

AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
aTYR PHARMA, INC.

aTYR PHARMA, INC., a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the "DGCL") hereby certifies as follows:

1. The name of the corporation is aTyr Pharma, Inc. (the "Corporation"). The date of the filing of its original Certificate of Incorporation with the Secretary of State of the State of Delaware was September 8, 2005 (as heretofore amended, the "Original Certificate of Incorporation").

2. This Amended and Restated Certificate of Incorporation ("Certificate of Incorporation") amends and restates the provisions of the Original Certificate of Incorporation and (i) was duly adopted by the Board of Directors in accordance with the provisions of Section 245 of the DGCL, (ii) was declared by the Board of Directors to be advisable and in the best interests of the Corporation and was directed by the Board of Directors to be submitted to and be considered by the stockholders of the Corporation entitled to vote thereon for approval by the affirmative vote of such stockholders in accordance with Section 242 of the DGCL, and (iii) was duly adopted by a stockholder consent in lieu of a meeting of the stockholders, with the holders of a majority of the outstanding shares of the Corporation's capital stock entitled to vote thereon, a majority of the outstanding capital stock of each class entitled to vote thereon as a class, and sixty-five percent of the outstanding Series B Preferred Stock, consenting to the adoption of this Certificate of Incorporation in writing in accordance with the provisions of Sections 228 and 242 of the DGCL and the terms of the Original Certificate of Incorporation

3. The text of the Original Certificate of Incorporation is hereby amended and restated in its entirety to provide as follows:

ARTICLE I
NAME

The name of the Corporation is aTyr Pharma, Inc.

ARTICLE II
REGISTERED OFFICE

The address of the registered office of the Corporation in the State of Delaware is 160 Greentree Drive, Suite 101, in the City of Dover, County of Kent, 19904. The name of its registered agent at such address is National Registered Agents, Inc.

ARTICLE III

PURPOSES

The nature of the business or purposes to be conducted or promoted by the Corporation is to engage in any lawful act or activity for which corporations may be organized under the DGCL.

ARTICLE IV

CAPITAL SECURITIES

The total number of shares of capital stock that the Corporation shall have authority to issue is Eighty Four Million Four Hundred Seventy Two Thousand Nine Hundred Twenty Two (84,472,922) shares, consisting of:

(i) Forty Four Million Eight Hundred Thirty Eight Thousand Nine Hundred Sixty One (44,838,961) shares of Common Stock, par value \$0.001 per share ("**Common Stock**"); and

(ii) Thirty Nine Million Six Hundred Thirty Three Thousand Nine Hundred Sixty One (39,633,961) shares of Preferred Stock, par value \$0.001 per share ("**Preferred Stock**"), of which Two Million Nine Hundred Twenty Five Thousand (2,925,000) shares are designated Series A Convertible Preferred Stock ("**Series A Preferred Stock**"), Twelve Million Seven Hundred Eight Thousand (12,708,000) shares are designated Series B Convertible Preferred Stock ("**Series B Preferred Stock**") and Twenty Four Million Nine Hundred Sixty One (24,000,961) shares are designated Series B-2 Convertible Preferred Stock ("**Series B-2 Preferred Stock**").

Effective August 6, 2007, each one (1) issued and outstanding share of Common Stock on such date was converted into and became three (3) shares of Common Stock, each one (1) issued and outstanding share of Series A Preferred Stock on such date was converted into and became three (3) shares of Series A Preferred Stock and each one (1) issued and outstanding share of Series B Preferred Stock on such date was converted into and became three (3) shares of Series B Preferred Stock (collectively, the "**Stock Split**"), and all such converted shares of Common Stock and Preferred Stock were rounded down to the nearest whole share. All share amounts, amounts per share and per share numbers set forth in this Certificate of Incorporation have been appropriately adjusted to reflect the Stock Split.

Except as otherwise restricted by this Certificate of Incorporation, the Corporation is authorized to issue from time to time all or any portion of the capital stock of the Corporation that is authorized but not issued or reserved for issuance to such person or persons and for such lawful consideration as it may deem appropriate, and generally in its absolute discretion to determine the terms and manner of any disposition of such authorized but unissued capital stock.

Any and all such shares issued for which the full consideration has been paid or delivered shall be deemed fully paid shares of capital stock, and the holder of such shares shall not be liable for any further call or assessment or any other payment thereon.

The voting powers, designations, preferences, privileges and relative, participating, optional or other special rights, and the qualifications, limitations and restrictions of each class (and series) of capital stock of the Corporation are as hereafter provided in Article IV hereof.

A. COMMON STOCK

1. **General.** The rights of the holders of the Common Stock are subject to and qualified by the rights of the holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock as specified herein and any other class of the Corporation's Capital Securities that may hereafter be issued and outstanding having rights in accordance herewith that are senior to or *pari passu* with the rights of holders of Common Stock. Each share of Common Stock shall be treated identically to all other shares of Common Stock with respect to dividends, distributions, rights in liquidation and in all other respects.

2. **Voting.** Each holder of shares of Common Stock is entitled to one vote for each share thereof held by such holder at all meetings of stockholders (and written actions in lieu of meetings). There shall be no cumulative voting. Subject to Section C.4, the number of authorized shares of Common Stock may, from time to time, be increased or decreased (but not below the sum of (a) the number of shares thereof then outstanding, plus (b) the number of shares then issuable upon conversion, exercise and/or exchange of all then outstanding Convertible Securities) by the affirmative vote of the holders of a majority of the combined number of shares of the Corporation's issued and outstanding (x) Common Stock, and (y) Preferred Stock (voting on an as-converted basis) that votes together with the Common Stock, voting together as a single class generally, irrespective of the provision of Section 242(b)(2) of the DGCL.

3. **Dividends.** Dividends may be declared and paid on the Common Stock from funds lawfully available therefore if, as and when determined by the Board of Directors and subject to any preferential dividend rights of any then outstanding shares of any classes or series of the Corporation's Capital Securities that may hereafter be authorized and issued having preferred dividend rights senior to or *pari passu* with the rights of holders of Common Stock.

4. **Liquidation.** Upon the occurrence of a Liquidation Event, holders of Common Stock will be entitled to receive all assets of the Corporation available for distribution to its stockholders, subject to the rights and preferences of any then outstanding shares of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock and any other classes or series of the Corporation's Capital Securities that are issued and outstanding having rights upon the occurrence of a Liquidation Event senior to or *pari passu* with the rights of holders of Common Stock.

B. SERIES A PREFERRED STOCK, SERIES B PREFERRED STOCK AND SERIES B-2 PREFERRED STOCK

1. **Dividends.** Dividends may be declared and paid on the Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock from funds lawfully available therefore if, as and when determined by the Board of Directors and subject to any preferential dividend rights of any then outstanding shares of any classes or series of the Corporation's

Capital Securities that may hereafter be authorized and issued having preferred dividend rights senior to or *pari passu* with the rights of holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock. In addition to the foregoing, the holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock shall participate in all dividends and other distributions (other than stock dividends in the nature of a stock split or the like and repurchases of securities by the Corporation from an employee or consultant of the Corporation made pursuant to an agreement approved by the Board of Directors, including at least one of the Series B Directors) that are declared and paid on Common Stock on the same basis as if each share of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock had been converted into the largest number of shares of Common Stock into which each share of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock, as the case may be, may be converted pursuant to Section B.3 of Article IV on the record date established for the declaration of such dividends.

