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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

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**SCHEDULE 13D**

Under the Securities Exchange Act of 1934  
(Amendment No. 5)\*

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**Lexicon Pharmaceuticals, Inc.**

(Name of Issuer)

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Common Stock, par value \$0.001 per share  
(Title of Class of Securities)

528872104  
(CUSIP Number)

**Raymond Debbane**  
c/o The Invus Group, LLC  
750 Lexington Avenue  
30<sup>th</sup> Floor  
New York, New York 10022  
(212) 371-1717

*Copies to:*

**Robert Spatt, Esq.**  
**Peter Malloy, Esq.**  
**Simpson Thacher & Bartlett LLP**  
425 Lexington Avenue  
New York, New York 10017  
(212) 455-2000

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

**March 15, 2010**

(Date of Event which Requires Filing of this Statement)

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If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box.

**Note:** Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See §240.13d-7 for other parties to whom copies are to be sent.

\* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

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CUSIP No. 528872104

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).	
Raymond Debbane	
2. Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3. SEC Use Only	
4. Source of Funds (See Instructions)  OO	
5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)	
6. Citizenship or Place of Organization  Panama	
Number of Shares Beneficially Owned by Each Reporting Person With	7. Sole Voting Power  165,110,497
	8. Shared Voting Power  0
	9. Sole Dispositive Power  165,110,497
	10. Shared Dispositive Power  0
11. Aggregate Amount Beneficially Owned by Each Reporting Person  165,110,497	
12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	
13. Percent of Class Represented by Amount in Row (11)  48.9%*	
14. Type of Reporting Person (See Instructions)  IN	

\* Based on 337,404,194 shares of Issuer Common Stock outstanding as of March 19, 2010, as provided by the Issuer.

CUSIP No. 528872104

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).	
Ulys, L.L.C. I.R.S. Identification No. 83-0359139	
2. Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3. SEC Use Only	
4. Source of Funds (See Instructions)  OO	
5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)	
6. Citizenship or Place of Organization  Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With	7. Sole Voting Power  165,110,497
	8. Shared Voting Power  0
	9. Sole Dispositive Power  165,110,497
	10. Shared Dispositive Power  0
11. Aggregate Amount Beneficially Owned by Each Reporting Person  165,110,497	
12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	
13. Percent of Class Represented by Amount in Row (11)  48.9%*	
14. Type of Reporting Person (See Instructions)  OO	

\* Based on 337,404,194 shares of Issuer Common Stock outstanding as of March 19, 2010, as provided by the Issuer.

CUSIP No. 528872104

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).	
<p style="text-align: center;">Invus Advisors, L.L.C. I.R.S. Identification No. 83-0359142</p>	
2. Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3. SEC Use Only	
4. Source of Funds (See Instructions)  OO	
5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)	
6. Citizenship or Place of Organization  Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With	7. Sole Voting Power  131,436,780
	8. Shared Voting Power  3,891,108
	9. Sole Dispositive Power  131,436,780
	10. Shared Dispositive Power  0
11. Aggregate Amount Beneficially Owned by Each Reporting Person  135,327,888	
12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	
13. Percent of Class Represented by Amount in Row (11)  40.1%*	
14. Type of Reporting Person (See Instructions)  OO	

\* Based on 337,404,194 shares of Issuer Common Stock outstanding as of March 19, 2010, as provided by the Issuer.

CUSIP No. 528872104

1.	Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).	
	Invus, L.P. I.R.S. Identification No. 83-0359143	
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3.	SEC Use Only	
4.	Source of Funds (See Instructions)  OO	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)	
6.	Citizenship or Place of Organization  Bermuda	
Number of Shares Beneficially Owned by Each Reporting Person With	7.	Sole Voting Power  131,436,780
	8.	Shared Voting Power  3,891,108
	9.	Sole Dispositive Power  131,436,780
	10.	Shared Dispositive Power  0
11.	Aggregate Amount Beneficially Owned by Each Reporting Person  135,327,888	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	
13.	Percent of Class Represented by Amount in Row (11)  40.1%*	
14.	Type of Reporting Person (See Instructions)  PN	

\* Based on 337,404,194 shares of Issuer Common Stock outstanding as of March 19, 2010, as provided by the Issuer.

CUSIP No. 528872104

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).	
Invus Public Equities Advisors, LLC I.R.S. Identification No. 98-04220201	
2. Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3. SEC Use Only	
4. Source of Funds (See Instructions)  OO	
5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)	
6. Citizenship or Place of Organization  Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With	7. Sole Voting Power  0
	8. Shared Voting Power  3,891,108
	9. Sole Dispositive Power  3,891,108
	10. Shared Dispositive Power  0
11. Aggregate Amount Beneficially Owned by Each Reporting Person  3,891,108	
12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	
13. Percent of Class Represented by Amount in Row (11)  1.2%*	
14. Type of Reporting Person (See Instructions)  OO	

\* Based on 337,404,194 shares of Issuer Common Stock outstanding as of March 19, 2010, as provided by the Issuer.

