Insurance; Director Indemnification. The Company shall maintain its existing policy of Directors and Officers Errors and Omissions insurance. The Company shall provide indemnification to the former directors of Carbon Nanotechnologies, Inc., a Delaware corporation ("CNI") as and to the same extent that the Company provides indemnification to directors of the Company under the certificate of incorporation and bylaws of the Company as of April 20, 2007.

5.2. Employee Agreements. The Company will cause each person now or hereafter employed by it or any subsidiary (or engaged by the Company or any subsidiary as a consultant/independent contractor) with access to confidential information and/or trade secrets to enter into a non-disclosure and proprietary rights assignment agreement substantially in the form approved by the Board. In addition, the Company shall not amend, modify, terminate, waive or otherwise alter, in whole or in part, any of the above-referenced agreements or any restricted stock agreement between the Company and any employee



without the consent of those members of the Board elected solely by the Investors pursuant to the Voting Agreement.

5.3. Vesting of Option, Stock Grants. Unless approved by the Board, including any Investor-Designated Director, all future employees and consultants of the Company, who shall purchase, or receive options to purchase, shares of the Company's capital stock following the date hereof shall be required to execute stock purchase or option agreements providing for (i) vesting of shares over a four (4) year period, with twenty-five percent (25%) of the shares subject to such option vesting one (1) year after the applicable vesting commencement date and the balance of the shares subject to such option vesting in a series of thirty-six (36) successive equal monthly installments over the thirty-six (36)-month period measured from the first anniversary of the vesting commencement date, and (ii) a 180-day lockup period in connection with the Company's IPO. The Company shall retain a "right of first refusal" on employee transfers until the Company's IPO and the right to repurchase unvested shares at cost.

5.4. Meetings of the Board. Unless otherwise determined by the vote of a majority of the directors then in office, the Board shall meet at least quarterly in accordance with an agreed upon schedule.

5.5. Successor Indemnification. In the event that the Company or any of its successors or assigns (i) consolidates with or merges into any other entity and shall not be the continuing or surviving corporation or entity of such consolidation or merger or (ii) transfers or conveys all or substantially all of its properties and assets to any person or entity, then, and in each such case, to the extent necessary, proper provision shall be made so that the successors and assigns of the Company assume the obligations of the Company with respect to indemnification of members of the Board as in effect immediately prior to such transaction, whether in the Company's bylaws, Certificate of Incorporation, or elsewhere, as the case may be.

5.6. Termination of Covenants. The covenants set forth in this Section 5, except for Section 5.5, shall terminate and be of no further force or effect (i) immediately prior to the consummation of the sale of shares of Common Stock in the Company's IPO, (ii) when the Company first becomes subject to the periodic reporting requirements of Sections 12(g) or 15(d) of the Exchange Act; or (iii) upon a Sale of the Company, whichever event shall first occur.

## 6. Miscellaneous.

6.1. Successors and Assigns. The terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

6.2. Transfers of Rights. Except as otherwise expressly provided herein, the provisions hereof shall inure to the benefit of, and be binding upon, the successors, permitted assigns, heirs, executors and administrators of the parties hereto. The registration rights under Section 2 hereof, the information rights under Section 3 hereof, and the rights of first refusal under Section 4 hereof, may only be transferred to transferees or assignees acquiring the greater of (a) at least 300,000 shares of Series A Preferred Stock, Series B Preferred Stock and/or Series C Preferred Stock (on an as-converted basis and subject to appropriate adjustment for stock splits, stock dividends, combinations, and other recapitalizations) or (b) all shares of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock (or Common Stock issued upon conversion thereof), then held by the transferor; provided that each transferee or assignee of rights under this Agreement shall continue to be subject to the terms hereof, and, as a

condition to the Company's recognizing such transfer, each transferee or assignee shall agree in writing to be subject to each of the terms of this Agreement by executing and delivering an Adoption Agreement substantially in the form attached hereto as Exhibit A. Upon the execution and delivery of an Adoption Agreement by any transferee, such transferee shall be deemed to be a party hereto as if such transferee's signature appeared on the signature pages of this Agreement. By execution of this Agreement or of any Adoption Agreement, each of the parties appoints the Company as its attorney in fact for the purpose of executing any Adoption Agreement that may be required to be delivered under the terms of this Agreement. The Company shall not permit the transfer of the Registrable Securities subject to this Agreement on its books or issue a new certificate representing any such Registrable Securities unless and until such transferee shall have complied with the terms of this Section 6.2. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties or their respective executors, administrators, heirs, successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement. Notwithstanding the foregoing, the rights of first refusal contained in Section 4 may be transferred or assigned only to a Person that is an "accredited" investor as defined in Rule 501 of the Securities Act.

6.3. Additional Investors. Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of the Company's Series C Preferred Stock after the date hereof pursuant to a Series C Agreement, the Company shall cause any purchaser of such shares of Series C Preferred Stock to execute a counterpart signature page hereto as an Investor, and such party shall thereby be bound by, and subject to, all the terms and provisions of this Agreement applicable to an Investor.

6.4. Governing Law. This Agreement shall be governed by and construed in accordance with the General Corporation Law of the State of Delaware as to matters within the scope thereof, without regard to its principles of conflicts of laws.

6.5. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may also be executed and delivered by facsimile signature and in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

6.6. Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

6.7. Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient, and if not so confirmed, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their address as set forth on the signature page or Schedule A hereto, or to such email address, facsimile number or address as subsequently modified by written notice given in accordance with this Section 6.6.

6.8. Costs of Enforcement. If any party to this Agreement seeks to enforce its rights under this Agreement by legal proceedings, the non-prevailing party shall pay all costs and expenses incurred by the prevailing party, including, without limitation, all reasonable attorneys' fees.

6.9. Amendments and Waivers. Any term of this Agreement may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance and

either retroactively or prospectively), only with the written consent of (i) the Company, (ii) the holders of at least a majority of the Registrable Securities then outstanding and held by the Stockholders and (iii) the holders of at least a majority of the Registrable Securities then outstanding and held by the Investors. Any amendment or waiver effected in accordance with this paragraph shall be binding upon each holder of any Registrable Securities then outstanding, each future holder of all such Registrable Securities, and the Company. Notwithstanding the foregoing, this Agreement may not be amended or terminated and the observance of any term hereunder may not be waived with respect to any Investor without the written consent of such Investor, unless such amendment, termination or waiver applies to all Investors in the same fashion (it being agreed that a waiver of the provisions of Section 4 with respect to a particular transaction shall be deemed to apply to all Investors in the same fashion if such waiver does so by its terms, notwithstanding the fact that certain Investors may nonetheless, by agreement with the Company, purchase securities in such transaction). The Company shall give prompt written notice of any amendment or termination hereof or waiver hereunder to any party hereto that did not consent in writing to such amendment, termination or waiver. Any amendment, termination or waiver effected in accordance with this Section 6.8 shall be binding on all parties hereto, even if they do not execute such consent. No waivers of or exceptions to any term, condition or provision of this Agreement, in any one or more instances, shall be deemed to be, or construed as, a further or continuing waiver of any such term, condition or provision. Any party may agree to waive or amend its own rights hereunder with respect to the Company or another party without the necessity of obtaining the consent or agreement of any other party.

6.10. Severability. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision.

6.11. Aggregation of Stock. All shares of Registrable Securities held or acquired by Affiliates shall be aggregated together for the purpose of determining the availability of any rights under this Agreement.

6.12. Entire Agreement. This Agreement (including the Schedules hereto) constitutes the full and entire understanding and agreement between the parties with respect to the subject matter hereof, and any other prior written or oral agreement, or contemporaneous written or oral agreement, relating to the subject matter hereof existing between the parties are expressly canceled.

6.13. Delays or Omissions. No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power or remedy of such nonbreaching or non-defaulting party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any breach or default under this Agreement, or any waiver on the part of any party of any provisions or conditions of this Agreement, must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

6.14. Prior Agreement Superseded. Pursuant to Section 6.8 of the Prior Agreement, the undersigned parties who are parties to such Prior Agreement hereby amend and restate the Prior Agreement to read in its entirety as set forth in this Agreement, all with the intent and effect that the Prior Agreement shall hereby be terminated and entirely replaced and superseded by this Agreement.

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[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first above written.

**COMPANY:**

UNIDYM, INC.  
a Delaware corporation

By: \_\_\_\_\_  
Name: Arthur L. Swift  
Title: Chief Executive Officer  
Address:

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first above written.

**INVESTORS:**

ARROWHEAD RESEARCH CORPORATION  
a Delaware corporation

By: \_\_\_\_\_

Name: R. Bruce Stewart

Title: Chief Executive Officer

Address: 201 South Lake Avenue Suite 703  
Pasadena, CA 91101-3074

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first above written.

**INVESTORS:**

Name: \_\_\_\_\_  
(Print Name of Investor)

By: \_\_\_\_\_  
(Print name of signatory, if signing on behalf of entity)

Title: \_\_\_\_\_  
(Print title of signatory, if signing on behalf of an entity)

Signature: \_\_\_\_\_

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**SCHEDULE A**

**INVESTORS**

**Arrowhead Research Corporation**

201 South Lake Avenue, Suite 703

Pasadena, CA 91101

Telephone: 626-304-4300

Facsimile: 626-792-5554

[New Series C Investors]



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**SCHEDULE B**  
**STOCKHOLDERS**

[List of Stockholders]

**EXHIBIT A**

**ADOPTION AGREEMENT**

This Adoption Agreement (“**Adoption Agreement**”) is executed by the undersigned (the “**Transferee**”) pursuant to the terms of that certain Amended and Restated Investors’ Rights Agreement dated as of October [\_\_\_], 2007 (the “**Agreement**”), by and among the Company, Stockholder and certain of its Investors. Capitalized terms used but not defined in this Adoption Agreement shall have the respective meanings ascribed to such terms in the Agreement. By the execution of this Adoption Agreement, the Transferee agrees as follows:

1.1 Acknowledgement. Transferee acknowledges that Transferee is acquiring certain shares of the capital stock of the Company (the “**Stock**”), subject to the terms and conditions of the Agreement.

1.2 Agreement. Transferee (i) agrees that the Stock acquired by Transferee shall be bound by and subject to the terms of the Agreement, and (ii) hereby adopts the Agreement with the same force and effect as if Transferee were originally a party thereto.

1.3 Notice. Any notice required or permitted by the Agreement shall be given to Transferee at the address listed beside Transferee’s signature below.

EXECUTED AND DATED this \_\_\_ day of \_\_\_\_\_.

**TRANSFEE**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Fax: \_\_\_\_\_

Accepted and Agreed:

**UNIDYM, INC.**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

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**Exhibit B**

Form of  
Amended and Restated Right of First Refusal and Co-Sale Agreement

**AMENDED AND RESTATED  
RIGHT OF FIRST REFUSAL AND CO-SALE AGREEMENT**

This Amended and Restated Right of First Refusal and Co-Sale Agreement (the “**Agreement**”) is made as of the October [\_\_], 2007, among **Unidym, Inc.**, a Delaware corporation (the “**Company**”), the investors listed on Schedule A hereto (the “**Investors**”), and the key stockholders listed on Schedule B hereto (each of which is referred to in this Agreement as a “**Key Stockholder**”).

**RECITALS**

**WHEREAS**, the Company, certain of the Investors, and certain of the Key Stockholders entered into an Amended and Restated Right of First Refusal and Co-Sale Agreement dated as of April 20, 2007 (the “**Prior Agreement**”);

**WHEREAS**, certain investors (the “**Series C Investors**”) have agreed to purchase shares of the Company’s Series C Preferred Stock pursuant to a certain Series C Preferred Stock Subscription Agreement by and between the Company and such Series C Investor dated from and after the date of this Agreement (each a “**Series C Agreement**”). Each Series C Agreement provides that, as a condition to the Series C Investor’s purchase of Series C Stock thereunder, the Company will enter into this Agreement and the Series C Investor will be granted the rights set forth herein;

**WHEREAS**, the Company and the parties to the Prior Agreement desire to enter into this Agreement in order to amend, restate and replace their rights and obligations under the Prior Agreement with the rights and obligations set forth in this Agreement, and Section 10(e) of the Prior Agreement provides that the Prior Agreement may be amended by the written consent of (i) the Company, (ii) the holders of a majority of the Common Stock issuable or issued upon conversion of the Company’s Series B Preferred Stock and (iii) the holders of a majority of the Key Stockholder Stock;

**WHEREAS**, the parties to this Agreement have reached certain agreements and understandings with respect to the sale, assignment, transfer, encumbrance or other disposition of any shares of capital stock (or any securities convertible into or exercisable for any shares of capital stock) of the Company now held or hereafter acquired by each Key Stockholder, including any shares of Series A Preferred Stock, \$0.0001 par value per share (the “**Series A Preferred Stock**”), any shares of Series B Preferred Stock, \$0.0001 par value per share (the “**Series B Preferred Stock**”) and any shares of Series C Preferred Stock, \$0.0001 par value per share (the “**Series C Preferred Stock**” and together with the Series A Preferred Stock and Series B Preferred Stock, the “**Preferred Stock**”), of the Company, (collectively, the “**Key Stockholder Stock**” with respect to each such Key Stockholder); and

**WHEREAS**, the Company has provided its written consent to amend the Prior Agreement, the undersigned parties hold a majority of the Common Stock issuable or issued upon conversion of the Company’s Series B Preferred Stock and the undersigned parties hold a majority of the Key Stockholder Stock.

**NOW, THEREFORE**, in consideration of the foregoing and the promises and covenants contained herein, the sufficiency of which is hereby acknowledged, all parties hereto agree as follows:

1. Right of First Refusal on Key Stockholder Stock. Before any Key Stockholder may sell, pledge, encumber or transfer to a third party any Key Stockholder Stock held by such Key Stockholder, such Key Stockholder Stock shall be offered to the Company and the Investors in the following manner:

(a) Company Right of First Refusal. If at any time a Key Stockholder proposes to transfer any Key Stockholder Stock to one or more third parties, then such selling Key Stockholder (the “**Selling Stockholder**”) shall give the Company a written notice (the “**Company Notice**”) stating (i) his, her or its bona fide intention to sell or transfer such Key Stockholder Stock, (ii) the identity of the person or persons to whom the Key Stockholder proposes to sell or transfer such Key Stockholder Stock (the “**Proposed Transferee**”), (iii) the number of shares of such Key Stockholder Stock proposed to be sold or transferred (which amount of Key Stockholder Stock shall be referred to herein as “**Offered Stock**”) and (iv) the purchase price for which such Key Stockholder proposes to sell or transfer such Offered Stock. The Company shall have the right, at any time within twenty-five (25) days of receipt of the above Company Notice, to purchase or obtain some or all of the Offered Stock at the price and on the terms specified in the Company Notice.