2. Liquidation Preference.

(a) Upon (i) any liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary, or (ii) a Sale of the Corporation (each of the events referred to in clauses (i) and (ii) being referred to as a "Liquidation Event"), each holder of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock shall be entitled, after provision for the payment of the Corporation's debts and other liabilities and in preference to, and, before any amount or property shall be paid or distributed on account of any Junior Securities, to be paid in full with respect to each share of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock out of the assets of the Corporation available for distribution to stockholders, an amount equal to the Series A Liquidation Preference, Series B Liquidation Preference and Series B-2 Liquidation Preference, as the case may be. If upon any Liquidation Event the amount available for distribution among the holders of all outstanding Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock is insufficient to permit the payment of the Series A Liquidation Preference of each share of Series A Preferred Stock, the payment of the Series B Liquidation Preference of each share of Series B Preferred Stock and the payment of the Series B-2 Liquidation Preference of each share of Series B-2 Preferred Stock, in full, then the amount available for distribution shall be distributed first among the holders of the Series B-2 Preferred Stock *pro rata* in accordance with the respective amounts that would be distributed to such holders if the amount available for distribution had been sufficient to pay the Series B-2 Liquidation Preference in full, and second among the holders of the Series A Preferred Stock and Series B Preferred Stock *pro rata* and *pari passu* in accordance with the respective amounts that would have been distributed to such holders if the amount available for distribution had been sufficient to pay the Series A Liquidation Preference and the Series B Liquidation Preference in full, and the holders of Common Stock and of any other Junior Securities shall in no event be entitled to participate in the distribution of any assets of the Corporation in respect of their ownership thereof. Upon any Liquidation Event, after the holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock shall have been paid the Series A Liquidation Preference, the Series B Liquidation Preference and the Series B-2 Liquidation Preference, respectively, in full, the remaining net assets of the Corporation shall be distributed ratably among the holders of the Series A Preferred Stock, the Series B Preferred Stock, the Series B-2 Preferred Stock and the Common Stock (with each share of Series A

Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock being deemed for such purpose to equal the number of shares of Common Stock into which such share of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock is convertible pursuant to Section B.3 of Article IV).

(b) Consolidation, Merger, etc. Notwithstanding Section B.2(a), a Sale of the Corporation shall not be deemed to be a Liquidation Event for the purposes of this Section B.2 if the holders of at least sixty-five percent (65%) of the issued and outstanding Series B-2 Preferred Stock, voting separately as a single class, waive in writing the provisions of this Section B.2 with respect to such event.

(c) No Effect on Conversion Rights. The provisions of this Section B.2 shall not in any way limit the right of the holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock to elect to convert their shares of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock into shares of Common Stock in accordance with Section B.3.

(d) Valuation of Distribution Securities. Any securities or other consideration to be delivered to the holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock upon any Liquidation Event in accordance with the terms hereof shall be valued as follows:

(i) If the consideration consists of cash or cash equivalents, then the value shall be computed at the aggregate amount of the cash or cash equivalents so delivered;

(ii) The per share value of securities traded on a national securities exchange or a nationally recognized interdealer quotation system shall be deemed to be the average of the closing prices of the securities on such exchange or system over the 20-day period ending three (3) Business Days prior to the closing of such Liquidation Event;

(iii) The per share value of securities traded over-the-counter shall be deemed to be the average of the closing bid and asked prices over the 30-day period ending three (3) Business Days prior to the closing of such Liquidation Event; and

(iv) For all other consideration, the value shall be the fair market value thereof as determined in good faith by the Board of Directors.

(v) In the event that the holders at least sixty-five percent (65%) of the issued and outstanding shares of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock, voting together as a single class on an as-converted basis, dispute any valuation determined by the Board of Directors pursuant to Section B.2(d)(iv), such holders shall have the right to obtain an independent valuation of such property, security or other non-cash consideration from one nationally recognized investment bank, not affiliated with any holder of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock, reasonably acceptable to the Corporation, and with substantial experience in making such

valuations. If the valuation determined by such bank is within the lesser of 15% or \$25,000 (higher or lower) of the valuation determined by the Board of Directors, the holders of Series A Preferred Stock, Series B Preferred Stock and/or Series B-2 Preferred Stock requesting such valuation shall pay for the fees and expenses of such bank in making such valuation, otherwise the Corporation shall pay such fees and expenses.

3. Conversion into Common Stock. The holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock shall have the following conversion rights:

(a) Voluntary Conversion. At any time, each holder of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock shall be entitled, without the payment of any additional consideration, to cause all or any portion of the shares of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock, as the case may be, held by such holder to be converted into a number of shares of Common Stock determined as hereafter provided in this Section B.3(a), which shares shall upon the issuance thereof be fully paid and non-assessable. The number of shares of Common Stock issuable upon the conversion of each share of Series A Preferred Stock shall be equal to the quotient obtained by dividing (i) the sum of the Series A Purchase Price by (ii) the Series A Conversion Price, in each case as in effect at the time of conversion. The number of shares of Common Stock issuable upon the conversion of each share of Series B Preferred Stock shall be equal to the quotient obtained by dividing (i) the sum of the Series B Purchase Price by (ii) the Series B Conversion Price, in each case as in effect at the time of conversion. The number of shares of Common Stock issuable upon the conversion of each share of Series B-2 Preferred Stock shall be equal to the quotient obtained by dividing (i) the sum of the Series B-2 Purchase Price by (ii) the Series B-2 Conversion Price, in each case as in effect at the time of conversion. As of the Effective Time, the "Series A Conversion Price" per share of the Series A Preferred Stock equals the Series A Purchase Price, the "Series B Conversion Price" per share of the Series B Preferred Stock equals the Series B Purchase Price and the "Series B-2 Conversion Price" per share of the Series B-2 Preferred Stock equals the Series B-2 Purchase Price, subject in each case to adjustment from time to time as hereinafter provided.

(b) Automatic Conversion. Each share of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock shall automatically be converted, without the payment of any additional consideration, into the number of shares of Common Stock provided for in Section B.3(a) either (i) immediately upon consummation of the Corporation's first underwritten Public Offering of Common Stock pursuant to an effective registration statement under the Securities Act (A) resulting in at least \$25,000,000 of proceeds to the Corporation, net of underwriting discounts and commissions and offering expenses, (B) reflecting a gross offering price per share of Common Stock (as equitably adjusted to reflect any stock split, stock dividend, combination, consolidation, reorganization, recapitalization, reclassification or other similar event involving Common Stock) of not less than three times (3x) the Series B-2 Purchase Price, and (C) after giving effect to which the Corporation's Common Stock is listed on a U.S. national securities exchange (a "Qualified Public Offering"), or (ii) upon the written request of the holders of at least sixty-five percent (65%) of the issued and outstanding shares of Series B-2 Preferred Stock, voting separately as a single class ("Majority Conversion").

(c) Procedure for Voluntary Conversion: Effective Date. Upon any election to convert the Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock made in accordance with Section B.3(a), the holders of the Series A Preferred Stock, Series B Preferred Stock and/or Series B-2 Preferred Stock making such election shall provide written notice of such conversion (a "**Voluntary Conversion Notice**") to the Corporation setting forth the number of shares of Series A Preferred Stock, Series B Preferred Stock and/or Series B-2 Preferred Stock each such holder elects to convert into Common Stock (the "**Elected Preferred Stock**"). On the date the Voluntary Conversion Notice is delivered to the Corporation, such shares of Elected Preferred Stock shall thereupon be converted, without further action, into the number of shares of Common Stock provided for in Section B.3(a), and such number of shares of Common Stock into which the Elected Preferred Stock is converted shall thereupon be deemed to have been issued to such holders of the Elected Preferred Stock. Such holders shall as soon as practicable thereafter surrender to the Corporation at the Corporation's principal executive office the certificate or certificates evidencing the Elected Preferred Stock, duly assigned or endorsed for transfer to the Corporation (or accompanied by duly executed stock powers relating thereto), or an Affidavit of Loss with respect thereto. Upon surrender of such certificates or delivery of an Affidavit of Loss with respect thereto, the Corporation shall issue and deliver to the holder so surrendering such certificates or to such holder's designee, at an address designated by such holder, certificates for the number of shares of Common Stock into which such holder's Elected Preferred Stock shall have been converted. The issuance of certificates for shares of Common Stock upon conversion of Elected Preferred Stock will be made without charge to the holders of such shares for any issuance tax in respect thereof or other costs incurred by the Corporation in connection with such conversion and the related issuance of such stock. Notwithstanding anything to the contrary set forth in this Section B.3(c), in the event that holders of shares of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock elect to convert such shares pursuant to Section B.3(a) in connection with any Public Offering or other specified event, (i) such conversion may at the election of such holders be conditioned upon the consummation of such Public Offering or the occurrence of such other specified event, in which case, such conversion shall not be deemed to be effective until the consummation of such Public Offering or the occurrence of such other specified event and (ii) if such Public Offering or other specified event is consummated or occurs, all shares of Elected Preferred Stock shall be deemed to have been converted into shares of Common Stock immediately prior thereto.