CUSIP No. 528872104

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).	
<p style="text-align: center;">Invus Public Equities, L.P. I.R.S. Identification No. 98-0420215</p>	
2. Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3. SEC Use Only	
4. Source of Funds (See Instructions)  OO	
5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)	
6. Citizenship or Place of Organization  Bermuda	
Number of Shares Beneficially Owned by Each Reporting Person With	7. Sole Voting Power  0
	8. Shared Voting Power  3,891,108
	9. Sole Dispositive Power  3,891,108
	10. Shared Dispositive Power  0
11. Aggregate Amount Beneficially Owned by Each Reporting Person  3,891,108	
12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	
13. Percent of Class Represented by Amount in Row (11)  1.2%*	
14. Type of Reporting Person (See Instructions)  PN	

\* Based on 337,404,194 shares of Issuer Common Stock outstanding as of March 19, 2010, as provided by the Issuer.

CUSIP No. 528872104

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).	
<p style="text-align: center;">Invus C.V. I.R.S. Identification No. 98-0233351</p>	
2. Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3. SEC Use Only	
4. Source of Funds (See Instructions)  OO	
5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)	
6. Citizenship or Place of Organization  Netherlands	
Number of Shares Beneficially Owned by Each Reporting Person With	7. Sole Voting Power  29,782,609
	8. Shared Voting Power  0
	9. Sole Dispositive Power  29,782,609
	10. Shared Dispositive Power  0
11. Aggregate Amount Beneficially Owned by Each Reporting Person  29,782,609	
12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	
13. Percent of Class Represented by Amount in Row (11)  8.8%*	
14. Type of Reporting Person (See Instructions)  PN	

\* Based on 337,404,194 shares of Issuer Common Stock outstanding as of March 19, 2010, as provided by the Issuer.

This Amendment No. 5 hereby amends and supplements the statement of beneficial ownership on Schedule 13D, relating to the common stock, \$0.001 par value per share (the "Issuer Common Stock"), of Lexicon Pharmaceuticals, Inc., a Delaware corporation (the "Issuer" or "Lexicon"), initially filed on June 27, 2007, as amended by Amendment No. 1 thereto filed on August 24, 2007, Amendment No. 2 thereto filed on August 29, 2007, Amendment No. 3 thereto filed on October 8, 2009 and Amendment No. 4 thereto filed on October 15, 2009 (as so amended, the "Statement"). All capitalized terms not otherwise defined herein have the meaning assigned to them in the Statement.

## **Item 2. Identity and Background**

Item 2 of the Statement is hereby amended and supplemented by replacing the first and second paragraphs thereof with the following new paragraphs:

This statement is being filed jointly by Invus, L.P., a Bermuda limited partnership, Invus Advisors, L.L.C., a Delaware limited liability company, Invus Public Equities, L.P., a Bermuda limited partnership, Invus Public Equities Advisors, LLC, a Delaware limited liability company, Invus C.V., a Netherlands limited partnership, Ulys, L.L.C., a Delaware limited liability company, and Mr. Raymond Debbane, a citizen of Panama (collectively, the "Invus Parties"). The principal offices of Invus, L.P. and Invus Public Equities, L.P. are located at Clarendon House, 2 Church Street, Hamilton HM II, Bermuda. The principal office of Invus C.V. is located at Marten Meesweg 25, Rotterdam 3068 AV, Netherlands. The principal offices of Invus Advisors, L.L.C., Invus Public Equities Advisors, LLC and Ulys, L.L.C. are located at 750 Lexington Avenue, 30th Floor, New York, NY 10022. The business address for Mr. Raymond Debbane is c/o The Invus Group, LLC, 750 Lexington Avenue, 30th Floor, New York, NY 10022.

Invus, L.P., Invus Public Equities, L.P. and Invus C.V. are principally engaged in the business of investing in securities. Invus Advisors, L.L.C. and Invus Public Equities Advisors, LLC are principally engaged in the business of serving as the general partners of Invus, L.P. and Invus Public Equities, L.P., respectively. Ulys, L.L.C. is principally engaged in the business of serving as the managing member of each of Invus Advisors, L.L.C. and Invus Public Equities Advisors, LLC and as the general partner of Invus C.V. Mr. Raymond Debbane's principal occupation is the direction of the activities of Invus, L.P., Invus Public Equities, L.P. and Invus C.V. in his capacity as Chief Executive Officer and President of Invus Advisors, L.L.C., Chief Executive Officer and President of Invus Public Equities Advisors, LLC and sole member of Ulys, L.L.C., as applicable.

## **Item 3. Source and Amount of Funds or Other Consideration**

Item 3 of the Statement is hereby amended and supplemented by inserting the following new paragraphs immediately after the last paragraph thereof:

On March 19, 2010, Invus, L.P. purchased 59,296,749 shares of Issuer Common Stock for an aggregate amount of \$68,191,261.35, and Invus C.V. purchased 29,021,739 shares of Issuer Common Stock for an aggregate amount of \$33,374,999.85, each at a purchase price of \$1.15 per share. For the payment of the purchase price for such additional shares of Issuer Common Stock, Invus, L.P. used funds obtained from a capital call to its limited partners in respect of previously made commitments, and Invus C.V. used funds obtained from a financial commitment from an affiliate.

On March 19, 2010, Invus, L.P. purchased 5,190,848 shares of Issuer Common Stock for an aggregate amount of \$5,969,475.20, and Invus C.V. purchased 760,870 shares of Issuer Common Stock for an aggregate amount of \$875,000.50, each at a purchase price of \$1.15 per share. For the payment of the purchase price for such additional shares of Issuer Common Stock, Invus, L.P. used funds obtained from a capital call to its limited partners in respect of previously made commitments, and Invus C.V. used funds obtained from a financial commitment from an affiliate.