(b) Investors’ Right of First Refusal; CNI Stockholders’ Right of Co-Sale. If, after the expiration of such twenty-five (25) day period, the Company has not elected to purchase all of the Offered Stock, such Selling Stockholder shall offer such Offered Stock to the Investors in the following manner:

(i) The Selling Stockholder shall deliver a notice (the “**Investors Notice**”) to the Investors (who are parties to this Agreement as of the date of the Investors Notice) and the other Key Stockholders (who are parties to this Agreement as of the date of the Investors Notice) stating the same information as set forth in the Company Notice.

(ii) Each of the Investors shall have the right to purchase all or a portion of the remaining Offered Stock not elected to be purchased by the Company (the “**Remaining Stock**”), subject to the following:

(A) If any of the Investors are interested in purchasing any of the Remaining Stock, such Investors shall, within five (5) days of receipt of the Investors Notice, provide the Carbon Nanotechnologies, Inc., a Delaware corporation (“**CNI**”) Stockholders identified on Schedule B hereto with a written notice (the “**CNI Notice**” and, together with the Company Notice, and the Investors Notice, the “**Notices**”) stating the same information set forth in the Investors Notice and that portion of the Remaining Stock that such Investors intend to purchase. Each CNI Stockholder shall have the right to participate in the proposed sale of the Remaining Shares to the Investors by substituting up to that number of Common Stock and/or Preferred Stock equal to the product obtained by multiplying (x) the aggregate number of Remaining Stock covered by the CNI Notice by (y) a fraction, the numerator of which is the number of shares of Common Stock (assuming conversion of all issued and outstanding shares of Preferred Stock) held by such CNI Stockholder on the date of the CNI Notice and the denominator of which is the total number of shares of Common Stock (assuming conversion of all issued and outstanding shares of Preferred Stock) held by all CNI Stockholders on the date of the CNI Notice (the “**CNI Substitution Right**”). To exercise the CNI Substitution Right, the CNI Stockholder must give written notice to each of the Investors (the “**CNI Election Notice**”) and to the Selling Stockholder by overnight courier, within five (5) business days after receipt of the CNI Notice. Any sale of Common Stock and/or Preferred Stock by a CNI Stockholder to the Investors pursuant to the terms of this paragraph shall be on the same terms and conditions as the proposed sale of the Offered Shares. The delivery of the CNI Election Notice by a CNI Stockholder shall constitute an irrevocable commitment to sell such shares and the Selling Stockholder shall be required to reduce the number of shares of Offered Stock that such Selling Stockholder may sell to the Investors so as to accommodate the CNI Substitution Right of all CNI Stockholders

electing to exercise such CNI Substitution Right.

(iii) If, after the expiration of such five (5) day period, the CNI Stockholders have not delivered a CNI Election Notice to substitute that number of their shares of Common Stock and/or Preferred Stock equal to their respective pro rata share of all of the Remaining Stock, then at any time within fifteen (15) days after expiration of such five (5) day period, each Investor may elect to purchase or obtain from the Selling Stockholder, at the price and on the terms specified in the Investors Notice, up to that number of shares of the Remaining Stock equal to the product obtained by multiplying (A) the Remaining Stock by (B) a fraction, the numerator of which is the number of shares of the Company's Common Stock (assuming conversion of all shares of the Company's Preferred Stock) then held by such Investor and the denominator of which is the total number of shares of the Company's Common Stock (assuming conversion of all shares of the Company's Preferred Stock) then held by all the Investors.

(iv) After the expiration of such fifteen (15) day period, the Selling Stockholder shall promptly, in writing, notify each Investor that elects to purchase any portion of the Remaining Stock available to it pursuant to Section 1(b)(iii) (an "**Exercising Investor**") of any Investor's failure to purchase all of the Remaining Stock available to it. During the ten (10) day period commencing after such notice is given, each Exercising Investor shall be entitled to obtain that portion of the unsubscribed for Remaining Stock which is equal to the proportion that the number of shares of Common Stock (assuming conversion of all shares of Preferred Stock) then held by such Exercising Investor bears to the total number of shares of Common Stock (assuming conversion of all shares of Preferred Stock) then held by all Exercising Investors who wish to purchase some of the unsubscribed shares of Offered Stock.

(c) Non-Cash Payments. Should the purchase price specified in the Notices be payable in property other than cash or evidences of indebtedness, the Company (and/or the Investors, as applicable) shall have the right to pay the purchase price in the form of cash equal in amount to the value of such property. If the Selling Stockholder (and/or the CNI Stockholders) and the Company (and/or the Investors) cannot agree on such cash value within ten (10) days after the Company's receipt of the applicable Notice, the valuation shall be made by an appraiser of recognized standing selected by the Selling Stockholder (and/or the CNI Stockholders) and the Company (and/or the Investors) or, if they cannot agree on an appraiser within twenty (20) days after the Company's receipt of the applicable Notice, each shall select an appraiser of recognized standing and the two (2) appraisers so nominated shall appoint a third appraiser, and the determination of such third appraiser shall be determinative of such value. The cost of such appraisal shall be shared equally by the Selling Stockholder (and/or the CNI Stockholders) and the Company (and/or the Investors), with the half of the cost borne by the Company and the Investors borne by them on a pro rata basis, based on the number of shares such parties were interested in purchasing pursuant to this Section 1. If either of the fifteen (15) day periods for the election to purchase by the Company or the Investors set forth in Section 1(a) or Section 1(b), respectively, has expired but the determination of the value of the purchase price offered by the Proposed Transferee has not yet been made, then any such period shall be extended through the fifth (5th) business day after such valuation shall have been made pursuant to this Section 1(c).

(d) Assignment. The right of first refusal set forth in Section 1(b) may not be assigned or transferred, except that (i) such right is assignable by each Investor to any wholly owned subsidiary or parent of, or to any corporation, partner, member or entity that is, within the meaning of the 1933 Securities Act, as amended (the "**Act**"), controlling, controlled by or under common control with, any such Investor, and (ii) such right is assignable between and among any of the Investors.

(e) **Permitted Sales of Refused Securities.** If the Company and the Investors have not purchased all of the Offered Stock under their right of first refusal as described herein and subject to the provisions of Section 2 below, the Selling Stockholder (and/or CNI Stockholder) may then sell all of the Offered Stock not subscribed for by the Company and any Exercising Investors to the Proposed Transferee at a price not less than, and upon terms no more favorable to the Proposed Transferee than, those specified in the Notice (and the Investors Notice, if any), provided that such sale or transfer is consummated within sixty (60) days of the Company's receipt of the Notice, and provided further that any such sale is in accordance with all the terms and conditions hereof. If the Selling Stockholder fails to consummate the sale or transfer within such sixty (60) day period, the right of first refusal of the Company and the Investors provided hereby (and any co-sale rights contained in Section 2 below) shall be deemed to be revived with respect to the Offered Stock and no sale or transfer of Key Stockholder Stock shall be effected without first offering the shares in accordance herewith.

2. **Co-Sale Rights.** In the event the Company and the Investors have not purchased all of the Offered Stock under their right of first refusal under Section 1 or in the event that any Investor proposes to transfer or sell any shares of Common Stock and/or Preferred Stock of the Company, the Selling Stockholder or such Investor, as the case may be (the "**Co-Sale Seller**"), shall provide written notice by overnight courier (the "**Co-Sale Notice**") to all of the Key Stockholders and Investors (other than the Co-Sale Seller) informing them of the number and class or series of shares that such Co-Sale Seller intends to sell (the "**Co-Sale Shares**") to a third party or parties (the "**Co-Sale Transferee**").

(a) Each Key Stockholder and Investor shall have the right to participate in the proposed sale by the Co-Sale Seller and sell to the Co-Sale Transferee up to that number of shares of Common Stock and/or Preferred Stock equal to the product obtained by multiplying (i) the aggregate number of Co-Sale Shares covered by the Co-Sale Notice by (ii) a fraction the numerator of which is the number of shares of Common Stock (assuming conversion of all issued and outstanding shares of Preferred Stock) held by such Investor or Key Stockholder on the date of the Co-Sale Notice and the denominator of which is the total number of shares of Common Stock (assuming conversion of all issued and outstanding shares of Preferred Stock) held by all the Investors and Key Stockholders, including the Co-Sale Seller, on the date of the Co-Sale Notice. To exercise such right of co-sale, the Investor or Key Stockholder must give written notice to the Selling Stockholder by overnight mail, within five (5) business days after receipt of the Co-Sale Notice of its election to participate in such sale of Co-Sale Shares (such electing Investors and Key Stockholders are collectively referred to as the "**Participating Sellers**"). Any such participation shall be on the same terms and conditions as the proposed sale of Co-Sale Shares. The delivery of the notice of election by a Participating Seller under this paragraph shall constitute an irrevocable commitment by such Participating Seller to sell such shares. To the extent one or more of the Investors and/or Key Stockholders exercise such right of participation in accordance with the terms and conditions set forth below, the number of Co-Sale Shares that the Co-Sale Seller may sell to the Co-Sale Transferee in the transaction shall be correspondingly reduced.

(b) Each Participating Seller shall effect its participation in the sale by promptly delivering to the Co-Sale Seller for transfer to the Co-Sale Transferee one or more certificates, properly endorsed for transfer, which represent (i) the type and number of shares of Common Stock which the Co-Sale Seller elects to sell or (ii) that number of shares of Preferred Stock which is at such time convertible into the number of shares of Common Stock which the Co-Sale Seller elects to sell; provided, however, that if the Co-Sale Transferee objects to the delivery of the Preferred Stock, in lieu of Common Stock, the Participating Seller shall convert such Preferred Stock into Common Stock and deliver Common Stock as provided in subparagraph (i) above. The Company agrees to make any such conversion concurrent with the actual transfer of such shares to the Co-Sale Transferee.

(c) The stock certificates which the Participating Sellers deliver to the Co-Sale Seller pursuant to Section 2(b) shall be transferred by the Co-Sale Seller to the Co-Sale Transferee in consummation of the sale of the Co-Sale Shares pursuant to the terms and conditions specified in the Co-Sale Notice, and the Co-Sale Seller shall promptly thereafter remit to each Participating Seller that portion of the sale proceeds to which the Participating Seller is entitled by reason of its or his participation in such sale.

(d) The exercise or non-exercise of the rights of the Investors or Key Stockholders hereunder to participate in one or more sales of Co-Sale Shares by a Co-Sale Seller shall not adversely affect their rights to participate in subsequent sales by any Investors or Key Stockholders.

(e) Notwithstanding the foregoing, the provisions of this Section 2 shall not apply to the sale of any Key Stockholder Stock by a Key Stockholder to the Company.

(f) The co-sale right set forth in this Section 2 may not be assigned or transferred, except that (i) such right is assignable by each Investor to any wholly-owned subsidiary or parent of, or to any corporation, partner or entity that is, within the meaning of the Act, controlling, controlled by or under common control with, any such Investor, and (ii) such right is assignable between and among any of the Investors and Key Stockholders.

3. Invalid Transfers. Any sale, pledge, encumbrance, assignment or other transfer of Key Stockholder Stock or Co-Sale Shares, as the case may be, by an Investor or Key Stockholder contrary to the provisions of Sections 1 and 2, as applicable, shall be null and void, and the transferee shall not be recognized by the Company as the holder or owner of the Key Stockholder Stock or Co-Sale Shares, as the case may be, unless and until the Key Stockholder or Investor, as the case may be, has satisfied the requirements of Sections 1 and 2 with respect to such sale. The Key Stockholder or Investor shall provide the Company with written evidence that such requirements have been met or waived prior to consummating any sale, assignment or other transfer of Key Stockholder Stock or Co-Sale Shares, as the case may be, and no Key Stockholder Stock or Co-Sale Shares shall be transferred on the books of the Company until such written evidence thereof has been received by the Company.

4. Permitted Transfers. The restrictions contained in this Agreement with respect to transfers of shares of Key Stockholder Stock or Co-Sale Shares shall not apply (a) subject to Section 5 below, to any transfer or assignment, without consideration, by a Key Stockholder or Investor to the spouse of such Key Stockholder or Investor, issue of such Key Stockholder or Investor, including adopted children, or other relatives of such Key Stockholder or Investor (including, for all purposes of this Agreement, persons related by marriage), or to any transfer to a trust or partnership for the exclusive benefit of such Key Stockholder or Investor and/or such Key Stockholder's or Investor's spouse, issue, including adopted children, or other relatives and/or any charitable purpose, or to distributions made by such trust to the beneficiaries thereof; (b) subject to Section 5 below, to transfers by the Key Stockholder's or Investor's executor, administrator or personal representative upon the death of such Key Stockholder or Investor; (c) any transfer or assignment by an Investor to an Affiliate (as defined in Section 7 hereof) of such Investor; (d) any transfer or assignment by a Key Stockholder that is not an individual to an Affiliate of such Key Stockholder; or (e) to any transfer of Key Stockholder Stock by a Key Stockholder (i) pursuant to a statutory merger or statutory consolidation of the Company with or into another corporation or corporations or (ii) pursuant to a sale of the Company's Common Stock in a firm commitment underwritten public offering, or (f) to any transfer of Co-Sale Shares by an Investor pursuant to a sale of the Company's Common Stock in a firm commitment underwritten public offering; provided, that in each of cases (a), (b), (c) and (d), each transferee, donee, heir or distributee shall, as a condition precedent to such transfer, execute an adoption agreement as described in Section 10(c) of this Agreement.