(d) Procedure for Automatic Conversion. As of the date of, and in all cases subject to, the consummation of a Qualified Public Offering or a Majority Conversion, all outstanding shares of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock shall be converted automatically, without further action, into the number of shares of Common Stock provided for in Section B.3(a), and such number of shares of Common Stock into which the Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock is converted shall be deemed to have been issued to the holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock, as the case may be. Such holders shall, as soon as practicable thereafter, surrender the certificate or certificates evidencing the Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock, as the case may be, duly assigned or endorsed for transfer to the Corporation (or accompanied by duly

executed stock powers relating thereto) or an Affidavit of Loss with respect thereto. Upon surrender of such certificates or delivery of an Affidavit of Loss with respect thereto, the Corporation shall issue and deliver to such holder so surrendering such certificates or to such holder's designee, promptly (and in any event in such time as is sufficient to enable such holder to participate in such Qualified Public Offering or Majority Conversion, as applicable) at an address designated by such holder, certificates for the number of shares of Common Stock into which such holder's Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock shall have been converted.

(e) Fractional Shares; Partial Conversion. No fractional shares shall be issued upon conversion of any shares of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If any fractional interest in a share of Common Stock would, except for the provisions of the first sentence of this paragraph (e), be delivered upon any such conversion, the Corporation, in lieu of delivering the fractional share thereof, shall pay to the holder surrendering the Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock for conversion an amount in cash equal to the current fair market value of such fractional interest as determined in good faith by the Board of Directors. In case the number of shares of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock represented by the certificate or certificates surrendered at the time of conversion exceeds the number of shares to be converted, the Corporation shall, upon such conversion, execute and deliver to the holder thereof, at the expense of the Corporation, a new certificate or certificates for the number of shares of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock represented by the certificate or certificates surrendered that are not to be converted.

4. Adjustments.

(a) Adjustments for Subdivisions, Combinations or Consolidation of Common Stock. In the event the outstanding shares of Common Stock shall be subdivided by stock split, stock dividends or otherwise, into a greater number of shares of Common Stock, the Series A Conversion Price, Series B Conversion Price and Series B-2 Conversion Price then in effect shall, concurrently with the effectiveness of such subdivision, be proportionately decreased so that the number of shares of Common Stock issuable on conversion of any shares of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock shall be increased in proportion to such increase in outstanding shares. In the event the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, the Series A Conversion Price, Series B Conversion Price and Series B-2 Conversion Price then in effect shall, concurrently with the effectiveness of such combination or consolidation, be proportionately increased so that the number of shares of Common Stock issuable on conversion of any shares of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock shall be decreased in proportion to such decrease in outstanding shares.

(b) Adjustments for Reclassification, Exchange and Substitution. If the Common Stock issuable upon conversion of the Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock or into any other securities or property, whether by capital reorganization, reclassification, merger, combination of shares, recapitalization, consolidation, business combination or other similar transaction (other than a subdivision, consolidation or combination of shares provided for above and other than a Liquidation Event which shall be governed by Section B.2), each share of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock shall thereafter be convertible into the number of shares of stock or other securities or property to which a holder of the number of shares of Common Stock of the Corporation deliverable upon conversion of such share of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock shall have been entitled upon such capital reorganization, reclassification, merger, combination of shares, recapitalization, consolidation, business combination or other similar transaction if immediately prior to such capital reorganization, reclassification, merger, combination of shares, recapitalization, consolidation, business combination or other similar transaction such holder had converted such holder's Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock into Common Stock. The provisions of this Section B.4(b) shall similarly apply to outstanding shares of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock at the time of any successive capital reorganizations, reclassifications, mergers, combinations of shares, recapitalizations, consolidations, business combinations or other similar transactions. The Corporation shall not effect any Sale of the Corporation that is not, in accordance with Section B.2(b), a Liquidation Event unless prior to or simultaneously with the consummation thereof the successor corporation or purchaser, as the case may be, shall assume by written instrument the obligation to deliver to the holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock, securities or assets as, in accordance with the foregoing provisions, each such holder is entitled to receive.

(c) Adjustment of the Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall on or at any time following the Effective Time issue or sell, or in accordance with Section B.4(e) is deemed to have issued or sold, any shares of Common Stock or Convertible Securities without consideration or for a consideration per share of Common Stock less than the applicable Series A Conversion Price, Series B Conversion Price and/or Series B-2 Conversion Price in effect immediately prior to such issue or sale, then and in such event, such Series A Conversion Price, Series B Conversion Price or Series B-2 Conversion Price, as applicable, shall be reduced, concurrently with such issue or sale, to a price (calculated to the nearest whole cent) determined by the following formula:

$$P = \frac{P1Q1 + P2Q2}{Q1 + Q2}$$

Where:

P = the applicable Series A Conversion Price, Series B Conversion Price or Series B-2 Conversion Price, as the

case may be, in effect immediately following and after giving effect to such issue or sale

P1 = the applicable Series A Conversion Price, Series B Conversion Price or Series B-2 Conversion Price, as the case may be, in effect immediately prior to such issue or sale

Q1 = the number of shares of Common Stock Deemed Outstanding immediately prior to such issue or sale

P2 = the consideration per share, if any, received or receivable by the Corporation on account of such issue or sale

Q2 = the number of shares of Common Stock so issued or sold or, in accordance with Section B.4(e), deemed to have been issued or sold

(d) Multiple Closing Dates. In the event the Corporation shall issue on more than one date additional shares of Common Stock or Convertible Securities as part of one transaction or a series of related transactions, and such issuance dates occur within a period of no more than 60 days, then, upon the final such issuance (or at the time of any conversion, if earlier), the applicable Series A Conversion Price, Series B Conversion Price and Series B-2 Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the final such issuance (and without giving effect to any adjustments as a result of such prior issuances within such period).

(e) Effect of Certain Events on Conversion Prices. For purposes of determining the adjusted Series A Conversion Price with respect to the Series A Preferred Stock, the Series B Conversion Price with respect to the Series B Preferred Stock and the Series B-2 Conversion Price with respect to the Series B-2 Preferred Stock under Section B.4(c), the following shall be applicable:

(i) Issuance of Convertible Securities.

(A) If the Corporation in any manner grants, issues or sells any Convertible Securities, whether or not the rights to exercise, convert or exchange any such Convertible Securities are immediately exercisable, and the price per share for which Common Stock is issuable upon such exercise, conversion or exchange is less than the Conversion Price in effect immediately prior to the time of such grant, issue or sale, then the maximum number of shares of Common Stock issuable upon the exercise, conversion or exchange of such Convertible Securities shall be deemed to be outstanding and to have been issued and sold by the Corporation at the time of the grant, issue or sale of such Convertible Securities for such price per share.

(B) For the purposes of this paragraph, the "price per share for which Common Stock is issuable" in connection with the issuance of Convertible Securities shall be determined by dividing (x) the total amount received or receivable by the Corporation as consideration for the grant, issue or sale of such Convertible Securities, plus the cumulative minimum aggregate amount of additional consideration, if any, payable to the Corporation upon the exercise, conversion or exchange thereof and, if applicable, the exercise, conversion and exchange of any other Convertible Securities that such Convertible Securities may be converted into or exercised or exchanged for (in each case, as set forth in the instruments and agreements relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration), by (y) the total maximum number of shares of Common Stock issuable upon the exercise, conversion or exchange of all such Convertible Securities (as set forth in the instruments and agreements relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number). No further adjustment of the Conversion Price shall be made when Common Stock and, if applicable, any other Convertible Securities, are actually issued upon the exercise, conversion or exchange of such Convertible Securities.