**Item 4. Purpose of Transaction**

Item 4 of the Statement is hereby amended and supplemented by inserting the following new paragraphs immediately after the tenth paragraph thereof:

On March 8, 2010, the Issuer announced an intention to conduct a public offering of Issuer Common Stock.

On March 15, 2010, Lexicon entered into an underwriting agreement with the underwriters named therein for the public offering, issuance and sale of 87,717,391 shares of Issuer Common Stock, plus an additional 8,804,348 shares of Issuer Common Stock to cover over-allotments, if any (the "2010 Issuer Public Offering").

On March 15, 2010, Invus, L.P., Invus C.V. and Lexicon entered into a Supplement to Transaction Agreements (the "Supplement to Transaction Agreements"), pursuant to which, among other things, Invus, L.P. and Lexicon agreed to amend certain provisions of the Securities Purchase Agreement and the Registration Rights Agreement, and Invus, L.P. granted its written consent to the 2010 Issuer Public Offering. The Supplement to Transaction Agreements is summarized in Item 6 below and is filed as an exhibit to the Statement. The Supplement to Transaction Agreements, and the description thereof included in Item 6 below, are incorporated by reference into this Item 4.

On March 15, 2010, Invus, L.P. and Lexicon entered into a Purchase Agreement (the "2010 Purchase Agreement"), pursuant to which, among other things, Invus, L.P. agreed to purchase, and Lexicon agreed to issue and sell, 59,296,749 shares of Issuer Common Stock, subject to the satisfaction of certain customary closing conditions. Such purchase represents the exercise by Invus, L.P. of its preemptive rights under the Stockholders' Agreement in connection with the 2010 Issuer Public Offering. This purchase closed on March 19, 2010. The 2010 Purchase Agreement, and the description thereof included in Item 6 below, are incorporated by reference into this Item 4.

On March 19, 2010, Lexicon completed the 2010 Issuer Public Offering by issuing and selling 96,521,739 shares of Issuer Common Stock, including 8,804,348 shares of Issuer Common Stock upon exercise of the underwriters' over-allotment option under the underwriting agreement relating to the 2010 Issuer Public Offering. Invus C.V. purchased 29,021,739 shares of Issuer Common Stock from the underwriters in the 2010 Issuer Public Offering at the public offering price of \$1.15 per share.

On March 19, 2010, Invus, L.P., Invus C.V. and Lexicon entered into a Purchase Agreement Supplement (the “2010 Purchase Agreement Supplement”), pursuant to which, among other things, Invus, L.P. and Invus C.V. agreed to purchase 5,190,848 and 760,870 additional shares of Issuer Common Stock, respectively, and Lexicon agreed to issue and sell such shares, at the public offering price of \$1.15 per share. Such purchases represent the exercise by Invus, L.P. of its preemptive rights under the Stockholders’ Agreement in connection with the underwriters’ exercise of their over-allotment option in the 2010 Issuer Public Offering. This purchase closed on March 19, 2010. The 2010 Purchase Agreement Supplement, and the description thereof included in Item 6 below, are incorporated by reference into this Item 4.

Item 4 of the Statement is hereby amended and supplemented by replacing the eighteenth paragraph thereof with the following new paragraph:

Under the Securities Purchase Agreement and the Stockholders’ Agreements, the acquisition of additional shares of Issuer Common Stock in certain types of transactions or the disposition of shares of Issuer Common Stock could have an effect on the rights of Invus, L.P. and Invus C.V. under these agreements, including, without limitation, the level of the representation of Invus, L.P. and Invus C.V. on the board of directors of the Issuer and the continuation of their rights and obligations under these agreements, as described in Item 6. As a result of their ongoing review and evaluation of the business of the Issuer, Invus, L.P. and Invus C.V. may, through their representatives on the board of directors of the Issuer and otherwise, continue to communicate with the board of directors, members of management and/or other stockholders of the Issuer from time to time with respect to operational, strategic, financial or governance matters or otherwise work with management and the board of directors of the Issuer to create stockholder value. Invus, L.P. and Invus C.V. may discuss transactions contemplated by the Securities Purchase Agreement and the Stockholders’ Agreement with Lexicon prior to exercising their rights under such agreements, which discussions may lead to the exercise or forbearance from exercise of such rights by Invus, L.P. and Invus C.V., and may alter the terms on which Invus, L.P. and Invus C.V. are willing to exercise such rights.

**Item 5. Interest in Securities of the Issuer**

Item 5 of the Statement is hereby amended and supplemented by replacing the first and second paragraphs of clause (a) thereof with the following new paragraphs:

As of March 19, 2010, Invus Public Equities, L.P. was the record and beneficial owner of 3,891,108 shares of Issuer Common Stock, representing approximately 1.2% of the outstanding shares of Issuer Common Stock. Invus Public Equities Advisors, LLC, as the general partner of Invus Public Equities, L.P., controls Invus Public Equities, L.P. and accordingly may be deemed to beneficially own the shares of Issuer Common Stock held by Invus Public Equities, L.P. Invus Public Equities Advisors, LLC disclaims such beneficial ownership, except to the extent of its pecuniary interest in such shares.

As of March 19, 2010, Invus, L.P. was the record owner of 131,436,780 shares of Issuer Common Stock and the beneficial owner of 135,327,888 shares of Issuer Common Stock, representing approximately 39.0% and approximately 40.1% of the outstanding shares of Issuer Common Stock, respectively.