## 5. Involuntary Transfers.

(a) In the event of any involuntary transfer by operation of law or otherwise pursuant to which any Key Stockholder shall be deprived or divested of any right, title or interest in his Key Stockholder Stock (other than Key Stockholder Stock subject to repurchase by the Company upon an involuntary transfer pursuant to any other agreement between the Key Stockholder and the Company, the form of which has been approved by the Board of Directors of the Company) (the “**Subject Stock**”), including in connection with any divorce or separation, or as a result of bankruptcy, reorganization, attachment, levy, execution, sequestration or garnishment, or transfers in connection with pledge foreclosures, but excluding death, the Company and the Investors shall have the same option to purchase all of the Subject Stock so transferred as specified in Section 1 (except that (i) the time periods for exercising the rights shall run from the date of receipt by the Company of notice of the involuntary transfer, (ii) the exercise notices shall be delivered to the transferee of the Subject Stock, and (iii) the price per share of the Subject Stock shall be the fair market value thereof if the Company and/or the Investors elect to exercise the option to purchase any Subject Stock pursuant to this Section 5). Upon such a transfer, the persons acquiring the Subject Stock and the Key Stockholder deprived or divested of the Subject Stock shall promptly notify the Secretary of the Company and the Investors in writing of such transfer and the identity of the person or persons who take or propose to take an interest in the Subject Stock. Such person or persons shall hold such interest subject to the rights of the Company and the Investors pursuant to this Section 5.

(b) As used herein, “**fair market value**” shall mean the fair market value of a share of such Subject Stock, representing the price a willing buyer would pay and at which a willing seller would sell, neither under any compulsion or duress, determined by valuing the consideration that would be received in a sale of one hundred percent (100%) of the equity of the Company (the “**Company Value**”), as determined in good faith by the Board of Directors, and then allocating to the Subject Stock the portion of the Company Value that the Subject Stock would receive if the Company Value were distributed in a liquidation under the terms of the Company’s Certificate of Incorporation. Any notice of exercise of the option to purchase any Subject Stock pursuant to this Section 5 shall specify the purchase price determined by the Board of Directors.

(c) If the transferee or proposed transferee disagrees with the purchase price determined by the Board of Directors, the transferee and the Company (or the Investors, if the Company is not purchasing any shares of the Subject Stock) shall attempt to agree on the purchase price for a period of fifteen (15) days. If they are unable to reach agreement in such fifteen (15) day period, then the transferee or proposed transferee and the Company (or the Investors, as applicable) shall agree on an independent appraiser skilled in valuing securities similar to the Subject Stock. If the parties cannot agree on an independent appraiser, then each party shall, within ten (10) days, nominate an independent appraiser and the two (2) appraisers so nominated shall appoint a third appraiser skilled in valuing securities similar to the Subject Stock within thirty (30) days of being appointed, and the determination of such third appraiser shall be conclusive and binding on all parties. If the fair market value of the Subject Stock as determined by the independent appraiser exceeds the price determined by the Board of Directors by five percent (5%) or more, the fees and expenses of such appraiser shall be paid by the Company (or the Investors, as applicable). If the price determined by the independent appraiser does not exceed the price determined by the Board of Directors by five percent (5%) or more, the fees and expenses of such appraiser shall be paid by the transferee. In the event that the Company and the Investors do not purchase all of the Subject Stock involved in any involuntary transfer, the person or persons taking an interest in the Subject Stock shall take and hold all rights and interests in any Subject Stock not so purchased, subject to the terms of this Agreement.

## 6. Market Stand-Off.

(a) To the extent that an Investor or Key Stockholder is not a party to the Amended and Restated Investors' Rights Agreement of even date herewith among the Company and stockholders of the Company identified on Schedule A or Schedule B thereto, such Key Stockholder or Investor, as the case may be, hereby agrees that, during the period of duration specified by the Company and an underwriter of common stock or other securities of the Company, following the effective date of a registration statement of the Company filed under the Act, it shall not, to the extent requested by the Company and such underwriter, directly or indirectly sell, offer to sell, contract to sell (including, without limitation, any short sale), grant any option to purchase or otherwise transfer or dispose of (other than to donees who agree to be similarly bound) any securities of the Company held by it at any time during such period except Common Stock included in such registration; provided, however, that such agreement shall not exceed one hundred eighty (180) days from the effective date of registration (which period may be extended upon the request of the managing underwriter for an additional period of up to fifteen (15) days if the Company issues or proposes to issue an earnings or other public release within fifteen (15) days of the expiration of the 180-day lockup period). The foregoing provisions of this Section 6(a) shall apply only to the Company's first underwritten public offering of its Common Stock pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least \$20 million of gross proceeds to the Company (the "**IPO**"), shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, and shall only be applicable to Investors or Key Stockholders hereunder if all officers, directors and greater than one percent (1%) stockholders of the Company enter into similar agreements. The underwriters in connection with the Company's IPO are intended third-party beneficiaries of this Section 6(a) and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto. Each Investor and Key Stockholder subject to this Section 6(a) further agrees to execute such agreements as may be reasonably requested by the underwriters in the Company's IPO that are consistent with this Section 6(a) or that are necessary to give further effect thereto. Any discretionary waiver or termination of the restrictions of any or all of such agreements by the Company or the underwriters shall apply to all Investors and Key Stockholders subject to such agreements pro rata based on the number of shares subject to such agreements, except that, notwithstanding the foregoing, the Company and the underwriters may, in their sole discretion, waive or terminate these restrictions with respect to up to 100,000 shares of the Company's Common Stock.

(b) In the event of any stock dividend, stock split, recapitalization or other change affecting the Company's outstanding Common Stock effected without receipt of consideration, then any new, substituted or additional securities distributed with respect to the Key Stockholder Stock shall be immediately subject to the provisions of Section 6(a), to the same extent the Key Stockholder Stock is at such time covered by such provisions.

(c) In order to enforce the foregoing covenant, the Company may impose stop-transfer instructions with respect to the shares of capital stock of the Company held by the Investors and Key Stockholders (and the shares or securities of every other person subject to the foregoing restriction).

7. Drag Along Rights. If stockholders holding at least a majority of the outstanding shares of Series B Preferred Stock and Series C Preferred Stock of the Company, voting together as a single class and on an as-if-converted basis (the "**Drag Along Holders**") desire that there be effected (a) any consolidation or merger of the Company with or into any other corporation or other entity or person (or any other corporate reorganization) in which the stockholders of the Company immediately prior to such consolidation, merger or reorganization, will own less than fifty percent (50%) of the voting power of the surviving entity immediately after such consolidation, merger or reorganization, (b) any other transaction or series of related transactions to which the Company will be a party in which in excess of fifty percent (50%) of the Company's voting power is transferred, or (c) any transaction or series of related

transactions in which all or substantially all of the assets of the Company are sold, leased, exclusively licensed or otherwise disposed of, whereby each of the transactions referred to above (i) is not with an Affiliate (as defined below) of the Company or any Drag-Along Holder and (ii) will result in the proceeds and/or consideration payable in respect of capital stock of the Company being distributed or paid among the holders of Common Stock and Preferred Stock in relative amounts (based on the class(es) and/or series of capital stock they own) as if such proceeds and/or consideration had been distributed by the Company in connection with a "Deemed Liquidation Event" (as defined in the Company's Amended and Restated Certificate of Incorporation as then in effect) (each of the transactions referred to in clauses (a), (b) and (c), and further limited by clauses (i) and (ii), referred to herein as a "**Drag-Along Transaction**"), each Key Stockholder shall vote its Key Stockholder Stock for, consent to and otherwise raise no objections to the Drag-Along Transaction. If the Drag-Along Transaction is structured as a consolidation or merger of the Company, or a sale of all or substantially all of the Company's assets, each Key Stockholder shall waive any dissenters' rights, appraisal rights or similar rights in connection with such consolidation, merger or asset sale. If the Drag-Along Transaction is structured as a sale of the stock of the Company, each Key Stockholder shall agree to sell its Key Stockholder Stock on the terms and conditions approved by the Drag-Along Holders; provided, however, that no Key Stockholder shall be obligated in connection with such Drag-Along Transaction (x) to make any representation and warranty other than as to such Key Stockholder's ownership of the securities and the transfer of title thereof to the transferee, as to such Key Stockholder's ability to transfer such securities free and clear of all liens and encumbrances (other than liens or encumbrances under the definitive agreement with respect to such Drag-Along Transaction and under this Agreement), as to the fact that there are no required consents necessary to transfer ownership of such securities and as to such Key Stockholder's authority to execute the applicable definitive agreement and transfer such securities or (y) to indemnify the prospective transferee, its Affiliates or any other Person with respect to an amount in excess of the cash proceeds paid to such Key Stockholder in connection with such Drag-Along Transaction (or, if less, such Key Stockholder's pro rata share (based on the portion of the consideration for the securities of such Key Stockholder to be disposed of) of the amount due as a result of such indemnification); and any indemnity given by any Key Stockholder shall be several and not joint and no Key Stockholder shall be required to execute a non-compete, non-solicitation, or other restrictive covenant of any kind in connection with such Drag-Along Transaction other than a customary covenant with respect to the protection of confidential or proprietary information. Subject to the foregoing, each Key Stockholder shall take all necessary and desirable actions approved by the Drag-Along Holders in connection with the consummation of the Drag-Along Transaction, including executing such agreements and instruments and taking such other actions as may be necessary to provide the representations, warranties, indemnities, covenants, conditions, escrow agreements and other provisions and agreements relating to such Drag-Along Transaction. For the purposes of this Section 7, an "**Affiliate**" shall mean, with respect to any individual, corporation, partnership, association, trust, or any other entity (in each case, a "**Person**"), any Person which, directly or indirectly, controls, is controlled by or is under common control with such Person, including, without limitation, any general partner, officer or director of such Person.

8. Termination. This Agreement shall terminate (and neither the Company nor any Investor shall have any right under this Agreement in conjunction with or at any time subsequent to) upon the earliest of (a) with respect to each Investor, that point in time when such Investor no longer owns shares of Common Stock issuable or issued upon conversion of the Preferred Stock of the Company, (b) the effective date of the first registration statement for a public offering of the Company's securities filed pursuant to the Act, or (c) the consummation of a "Deemed Liquidation Event" (as defined in the Amended and Restated Certificate of Incorporation of the Company as then in effect).

9. Legends.

(a) Legend. Each certificate representing shares of Key Stockholder Stock owned by any Key Stockholder or sold to any Permitted Transferee shall be endorsed with the following legend:

“THE SALE OR TRANSFER OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE IS SUBJECT TO THE TERMS AND CONDITIONS OF AN AMENDED AND RESTATED RIGHT OF FIRST REFUSAL AND CO-SALE AGREEMENT BY AND AMONG THE STOCKHOLDER, THE COMPANY AND CERTAIN STOCKHOLDERS OF THE COMPANY. COPIES OF SUCH AGREEMENT MAY BE OBTAINED UPON WRITTEN REQUEST OF THE SECRETARY OF THE COMPANY.”

(b) Legend Removal. The legend referred to in Section 9(a) hereof shall be removed upon termination of this Agreement in accordance with the provisions of Section 8 above.

10. Miscellaneous.

(a) Entire Agreement. This Agreement and the other documents delivered pursuant hereto and thereto constitute the full and entire understanding and agreement between the parties with regard to the subjects hereof and thereof and supersede any prior agreements or understandings with respect thereto.

(b) Notice. Unless otherwise provided, all notices required or permitted hereunder shall be in writing and shall be deemed effectively given (i) upon personal delivery to the party to be notified, (ii) when sent by confirmed facsimile if sent during normal business hours of the recipient, if not, then on the next business day, (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (iv) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the address as set forth on the signature page hereof or Schedules hereto or at such other address as such party may designate by ten (10) days advance written notice to the other parties hereto.

(c) Successors and Assigns.

(i) Except as provided herein, this Agreement and the rights and obligations of the parties hereunder shall inure to the benefit of, and be binding upon, their respective successors, assigns and legal representatives. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

(ii) Each transferee or assignee of the Key Stockholder Stock subject to this Agreement shall continue to be subject to the terms hereof, and, as a condition to the Company's recognizing such transfer, each transferee or assignee shall agree in writing to be subject to each of the terms of this Agreement by executing and delivering an Adoption Agreement substantially in the form attached hereto as Exhibit A (the "**Adoption Agreement**"). Upon the execution and delivery of an Adoption Agreement by any transferee, such transferee shall be deemed to be a party hereto as if such transferee's signature appeared on the signature pages of this Agreement. By execution of this Agreement or of any Adoption Agreement, each of the parties appoints the Company as its attorney in fact for the purpose of executing any Adoption Agreement that may

be required to be delivered under the terms of this Agreement. The Company shall not permit the transfer of any shares of Key Stockholder Stock subject to this Agreement on its books or issue a new certificate representing any such shares of Key Stockholder Stock unless and until such transferee shall have complied with the terms of this Section 10(c). Each certificate representing the Key Stockholder Stock subject to this Agreement if issued on or after the date of this Agreement shall be endorsed by the Company with the legend set forth in Section 9(a). Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties or their respective executors, administrators, heirs, successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

(d) Spousal Consent. If any Key Stockholder is married on the date of this Agreement, such Key Stockholder's spouse shall execute and deliver to the Company a consent of spouse in the form of Exhibit B hereto ("**Consent of Spouse**"), effective on the date hereof. Notwithstanding the execution and delivery thereof, such consent shall not be deemed to confer or convey to the spouse any rights in such Key Stockholder's shares of capital stock that do not otherwise exist by operation of law or the agreement of the parties. If any Key Stockholder should marry or remarry subsequent to the date of this Agreement, such Key Stockholder shall within thirty (30) days thereafter obtain his/her new spouse's acknowledgement of and consent to the existence and binding effect of all restrictions contained in this Agreement by causing such spouse to execute and deliver a Consent of Spouse acknowledging the restrictions and obligations contained in this Agreement and agreeing and consenting to the same.

(e) Amendments or Waivers. Neither this Agreement nor any term hereof may be amended, waived, discharged or terminated other than by a written instrument signed by (i) the Company, (ii) the holders of a majority of the Common Stock issuable or issued upon conversion of the Company's Series B Preferred Stock, (iii) the holders of a majority of the Common Stock issuable or issued upon conversion of the Company's Series C Preferred Stock, and (iv) the holders of a majority of the Key Stockholder Stock.