(C) If the Corporation issues any Convertible Securities that entitle the holder thereof, *inter alia*, both (i) to exercise, convert or exchange the same into or for Common Stock or otherwise to participate with the holders of Common Stock in distributions upon the occurrence of a Liquidation Event and (ii) in connection with or following such exercise, conversion or exchange, to receive payment of a fixed or defined sum (such securities being referred to herein as "Qualified Convertible Securities" and such fixed or defined sum being referred to as the "Preference Payment"), the "total maximum number of shares of Common Stock issuable upon the exercise, conversion or exchange of all such Convertible Securities" for purposes of clause (y) of Section B.4(e)(i)(B) above shall include, in addition to the total maximum number of shares of Common Stock issuable upon the exercise, conversion or exchange of all such Convertible Securities, a number of shares of Common Stock equal to the quotient of (A) the aggregate Preference Payments of all such Qualified Convertible Securities so issued, divided by (B) the total amount received or receivable by the Corporation as consideration for the issue of one of such Qualified Convertible Securities (as set forth in the instruments and agreements relating thereto).

(ii) Change in Exercise Price or Conversion Rate. If the additional consideration payable to the Corporation upon the exercise, conversion or exchange of any Convertible Securities, or the rate at which any Convertible Securities are convertible into or exchangeable for Common Stock should change at any time, the Conversion Price that is in effect at the time of such change that was adjusted in accordance with Section B.4(e)(i) upon the issuance of such Convertible Securities shall be readjusted to the Conversion Price that would have been in effect at such time had such Convertible Securities that are still outstanding provided for such changed additional consideration or changed conversion rate, as the case may be, at the time such Convertible Securities were initially granted, issued or sold; and on the termination date of any right to exercise, convert or exchange such Convertible Securities without such right having been exercised, the Conversion Price then in effect hereunder shall be adjusted to the Conversion Price that would have been in effect at the time of such termination had such Convertible Securities, to the extent outstanding immediately prior to such termination, never been issued.

(iii) Exceptions for Excluded Securities. Notwithstanding the foregoing, no adjustments shall be made under Sections B.4(c), (d) and/or (e) with respect to the issue, grant or sale of any Excluded Securities.

(iv) Valuation of Non-Cash Consideration. The consideration received by the Corporation for the issue of any shares of Common Stock, Convertible Securities or any other Convertible Securities that such Convertible Securities may be converted into or exercised or exchanged for shall be computed in accordance with Section B.2(d).

(f) Other Dilutive Issuances. If an event not specified in this Section B.4 (other than the issuance of Excluded Securities) occurs that has substantially the same economic effect on the Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock as those events specifically enumerated above in this Section B.4, then this Section B.4 shall be construed liberally, *mutatis mutandis*, in order to provide the holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock the intended benefit of the protections provided under this Section B.4. In such event, the Corporation's Board of Directors shall make an appropriate adjustment in the Conversion Price so as to protect the rights of the holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock; *provided that* no such adjustment (other than in accordance with an event in the nature of a combination or consolidation of the Common Stock) shall increase the Conversion Price above the Series A Purchase Price, the Series B Purchase Price or the Series B-2 Purchase Price as otherwise determined pursuant to this Section B.4 or decrease the number of shares of Common Stock issuable upon conversion of each share of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock as otherwise determined in accordance with this Section B.4.

(g) No Impairment. The Corporation will not, by amendment of its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation, and will at all times in good faith assist in the carrying out of all the provisions of this Section B.4 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock hereunder against impairment by the Corporation or any successor entities.

(h) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price pursuant to this Section B.4, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based and the Series A Conversion Price, Series B Conversion Price or Series B-2 Conversion Price then in effect. The Corporation shall, upon the written request at any time by any holder of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock, furnish or cause to be furnished to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price at the time in effect, and (iii) the number of shares of Common Stock and the amount, if

any, of other property that at the time would be received upon the conversion of such holder's Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock.

(i) Rounding. All calculations under this Section B.4 shall be made to (i) the nearest one cent or (ii) the nearest share, as the case may be. All calculations of percentages, if any, shall be carried to three decimal points but shall not be rounded up or down.

(j) Limitations on Adjustments. Anything herein to the contrary notwithstanding, no adjustment in the Series A Conversion Price, Series B Conversion Price or Series B-2 Conversion Price shall be required unless such adjustment, either by itself or with other adjustments not previously made, would require a change of at least \$.0001 in such Series A Conversion Price, Series B Conversion Price or Series B-2 Conversion Price; provided, however, that any adjustment which by reason of this paragraph (k) is not required to be made shall be carried forward and taken into account in any subsequent adjustment or immediately prior to any conversion. Furthermore, in the event of a Dilutive Financing, no adjustment to the Series A Conversion Price, Series B Conversion Price or Series B-2 Conversion Price shall be made with respect to shares of a holder of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock unless such holder shall have exercised in full any preemptive rights provided in any stockholders agreement entered into by such holder and the Corporation.

5. Reservation of Stock Issuable Upon Conversion. The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the issued or issuable shares of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock, such number of its shares of Common Stock, as the case may be, as shall from time to time be sufficient to effect the conversion of all outstanding shares of Series A Preferred Stock, Series B Preferred Stock and Series B-2 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 Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock, the Corporation will take all 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 purpose.

6. No Closing of Transfer Books. The Corporation shall not close its books against the transfer of shares of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock in any manner that would interfere with the timely conversion of any shares of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock in accordance with the provisions hereof.

7. Notice.

(a) Liquidation Events, Extraordinary Transactions, Etc. In the event (i) the Corporation establishes a record date to determine the holders of any class of securities who are entitled to receive any dividend or other distribution or who are entitled to vote at a meeting (or by written consent) in connection with any Liquidation Event or (ii) any Liquidation Event is approved by the Board of Directors or the Corporation enters into any agreement with

respect thereto, the Corporation shall mail or cause to be mailed by first class mail (postage prepaid) to each holder of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock at least ten (10) days prior to such record date specified therein or the expected effective date of any such transaction, a notice specifying (A) such record date for the purpose of such dividend or distribution or meeting or consent and a description of such dividend or distribution or the action to be taken at such meeting or by such consent, (B) the date on which any such Liquidation Event is expected to become effective and, in the case of a Sale of the Corporation, the identity of the parties thereto, and (C) the date on which the books of the Corporation shall close or a record shall be taken with respect to any such event.

(b) Waiver of Notice. The holders of at least sixty-five percent (65%) of the issued and outstanding shares of Series B-2 Preferred Stock, voting separately as a single class, may, at any time upon written notice to the Corporation, waive, either prospectively or retrospectively, any notice provisions specified herein, and any such waiver shall be effective as to all holders of Preferred Shares.

(c) General. In the event that the Corporation provides any notice, report or statement to holders of Common Stock, the Corporation shall at the same time provide a copy of any such notice, report or statement to each holder of outstanding Preferred Shares.

8. No Reissuance of Preferred Stock. No share or shares of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be canceled, retired and eliminated from the shares that the Corporation shall be authorized to issue.