As of March 19, 2010, Invus C.V. was the record owner of 29,782,609 shares of Issuer Common Stock and the beneficial owner of 29,782,609 shares of Issuer Common Stock, representing in each case approximately 8.8% of the outstanding shares of Issuer Common Stock, respectively.

Item 5 of the Statement is hereby amended and supplemented by replacing the fifth and sixth paragraphs of clause (a) thereof with the following new paragraphs:

Ulys, L.L.C., as the managing member of each of Invus Public Equities Advisors, LLC and Invus Advisors, L.L.C. and as the general partner of Invus C.V., controls each of these three entities and, accordingly, may be deemed to beneficially own the shares of Issuer Common Stock held by them. Ulys, L.L.C. disclaims such beneficial ownership, except to the extent of its pecuniary interest in such shares. As the sole member of Ulys, L.L.C., Mr. Raymond Debbane controls Ulys, L.L.C. and, accordingly, may be deemed to beneficially own the shares of Issuer Common Stock held by Ulys, L.L.C. Mr. Raymond Debbane disclaims such beneficial ownership, except to the extent of his pecuniary interest in such shares.

Except for Messrs. Amouyal, Debbane, Guimaraes and Sobecki, none of the individuals listed in Schedule I beneficially owns any shares of Issuer Common Stock. Each of Messrs. Amouyal and Debbane beneficially owns 35,000 shares of Issuer Common Stock issuable pursuant to options that are exercisable within 60 days of March 19, 2010. Mr. Guimaraes beneficially owns 5,000 shares of Issuer Common Stock. Mr. Sobecki beneficially owns 36,000 shares of Issuer Common Stock, including 35,000 shares of Issuer Common Stock issuable pursuant to options that are exercisable within 60 days of March 19, 2010. For each of Messrs. Amouyal, Debbane, Guimaraes and Sobecki, shares of Issuer Common Stock beneficially owned by them represent less than 1% of the number of outstanding shares of Issuer Common Stock.

**Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer**

Item 6 is hereby amended and supplemented by inserting the following immediately after the last paragraph thereof:

**i. Supplement to Transaction Agreements**

On March 15, 2010, Invus, L.P., Invus C.V. and Lexicon entered into the Supplement to Transaction Agreements, pursuant to which, among other things, Invus, L.P. and Lexicon agreed to amend certain provisions of, and assign certain rights under, the Securities Purchase Agreement, Stockholders' Agreement and Registration Rights Agreement. The following is a summary of selected provisions of the Supplement to Transaction Agreements. While the Invus Parties believe this description covers the material terms of the Supplement to Transaction Agreements, it is qualified in its entirety by reference to the Supplement to Transaction Agreements, a copy of which is included as Exhibit 12 to the Statement and is incorporated herein by reference.

***First Rights Offering Period***

The period during which Invus, L.P. may require Lexicon to conduct a First Rights Offering was extended to fifteen months (subject to further extension in certain circumstances). As a result, the latest possible date on which the period during which Invus, L.P. may require Lexicon to conduct a Second Rights Offering could terminate will now occur three months later than previously scheduled.

***Further Agreements***

In addition, pursuant to the Supplement to Transaction Agreements, the definition of "Holders" in the Registration Rights Agreement was amended to include Invus C.V. and any affiliate of Invus, L.P. that holds Issuer Common Stock.

None of the shares of Issuer Common Stock acquired by Invus, L.P. or Invus C.V., whether directly from the Issuer or from the underwriters in the 2010 Issuer Public Offering, will be Restricted Shares (as defined in the Stockholders' Agreement), and all such shares will be included for purposes of determining the Invus Parties' Percentage Limit (as defined in Section 4.01(a) of the Stockholders' Agreement). Invus C.V. will have the same rights and obligations as Invus, L.P. under the Securities Purchase Agreement and Stockholders' Agreement.

The maximum amount of shares that may be issued in each of the Rights Offerings will be reduced by the aggregate net proceeds to the Issuer from the sale of shares of Issuer Common Stock in the 2010 Issuer Public Offering and from the sale of shares directly to Invus, L.P. and Invus C.V. pursuant to their right to purchase a pro rata amount of the shares issued in such offering.

**j. 2010 Purchase Agreement**

On March 15, 2010, Invus, L.P. and Lexicon entered into the 2010 Purchase Agreement, pursuant to which, among other things, Invus, L.P. agreed to purchase 59,296,749 shares of Issuer Common Stock for an aggregate amount of \$68,191,261.35 at a purchase price of \$1.15 per share. Such purchase represents the exercise by Invus, L.P. of its preemptive rights under the Stockholders' Agreement in connection with the 2010 Issuer Public Offering. Under the 2010 Purchase Agreement, Lexicon made certain representations and warranties to Invus, L.P. and agreed to certain covenants. While the Invus Parties believe the above description covers the material terms of the 2010 Purchase Agreement, it is qualified in its entirety by reference to the 2010 Purchase Agreement, a copy of which is included as Exhibit 13 to the Statement and is incorporated herein by reference.