(f) Additional Investors. Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of the Company's Series C Preferred Stock after the date hereof pursuant to a Series C Agreement, the Company shall cause any purchaser of such shares of Series C Preferred Stock to execute a counterpart signature page hereto as an Investor, and such party shall thereby be bound by, and subject to, all the terms and provisions of this Agreement applicable to an Investor.

(g) Additional Key Stockholders. In the event that after the date of this Agreement, the Company issues shares of capital stock to any employee, which shares constitute one percent (1%) or more of the Company's then outstanding capital stock (treating for this purpose all shares of Common Stock issuable upon exercise of or conversion of outstanding options, warrants or convertible securities, as if exercised or converted), the Company shall cause such person to execute a counterpart signature page hereto as a Key Stockholder, and such person shall thereby be bound by, and subject to, all the terms and provisions of this Agreement applicable to a Key Stockholder.

(h) Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

(i) Severability. In the event that any provision of this Agreement becomes or is declared by a court of competent jurisdiction to be illegal, unenforceable or void, this Agreement shall continue in full force and effect without said provision. In such event, the parties shall negotiate, in good

faith, a valid, legal and enforceable substitute provision which most nearly effects the intent of the parties in entering into this Agreement.

(j) Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California as applied to agreements between California residents entered into and performed in California.

(k) Aggregation of Stock. For the purposes of determining the availability of any rights under this Agreement, the holdings of any transferee and assignee of an individual or a partnership who is a spouse, ancestor, lineal descendant or siblings of such individual or partners or retired partners of such partnership or affiliates of such partnership (including spouses and ancestors, lineal descendants and siblings of such partners or spouses who acquire Common Stock by gift, will or intestate succession) shall be aggregated together with the individual or partnership, as the case may be, for the purpose of exercising any rights or taking any action under this Agreement.

(l) Prior Agreement Superseded. Pursuant to Section 10(e) of the Prior Agreement, the undersigned parties who are parties to such Prior Agreement hereby amend and restate the Prior Agreement to read in its entirety as set forth in this Agreement, all with the intent and effect that the Prior Agreement shall hereby be terminated and entirely replaced and superseded by this Agreement.

[SIGNATURE PAGES FOLLOW]

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Right of First Refusal and Co-Sale Agreement as of the date first above written.

**COMPANY:**

UNIDYM, INC.  
a Delaware corporation

By: \_\_\_\_\_

Name: Arthur L. Swift  
Title: Chief Executive Officer  
Address: 1430 O'Brien Drive, Suite G  
Menlo Park, CA 94025

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Right of First Refusal and Co-Sale Agreement as of the date first above written.

**INVESTORS:**

ARROWHEAD RESEARCH CORPORATION  
a Delaware corporation

By: \_\_\_\_\_

Name: R. Bruce Stewart

Title: Chief Executive Officer

Address: 201 South Lake Avenue Suite 703  
Pasadena, CA 91101-3074



IN WITNESS WHEREOF, the parties have executed this Amended and Restated Right of First Refusal and Co-Sale Agreement as of the date first above written.

**INVESTORS:**

Name: \_\_\_\_\_  
*(Print Name of Investor)*

By: \_\_\_\_\_  
*(Print name of signatory, if signing on behalf of entity)*

Title: \_\_\_\_\_  
*(Print title of signatory, if signing on behalf of an entity)*

Signature: \_\_\_\_\_

**EXHIBIT A**

**ADOPTION AGREEMENT**

This Adoption Agreement (“**Adoption Agreement**”) is executed by the undersigned (the “**Transferee**”) pursuant to the terms of that certain Amended and Restated Right of First Refusal and Co-Sale Agreement dated as of October [\_\_\_], 2007 (the “**Agreement**”), by and among the Company, certain of its Investors and certain of its Key Stockholders. Capitalized terms used but not defined in this Adoption Agreement shall have the respective meanings ascribed to such terms in the Agreement. By the execution of this Adoption Agreement, the Transferee agrees as follows:

1.1 Acknowledgement. Transferee acknowledges that Transferee is acquiring certain shares of the capital stock of the Company (the “**Stock**”), subject to the terms and conditions of the Agreement.

1.2 Agreement. Transferee (i) agrees that the Stock acquired by Transferee shall be bound by and subject to the terms of the Agreement, and (ii) hereby adopts the Agreement with the same force and effect as if Transferee were originally a Party thereto.

1.3 Notice. Any notice required or permitted by the Agreement shall be given to Transferee at the address listed beside Transferee’s signature below.

EXECUTED AND DATED this \_\_\_ day of \_\_\_\_\_, 200.

**TRANSFEEEE**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Address: \_\_\_\_\_  
Fax: \_\_\_\_\_

Accepted and Agreed:

**UNIDYM, INC.**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**EXHIBIT B**

**CONSENT OF KEY STOCKHOLDER'S SPOUSE**

I acknowledge that I have read the foregoing Amended and Restated Right of First Refusal and Co-Sale Agreement, dated October [\_\_], 2007, among Unidym, Inc., a Delaware corporation (the "**Company**"), the Key Stockholders and the Investors (each as defined therein) (the "**Co-Sale Agreement**") and that I know its contents. I am aware that by its provisions if I and/or my spouse agree to sell all or part of the shares of the Company held of record by either or both of us, including my community property interest in such shares, if any, (i) a right of first refusal must be provided to the Company and the Investors and (ii) a co-sale right (as described in the Co-Sale Agreement) must also be granted to the Investors by the seller. I hereby agree that those shares and my interest in them, if any, are subject to the provisions of the Co-Sale Agreement and that I will take no action at any time to hinder operation of, or violate, the Co-Sale Agreement.

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Spouse of: \_\_\_\_\_

Date: \_\_\_\_\_

**SCHEDULE A**

**SCHEDULE OF INVESTORS**

**Arrowhead Research Corporation**

201 South Lake Avenue, Suite 703  
Pasadena, CA 91101

[Additional Investors]

[Additional Series C Investors]

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**SCHEDULE B**

**SCHEDULE OF KEY STOCKHOLDERS**

[List of Key Stockholders]

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**Exhibit C**

Form of  
Restated Certificate of Incorporation

**AMENDED AND RESTATED CERTIFICATE OF INCORPORATION  
OF  
UNIDYM, INC.**

(Pursuant to Sections 242 and 245 of the  
General Corporation Law of the State of Delaware)

Unidym, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "**General Corporation Law**"),

DOES HEREBY CERTIFY:

1. That the name of this corporation is Unidym, Inc., and that this corporation was originally incorporated pursuant to the General Corporation Law on April 4, 2005 under the name NanoPolaris, Inc.

2. That the Board of Directors duly adopted resolutions proposing to amend and restate the Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

**RESOLVED**, that the Certificate of Incorporation, as amended, of this corporation be amended and restated in its entirety to read as follows:

**FIRST:** The name of this corporation is Unidym, Inc. (the "**Corporation**").

**SECOND:** The address of the registered office of the Corporation in the State of Delaware is 2711 Centerville Road, Suite 400, in the City of Wilmington, County of New Castle. The name of its registered agent at such address is Corporation Service Company.

**THIRD:** The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

**FOURTH:** The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 40,000,000 shares of Common Stock, \$0.0001 par value per share ("**Common Stock**"), and (ii) 19,173,252 shares of Preferred Stock, \$0.0001 par value per share ("**Preferred Stock**"), of which 5,000,000 shares are designated as Series A Convertible Preferred Stock ("**Series A Preferred Stock**"), 5,673,252 shares are designated as Series B Senior Convertible Preferred Stock ("**Series B Preferred Stock**"), and 8,500,000 shares are designated as Series C Senior Convertible Preferred Stock ("**Series C Preferred Stock**") and collectively with the Series A Preferred Stock and the Series B Preferred Stock, the "**Preferred Stock**", with the following rights, preferences, powers, privileges and restrictions, qualifications and limitations.

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation. Unless otherwise indicated, references to “Sections” or “Subsections” in this Article Fourth refer to sections and subsections of this Article Fourth.

#### A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein.

2. Voting. The holders of the Common Stock are entitled to one vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings). The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one or more series of Preferred Stock that may be required by the terms of the Certificate of Incorporation) the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

#### B. PREFERRED STOCK

The Preferred Stock shall have the following rights, preferences, powers, privileges and restrictions, qualifications and limitations.

##### 1. Dividend Rights.

1.1 Series C Preferred Stock. The holders of shares of Series C Preferred Stock shall be entitled to receive, when and if declared by the Board of Directors of the Corporation, out of any assets legally available therefor, non-cumulative dividends at such rate per share per annum as may be determined by the Board of Directors of the Corporation, prior and in preference to any declaration or payment of any cash dividend on the Series A Preferred Stock, Series B Preferred Stock or Common Stock of the Corporation.

1.2 Series A Preferred Stock and Series B Preferred Stock. Subject to the prior dividend rights of the Series C Preferred Stock set forth in subsection 1.1, the holders of shares of Series A Preferred Stock and Series B Preferred Stock shall be entitled to receive, when and if declared by the Board of Directors of the Corporation, out of any assets legally available therefor, non-cumulative dividends at such rate per share per annum as may be determined by the Board of Directors of the Corporation, prior and in preference to any declaration or payment of any cash dividend on the Common Stock of the Corporation. Any such dividends shall be distributed among the holders of Series A Preferred Stock and Series B Preferred Stock pro rata based on the number of shares of Common Stock held by each, determined on an as-if-converted basis (assuming full conversion of all such Series A Preferred Stock and Series B Preferred Stock) as of the record date with respect to the declaration of such dividends.

1.3 Participation Rights. If, after dividends, if any, in the full amounts specified in subsections 1.1 and 1.2 for the Preferred Stock have been paid or declared, the Board of Directors of the Corporation may, when, as and if declared by the Board of Directors of the Corporation, declare additional dividends out of assets legally available therefor. Any such dividends shall be distributed pro rata among the holders of the Common Stock and the holders of the Preferred Stock on a pari passu basis



based on the number of shares of Common Stock held by each, determined on an as-if-converted basis (assuming full conversion of all such Preferred Stock) as of the record date with respect to the declaration of such dividends.

2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

2.1 Payments to Holders of Series C Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event (as defined below) the holders of shares of Series C Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Series A Preferred Stock, Series B Preferred Stock or Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) \$1.80 (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C Preferred Stock) (the “**Series C Original Issue Price**”), plus any dividends declared but unpaid thereon, or (ii) such amount per share as would have been payable had each such share of Series C Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution or winding up (the amount payable pursuant to this sentence is hereinafter referred to as the “**Series C Liquidation Amount**”). If upon any such voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series C Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1, the holders of shares of Series C Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.2 Payments to Holders of Series B Preferred Stock. Subject to payment in full of the Series C Liquidation Amount as provided in Section 2.1 above, in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the holders of shares of Series B Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Series A Preferred Stock and Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) \$1.938923 (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B Preferred Stock) (the “**Series B Original Issue Price**”), plus any dividends declared but unpaid thereon or (ii) such amount per share as would have been payable had each such share of Series B Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution or winding up (the amount payable pursuant to this sentence is hereinafter referred to as the “**Series B Liquidation Amount**”). If upon any such voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series B Preferred Stock the full amount to which they shall be entitled under this Subsection 2.2, the holders of shares of Series B Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.3 Payments to Holders of Common Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, after the payment of all preferential amounts required to be paid to the holders of shares of Series C Preferred Stock pursuant to Subsection 2.1 and Series B Preferred Stock pursuant to Subsection 2.2, the remaining

assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of shares of Common Stock, pro rata based on the number of shares held by each such holder and after giving effect to the conversion of all shares of Series A Preferred Stock pursuant to Section 4.1.1 or Section 5.1 hereof, as applicable. Notwithstanding the foregoing, no payments shall be made to the holders of shares of Common Stock under this Section 2.3 unless all of the issued and outstanding shares of Series A Preferred Stock have converted into shares of Common Stock.

#### 2.4 Deemed Liquidation Events.

2.4.1 Definition. Each of the following events shall be considered a “**Deemed Liquidation Event**” unless the holders of at least a majority of the outstanding shares of Series B Preferred Stock and at least a majority of the outstanding shares of Series C Preferred Stock (each voting separately as a class and on as-if-converted basis) elect otherwise by written notice sent to the Corporation at least 5 days prior to the effective date of any such event:

- (a) a merger, reorganization or consolidation in which
  - (i) the Corporation is a constituent party or
  - (ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except any such merger, reorganization or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger, reorganization or consolidation, at least a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation or entity or (2) if the surviving or resulting corporation or entity is a wholly owned subsidiary of another corporation or entity immediately following such merger, reorganization or consolidation, the parent corporation or entity of such surviving or resulting corporation or entity (provided that, for the purpose of this Subsection 2.4.1, all shares of Common Stock issuable upon exercise of Options (as defined below) outstanding immediately prior to such merger or consolidation or upon conversion of Convertible Securities (as defined below) outstanding immediately prior to such merger or consolidation shall be deemed to be outstanding immediately prior to such merger or consolidation and, if applicable, converted or exchanged in such merger or consolidation on the same terms as the actual outstanding shares of Common Stock are converted or exchanged); or

(b) the sale, lease, exclusive license, transfer or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole or the sale or disposition (whether by merger or otherwise) of one or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, exclusive license, transfer or other disposition is to a wholly owned subsidiary of the Corporation; or

(c) a transaction or series of related transactions of the Corporation in which a person, or a group of related persons, acquires shares representing fifty percent (50%) or more of the outstanding voting power of the Corporation, except equity securities of the Corporation in a bona fide private financing transaction of the Corporation.

#### 2.4.2 Effecting a Deemed Liquidation Event.

(a) The Corporation shall not have the power to effect a Deemed Liquidation Event referred to in

Subsection 2.4.1(a)(i) above unless the agreement or plan of merger, reorganization or consolidation for such transaction (the “**Merger Agreement**”) provides that the consideration payable to the stockholders of the Corporation shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1, 2.2 and 2.3 above.