9. Redemption.

(a) The Series B-2 Preferred Stock, Series B Preferred Stock and Series A Preferred Stock may be redeemed, in whole or in part, at the option of the holders of Preferred Shares pursuant to redemption proceedings initiated by the Requisite Series B-2 Stockholders at any time on or after the fifth anniversary of the date of the initial issuance of the Series B-2 Preferred Stock. In any such case, the Requisite Series B-2 Stockholders shall notify the Corporation in writing (the "Redemption Notice") of their election to exercise the rights afforded by this Section B.9 (including as to any shares of Series A Preferred Stock or Series B Preferred Stock held by any of the Requisite Series B-2 Stockholders). Upon receipt of the Redemption Notice, the Corporation shall promptly notify the remaining holders of the Series B-2 Preferred Stock, the holders of the Series B Preferred Stock and the holders of Series A Preferred Stock thereof. Any Series A Stockholder, any Series B Stockholder and any Series B-2 Stockholder that did not deliver the Redemption Notice may then submit to the Corporation, within thirty (30) days following receipt of the notice from the Corporation, notice of intent to seek redemption of all or any part of their Preferred Shares (the "Secondary Redemption Notice") and such Secondary Redemption Notice shall be deemed to have been delivered on the same date that the Redemption Notice was delivered. The redemption price for each share of Series A Preferred Stock, Series B Preferred Stock or the Series B-2 Preferred Stock shall be cash in an amount equal to the Series A Liquidation Preference, Series B Liquidation Preference

or the Series B-2 Liquidation Preference, as the case may be, *plus* interest thereon accruing from, in the case of the Series A Preferred Stock and Series B Preferred Stock, the date of the initial issuance of the Series B Preferred Stock, and in the case of the Series B-2 Preferred Stock, the date of the initial issuance of the Series B-2 Preferred Stock, until the date the redemption is complete (calculated as the date of the final annual installment, as provided in the next sentence) at the rate of ten percent (10%) per annum (the "Redemption Price"). The Redemption Price shall be payable by the Corporation to holders of the Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock in three equal annual installments the first such installment being due no later than the ninetieth (90th) day following the receipt of the Redemption Notice and on the anniversary of such first installment thereafter.

(b) If the funds of the Corporation legally available for redemption of its shares are insufficient to redeem the total number of outstanding shares of Series A Preferred Stock, Series B Preferred Stock and/or Series B-2 Preferred Stock for which redemption was elected, the holders of shares of Series A Preferred Stock, Series B Preferred Stock and/or Series B-2 Preferred Stock for which redemption was elected shall share ratably in any funds legally therefor according to the respective amounts that would be payable with respect to the full number of shares owned by them if all such outstanding shares were redeemed in full. At any time thereafter when additional funds of the Corporation are legally available for the redemption of such shares of Series A Preferred Stock, Series B Preferred Stock and/or Series B-2 Preferred Stock, such funds will be used at the earliest permissible time to redeem the balance of such shares, or such portion thereof for which funds are then legally available. The Corporation shall be obligated to use its best efforts to take such actions as may be necessary (including, without limitation, the issuance of additional equity securities, the revaluation or recapitalization of the Corporation or the consummation of Sale of the Corporation in order to permit the full and timely redemption of the shares of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock for which redemption was elected.

(c) Until the holders of Series A Preferred Stock, Series B Preferred Stock and/or Series B-2 Preferred Stock have received in cash payment in full of all amounts provided in this Section B.9, the Series A Preferred Stock, Series B Preferred Stock and/or Series B-2 Preferred Stock shall not be considered redeemed. Such unredeemed shares shall remain outstanding and shall continue to have all rights and preferences (including, without limitation, dividend, conversion and voting rights) provided for herein; *provided, however*, that the holders of such unredeemed shares shall have the ongoing right to be redeemed, together with such rights and remedies as may be available under applicable law, at each such holder's election either (i) to have such holder's remaining outstanding shares of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock redeemed, or (ii) rescind the Redemption Notice with respect to all or any portion of such unredeemed shares and to continue holding such shares, free of any right of the Corporation to redeem such shares

(d) The notices provided for in this Section B.9 shall be sent, if by or on behalf of the Corporation, to the holders of the Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock at their respective addresses as shall then appear on the records of the Corporation, or if by any holder of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock to the Corporation, at its principal executive office or

registered office in Delaware, by first class mail, postage prepaid, and (i) in the case of a Redemption Notice or Secondary Redemption Notice, shall contain the number of shares of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock to be redeemed, and (ii) in the case of any notice by or on behalf of the Corporation, stating the place or places and time at which the shares called for redemption shall, upon presentation and surrender of such certificates representing such shares, be redeemed and the redemption price therefor.

(e) Any annual installment not paid when due in respect of redemption of the Series A Preferred Stock, Series B Preferred Stock and/or Series B-2 Preferred Stock for purposes of clause (a) hereof shall bear additional interest at a rate of one percent (1%) per month until such overdue amount plus additional interest is paid in full.

C. VOTING; ELECTION OF DIRECTORS; EXIT TRANSACTION.

1. **Voting Generally.** Except as expressly set forth herein, the holder of each share of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock shall vote with holders of Common Stock, voting together as single class on an as-converted basis, upon all matters submitted to a vote of stockholders. For such purpose, each holder of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock shall be entitled to the number of votes per share of Series A Preferred Stock, Series B Preferred Stock, Series B-2 Preferred Stock, as the case may be, as equals the largest number of shares of Common Stock into which each share of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock, as the case may be, may be converted pursuant to Section B.3 on the record date fixed for the determination of stockholders entitled to vote or on the effective date of any written consent of stockholders, as applicable. Fractional votes shall not, however, be permitted and any fractional voting rights resulting from the above formula with respect to any holder of Series A Preferred Stock, Series B Preferred Stock or Series B-2 Preferred Stock shall be rounded to the nearest whole number (with one-half rounded upward to one). Notwithstanding Section 228(a) of the DGCL and except as otherwise provided herein, no action that is required by the DGCL to be taken by stockholders at any annual or special meeting of stockholders of the Corporation or that may be taken by stockholders at any annual or special meeting of stockholders of the Corporation may be taken without a meeting, without prior notice and without a vote unless a consent or consents in writing setting forth the action so taken shall be signed by the holders of a majority of the issued and outstanding shares of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock, voting together as a single class on an as-converted basis. There shall be no cumulative voting.

2. Board of Directors.

The number of directors comprising the Corporation's board of directors (the "Board" or the "Board of Directors") shall consist of six (6) individuals, except as otherwise provided in this Section C.2 or unless the holders of a majority of the Common Stock, Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock, voting as a single class on an as-converted basis, including the holders of at least sixty-five percent (65%) of the issued and outstanding shares of Series B-2 Preferred Stock, voting separately as a single class, shall otherwise consent. The Board of Directors shall be elected as follows:

(a) two directors of the Corporation shall be elected by the holders of Common Stock, voting separately as a single class for such purpose;

(b) one director of the Corporation shall be elected by the holders of the Series A Preferred Stock, voting separately as a single class for such purpose (such director being referred to as the "Series A Director");

(c) two directors of the Corporation shall be elected by the holders of the Series B-2 Preferred Stock, voting separately as a single class for such purpose (such directors being referred to as the "Series B-2 Directors"); and

(d) one director of the Corporation shall be an outside independent director and shall be elected by the holders of the Series A Preferred Stock, the Series B Preferred Stock, Series B-2 Preferred Stock and Common Stock, voting together as a single class, on an as-converted basis for such purpose.

3. **Election of Directors.** The election of any director as provided in Section D.2 above by the holders of the shares of the class or series of Capital Stock entitled to elect such director or directors shall occur (i) at the annual meeting of stockholders, (ii) at any special meeting of stockholders, (iii) at any special meeting of holders of the shares of the class or series of Capital Stock entitled to elect such director or directors called by the holders of not less than two-thirds of the such class or series then outstanding or (iv) by the written consent of not less than two-thirds of the holders of the shares of the class or series of Capital Stock entitled to elect such director or directors then outstanding. Any director elected as provided in Section C.2 may be removed at any time with or without cause by and only by the requisite vote or written consent of the holders of the shares of the class or series of Capital Stock entitled to elect such director or directors, and any vacancy occurring by reason of such removal or by reason of the death, resignation or inability to serve of any such director, shall be filled by and only by a vote or written consent of the holders of the shares of the class or series of Capital Stock entitled to elect such director or directors. Any director so elected shall serve until such director's successor is duly elected and qualified, or such director's earlier death, resignation or removal by the holders of the shares of the class or series of Capital Stock entitled to elect such director or directors.