**k. 2010 Purchase Agreement Supplement**

On March 19, 2010, Invus, L.P., Invus C.V. and Lexicon entered into the 2010 Purchase Agreement Supplement pursuant to which, among other things, Invus, L.P. agreed to purchase 5,190,848 shares of Issuer Common Stock for an aggregate amount of \$5,969,475.20, and Invus C.V. agreed to purchase 760,870 shares of Issuer Common Stock for an aggregate amount of \$875,000.50, each at a purchase price of \$1.15 per share. Invus, L.P. assigned to Invus C.V. a portion of its right to purchase its pro rata amount of the over-allotment shares offered in the 2010 Issuer Public Offering at the offering price, and such purchases represent the exercise by Invus, L.P. of its preemptive rights under the Stockholders' Agreement in connection with the underwriters' exercise of their over-allotment option in the 2010 Issuer Public Offering. The 2010 Purchase Agreement Supplement supplements and is a part of the 2010 Purchase Agreement pursuant to which Lexicon made certain representations and warranties to Invus, L.P. and Invus C.V. and agreed to certain covenants. While the Invus Parties believe the above description covers the material terms of the 2010 Purchase Agreement Supplement, it is qualified in its entirety by reference to the 2010 Purchase Agreement Supplement, a copy of which is included as Exhibit 14 to the Statement and is incorporated herein by reference.

**Item 7. Material to be Filed as Exhibits**

Item 7 is hereby amended and supplemented by inserting the following at the end thereof:

11. Amended and Restated Joint Filing Agreement, dated as of March 19, 2010.
12. Supplement to Transaction Agreements, dated as of March 15, 2010.
13. Purchase Agreement, dated as of March 15, 2010.
14. Purchase Agreement Supplement, dated as of March 19, 2010.

**SIGNATURE**

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this Statement is true, complete and correct.

**INVUS, L.P.**

By: INVUS ADVISORS, L.L.C.,  
its general partner

By: /s/ RAYMOND DEBBANE  
Name: **Raymond Debbane**  
Title: **President**

**INVUS PUBLIC EQUITIES, L.P.**

By: INVUS PUBLIC EQUITIES ADVISORS, LLC,  
its general partner

By: /s/ RAYMOND DEBBANE  
Name: **Raymond Debbane**  
Title: **President**

**INVUS ADVISORS, L.L.C.**

By: /s/ RAYMOND DEBBANE  
Name: **Raymond Debbane**  
Title: **President**

**INVUS PUBLIC EQUITIES ADVISORS, LLC**

By: /s/ RAYMOND DEBBANE  
Name: **Raymond Debbane**  
Title: **President**

**INVUS C.V.**

By: ULYS, L.L.C., its general partner

By: /s/ RAYMOND DEBBANE  
Name: **Raymond Debbane**  
Title: **President**

**ULYS, L.L.C.**

By: /s/ RAYMOND DEBBANE

Name: **Raymond Debbane**

Title: **President**

**RAYMOND DEBBANE**

/s/ RAYMOND DEBBANE

Dated: March 19, 2010

**AMENDED AND RESTATED JOINT FILING AGREEMENT**

This Amended and Restated Joint Filing Agreement (this "Agreement") amends and restates the Joint Filing Agreement, dated June 27, 2007, by and among Invus, L.P., Invus Public Equities, L.P., Invus Advisors, L.L.C., Invus Public Equities Advisers, LLC, Ulys, L.L.C. and Raymond Debbane.

We, the signatories of this statement on Schedule 13D to which this Agreement is attached, hereby agree that such statement is, and any amendments thereto filed by any of us will be, filed on behalf of each of us and on behalf of any affiliate of Invus, L.P. that executes a joinder hereto.

**INVUS, L.P.**

By: INVUS ADVISORS, L.L.C., its general partner

By: /s/ Raymond Debbane  
Name: Raymond Debbane  
Title: President

**INVUS PUBLIC EQUITIES, L.P.**

By: INVUS PUBLIC EQUITIES ADVISORS, LLC, its  
general partner

By: /s/ Raymond Debbane  
Name: Raymond Debbane  
Title: President

**INVUS ADVISORS, L.L.C.**

By: /s/ Raymond Debbane  
Name: Raymond Debbane  
Title: President

**INVUS PUBLIC EQUITIES ADVISORS, LLC**

By: /s/ Raymond Debbane  
Name: Raymond Debbane  
Title: President

**INVUS C.V.**

By: ULYS, L.L.C., its general partner

By: /s/ Raymond Debbane  
Name: Raymond Debbane  
Title: President

**ULYS, L.L.C.**

By: /s/ Raymond Debbane  
Name: Raymond Debbane  
Title: President

**RAYMOND DEBBANE**

/s/ Raymond Debbane

Dated: March 19, 2010

**SUPPLEMENT TO  
TRANSACTION AGREEMENTS**

This Supplement to Transaction Agreements (this "Supplement") is entered into as of March 15, 2010 by and among Invus, L.P., a Bermuda limited partnership ("Invus, L.P."), Invus C.V., a Netherlands limited partnership ("Invus C.V.", and, together with Invus, L.P., the "Investors"), and Lexicon Pharmaceuticals, Inc., a Delaware corporation (the "Company"). Capitalized terms used but not otherwise defined herein shall have the meanings ascribed to them in the Securities Purchase Agreement (as defined below).