(b) In the event of a Deemed Liquidation Event referred to in Subsection 2.4.1(a)(ii), 2.4.1(b), or 2.4.1(c) above, if the Corporation does not effect a dissolution of the Corporation under the General Corporation Law within 90 days after such Deemed Liquidation Event, then (i) the Corporation shall send a written notice to each holder of Series B Preferred Stock and each holder of Series C Preferred Stock no later than the 90th day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause (ii) to require the redemption of such shares of Series B Preferred Stock and such shares of Series C Preferred Stock, and (ii) if both the holders of at least a majority of the then outstanding shares of Series B Preferred Stock (voting together as a single series) and the holders of a least a majority of the then outstanding shares of Series C Preferred Stock (voting together as a single series) so request in a written instrument delivered to the Corporation not later than 120 days after such Deemed Liquidation Event, the Corporation shall use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board of Directors of the Corporation) (the “**Net Proceeds**”), to the extent legally available therefor, on the 150th day after such Deemed Liquidation Event (the “**Liquidation Redemption Date**”), to redeem all outstanding shares of Series B Preferred Stock at a price per share equal to the Series B Liquidation Amount and to redeem all outstanding shares of Series C Preferred Stock at a price per share equal to the Series C Liquidation Amount. Notwithstanding the foregoing, in the event of a redemption pursuant to the preceding sentence, if the Available Proceeds are not sufficient to redeem all outstanding shares of Series B Preferred Stock at a price per share equal to the Series B Liquidation Amount and to redeem all outstanding shares of Series C Preferred Stock at a price per share equal to the Series C Liquidation Amount, then the Corporation shall, as soon as practicable after the Corporation has funds legally available therefor, first redeem all outstanding shares of Series C Preferred Stock at a price per share equal to the Series C Liquidation Amount to the fullest extent of such Available Proceeds (distributed among such holders as provided in the last sentence of subsection 2.1) and shall thereafter redeem all outstanding shares of Series B Preferred Stock at a price per share equal to the Series B Liquidation Amount to the fullest extent of such Available Proceeds (distributed among such holders as provided in the last sentence of subsection 2.2). The provisions of subsections 6.2 through 6.4 below shall apply, with such necessary changes in the details thereof as are necessitated by the context, to the redemption of the Series B Preferred Stock and Series C Preferred Stock pursuant to this subsection 2.4.2(b). Prior to the distribution or redemption provided for in this subsection 2.4.2(b), the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event or in the ordinary course of business.

2.4.3 Amount Deemed Paid or Distributed. The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any such merger, reorganization, consolidation, sale, lease, acquisition, transfer, exclusive license, other disposition or redemption shall be the cash or the value of the property, rights or securities paid or distributed to such holders by the Corporation or the acquiring person, firm or other entity. If the amount deemed paid or distributed under this Subsection 2.4.3 is made in property other than in cash, the value of such distribution shall be the fair market value of such property, determined as follows:

(a) For securities not subject to investment letters or other similar restrictions on free marketability,

- (i) if traded on a securities exchange or the NASDAQ Stock Market, the value shall be deemed to be the average of the closing prices of the securities on such exchange or market over the 30-trading day period ending three trading days prior to the closing of such transaction;
- (ii) if actively traded over-the-counter, the value shall be deemed to be the average of the closing bid prices over the 30-trading day period ending three trading days prior to the closing of such transaction; or
- (iii) if there is no active public market, the value shall be the fair market value thereof, as determined in good faith by the Board of Directors of the Corporation.

(b) The method of valuation of securities subject to investment letters or other similar restrictions on free marketability (other than restrictions arising solely by virtue of a stockholder's status as an affiliate or former affiliate) shall take into account an appropriate discount (as determined in good faith by the Board of Directors of the Corporation) from the market value as determined pursuant to clause (a) above so as to reflect the approximate fair market value thereof.

2.4.4 Allocation of Escrow or Contingent Payments. In the case of a Deemed Liquidation Event above, if any portion of the consideration payable to the stockholders of the Corporation is placed into escrow and/or is payable to the stockholders of the Corporation subject to contingencies, the Merger Agreement shall provide that (a) the portion of such consideration that is not placed in escrow and not subject to any contingencies (the "**Initial Consideration**") shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1, 2.2 and 2.3 above as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event and (b) any additional consideration which becomes payable to the stockholders of the Corporation upon release from escrow or satisfaction of contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1, 2.2 and 2.3 above after taking into account the previous payment of the Initial Consideration as part of the same transaction.

### 3. Voting.

3.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Series B Preferred Stock and Series C Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Series B Preferred Stock or Series C Preferred Stock (as applicable) held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as provided by law or by the other provisions of the Certificate of Incorporation, holders of Series B Preferred Stock and Series C Preferred Stock shall vote together with the holders of Common Stock as a single class. Holders of Series A Preferred Stock shall vote together as a single class as required by law or expressly set forth in this Certificate of Incorporation and shall not vote together with the holders of Common Stock, Series B Preferred Stock or Series C Preferred Stock on an as-converted to Common Stock basis on matters that are not otherwise expressly set forth in this Certificate of Incorporation.

3.2 Election of Directors. The holders of record of the shares of Series A Preferred Stock, exclusively and as a separate class, shall be entitled to elect two (2) directors of the Corporation (the “**Series A Directors**”), the holders of record of the shares of Series B Preferred Stock, exclusively and as a separate class, shall be entitled to elect three (3) directors of the Corporation (the “**Series B Directors**”), the holders of record of the shares of Series C Preferred Stock, exclusively and as a separate class, shall be entitled to elect one (1) director of the Corporation (the “**Series C Director**”) and the holders of record of the shares of Common Stock, exclusively and as a separate class, shall be entitled to elect one (1) director of the Corporation (the “**Common Director**”). Any director elected as provided in the preceding sentence may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the class or series of capital stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. The holders of record of the shares of Common Stock and of any other class or series of voting stock (including the Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock), voting together as a single class, shall be entitled to elect the balance of the total number of directors of the Corporation. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. A vacancy in any directorship filled by the holders of any class or series may be filled by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this Subsection 3.2.

3.3 Series A Preferred Stock Protective Provisions. At any time prior to a Liquidity Event (as defined below) and so long as any shares of Series A Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or the Certificate of Incorporation) the written consent or affirmative vote of the holders of at least a majority of the then outstanding shares of Series A Preferred Stock, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class:

(a) Issue or sell, or agree to issue or sell, in a transaction or series of related transactions, equity securities of the Corporation in a bona fide private financing transaction of the Corporation, including any strategic financing transaction, or to an affiliate of the Corporation or the parent entity of the Corporation or in a private financing transaction that is not bona fide;

(b) Sell, or agree to sell, shares of Common Stock to the public in a public offering, unless such offering is a Qualified IPO;

(c) Take any action that results in the purchase, repurchase, redemption, retirement or other acquisition for value by the Corporation of any Common Stock, other than (i) acquisitions of Common Stock by the Corporation pursuant to agreements with employees, advisors, consultants or service providers that permit the Corporation to repurchase such shares upon termination of services to the Corporation or (ii) acquisitions of Common Stock by the Corporation upon the exercise of the Corporation’s right of first refusal upon a proposed transfer;

(d) Increase or decrease (other than by conversion as provided in the Certificate of Incorporation) the aggregate number of authorized shares of Series A Preferred Stock; or

(e) Amend the Certificate of Incorporation in any manner that adversely affects the rights, preferences, powers or privileges of the Series A Preferred Stock.

For purposes of this Section 3.3, a “**Liquidity Event**” shall mean (i) a Deemed Liquidation Event in which the acquiring or merging entity is a third party unaffiliated with the Corporation or the parent entity of the Corporation, or (ii) a Qualified IPO (as defined below).

3.4 Series C Preferred Stock Protective Provisions. At any time prior to a Liquidity Event (as defined above) and so long as any shares of Series C Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or the Certificate of Incorporation) the written consent or affirmative vote of the holders of at least a majority of the then outstanding shares of Series C Preferred Stock, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class:

(a) Take any action that results in the purchase, repurchase, redemption, retirement or other acquisition for value by the Corporation of any Common Stock, other than (i) acquisitions of Common Stock by the Corporation pursuant to agreements with employees, advisors, consultants or service providers that permit the Corporation to repurchase such shares upon termination of services to the Corporation, (ii) acquisitions of Common Stock by the Corporation upon the exercise of the Corporation’s right of first refusal upon a proposed transfer or (iii) as approved by the Corporation’s Board of Directors;

(b) Increase or decrease (other than by conversion as provided in the Certificate of Incorporation) the aggregate number of authorized shares of Series C Preferred Stock;

(c) Authorize or issue (by reclassification or otherwise) any capital stock of the Corporation having rights, preferences or privileges senior to or on a parity with the Series C Preferred Stock with respect to dividend rights, conversion rights, liquidation rights, redemption rights, voting rights or any other rights;

(d) Amend the Certificate of Incorporation in any manner that materially and adversely affects the rights, preferences, powers or privileges of the Series C Preferred Stock; or

(e) Increase or decrease the authorized number of directors constituting the Corporation’s Board of Directors.

#### 4. Optional Conversion.

The holders of the Preferred Stock shall have conversion rights as follows (the “**Conversion Rights**”):

##### 4.1 Right to Convert.

4.1.1 Conversion Ratio. Except as otherwise provided in Subsection 5.1, each share of Series A Preferred Stock (i) upon the liquidation, dissolution and winding up of the Corporation, (ii) upon a Deemed Liquidation Event, or (iii) upon a Qualified IPO (as defined below) shall automatically be converted, without the payment of additional consideration by the holder thereof, into 1.680096462 fully paid and nonassessable shares of Common Stock (the “**Series A Conversion Rate**”). Each share of Series B Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into 1.000042304 fully paid and nonassessable shares of Common Stock (the “**Series B Conversion Rate**”). Each share of Series C Preferred Stock shall be convertible, at the option of the holder thereof, at any time

and from time to time, and without the payment of additional consideration by the holder thereof, into one (1) fully paid and nonassessable share of Common Stock (the “**Series C Conversion Rate**”). Such initial Series A Conversion Rate, Series B Conversion Rate and Series C Conversion Rate shall be subject to adjustment as provided below.

**4.1.2 Termination of Conversion Rights.** In the event of a liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event, the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Preferred Stock.

**4.2 Fractional Shares.** No fractional shares of Common Stock shall be issued upon conversion of the Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board of Directors of the Corporation. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

#### **4.3 Mechanics of Conversion.**

**4.3.1 Notice of Conversion.** In order for a holder of Preferred Stock to convert shares of Preferred Stock into shares of Common Stock, such holder shall surrender the certificate or certificates for such shares of Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent), together with written notice that such holder is converting all or any number of the shares of the Preferred Stock represented by such certificate or certificates and, if applicable, any event on which such conversion is contingent. Such notice shall state such holder’s name or the names of the nominees in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. If required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such certificates (or lost certificate affidavit and agreement) and notice shall be the time of conversion (the “**Conversion Time**”), and the shares of Common Stock issuable upon conversion of the shares represented by such certificate shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time, issue and deliver to such holder of Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof, a certificate for the number (if any) of the shares of Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, and cash as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and payment of any declared but unpaid dividends on the shares of Preferred Stock converted.

**4.3.2 Reservation of Shares.** The Corporation shall at all times when the Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Preferred Stock; and if at any time the number of authorized but unissued shares of Common

Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to the Certificate of Incorporation.

**4.3.3 Effect of Conversion.** All shares of Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

**4.3.4 No Further Adjustment.** Upon any such conversion, no adjustment to the Series A Conversion Rate, Series B Conversion Rate or Series C Conversion Rate, as applicable, shall be made for any declared but unpaid dividends on the Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

**4.3.5 Taxes.** The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

#### **4.4 Adjustments to Series C Conversion Price for Diluting Issues.**

**4.4.1 Special Definitions.** For purposes of this Article Fourth, the following definitions shall apply:

(a) **“First Carveout Limit”** shall mean an aggregate of 1,640,000 shares issued under subsections 4.4.1(d)(iii), (v), (vi) and (viii); such number of shares is to be (A) calculated net of any repurchases of such shares by the Company, (B) calculated net of any such expired or terminated options, warrants or rights and (C) proportionally adjusted to reflect any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock.

(b) **“Second Carveout Limit”** shall mean an aggregate of 8,200,000 shares issued under subsection 4.4.1(d)(vii); such number of shares is to be proportionally adjusted to reflect any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock.

(c) **“Option”** shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(d) **“Series C Original Issue Date”** shall mean the date on which the first share of Series C Preferred Stock was issued.



(e) “**Convertible Securities**” shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(f) “**Additional Shares of Common Stock**” shall mean all shares of Common Stock issued (or, pursuant to Subsection 4.4.3 below, deemed to be issued) by the Corporation after the Series C Original Issue Date, other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (1) and (2), collectively, “**Exempted Securities**”):

- (i) shares of Common Stock, Options or Convertible Securities issued as a dividend or distribution on Series C Preferred Stock;
- (ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Subsection 4.5, 4.6, 4.7 or 4.8;
- (iii) Up to the First Carveout Limit, shares of Common Stock or Options issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board of Directors of the Corporation or by the Compensation Committee of the Board of Directors;
- (iv) shares of Common Stock or Convertible Securities actually issued upon the exercise of Options or shares of Common Stock actually issued upon the conversion or exchange of Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security;
- (v) Up to the First Carveout Limit, shares of Common Stock, Options or Convertible Securities issued to banks, equipment lessors or other financial institutions, or to real property lessors, pursuant to a debt financing, equipment leasing or real property leasing transaction approved by the Board of Directors of the Corporation;
- (vi) Up to the First Carveout Limit, shares of Common Stock, Options or Convertible Securities issued to suppliers or third party service providers in connection with the provision of goods or services pursuant to transactions approved by the Board of Directors of the Corporation;
- (vii) Up to the Second Carveout Limit, shares of Common Stock, Options or Convertible Securities issued pursuant

to the acquisition of another corporation by the Corporation by merger, purchase of substantially all of the assets or other reorganization or to a joint venture agreement, provided, that such issuances are approved by the Board of Directors of the Corporation; or

- (viii) Up to the First Carveout Limit, shares of Common Stock, Options or Convertible Securities issued in connection with sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board of Directors of the Corporation.