4. **Special Approval Rights.**

(a) **Series B-2 Restricted Actions.** So long as any shares of Series B-2 Preferred Stock remains outstanding, the affirmative vote of not less than sixty-five percent (65%) of the Series B-2 Preferred Stock then outstanding, voting separately as a single class, shall be necessary to authorize the Corporation to take any of the following actions (herein, each a "Series B-2 Restricted Action"):

(i) Amend, repeal or change, directly or indirectly, any of the provisions of the Certificate of Incorporation, or the Bylaws of the Corporation in any manner that would adversely alter or change, the powers, preferences or special rights of the shares of Series B-2 Preferred Stock, Series B Preferred Stock or Series A Preferred Stock including,

without limitation, increasing the aggregate authorized number of shares of Series B-2 Preferred Stock, Series B Preferred Stock or Series A Preferred Stock or altering the rights and preferences of the Series B-2 Preferred Stock, Series B Preferred Stock or Series A Preferred Stock; or

(ii) Authorize, or increase the authorized number of shares of, or issue additional shares of Series B-2 Preferred Stock, Series B Preferred Stock, Series A Preferred Stock, or any class or series of the Corporation's capital stock or options, warrants or other rights to acquire any such capital stock ranking with respect to liquidation preference, dividends or redemption rights, senior in right to, or on a parity with, the Series B-2 Preferred Stock, Series B Preferred Stock or the Series A Preferred Stock.

(iii) Authorize or effect a change of control, liquidation, merger, re-incorporation, recapitalization of the Corporation, or sale or other transfer of all or substantially all of the Corporation's assets other than in the ordinary course of business;

(iv) Authorize or effect or permit, any acquisition of the capital stock of another entity, which results in the consolidation of that entity into the results of operations of the Corporation or acquisition of all or substantially all of the assets of another entity;

(v) Authorize or effect the creation of any indebtedness for borrowed money, in a single or related series of transactions, in an amount in excess of \$2,000,000;

(vi) Authorize or effect the creation of a new plan or arrangement for the grant of stock options or the issuance of restricted stock or increase the number of shares available under such a plan or arrangement;

(vii) Authorize or effect an increase in the number of directors;
or

(viii) Authorize or effect the payment or declaration any dividend or distribution on any shares of the Corporation's Capital Stock (except dividends payable solely in shares of common stock), or apply of any of the Corporation's assets to the redemption or repurchase of the Corporation's Capital Stock (except as contemplated herein).

(b) Approval. The approval rights of the holders of shares of Series B-2 Preferred Stock to authorize the Corporation to take any of the Series B-2 Restricted Actions as provided in this Section C.4(a) may be exercised at any annual meeting of stockholders, at a special meeting of the holders of Series B-2 Preferred Stock held for such purpose or by written consent. At each meeting of stockholders at which the holders of shares of Series B-2 Preferred Stock shall have the right, voting separately as a single class, to authorize the Corporation to take any Series B-2 Restricted Action as provided in Section C.4(a), the presence in person or by proxy of the holders of at least sixty-five percent (65%) of the Series B-2 Preferred Stock then outstanding shall be necessary and sufficient to constitute a quorum. At any such meeting or at any adjournment thereof, in the absence of a quorum of the holders of shares of Series B-2

Preferred Stock, a majority of the holders of such shares present in person or by proxy shall have the power to adjourn the meeting as to the actions to be taken by the holders of shares of Series B-2 Preferred Stock from time to time and place to place without notice other than announcement at the meeting until a quorum shall be present.

5. **Renunciation of Corporate Opportunities.** Pursuant to Section 122(17) of the DGCL, the Corporation hereby renounces any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any and all business opportunities that are presented to the holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock, their Affiliates, the Series A Director or Series B-2 Directors (collectively, the "**Preferred Investor Parties**") at any time that a Series A Director or Series B-2 Director sits on the Board or that such holders hold any Capital Securities of the Corporation. Without limiting the foregoing renunciation, the Corporation acknowledges that the Preferred Investor Parties are in the business of making investments in, and have investments in, other businesses similar to and that may compete with the Corporation's businesses ("**Competing Businesses**"), and agrees that the Corporation shall have no right to limit or restrict any of the Preferred Investor Parties from making additional investments in or having relationships with other Competing Businesses independent of their investments in the Corporation. By virtue of a Preferred Investor Party holding Capital Securities of the Corporation or by having persons designated by or affiliated with such Preferred Investor Party serving on or observing at meetings of the Board of Directors or otherwise, no Preferred Investor Party shall have any obligation to the Corporation, any of its Subsidiaries or any other holder of Capital Securities of the Corporation to refrain from competing with the Corporation and any of its Subsidiaries, making investments in or having relationships with Competing Businesses, or otherwise engaging in any commercial activity; and none of the Corporation, any of its Subsidiaries or any other holder of Capital Securities shall have any right with respect to any such investments or activities undertaken by such Preferred Investor Party. Without limitation of the foregoing, each Preferred Investor Party may engage in or possess any interest in other business ventures of any nature or description, independently or with others, similar or dissimilar to the business of the Corporation or any of its Subsidiaries, and none of the Corporation, any of its Subsidiaries or any other holder of Capital Securities of the Corporation shall in such capacity have any rights or expectancy by virtue of such Preferred Investor Party's relationships with the Corporation, or otherwise in and to such independent ventures or the income or profits derived therefrom; and the pursuit of any such venture, even if such investment is in a Competing Business shall not be deemed wrongful or improper. No Preferred Investor Party shall be obligated to present any particular investment opportunity to the Corporation or any of its Subsidiaries even if such opportunity is of a character that, if presented to the Corporation or such Subsidiary, could be taken by the Corporation or such Subsidiary, and the Preferred Investor Party shall continue to have the right to take for its own respective account or to recommend to others any such particular investment opportunity. The provisions of this Section C.5 shall in no way limit or eliminate any Preferred Investor Party's duties, responsibilities and obligations with respect to the protection of any proprietary information of the Corporation and any of its Subsidiaries, including any applicable duty to not disclose or use such proprietary information improperly or to obtain therefrom an improper personal benefit.

ARTICLE V
PERPETUAL EXISTENCE

The Corporation is to have perpetual existence.

ARTICLE VI
LIMITATION OF LIABILITY; INDEMNIFICATION

To the fullest extent permitted by the DGCL, no Director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a Director, except for liability (i) for any breach of the Director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL or (iv) for any transaction from which the Director derived an improper personal benefit. If the DGCL is amended after the effective date of this Certificate of Incorporation 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 DGCL, as so amended.

The Corporation shall, to the fullest extent permitted by the provisions of Section 145 of the DGCL, indemnify each person who it shall have power to indemnify under said section from and against any and all of the expenses, liabilities or other matters referred to in or covered by said section. The indemnification provided for herein shall not be deemed exclusive of any other rights to which each such indemnified person may be entitled under any by-law, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in such indemnified person's official capacity and as to action in another capacity pursuant to service as a director, officer, employee or agent of the Corporation, and shall continue as to a person who has ceased to be a director, officer, employee or agent of the Corporation, and shall inure to the benefit of the heirs, executors and administrators of such person.

Any (i) repeal or amendment of this Article VI by the stockholders of the Corporation or (ii) amendment to the DGCL shall not adversely affect any right or protection existing at the time of such repeal or amendment with respect to any acts or omissions occurring before such repeal or amendment of a person serving as a director, officer, employee or agent of the Corporation or otherwise enjoying the benefits of this Article VI at the time of such repeal or amendment.

ARTICLE VII
AMENDMENTS

The Corporation reserves the right to amend, alter or repeal any provisions contained in this Certificate of Incorporation from time to time and at any time in the manner now or hereafter prescribed in this Certificate of Incorporation and by the laws of the State of Delaware, and all rights herein conferred upon stockholders are granted subject to such reservation.

ARTICLE VIII
MISCELLANEOUS

Subject to Article IV and in furtherance and not in limitation of the powers conferred by the laws of the State of Delaware:

(a) The Board of Directors of the Corporation is expressly authorized to adopt, amend or repeal the Bylaws of the Corporation.