WITNESSETH:

WHEREAS, Invus, L.P. and the Company entered into the Securities Purchase Agreement, dated as of June 17, 2007, by and between Invus, L.P. and the Company (as amended, supplemented or otherwise modified, the "Securities Purchase Agreement"), the Stockholders' Agreement, dated as of June 17, 2007 (as amended, supplemented or otherwise modified, the "Stockholders' Agreement") and the Registration Rights Agreement, dated as of June 17, 2007 (as amended, supplemented or otherwise modified, the "Registration Rights Agreement", and, together with the Securities Purchase Agreement and the Stockholders' Agreement, the "Transaction Agreements");

WHEREAS, the Company desires to issue and sell shares of Company Common Stock in an underwritten offering registered under the Securities Act (the "Offering"), which Offering requires the consent of Invus, L.P. under the Securities Purchase Agreement; and

WHEREAS, in connection with the Offering, Invus, L.P. and the Company desire to amend the Transaction Agreements in certain respects, and assign certain rights under the Transaction Agreements to Invus C.V.

NOW, THEREFORE, intending to be legally bound hereby, the parties hereto hereby agree as follows:

**Section 1. Amendment to the Securities Purchase Agreement**

The first sentence of Section 3.01(a) of the Securities Purchase Agreement is hereby amended and restated in its entirety to read as follows:

Subject to Section 3.03(e), for a period of fifteen (15) months following the First Rights Offering Trigger Date, the Investor shall have the right, but not the obligation, exercisable by a written notice (the "First Rights Offering Notice") to the Company in accordance with Section 10.02, to require the Company to make a pro rata offering (the "First Rights Offering") to all holders of Company Common Stock (including the Investor and its affiliates) of non-transferable subscription rights (the "First Rights") entitling the holders thereof to purchase shares of Company Common Stock, on the terms set forth herein, (i) in an aggregate amount equal to the First Rights Offering Amount, and (ii) at a price per share (the "First Rights Offering Price") to be designated by the Investor at

any time on or after delivery of the First Rights Offering Notice and before the establishment of the record date for the distribution of the First Rights to the Company's stockholders (provided that the establishment of such record date shall not be prior to the time the First Rights Offering Registration Statement shall have been declared effective by the SEC) by written notice (the "First Rights Offering Pricing Notice") to the Company in accordance with Section 10.02; *provided* that the First Rights Offering Price shall be any price (A) at or above the lower of \$4.50 (as adjusted for any stock splits, reverse splits, stock dividends, combinations or similar transactions occurring after the date hereof and prior to the First Rights Offering) and the average of the volume weighted average trading prices of the Company Common Stock on the Nasdaq Stock Market for the ten (10) full trading days immediately prior to the date of the First Rights Offering Pricing Notice (the "First Rights Offering Market Price") and (B) at or below the higher of \$4.50 (as adjusted for any stock splits, reverse splits, stock dividends, combinations or similar transactions occurring after the date hereof and prior to the First Rights Offering) and the First Rights Offering Market Price.

**Section 2. Amendment to the Registration Rights Agreement**

(a) The definition of "Holders" in Section 1.01 of the Registration Rights Agreement is hereby amended and restated in its entirety to read as follows:

"Holders" means the Investor, Invus C.V., a Netherlands limited partnership, any Assigned Transferee and any affiliate of the Investor that holds Stock.

(b) The parties hereto hereby intend that the foregoing amendment will give Invus C.V. and any other person satisfying such definition the rights of Holders under the Registration Rights Agreement. Pursuant to Section 5.06 of the Registration Rights Agreement, Invus, L.P., as the Holder (as defined in the Registration Rights Agreement) of a majority of the outstanding shares of Registrable Securities (as defined in the Registration Rights Agreement), hereby consents to the above amendment to Section 1.01 of the Registration Rights Agreement, and the Company expressly acknowledges the receipt of such consent.

**Section 3. Consent to Further Amendments; Further Assurances**

The parties hereto hereby consent to such other amendments and changes to the Securities Purchase Agreement and Ancillary Agreements as necessary to give effect to the intent of this Supplement and shall execute and deliver or cause to be executed and delivered any additional documents, certificates, consents, waivers and instruments and perform any additional acts that may be reasonably necessary or appropriate to effectuate and perform the provisions of this Supplement and those transactions contemplated herein.

**Section 4. Assignments; Further Agreements**

(a) In connection with the Offering, the Company acknowledges that Invus C.V. will purchase 29,021,739 shares of Company Common Stock. Upon such purchase, Invus C.V. shall have the same rights and obligations as the Investor (as defined in the applicable agreement) under the Securities Purchase Agreement and Stockholders' Agreement.

(b) The parties hereto hereby agree that none of the shares of Company Common Stock acquired by the Investors, whether directly from the Company or from the underwriters in the Offering (including any shares in excess of Invus, L.P.'s Pro Rata Number (as defined in the Stockholders' Agreement) of the sum of (x) the shares to be offered in the Offering and (y) the shares to be purchased by the Investors directly from the Company), shall be Restricted Shares (as defined in the Stockholders' Agreement (any such shares, the "Pro Rata Excess Shares")), and all such shares shall be deemed to be acquired by the Investors as contemplated by the second sentence of Section 4.01(a) for purposes of determining the Investors' Percentage Limit (as defined in the Stockholders' Agreement) under the Stockholders' Agreement.

(c) The maximum amount of the First Rights Offering Amount and Second Rights Offering Amount shall each be reduced by the sum of the net proceeds to the Company of the sales of shares of Company Common Stock (x) in the Offering and (y) directly to the Investors.

(d) Invus, L.P. hereby represents and warrants to the Company that Invus C.V. is an affiliate (as defined in the Stockholders' Agreement) of Invus, L.P.