4.4.2 No Adjustment of Series C Conversion Price. No adjustment in the Series C Conversion Price shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the holders of at least a majority of the then outstanding shares of Series C Preferred Stock agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

4.4.3 Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Series C Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Series C Conversion Price pursuant to the terms of Subsection 4.4.4, are revised as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the Series C Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such Series C Conversion Price as would have obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (b) shall have the effect of increasing the Series C Conversion Price to an amount which exceeds the lower of (i) the Series C Conversion Price in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) the Series C Conversion Price that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares

of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are themselves Exempted Securities), the issuance of which did not result in an adjustment to the Series C Conversion Price pursuant to the terms of Subsection 4.4.4 (either because the consideration per share (determined pursuant to Subsection 4.4.5) of the Additional Shares of Common Stock subject thereto was equal to or greater than the Series C Conversion Price then in effect, or because such Option or Convertible Security was issued before the Series C Original Issue Date), are revised after the Series C Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Subsection 4.4.3(a)) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Series C Conversion Price pursuant to the terms of Subsection 4.4.4, the Series C Conversion Price shall be readjusted to such Series C Conversion Price as would have obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based upon subsequent events, any adjustment to the Series C Conversion Price provided for in this Subsection 4.4.3 shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this Subsection 4.4.3). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any adjustment to the Series C Conversion Price that would result under the terms of this Subsection 4.4.3 at the time of such issuance or amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to the Series C Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

4.4.4 Adjustment of Series C Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Series C Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Subsection 4.4.3), without consideration or for a consideration per share less than the Series C Conversion Price in effect immediately prior to such issue, then the Series C Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP_2 = CP_1 * (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) “CP<sub>2</sub>” shall mean the Series C Conversion Price in effect immediately after such issue of Additional Shares of Common Stock

(b) “CP<sub>1</sub>” shall mean the Series C Conversion Price in effect immediately prior to such issue of Additional Shares of Common Stock;

(c) “A” shall mean the number of shares of Common Stock outstanding immediately prior to such issue of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issue or upon conversion or exchange of Convertible Securities (including the Series C Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue);

(d) “B” shall mean the number of shares of Common Stock that would have been issued if such Additional Shares of Common Stock had been issued at a price per share equal to CP<sub>1</sub> (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by CP<sub>1</sub>); and

(e) “C” shall mean the number of such Additional Shares of Common Stock issued in such transaction.

4.4.5 Determination of Consideration. For purposes of this Subsection 4.4, the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property: Such consideration shall:

- (i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;
- (ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors of the Corporation; and
- (iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board of Directors of the Corporation.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued

pursuant to Subsection 4.4.3, relating to Options and Convertible Securities, shall be determined by dividing

- (i) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by
- (ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.4.6 Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Series C Conversion Price pursuant to the terms of Subsection 4.4.4 then, upon the final such issuance, the Series C Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the filing of this Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware (the “**Filing Date**”) effect a subdivision of the outstanding Common Stock, the then current Series A Conversion Rate, Series B Conversion Rate and Series C Conversion Rate, as applicable, in effect immediately before that subdivision shall be proportionately increased. If the Corporation shall at any time or from time to time after the Original Issue Date combine the outstanding shares of Common Stock, the Series A Conversion Rate, Series B Conversion Rate or Series C Conversion Rate, as applicable, in effect immediately before the combination shall be proportionately decreased. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Filing Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock or other securities or rights (hereinafter referred to as “**Common Stock Equivalents**”) without payment of any consideration by such

holder for the additional shares of Common Stock or the Common Stock Equivalents (including the additional shares of Common Stock issuable upon conversion or exercise thereof), then and in each such event the maximum number of shares (as a subsequent adjustment of such number) of Common Stock issuable in payment of such dividends or distribution or upon conversion or exercise of such Common Stock Equivalents shall be deemed to be issued and outstanding as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date. In addition, in each such event the Series A Conversion Rate, Series B Conversion Rate or Series C Conversion Rate, as applicable, in effect immediately before such event shall be increased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the number of shares of Common Stock then issuable upon conversion of each share of Series A Preferred Stock, Series B Preferred Stock or Series C Preferred Stock, as applicable, by a fraction:

- (1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately or deemed to be issued and outstanding prior to the time of such issuance or the close of business on such record date, plus the number of shares of Common Stock issuable in payment of such dividend or distribution or upon conversion or exercise of such Common Stock Equivalents; and
- (2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding or deemed to be issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing, (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Series A Conversion Rate, Series B Conversion Rate or Series C Conversion Rate, as applicable, shall be recomputed accordingly as of the close of business on such record date and thereafter the Series A Conversion Rate, Series B Conversion Rate or Series C Conversion Rate, as applicable, shall be adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions; and (b) that no such adjustment shall be made if the holders of Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.7 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Filing Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of Section 1 do not apply to such dividend or distribution, then and in each such event the holders of Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Subsection 2.3, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger (other than a change in par value, or from par value to no par value, or from no par value to par value, or as the result of subdivision, combination, stock distribution or stock dividend) involving the Corporation in which the Common Stock (but not the Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Subsections 4.6, or 4.7), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one share of Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Corporation) shall be made in the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of the Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Series A Conversion Rate, Series B Conversion Rate or Series C Conversion Rate, as applicable) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Preferred Stock.

4.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Series A Conversion Rate, Series B Conversion Rate or Series C Conversion Rate, as applicable, pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than 10 days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Preferred Stock a certificate of the chief financial officer of the Corporation setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which the Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Preferred Stock (but in any event not later than 10 days thereafter), furnish or cause to be furnished to such holder a certificate of the chief financial officer of the Corporation setting forth (i) the Series A Conversion Rate, Series B Conversion Rate or Series C Conversion Rate, as applicable, then in effect, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of Preferred Stock.

4.10 Notice of Record Date. In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Deemed Liquidation Event; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of the Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right,

and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to the Preferred Stock and the Common Stock. Such notice shall be sent at least 10 days prior to the record date or effective date for the event specified in such notice.

#### 5. Mandatory Conversion.

5.1 Trigger Events. Upon either (a) the closing of the sale of shares of Common Stock to the public at a price of at least \$3.00 per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock) in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (a “**Qualified IPO**”), or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the holders of at least a majority of the then outstanding shares of Preferred Stock, voting as a single class on an as-if-converted basis (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the “**Mandatory Conversion Time**”), then (i) all outstanding shares of Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate and (ii) such shares may not be reissued by the Corporation.

5.2 Procedural Requirements. All holders of record of shares of Preferred Stock shall be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Preferred Stock pursuant to this Section 5. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of shares of Preferred Stock shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice, and shall thereafter receive certificates for the number of shares of Common Stock to which such holder is entitled pursuant to this Section 5. At the Mandatory Conversion Time, all outstanding shares of Preferred Stock shall be deemed to have been converted into shares of Common Stock, which shall be deemed to be outstanding of record, and all rights with respect to the Preferred Stock so converted, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate, except only the rights of the holders thereof, upon surrender of their certificate or certificates (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the last sentence of this Subsection 5.2. If so required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. As soon as practicable after the Mandatory Conversion Time and the surrender of the certificate or certificates (or lost certificate affidavit and agreement) for Preferred Stock, the Corporation shall issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof, together with cash as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Preferred Stock converted.



5.3 Effect of Mandatory Conversion. All shares of Preferred Stock shall, from and after the Mandatory Conversion Time, no longer be deemed to be outstanding and, notwithstanding the failure of the holder or holders thereof to surrender the certificates for such shares on or prior to such time, all rights with respect to such shares shall immediately cease and terminate at the Mandatory Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor and to receive payment of any dividends declared but unpaid thereon. Such converted Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

6. Redemption.

6.1 The Preferred Stock is not be redeemable, except in accordance with the Deemed Liquidation provisions of Subsection 2.4.2.

6.2 Redemption Notice. Promptly following receipt of a written request of the holders of at least a majority of the Series B Preferred Stock and the holders of at least a majority of Series C Preferred Stock (each voting as a separate series on an as-if-converted basis) pursuant to Section 2.4.2, the Corporation shall deliver written notice of the redemption (the "**Redemption Notice**") to each holder of record of Series B Preferred Stock and Series C Preferred Stock. The Redemption Notice shall state:

(a) the number of shares of Series B Preferred Stock and Series C Preferred Stock held by such holder that the Corporation shall redeem on the Liquidation Redemption Date specified in the Redemption Notice;

(b) the Liquidation Redemption Date;

(c) the date upon which such holder's right to convert such shares terminates (as determined in accordance with Subsection 4.1); and

(d) that such holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Series B Preferred Stock and Series C Preferred Stock to be redeemed.

6.3 Surrender of Certificates; Payment. On or before the Liquidation Redemption Date, each holder of shares of Series B Preferred Stock and Series C Preferred Stock to be redeemed on such Liquidation Redemption Date, unless such holder has exercised his, her or its right to convert such shares as provided in Section 4, shall surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, in the manner and at the place designated in the Redemption Notice, and thereupon the Series B Liquidation Amount and the Series C Liquidation Amount, as applicable, for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the shares of Series B Preferred Stock and Series C Preferred Stock represented by a certificate are redeemed, a new certificate representing the unredeemed shares of Series B Preferred Stock and Series C Preferred Stock, as applicable, shall promptly be issued to such holder.

6.4 Rights Subsequent to Redemption. If the Redemption Notice shall have been duly given, and if on the Liquidation Redemption Date the applicable Liquidation Amount payable upon redemption of the shares of Series B Preferred Stock and Series C Preferred Stock to be redeemed on such Liquidation Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor, then notwithstanding that the certificates evidencing any of the shares of Series B Preferred Stock and Series C Preferred Stock so called for redemption shall not have been surrendered, dividends with respect to such shares of Series B Preferred Stock and Series C Preferred Stock shall cease to accrue after such Liquidation Redemption Date and all rights with respect to such shares shall forthwith after the Liquidation Redemption Date terminate, except only the right of the holders to receive the Series B Liquidation Amount and the Series C Liquidation Amount, as applicable, without interest upon surrender of their certificate or certificates therefor.

7. Redeemed or Otherwise Acquired Shares. Any shares of Preferred Stock which are redeemed or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following redemption.

8. Waiver. Any of the rights, powers, preferences and other terms of the Preferred Stock set forth herein may be waived on behalf of all holders of Preferred Stock by the affirmative written consent or vote of the holders of at least a majority of the shares of Preferred Stock then outstanding.

9. Notices. Any notice required or permitted by the provisions of this Article Fourth to be given to a holder of shares of Preferred Stock shall be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the General Corporation Law, and shall be deemed sent upon such mailing or electronic transmission.

**FIFTH:** Subject to any additional vote required by the Certificate of Incorporation, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.

**SIXTH:** Subject to any additional vote required by the Certificate of Incorporation, the number of directors of the Corporation shall be determined in the manner set forth in the Bylaws of the Corporation.

**SEVENTH:** Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

**EIGHTH:** Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of the Corporation.

**NINTH:** To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article Ninth to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any repeal or modification of the foregoing provisions of this Article Ninth by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

**TENTH:** The following indemnification provisions shall apply to the persons enumerated below.

1. Right to Indemnification of Directors and Officers. The Corporation shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person (an “**Indemnified Person**”) who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a “**Proceeding**”), by reason of the fact that such person, or a person for whom such person is the legal representative, is or was a director or officer of the Corporation or, while a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another Corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys’ fees) reasonably incurred by such Indemnified Person in such Proceeding. Notwithstanding the preceding sentence, except as otherwise provided in Section 3 of this Article Tenth, the Corporation shall be required to indemnify an Indemnified Person in connection with a Proceeding (or part thereof) commenced by such Indemnified Person only if the commencement of such Proceeding (or part thereof) by the Indemnified Person was authorized in advance by the Board of Directors.

2. Prepayment of Expenses of Directors and Officers. The Corporation shall pay the expenses (including attorneys’ fees) incurred by an Indemnified Person in defending any Proceeding in advance of its final disposition, provided, however, that, to the extent required by law, such payment of expenses in advance of the final disposition of the Proceeding shall be made only upon receipt of an undertaking by the Indemnified Person to repay all amounts advanced if it should be ultimately determined that the Indemnified Person is not entitled to be indemnified under this Article Tenth or otherwise.

3. Claims by Directors and Officers. If a claim for indemnification or advancement of expenses under this Article Tenth is not paid in full within 30 days after a written claim therefor by the Indemnified Person has been received by the Corporation, the Indemnified Person may file suit to recover the unpaid amount of such claim and, if successful in whole or in part, shall be entitled to be paid the expense of prosecuting such claim. In any such action the Corporation shall have the burden of proving that the Indemnified Person is not entitled to the requested indemnification or advancement of expenses under applicable law.

4. Indemnification of Employees and Agents. The Corporation may indemnify and advance expenses to any person who was or is made or is threatened to be made or is otherwise involved in any Proceeding by reason of the fact that such person, or a person for whom such person is the legal representative, is or was an employee or agent of the Corporation or, while an employee or agent of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorney’s fees) reasonably incurred by such person in connection with such Proceeding. The ultimate determination of entitlement to indemnification of persons who are non-director or officer employees or agents shall be made in such manner as is determined by the Board of Directors in its sole discretion. Notwithstanding the foregoing sentence, the Corporation shall not be

required to indemnify a person in connection with a Proceeding initiated by such person if the Proceeding was not authorized in advance by the Board of Directors.

5. Advancement of Expenses of Employees and Agents. The Corporation may pay the expenses (including attorney's fees) incurred by an employee or agent in defending any Proceeding in advance of its final disposition on such terms and conditions as may be determined by the Board of Directors.

6. Non-Exclusivity of Rights. The rights conferred on any person by this Article Tenth shall not be exclusive of any other rights which such person may have or hereafter acquire under any statute, provision of the certificate of incorporation, these by-laws, agreement, vote of stockholders or disinterested directors or otherwise.

7. Other Indemnification. The Corporation's obligation, if any, to indemnify any person who was or is serving at its request as a director, officer or employee of another Corporation, partnership, limited liability company, joint venture, trust, organization or other enterprise shall be reduced by any amount such person may collect as indemnification from such other Corporation, partnership, limited liability company, joint venture, trust, organization or other enterprise.

8. Insurance. The Board of Directors may, to the full extent permitted by applicable law as it presently exists, or may hereafter be amended from time to time, authorize an appropriate officer or officers to purchase and maintain at the Corporation's expense insurance: (a) to indemnify the Corporation for any obligation which it incurs as a result of the indemnification of directors, officers and employees under the provisions of this Article Tenth; and (b) to indemnify or insure directors, officers and employees against liability in instances in which they may not otherwise be indemnified by the Corporation under the provisions of this Article Tenth.