(b) Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

(c) The books of the Corporation may be kept at such place within or without the State of Delaware as the Bylaws of the Corporation may provide or as may be designated from time to time by the Board of Directors of the Corporation.

(d) Meetings of the stockholders may be held within or without the State of Delaware, as the Bylaws may provide.

(e) To the extent any provision contained in this Certificate of Incorporation is inconsistent with the Bylaws, then the provisions of this Certificate of Incorporation shall control.

ARTICLE IX
COMPROMISES OR ARRANGEMENTS WITH
CREDITORS AND STOCKHOLDERS

Whenever a compromise or arrangement is proposed between the Corporation and its creditors or any class of them and/or between the Corporation and its stockholders or any class of them, any court of equitable jurisdiction within the State of Delaware may, on the application in a summary way of the Corporation or of any creditor or stockholder thereof or on the application of any receiver or receivers appointed for this Corporation under the provisions of Section 291 of the DGCL or on the application of trustees in dissolution or of any receiver or receivers appointed for the Corporation under the provisions of Section 279 of the DGCL, order a meeting of the creditors or class of creditors, and/or of the stockholders or class of stockholders of the Corporation, as the case may be, to be summoned in such manner as the said court directs. If a majority in number representing three-fourths in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of the Corporation, as the case may be, agree to any compromise or arrangement and to any reorganization of the Corporation as consequence of such compromise or arrangement, the said compromise or arrangement and the said reorganization shall, if sanctioned by the court to which the said application has been made, be binding on all the creditors or class of creditors, and/or on all the stockholders or class of stockholders, of the Corporation, as the case may be, and also on the Corporation.

ARTICLE X

DEFINITIONS

The following terms are used herein with the meanings indicated:

"Affidavit of Loss" means an affidavit or written agreement reasonably satisfactory to the Corporation to indemnify the Corporation from any loss incurred in connection with the loss of any share certificate evidencing shares of the Corporation's Capital Securities.

"Affiliate" means, as applied to the Corporation or any other specified Person, any Person directly or indirectly controlling, controlled by or under direct or indirect common control with the Corporation (or such specified Person) and shall also include (a) any Person who is an officer or director of the Corporation or any Subsidiary (or other specified Person) and (b) in the case of a specified Person who is an individual, any Family Members of any such Person.

"Board" and **"Board of Directors"** each has the meaning specified in Article IV, Section C.2.

"Business Day" means a day other than a Saturday, Sunday or legal holiday in Delaware.

"Capital Securities" means, as to any Person that is a corporation, the authorized shares of such Person's capital stock, including all classes of common, preferred, voting and nonvoting capital stock, and, as to any Person that is not a corporation or an individual, the ownership interests in such Person, including, without limitation, the right to share in profits and losses, the right to receive distributions of cash and property, and the right to receive allocations of items of income, gain, loss, deduction and credit and similar items from such Person, whether or not such interests include voting or similar rights entitling the holder thereof to exercise control over such Person.

"Certificate of Incorporation" means this Amended and Restated Certificate of Incorporation, as amended from time to time.

"Common Stock" has the meaning specified in Article IV.

"Common Stock Deemed Outstanding" means, at any time of measurement thereof, the number of shares of Common Stock actually outstanding at such time, plus the number of shares of Common Stock issuable upon conversion of the Series A Preferred Stock, the Series B Preferred Stock and the Series B-2 Preferred Stock (as equitably adjusted to reflect any stock split, stock dividend, combination, consolidation, reorganization, recapitalization, reclassification or other similar event involving Common Stock after the Effective Time), plus (without duplication) the number of shares of Common Stock issuable upon the exercise in full of all outstanding Convertible Securities whether or not such Convertible Securities are convertible into or exchangeable or exercisable for Common Stock at such time.

"Competing Businesses" has the meaning specified in Article IV, Section C.5.

"Conversion Price" means the Series A Conversion Price, the Series B Conversion Price

or the Series B-2 Conversion Price, as applicable.

“Convertible Securities” means securities or obligations that are directly or indirectly exercisable for, convertible into or exchangeable for shares of Common Stock. The term includes, without limitation, shares of Series A Preferred Stock, shares of Series B Preferred Stock, shares of Series B-2 Preferred Stock, warrants or other rights to subscribe for or purchase Common Stock or to subscribe for or purchase other Capital Securities or obligations that are, directly or indirectly, exercisable for, convertible into or exchangeable for Common Stock.

“Dilutive Financing” means an issuance of additional shares of Common Stock or Convertible Securities by the Corporation, other than Excluded Securities, at a price per share less than the Series B-2 Purchase Price.

“DGCL” means the General Corporation Law of the State of Delaware, as in effect from time to time.

“Effective Time” means the consummation by the Corporation of the first sale of any shares of Series B-2 Preferred Stock following the filing of this Amended and Restated Certificate of Incorporation with the Office of the Secretary of State of Delaware in accordance with the DGCL.

“Elected Preferred Stock” has the meaning specified in Article IV, Section B.3(c).

“Excluded Securities” means (i) Capital Securities issued by the Corporation in a Qualified Public Offering, (ii) Convertible Securities or restricted stock grants issued to officers, employees or members of the Board of Directors of, or consultants or other service providers to, the Corporation or any Subsidiary that are options to purchase or grants of up to 2,250,000 shares of Common Stock (as equitably adjusted to reflect any stock split, stock dividend, combination, consolidation, reorganization, recapitalization, reclassification or other similar event involving Common Stock after the Effective Time) or such higher number as may be authorized, issued, granted or awarded in accordance with this Certificate of Incorporation, and the issuance of shares of Common Stock upon the exercise of any such options or grants, (iii) Capital Securities issued by the Corporation as direct consideration to any Persons (including the stockholders or owners of Persons) as all or part of the consideration paid for the acquisition of ownership interests in, or assets of, such Person in a transaction in which there is not a readily determinable value being ascribed to such shares unless (A) such Person is an Affiliate of the Corporation (other than a Subsidiary) or (B) Affiliates of the Corporation collectively own more than ten percent (10%) of the ownership interests in such Person, (iv) Convertible Securities (including Capital Securities issued upon exercise, conversion or exchange thereof) and/or Capital Securities issued by the Corporation to Persons who are not Affiliates of the Corporation as partial consideration for senior debt financing, equipment lease financing or licensing, (v) Convertible Securities (including Capital Securities issued upon exercise, conversion or exchange thereof) and/or Capital Securities issued by the Corporation in connection with a stock split, stock dividend, combination, consolidation, reorganization, recapitalization or other similar event for which adjustment is made in accordance with Article IV, Section B.4, and/or (vi) Capital Securities issued by the Corporation upon the conversion of shares of Series A Preferred

Stock, Series B Preferred Stock or Series B-2 Preferred Stock.

"Family Member" means, as applied to any individual, such individual's spouse, children (including stepchildren or adopted children), grandchildren, parent, or any spouse of any of the foregoing, and each trust or partnership created for the exclusive benefit of any one or more of them.

"Fully Diluted Basis" means at any time the sum of (x) the number of issued and outstanding shares of Common Stock at such time, whether or not vested, plus (y) the total number of shares of Common Stock issuable upon the exercise, exchange or conversion of all Convertible Securities issued and outstanding at such time, whether or not such Convertible Securities are exercisable, convertible or exchangeable at such time.

"Junior Securities" means any of the Corporation's Common Stock and all other Capital Securities and Convertible Securities of the Corporation other than (a) Series A Preferred Stock, (b) Series B Preferred Stock, (c) Series B-2 Preferred Stock and (d) those that both (i) by their terms, state that they are not Junior Securities or provide the holders thereof with rights *pari passu* with or senior to those of the holders of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock and (ii) are approved for issuance by the holders of at least sixty-five percent (65%) of the issued and outstanding Series B-2 Preferred Stock in compliance with Article IV, Section C.4(a)(ii) and Article IV, Section C.4(b), respectively.

"Liquidation Event" has the meaning specified in Article IV, Section B.2(a).

"Majority Conversion" has the meaning specified in Article IV, Section B.3(b).