**Section 5. Consent to Waiver of Investor Election Period in Section 4.02(b) of the Stockholders' Agreement**

(a) With respect to the Offering (including any related over-allotment option), the Company and Invus, L.P. hereby waive any applicability to the Offering of the notice provisions contained in Section 4.02(b) of the Stockholders' Agreement and agree that notice will be delivered as follows: the Company shall deliver a Notice of Issuance specifying the price to public and number of shares to be sold to public in the Offering on the date the underwriting agreement is expected to be signed by the Company in connection with the Offering and, upon receipt of such notice by Invus, L.P., the Investors (i) shall exercise their rights under Section 4.02 with respect to the Offering by delivering notice of such exercise substantially concurrently with the signing by the Company of the underwriting agreement with respect thereto, and (ii) shall retain the right to make an election whether to exercise their rights under Section 4.02 with respect to any additional New Securities issued upon the exercise by the underwriters of their over-allotment option in connection with such Offering by delivering notice of such exercise as promptly as practicable following the Company's notice to Invus, L.P. of the underwriters' exercise of such option. For the avoidance of doubt, with respect to the Offering, Invus, L.P. waives its right to deliver notice of its intent to participate in the Offering ten (10) business days following receipt of the Notice of Issuance related thereto.

(b) Invus, L.P. and Invus C.V. expressly acknowledge and agree that the provisions of Section 4.02(b) of the Stockholders' Agreement relating to the free transferability of shares to be received in the Offering shall not affect their obligations under their "lock-up" agreements dated March 8, 2010 with the underwriters, which restrict the transferability of New Securities to be issued by the Company in connection with the Offering.

**Section 6. Effectiveness; Termination**

This Supplement shall become effective only upon delivery by Invus, L.P. to the Company, pursuant to Section 6.02(a) of the Securities Purchase Agreement, of Invus, L.P.'s written consent to the Offering substantially in the form of Exhibit A hereto (the "Offering Consent"). Notwithstanding any such delivery, in the event that the underwriting agreement relating to the Offering is not executed on or before March 26, 2010, (i) this Supplement shall terminate and cease to have any force or effect and (ii) the Offering Consent shall be of no force or effect.

**Section 7. Ratification and Confirmation**

The Transaction Agreements, as hereby amended, supplemented or otherwise modified, are hereby ratified and confirmed in all respects. This Supplement shall be interpreted and construed together with, and as a part of, each of the Transaction Agreements, as applicable. Any reference in any other document to any of the Transaction Agreements shall be deemed to refer to the applicable Transaction Agreement, as modified by this Supplement. The execution, delivery and effectiveness of this Supplement shall not constitute a modification or waiver of any provision of the Transaction Agreements except as expressly provided herein.

**Section 8. Governing Law**

This Supplement shall be governed by, and construed in accordance with, the laws of the State of New York. All actions and proceedings arising out of or relating to this Supplement shall be heard and determined exclusively in any New York state or federal court, in each case sitting in the Borough of Manhattan. The parties hereto hereby (a) submit to the exclusive jurisdiction of any New York state or federal court, in each case sitting in the Borough of Manhattan, for the purpose of any Action arising out of or relating to this Supplement brought by any party hereto, and (b) irrevocably waive, and agree not to assert by way of motion, defense, or otherwise, in any such Action, any claim that it is not subject personally to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution, that the Action is brought in an inconvenient forum, that the venue of the Action is improper, or that this Supplement may not be enforced in or by any of the above-named courts.

**Section 9. Counterparts**

This Supplement may be executed and delivered (including by facsimile transmission) in one or more counterparts, and by the different parties hereto in separate counterparts, each of which when executed and delivered shall be deemed to be an original but all of which taken together shall constitute one and the same agreement.

*[Signature Page Follows]*

IN WITNESS WHEREOF, the Investors and the Company have caused this Supplement to be executed as of the date first written above by their respective officers thereunto duly authorized.

**INVESTORS:**

INVUS, L.P.,  
a Bermuda limited partnership

By: Invus Advisors, L.L.C., its general partner

By: /s/ Raymond Debbane

Name: Raymond Debbane

Title: President

INVUS C.V.,  
a Netherlands limited partnership

By: Ulys, L.L.C., its general partner

By: /s/ Raymond Debbane

Name: Raymond Debbane

Title: President

**COMPANY:**

LEXICON PHARMACEUTICALS, INC.,  
a Delaware corporation

By: /s/ Arthur T. Sands

Name:

Title:

*[Signature Page to Supplement to Transaction Agreements]*

**NOTICE OF  
CONSENT TO OFFERING**

March \_\_, 2010

Invus, L.P.  
c/o The Invus Group, LLC  
750 Lexington Avenue (30<sup>th</sup> Floor)  
New York, New York 10022

Lexicon Pharmaceuticals, Inc.  
8800 Technology Forest Place  
The Woodlands, Texas 77381  
Attn: President and Chief Executive Officer

Ladies and Gentlemen:

Reference is made to that certain Securities Purchase Agreement, dated as of June 17, 2007 (as amended, supplemented or otherwise modified, the "Securities Purchase Agreement"), by and between Invus, L.P. and Lexicon Pharmaceuticals, Inc. (the "Company"), and to that certain Supplement to Transaction Agreements, dated as of March 15, 2010, by and among Invus, L.P., Invus C.V. and the Company. Capitalized terms used but not otherwise defined herein shall have the meanings ascribed to them in the Securities Purchase Agreement.