9. Amendment or Repeal. Any repeal or modification of the foregoing provisions of this Article Tenth shall not adversely affect any right or protection hereunder of any person in respect of any act or omission occurring prior to the time of such repeal or modification. The rights provided hereunder shall inure to the benefit of any Indemnified Person and such person's heirs, executors and administrators.

**ELEVENTH:** The Corporation renounces any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Excluded Opportunity. An "**Excluded Opportunity**" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of, (i) any director of the Corporation who is not an employee of the Corporation or any of its subsidiaries, or (ii) any holder of Series A Preferred Stock or Series B Preferred Stock or any partner, member, director, stockholder, employee or agent of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (collectively, "**Covered Persons**"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation.

\* \* \*

3. That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the General Corporation Law.

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4. That this Amended and Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of this corporation's Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

**IN WITNESS WHEREOF**, this Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this \_\_ of October 2007.

By: \_\_\_\_\_  
Arthur L. Swift  
Chief Executive Officer and President

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**Exhibit D**

Form of  
Amended and Restated Voting Agreement

## AMENDED AND RESTATED VOTING AGREEMENT

This Amended and Restated Voting Agreement (the "**Agreement**") is made and entered into as of October [\_\_\_], 2007, by and among **Unidym, Inc.**, a Delaware corporation (the "**Company**"), the stockholders of the Company listed on Schedule A hereto (such stockholders, together with (i) any subsequent stockholders or option holders who become parties hereto (other than as Investors), and (ii) any transferees who become subject to the provisions hereof pursuant to Section 5.1, the "**Key Holders**") and each of the investors listed on Schedule B hereto (each of which is referred to in this Agreement as an "**Investor**" and together collectively with the Key Holders, the "**Stockholders**"). The Company, the Key Holders and the Investor are individually referred to herein as "**Party**" and are collectively referred to herein as the "**Parties**." Capitalized terms not otherwise defined herein shall have the meaning so ascribed in the Merger Agreement.

### RECITALS

**WHEREAS**, the Company, Arrowhead Research Corporation ("**Arrowhead**") and certain Key Holders are parties to an Amended and Restated Voting Agreement dated as of April 20, 2007 (the "**Prior Agreement**");

**WHEREAS**, certain new investors (the "**Series C Investors**") have agreed to purchase shares of the Company's Series C Preferred Stock (the "**Series C Stock**") pursuant to a certain Series C Preferred Stock Subscription Agreement between the Company and each such Series C Investor dated of even date herewith or hereafter (each a "**Series C Agreement**"), and the Series C Agreement provides that, as a condition to the Series C Investor's purchase of Series C Stock thereunder, the Company will enter into this Agreement and the Series C Investor will be granted the rights set forth herein;

**WHEREAS**, the Company and the parties to the Prior Agreement desire to enter into this Agreement in order to amend, restate and replace their rights and obligations under the Prior Agreement with the rights and obligations set forth in this Agreement, and Section 5.6 of the Prior Agreement provides that the Prior Agreement may be amended by the written consent of (i) the Key Holders holding greater than fifty percent (50%) of the Series A Preferred Stock and fifty percent (50%) of the Shares then held by all of the Key Holders and (ii) the holders of greater than fifty percent (50%) of the Shares then held by the Investors (voting as a single class);

**WHEREAS**, the parties to this Agreement have reached certain agreements and understandings with respect to the constituency of the Board of Directors of the Company (the "**Board**") and certain other matters; and

**WHEREAS**, the undersigned Key Holders to this Agreement hold a majority of the Series A Preferred Stock and a majority of the Shares then held by all of the Key Holders and the undersigned Investors hold a majority of the Shares then held by the Investors (voting as a single class).

**NOW, THEREFORE**, in consideration of the foregoing and the mutual promises and agreements contained herein, the sufficiency of which is hereby acknowledged, all Parties hereto agree as follows:

1. Voting Agreement.

1.1 Board Composition. Each Stockholder agrees to vote all of his, her or its shares of voting securities in the Company, whether now owned or hereafter acquired or which such



Stockholder may be empowered to vote (together the “**Shares**”), from time to time and at all times, in whatever manner shall be necessary to ensure that at each annual or special meeting of stockholders at which an election of directors is held or pursuant to any written consent of the stockholders, the following persons shall be elected to the Board:

(i) Arrowhead Directors. Arrowhead shall be entitled to designate three (3) directors (the “**Arrowhead Directors**”), who shall initially be R. Bruce Stewart, Edward W. Frykman and Arthur L. Swift, unless any or all of them shall elect not to stand for election, or in the event of a vacancy created by the resignation, removal (in accordance with Section 1.3 below) or death of one or all of them, in which case Arrowhead may designate any qualifying person to serve in his or their place;

(ii) CNI Directors. The holders of a majority of the shares of Series A Preferred Stock, voting separately as a single class, shall be entitled to designate two (2) directors (the “**CNI Directors**”), who shall initially be Bob Gower and Ray McLaughlin, unless either or both of them shall elect not to stand for election, or in the event of a vacancy created by the resignation, removal (in accordance with Section 1.3 below) or death of either or both of them, in which case the holders of a majority of the shares of Series A Preferred Stock may designate any qualifying person to serve in his or their place;

(iii) Series C Director. The holders of a majority of the shares of Series C Preferred Stock, voting separately as a single class, shall be entitled to designate one (1) director (the “**Series C Director**”), who shall initially be Charles P. McKenney, unless he shall elect not to stand for election, or in the event of a vacancy created by his resignation, removal (in accordance with Section 1.3 below) or death, in which case the holders of a majority of the shares of Series C Preferred Stock may designate any qualifying person to serve in his place; and

(iv) Common Director. The holders of a majority of the Common Stock, voting separately as a single class, shall be entitled to designate one (1) director (the “**Common Director**”), who shall initially be George Gruner. If, for any reason, George Gruner shall be unable to serve on the Board, then each of the Stockholders shall promptly vote their respective Shares (i) to remove him from the Board if he has not resigned from such position and (ii) to elect the Chief Executive Officer of the Company (or, if there is no Chief Executive Officer designated, the President of the Company) as the new Common Director.

1.2 Size of the Board. Each Stockholder agrees to vote all of his, her or its Shares from time to time and at all times, in whatever manner shall be necessary to ensure that the size of the Board shall be set and remain at seven (7) directors.

1.3 Removal of Board Members. Each Stockholder also agrees to vote all of his, her or its Shares from time to time and at all times in whatever manner as shall be necessary to ensure that (i) no director elected pursuant to Section 1.1 of this Agreement may be removed from office other than for cause unless (A) such removal is directed or approved by the affirmative vote of the holders of the shares of stock entitled under Section 1.1 to designate that director or (B) the person(s) or entity(ies) originally entitled to designate or approve such director pursuant to Section 1.1 are no longer so entitled to designate or approve such director; and (ii) any vacancies created by the resignation, removal or death of a director elected pursuant to Section 1.1 shall be filled pursuant to the provisions of Section 1.1. All Stockholders agree to execute any written consents required to effectuate the obligations of this Agreement, and the Company agrees at the request of any Party entitled to designate directors to call a special meeting of stockholders for the purpose of electing directors. So long as the stockholders of the Company are entitled to cumulative voting, if less than the entire Board is to be removed, no director

may be removed without cause if the votes cast against his or her removal would be sufficient to elect such director if then cumulatively voted at an election of the entire board of directors.

1.4 Committees. The Board shall establish (a) an executive search committee, which shall be comprised of both Bruce Stewart and Raymond McLaughlin, or any Board successor to either individual (which shall be responsible for conducting a search for a chief executive officer of the Company), (b) a budget committee, which shall be comprised of both Bruce Stewart and Raymond McLaughlin, or any Board successor to either individual (which shall be responsible for reviewing and commenting on the Company's overall budget and any specific strategic initiatives for the Company), and (c) such other committees as the Board shall deem necessary or convenient from time to time. Except to the extent otherwise required by applicable law or regulation, one (1) CNI Director and one (1) Series C Director shall be entitled to be a member of the budget committee and any compensation committee and of any audit committee that may be established by the Board.

1.5 Board Composition Before Filing of Registration Statement. Each Stockholder agrees to vote all of his, her or its Shares, in whatever manner shall be necessary to ensure that immediately prior to the filing of a registration statement under the Securities Act of 1933, as amended (the "**Securities Act**"), a majority of the Board shall be independent directors, two (2) of whom shall be designated by Arrowhead and two (2) of whom shall be designated by the holders of the Series A Preferred Stock.

2. Term. This Agreement shall be effective as of the date hereof and shall continue in effect until and shall terminate (i) immediately prior to the consummation of the sale of shares of Common Stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act, provided that the price per share to the public is at least \$3.00 per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock); (ii) when the Company first becomes subject to the periodic reporting requirements of Sections 12(g) or 15(d) of the Exchange Act or (iii) upon a Deemed Liquidation Event (as defined below), whichever event shall first occur. A "**Deemed Liquidation Event**" shall have the meaning ascribed to such term in the Company's Amended and Restated Certificate of Incorporation, as it may be amended from time to time.

3. Specific Enforcement. Each Party acknowledges and agrees that each Party hereto will be irreparably damaged in the event any of the provisions of this Agreement are not performed by the Parties in accordance with their specific terms or are otherwise breached. Accordingly, it is agreed that each of the Company and the Stockholders shall be entitled to an injunction to prevent breaches of this Agreement and to specific enforcement of this Agreement and its terms and provisions in any action instituted in any court of the United States or any state having subject matter jurisdiction, in addition to any other remedy to which the Parties may be entitled at law or in equity. Each of the Parties to this Agreement hereby consents to personal jurisdiction in any such action brought in the United States District Court for the Central District of California or in any court of the State of California having subject matter jurisdiction.

4. CNI Intellectual Property and Technology. Until earlier of (i) April 20, 2012 and (ii) a Deemed Liquidation Event, in the event Arrowhead or a subsidiary of Arrowhead other than the Company wishes to negotiate to license intellectual property or technology that is an asset of the Company or Unidym Acquisition, LLC, such license negotiation shall be conducted on market terms and, to the extent possible, at arms-length, and any resulting license agreement shall be subject to approval by the Board; provided, however, if directors elected by the holders of shares of Series A Preferred Stock pursuant to the terms of this Agreement constitute less than fifty percent (50%) of the Board, then a majority of the directors appointed pursuant to Sections 1.1(ii), (iii) and (iv) of this Agreement shall be

required to approve any resulting license agreement; provided, further, for the purposes of this Section 4, “subsidiary of Arrowhead” includes all entities that are subsidiaries of Arrowhead either (x) as of April 20, 2007 or (y) until the earlier of (i) April 20, 2007 or (ii) a Deemed Liquidation Event.

#### 5. Miscellaneous.

5.1 Transfers, Successors and Assigns. (i) The terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any Party, other than the Parties hereto or their respective successors and assigns, any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

(ii) Each transferee or assignee of the Shares subject to this Agreement shall continue to be subject to the terms hereof, and, as a condition to the Company’s recognizing such transfer, each transferee or assignee shall agree in writing to be subject to each of the terms of this Agreement by executing and delivering an Adoption Agreement substantially in the form attached hereto as Exhibit A. Upon the execution and delivery of an Adoption Agreement by any transferee, such transferee shall be deemed to be a Party hereto as if such transferee’s signature appeared on the signature pages of this Agreement. By execution of this Agreement or of any Adoption Agreement, each of the Parties appoints the Company as its attorney in fact for the purpose of executing any Adoption Agreement that may be required to be delivered under the terms of this Agreement. The Company shall not permit the transfer of the Shares subject to this Agreement on its books or issue a new certificate representing any such Shares unless and until such transferee shall have complied with the terms of this Section 5.1. Each certificate representing the Shares subject to this Agreement if issued on or after the date of this Agreement shall be endorsed by the Company with the legend set forth in Section 5.10. Nothing in this Agreement, express or implied, is intended to confer upon any Party other than the Parties or their respective executors, administrators, heirs, successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

5.2 Governing Law. This Agreement shall be governed by and construed in accordance with the General Corporation Law of the State of Delaware as to matters within the scope thereof, without regard to its principles of conflicts of laws.

5.3 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may also be executed and delivered by facsimile signature and in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

5.4 Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the Party to be notified, (b) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient, and if not so confirmed, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the respective Parties at their address as set forth on the signature page or Schedule A or Schedule B hereto, or to such email address, facsimile number or address as subsequently modified by written notice given in accordance with this Section 5.5.

5.6 Amendment. This Agreement may be amended or modified and the observance of any term hereof may be waived (either generally or in a particular instance and either retroactively or prospectively) only by a written instrument executed by (i) the Key Holders holding greater than fifty percent (50%) of the Series A Preferred Stock and fifty (50%) percent (50%) of the Shares then held by all of the Key Holders (voting together as a single class and on an as-converted basis) and (ii) the holders of greater than fifty percent (50%) of the Shares then held by the Investors (voting as a single class and on an as-converted basis). Any amendment or waiver so effected shall be binding upon the Company, the Investor, the Key Holders and all of their respective successors and permitted assigns whether or not such party, assignee or other shareholder entered into or approved such amendment or waiver. Notwithstanding the foregoing, (a) this Agreement may not be amended or terminated and the observance of any term of this Agreement may not be waived with respect to any Investor without the written consent of such Investor unless such amendment, termination or waiver applies to all Investor or Key Holders, as the case may be, in the same fashion, and (b) the consent of the Key Holders shall not be required for any amendment or waiver if such amendment or waiver does not apply to the Key Holders. The Company shall give prompt written notice of any amendment or termination of this Agreement or waiver hereunder to any Party that did not consent in writing to such amendment, termination or waiver. No waivers of or exceptions to any term, condition or provision of this Agreement, in any one or more instances, shall be deemed to be, or construed as, a further or continuing waiver of any such term, condition or provision. Any party may agree to waive or amend its own rights hereunder with respect to the Company or another party without the necessity of obtaining the consent or agreement of any other party.