"New Securities" means any Capital Securities and Convertible Securities of the Corporation or any other security, obligation or instrument (whether denominated as equity, debt or otherwise) that has significant equity-like economic attributes; *provided, however*, that Excluded Securities shall not constitute New Securities.

"Person" or "person" means an individual, partnership, corporation, limited liability company, association, trust, joint venture, unincorporated organization or other entity and any government, governmental department or agency or political subdivision thereof.

"Preferred Investor Parties" has the meaning specified in Article IV, Section C.5.

"Preferred Shares" means shares of Series A Preferred Stock, Series B Preferred Stock and Series B-2 Preferred Stock.

"Public Offering" means any offering by the Corporation of its Common Stock to the public pursuant to an effective registration statement under the Securities Act of 1933, as amended, or any comparable statement under any similar federal statute then in force, other than an offering of shares being issued as consideration in a business acquisition or combination or an offering in connection with an employee benefit plan.

"Qualified Holder" means a Person that can establish to the Corporation's satisfaction

that such Person is at the time of the issue of Offered New Securities an “Accredited Investor” within the meaning of Rule 501 of the Securities Act of 1933 and otherwise possesses qualifications such that the Corporation may offer and issue Offered New Securities to such Person in compliance with an available exemption from the registration requirements pertaining thereto under the Securities Act of 1933 and other federal and state securities laws and regulations.

“**Qualified Public Offering**” has the meaning specified in Article IV, Section B.3(b).

“**Redemption Notice**” has the meaning specified in Article IV, Section B.9(a).

“**Redemption Price**” has the meaning specified in Article IV, Section B.9(a).

“**Requisite Series B-2 Stockholders**” means the holders of at least sixty-five percent (65%) of the issued and outstanding shares of Series B-2 Preferred Stock.

“**Sale of the Corporation**” means any of the following: (a) a merger or consolidation of the Corporation into or with any other Person or Persons in a single transaction or a series of related transactions in which the stockholders of the Corporation immediately prior to such merger, consolidation, transaction or first of such related series of transaction possess less than fifty percent (50%) of the surviving entity's issued and outstanding voting Capital Securities immediately after such merger, consolidation, transaction or related series of such transactions (*provided that a Qualified Public Offering or Majority Conversion resulting in ownership by the stockholders of the Corporation immediately after such event shall not be a “Sale of the Corporation”*); or (b) a sale of all or substantially all of the Corporation's assets to any Person (including indirectly by the grant of an exclusive license or licenses to all or substantially all of the Company's Intellectual Property).

“**Series A Conversion Price**” has the meaning specified in Article IV, Section B.3(a).

“**Series A Director**” has the meaning specified in Article IV, Section C.2.

“**Series A Liquidation Preference**” means an amount equal to the Series A Purchase Price, *plus* any declared but unpaid dividends.

“**Series A Preferred Stock**” has the meaning specified in Article IV.

“**Series A Purchase Price**” means \$0.25 per share of Series A Preferred Stock (as equitably adjusted to reflect any stock split, stock dividend, combination, consolidation, reorganization, recapitalization, reclassification or other similar event involving the Series A Preferred Stock after the Effective Time).

“**Series B Directors**” has the meaning specified in Article IV, Section C.2.

“**Series B Conversion Price**” has the meaning specified in Article IV, Section B.3(a).

“**Series B Liquidation Preference**” means an amount equal to the Series B Purchase

Price, *plus* any declared but unpaid dividends.

"Series B Preferred Stock" has the meaning specified in Article IV.

"Series B Purchase Price" means \$0.8333 per share of Series B Preferred Stock (as equitably adjusted to reflect any stock split, stock dividend, combination, consolidation, reorganization, recapitalization, reclassification or other similar event involving the Series B Preferred Stock after the Effective Time).

"Series B-2 Conversion Price" has the meaning specified in Article IV, Section B.3(a).

"Series B-2 Directors" has the meaning specified in Article IV, Section C.2.

"Series B-2 Liquidation Preference" means an amount equal to the Series B-2 Purchase Price, *plus* any declared but unpaid dividends.

"Series B-2 Preferred Stock" has the meaning specified in Article IV.

"Series B-2 Purchase Price" means \$0.8333 per share of Series B-2 Preferred Stock (as equitably adjusted to reflect any stock split, stock dividend, combination, consolidation, reorganization, recapitalization, reclassification or other similar event involving the Series B-2 Preferred Stock after the Effective Time).

"Series B-2 Restricted Action" has the meaning specified in Article IV, Section C.4(a).

"Subsidiary"/"Subsidiaries" means any corporation, partnership, limited liability company, association or other business entity of which (i) if a corporation, a majority of the total voting power of shares of stock entitled (without regard to the occurrence of any contingency) to vote in the election of directors thereof is at the time owned or controlled, directly or indirectly, by the Corporation or one or more of the other Subsidiaries of the Corporation or a combination thereof, or (ii) if a partnership, limited liability company, association or other business entity, a majority of the ownership interests therein is at the time owned or controlled, directly or indirectly, by the Corporation or one or more Subsidiaries of that person or a combination thereof. For purposes hereof, the Corporation shall be deemed to have a majority ownership interest in a partnership, limited liability company, association or other business entity if and only if the Corporation shall be allocated a majority of partnership, limited liability company, association or other business entity gains or losses and shall be or control the managing general partner of such partnership, association or other business entity or the managing member of such limited liability company.

"Voluntary Conversion Notice" has the meaning specified in Article IV, Section B.3(c).

* * *

I, Dr. Jeffry D. Watkins, the President of the Corporation, for the purpose of amending and restating the Corporation's certificate of incorporation pursuant to the General Corporation Law of the State of Delaware, do make this certificate, hereby declaring and certifying that this is my act and deed on behalf of the Corporation, and the facts herein stated are true, and accordingly hereunto set my hand this 26th day of June, 2009.

aTYR PHARMA, INC.

By: 

Name: Dr. Jeffry D. Watkins

Title: President and Chief Executive Officer

Amended and Restated Certificate of Incorporation

STATE OF DELAWARE

CERTIFICATE OF CORRECTION

aTyr Pharma, Inc., a corporation organized and existing under and by virtue the General Corporation Law of the State of Delaware does hereby certify:

1. The name of the corporation is aTyr Pharma, Inc.
2. An Amended and Restated Certificate of Incorporation (the "Restated Certificate") was filed with the Secretary of State of the State of Delaware on June 26, 2009, and said Restated Certificate requires correction as permitted by Section 103 of the General Corporation Law of the State of Delaware.

3. The inaccuracy or defect of said Restated Certificate to be corrected is as follows:

Article IV, the initial paragraph and following clause (i) as is set forth below:

"The total number of shares of capital stock that the Corporation shall have authority to issue is Eighty Four Million Four Hundred Seventy Two Thousand Nine Hundred Twenty Two (84,472,922) shares, consisting of:

- (i) Forty Four Million Eight Hundred Thirty Eight Thousand Nine Hundred Sixty One (44,838,961) shares of Common Stock, par value \$0.001 per share ("Common Stock"); and"

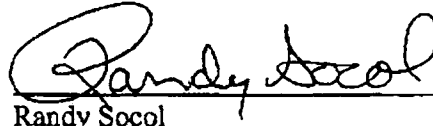
is corrected to read as follows:

"The total number of shares of capital stock that the Corporation shall have authority to issue is Eighty Four Million Five Hundred Forty Four Thousand Nine Hundred Twenty Two (84,544,922) shares, consisting of:

- (i) Forty Four Million Nine Hundred Ten Thousand Nine Hundred Sixty One (44,910,961) shares of Common Stock, par value \$0.001 per share ("Common Stock"); and"

[Signature Page Follows]

IN WITNESS WHEREOF, aTyr Pharma, Inc. has caused this Certificate of Correction to the Amended and Restated Certificate of Incorporation to be signed by its duly authorized officer this 29th day of June, 2009.

A handwritten signature in cursive script, reading "Randy Socol", written over a horizontal line.

Randy Socol
Secretary