5.7 Severability. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision.

5.8 Delays or Omissions. No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power or remedy of such non-breaching or non-defaulting party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. All remedies, either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

5.9 Entire Agreement. This Agreement (including the Schedules and Exhibits hereto) and the Company's Amended and Restated Certificate of Incorporation as the same may be further amended after the date hereof constitute the full and entire understanding and agreement between the parties with respect to the subject matter hereof, and any other prior written or oral agreements, or contemporaneous oral agreements, relating to the subject matter hereof existing between the parties are expressly canceled.

5.10 Legend on Share Certificates. Each certificate representing any Shares shall be endorsed by the Company with a legend reading substantially as follows:

“THE SHARES EVIDENCED HEREBY ARE SUBJECT TO AN AMENDED AND RESTATED VOTING AGREEMENT (A COPY OF WHICH MAY BE OBTAINED UPON WRITTEN REQUEST FROM THE COMPANY), AND BY ACCEPTING ANY INTEREST IN SUCH SHARES THE PERSON ACCEPTING SUCH INTEREST SHALL BE DEEMED TO AGREE TO AND SHALL BECOME BOUND BY ALL THE PROVISIONS OF THAT VOTING AGREEMENT, INCLUDING

5.11 Execution by the Company. The Company, by its execution in the space provided below, agrees that it will cause the certificates evidencing the shares of Common Stock and Preferred Stock to bear the legend required by Section 5.10 of this Agreement, and it shall supply, free of charge, a copy of this Agreement to any holder of a certificate evidencing shares of capital stock of the Company upon written request from such holder to the Company at its principal office. The Parties to this Agreement do hereby agree that the failure to cause the certificates evidencing the shares of Common Stock and Preferred Stock to bear the legend required by Section 5.10 herein and the failure of the Company to supply, free of charge, a copy of this Agreement as provided under this Section 5.11 shall not affect the validity or enforcement of this Agreement.

5.12 Stock Splits, Stock Dividends, etc. In the event of any issuance of any of the Company’s voting securities hereafter to any of the Stockholders (including, without limitation, in connection with any stock split, stock dividend, recapitalization, reorganization, or the like), such voting securities shall become subject to this Agreement and deemed to be “Shares” hereunder and shall be endorsed with the legend set forth in Section 5.10.

5.13 Covenants of the Company. The Company agrees to use its best efforts to ensure that the rights granted under this Agreement are effective and that the Parties enjoy the benefits of this Agreement. Such actions include, without limitation, the use of the Company’s best efforts to cause the nomination and election of the directors as provided above. The Company will not, by any voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be performed hereunder by the Company, but will at all times in good faith assist in the carrying out of all of the provisions of this Agreement and in the taking of all such actions as may be necessary, appropriate or reasonably requested by the holders of a majority of the outstanding voting securities held by the Stockholders (assuming conversion of all outstanding convertible securities) in order to protect the rights of the Stockholders against impairment.

5.14 Manner of Voting; Grant of Proxy. The voting of Shares pursuant to this Agreement may be effected in person, by proxy, by written consent or in any other manner permitted by applicable law. Each Party hereby grants to the Secretary of the Company, in the event that such Party or Parties fail to vote their Shares as required by this Agreement, a proxy coupled with an interest in all Shares, whether held by an Investor or a Key Holder, beneficially owned by such Party, which proxy is irrevocable until this Agreement terminates pursuant to its terms or this Section 5.14 is amended to remove such grant of proxy in accordance with Section 5.6 of this Agreement.

5.15 Additional Investors. Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of the Company’s Series C Preferred Stock after the date hereof pursuant to a Series C Agreement, the Company shall cause any purchaser of such shares of Series C Preferred Stock to execute a counterpart signature page hereto as an Investor, and such party shall thereby be bound by, and subject to, all the terms and provisions of this Agreement applicable to an Investor.

5.16 Costs of Enforcement. If any Party to this Agreement seeks to enforce its rights under this Agreement by legal proceedings, the non-prevailing Party shall pay all costs and expenses incurred by the prevailing Party, including, without limitation, all reasonable attorneys’ fees.

5.17 Additional Key Holders. In the event that after the date of this Agreement, the Company issues shares of capital stock to any employee, which shares constitute one

percent (1%) or more of the Company's then outstanding capital stock (treating for this purpose all shares of Common Stock issuable upon exercise of or conversion of outstanding options, warrants or convertible securities, as if exercised or converted), the Company shall cause such person to execute a counterpart signature page hereto as a Key Holder, and such person shall thereby be bound by, and subject to, all the terms and provisions of this Agreement applicable to a Key Holder.

5.18 Spousal Consent. If any Key Holder is married on the date of this Agreement, such Key Holder's spouse shall execute and deliver to the Company a consent of spouse in the form of Exhibit B hereto ("**Consent of Spouse**"), effective on the date hereof. Notwithstanding the execution and delivery thereof, such consent shall not be deemed to confer or convey to the spouse any rights in such Key Holder's shares of capital stock that do not otherwise exist by operation of law or the agreement of the parties. If any Key Holder should marry or remarry subsequent to the date of this Agreement, such Key Holder shall within thirty (30) days thereafter obtain his/her new spouse's acknowledgement of and consent to the existence and binding effect of all restrictions contained in this Agreement by causing such spouse to execute and deliver a Consent of Spouse acknowledging the restrictions and obligations contained in this Agreement and agreeing and consenting to the same.

5.19 Prior Agreement Superseded. Pursuant to Section 5.6 of the Prior Agreement, the undersigned parties who are parties to such Prior Agreement hereby amend and restate the Prior Agreement to read in its entirety as set forth in this Agreement, all with the intent and effect that the Prior Agreement shall hereby be terminated and entirely replaced and superseded by this Agreement.

**[SIGNATURE PAGES FOLLOW]**

**IN WITNESS WHEREOF**, the parties have executed this Amended and Restated Voting Agreement on the day and year first indicated above.

**COMPANY:**

UNIDYM, INC.  
a Delaware corporation

By: \_\_\_\_\_

Name: Arthur L. Swift

Title: Chief Executive Officer

Address: 1430 O'Brien Drive, Suite G  
Menlo Park, CA 94025

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Voting Agreement as of the date first above written.

**INVESTORS:**

ARROWHEAD RESEARCH CORPORATION  
a Delaware corporation

By: \_\_\_\_\_

Name: R. Bruce Stewart

Title: Chief Executive Officer

Address: 201 South Lake Avenue, Suite 703  
Pasadena, CA 91101-3074



IN WITNESS WHEREOF, the parties have executed this Amended and Restated Voting Agreement as of the date first above written.

**INVESTORS:**

Name: \_\_\_\_\_  
(Print Name of Investor)

By: \_\_\_\_\_  
(Print name of signatory, if signing on behalf of entity)

Title: \_\_\_\_\_  
(Print title of signatory, if signing on behalf of an entity)

Signature: \_\_\_\_\_

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**SCHEDULE A**

**KEY HOLDERS**

[List of Key Holders]

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**SCHEDULE B**

**INVESTORS**

**Arrowhead Research Corporation**

201 South Lake Avenue, Suite 703  
Pasadena, CA 91101

[Additional Investors]

[Additional Series C Investors]

**EXHIBIT A**

**ADOPTION AGREEMENT**

This Adoption Agreement (“**Adoption Agreement**”) is executed by the undersigned (the “**Transferee**”) pursuant to the terms of that certain Amended and Restated Voting Agreement dated as of October [\_\_\_], 2007 (the “**Agreement**”), by and among the Company and certain of its Stockholders. Capitalized terms used but not defined in this Adoption Agreement shall have the respective meanings ascribed to such terms in the Agreement. By the execution of this Adoption Agreement, the Transferee agrees as follows:

1.1 Acknowledgement. Transferee acknowledges that Transferee is acquiring certain shares of the capital stock of the Company (the “**Stock**”), subject to the terms and conditions of the Agreement.

1.2 Agreement. Transferee (i) agrees that the Stock acquired by Transferee shall be bound by and subject to the terms of the Agreement, and (ii) hereby adopts the Agreement with the same force and effect as if Transferee were originally a Party thereto.

1.3 Notice. Any notice required or permitted by the Agreement shall be given to Transferee at the address listed beside Transferee’s signature below.

EXECUTED AND DATED this \_\_\_ day of \_\_\_\_\_.

TRANSFEEEEE

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address: \_\_\_\_\_  
Fax: \_\_\_\_\_

Accepted and Agreed:

**UNIDYM, INC.**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**EXHIBIT B**

**CONSENT OF SPOUSE**

I, \_\_\_\_\_, spouse of \_\_\_\_\_, acknowledge that I have read the Amended and Restated Voting Agreement, dated as of October [ ], 2007, to which this Consent is attached as Exhibit B (the "**Agreement**"), and that I know the contents of the Agreement. I am aware that the Agreement contains provisions regarding the voting and transfer of shares of capital stock of the Company which my spouse may own, including any interest I might have therein.

I hereby agree that my interest, if any, in any shares of capital stock of the Company subject to the Agreement shall be irrevocably bound by the Agreement and further understand and agree that any community property interest I may have in such shares of capital stock of the Company shall be similarly bound by the Agreement.

I am aware that the legal, financial and related matters contained in the Agreement are complex and that I am free to seek independent professional guidance or counsel with respect to this Consent. I have either sought such guidance or counsel or determined after reviewing the Agreement carefully that I will waive such right.

Dated: \_\_\_\_\_

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**Schedule 2.11**  
**Agreements; Action**

**Schedule 3.5**  
Qualification as an Accredited Investors

**To qualify as an Accredited Investor one of the following must be true. Contact the Company if none is applicable):**

- A natural person whose net worth (or joint net worth with my spouse) is in excess of \$1,000,000 as of the date hereof.
- A natural person who had an individual income in excess of \$200,000 in each of the two most recent years or joint income with that person's spouse in excess of \$300,000 in each of those years and has a reasonable expectation of reaching the same income level in the current year.
- A trust with total assets in excess of \$5,000,000, not formed for the specific purpose of investing in the Interest, whose purchases are directed by a "sophisticated person" as described in Rule 506(b)(2)(ii) of the Act.
- A "bank," "savings and loan association," or "insurance company" as defined in the Act.
- An "employee benefit plan" as defined in the Employee Retirement Income Security Act of 1974 which has total assets in excess of \$5,000,000.
- A Plan whose investment decisions, including the decision to subscribe for the Interest, are made solely by (i) a "plan fiduciary" as defined in the Employee Retirement Income Security Act of 1974, which includes a bank, a savings and loan association, an insurance company or a registered investment adviser, or (ii) an "accredited investor" as defined under Rule 501(a) of the Act.
- A broker/dealer registered pursuant to Section 15 of the Securities Exchange Act of 1934.
- A "private business development company" as defined in the Investment Advisers Act of 1940.
- An investment company registered under, or a "business development company" as defined in, the Investment Company Act of 1940.
- A Small Business Investment Company licensed by the U.S. Small Business Administration under the Small Business Investment Act of 1958.
- A plan established and maintained by a state, its political subdivisions, or any agency or instrumentality of a state or its political subdivisions, for the benefit of its employees and having total assets in excess of \$5,000,000.
- Any organization described in Section 501(c)(3) of the Internal Revenue Code, corporation, Massachusetts or similar business Trust, or Company, not formed for the specific purpose of investing in the Interest and having total assets in excess of \$5,000,000.
- Any entity in which all of the equity owners are "accredited investors."

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER  
PURSUANT TO RULE 13a-14(a) OR RULE 15d-14(a)  
OF THE SECURITIES EXCHANGE ACT OF 1934**

I, Christopher Anzalone, Chief Executive Officer of Arrowhead Research Corporation, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Arrowhead Research 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: February 8, 2008

/s/ CHRISTOPHER ANZALONE

**Christopher Anzalone**  
**Chief Executive Officer**

A signed original of these written statements required by 18 U.S.C. Section 1350 has been provided to Arrowhead Research Corporation and will be retained by Arrowhead Research Corporation and furnished to the Securities and Exchange Commission or its staff upon request.



**CERTIFICATION OF CHIEF FINANCIAL OFFICER  
PURSUANT TO RULE 13a-14(a) OR RULE 15d-14(a)  
OF THE SECURITIES EXCHANGE ACT OF 1934**

I, Paul C. McDonnel, Chief Financial Officer of Arrowhead Research Corporation, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Arrowhead Research 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: February 8, 2008

/s/ Paul C. McDonnel

**Paul C. McDonnel**  
**Chief Financial Officer**  
**(Principal Accounting Officer)**

A signed original of these written statements required by 18 U.S.C. Section 1350 has been provided to Arrowhead Research Corporation and will be retained by Arrowhead Research Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER  
PURSUANT TO RULE 13a-14(b) OR RULE 15d-14(b)  
OF THE SECURITIES EXCHANGE ACT OF 1934  
AND 18 U.S.C. SECTION 1350**

I, Christopher Anzalone, Chief Executive Officer of Arrowhead Research Corporation (the "Company"), certify, pursuant to Rule 13(a)-14(b) or Rule 15(d)-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350, that (i) the Quarterly Report on Form 10-Q of the Company for the quarterly period ended December 31, 2007 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and (ii) the information contained in such Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of the Company.

Date: February 8, 2008

/s/ CHRISTOPHER ANZALONE

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**Christopher Anzalone**  
**Chief Executive Officer**

A signed original of these written statements required by 18 U.S.C. Section 1350 has been provided to Arrowhead Research Corporation and will be retained by Arrowhead Research Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

**CERTIFICATION OF CHIEF FINANCIAL OFFICER  
PURSUANT TO RULE 13a-14(b) OR RULE 15d-14(b)  
OF THE SECURITIES EXCHANGE ACT OF 1934  
AND 18 U.S.C. SECTION 1350**

I, Paul C. McDonnel, Chief Financial Officer of Arrowhead Research Corporation (the "Company"), certify, pursuant to Rule 13(a)-14(b) or Rule 15(d)-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350, that (i) the Quarterly Report on Form 10-Q of the Company for the quarterly period ended December 31, 2007 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and (ii) the information contained in such Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of the Company.

Date: February 8, 2008

/s/ Paul C. McDonnel

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**Paul C. McDonnel**  
**Chief Financial Officer**  
**(Principal Accounting Officer)**

A signed original of these written statements required by 18 U.S.C. Section 1350 has been provided to Arrowhead Research Corporation and will be retained by Arrowhead Research Corporation and furnished to the Securities and Exchange Commission or its staff upon request.