Pursuant to Section 6.02(a) of the Securities Purchase Agreement, Invus, L.P. hereby consents to an underwritten offering by the Company of Company Common Stock on the following terms:

Issuer: Lexicon Pharmaceuticals, Inc.

Offering: \_\_\_\_\_ shares of Company Common Stock (the "Firm Shares") and up to \_\_\_\_\_ additional shares to cover over-allotments by the underwriters in such offering as provided in the underwriting agreement to be executed in connection with such offering (the "Underwriting Agreement")

Size: \$ \_\_\_\_ at a \$ \_\_\_\_ per share purchase price to the public.

Timing: Pricing to occur on or before March 15, 2010 with closing within T+3 (subject to extension as provided in the Underwriting Agreement).

Sincerely,

INVUS, L.P.,  
a Bermuda limited partnership

By: Invus Advisors, L.L.C., its general partner

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

PURCHASE AGREEMENT

March 15, 2010

Invus, L.P.  
 c/o The Invus Group, LLC  
 750 Lexington Avenue (30<sup>th</sup> Floor)  
 New York, New York 10022

Lexicon Pharmaceuticals, Inc.  
 8800 Technology Forest Place  
 The Woodlands, Texas 77381  
 Attn: President and Chief Executive Officer

Ladies and Gentlemen:

Reference is made to (a) the Stockholders' Agreement, dated as of June 17, 2007 (as amended, supplemented or otherwise modified, the "Stockholders' Agreement"), by and between Invus, L.P. (the "Investor") and Lexicon Pharmaceuticals, Inc. (the "Company"), (b) the Supplement to Transaction Agreements, dated as of March 15, 2010 (the "Supplement"), amending and/or supplementing the Stockholders' Agreement, the Securities Purchase Agreement, dated as of June 17, 2007, by and between the Investor and the Company (as amended, supplemented or otherwise modified, the "Securities Purchase Agreement") and the Registration Rights Agreement, dated as of June 17, 2007, by and between the Investor and the Company, and (c) that certain Underwriting Agreement being entered into by the Company with the representatives of the underwriters concurrently with this Purchase Agreement (the "Underwriting Agreement") providing for the issuance by the Company to the underwriters of 87,717,391 shares of Company Common Stock (the "Firm Shares"), without giving effect to any exercise of the underwriters' over-allotment option, for sale in a public offering at a price to the public of \$1.15 per share (the "Price to Public"). Capitalized terms used but not otherwise defined herein shall have the meanings ascribed to them in the Stockholders' Agreement.

Pursuant to Section 4.02 of the Stockholders' Agreement and Section 5 of the Supplement, on the terms and subject to the conditions set forth herein, the Investor hereby agrees to purchase from the Company the number of shares specified below (collectively, the "Invus Shares") of Company Common Stock at a price per share equal to the Price to Public, for the total purchase price specified below:

Number of shares to be purchased by the Investor:	59,296,749 shares of Company Common Stock
Total Purchase Price:	\$68,191,261.35

The Company hereby represents and warrants to and agrees with the Investor to all the same representations and warranties contained in Section 1 and the covenants contained in

Section 6 (other than the last paragraph thereof) of the Underwriting Agreement mutatis mutandis to the same extent as if such representations and warranties and covenants were set forth herein for the benefit of the Investor instead of the underwriters party to the Underwriting Agreement (except that references to the Underwriting Agreement therein shall be references to this Agreement and references to the Shares thereunder shall be references to the Invus Shares). The obligation of the Investor to purchase the Invus Shares from the Company, and of the Company to sell the Invus Shares to the Investor, will be subject to (i) the satisfaction of the conditions set forth in Section 5 of the Underwriting Agreement (other than clauses (i) and (j) thereunder) and the concurrent closing of the sale of the Firm Shares under the terms set forth in the Underwriting Agreement, (ii) the delivery to the Investor of opinions of counsel to the Company by the same counsel as set forth in Sections 5(c), (d) and (e) of the Underwriting Agreement in the form and substance acceptable to the Investor and (iii) the delivery to the Investor of the officer's certificate contemplated by Section 5(b) of the Underwriting Agreement, and such obligations shall terminate in the event the Underwriting Agreement is terminated. The Company shall use its best efforts to cause the Invus Shares to be listed on the NASDAQ Global Market.

The Investor hereby represents and warrants to the Company that the Investor (i) is acquiring the Invus Shares for its own account solely for the purpose of investment and not with a view to, or for resale in connection with, any distribution of such Invus Shares or any interest therein, (ii) is an "accredited investor" as defined in Rule 501 of Regulation D promulgated under the Securities Act, a sophisticated investor and, by virtue of its business or financial experience, is capable of evaluating the merits and risks of the investment in the Invus Shares and (iii) has been provided an opportunity to ask questions of and receive answers from representatives of the Company concerning the terms and conditions of this Agreement and the purchase of the Invus Shares contemplated hereby.

The closing of the sale of the Invus Shares shall take place concurrently with the closing of the sale of the Firm Shares under the Underwriting Agreement, (i) with payment for the Invus Shares to be made to the Company by wire transfer of immediately available funds on the closing date and (ii) with delivery of the Invus Shares registered, as applicable, in the name of the Investor or its respective designees and free and clear of all liens (other than those under applicable law, the Stockholders Agreement and the "lock-up" agreement entered into between the Investor and the underwriters party to the Underwriting Agreement), with any transfer or stamp taxes duly paid, to the Investor.

This Agreement shall be deemed to satisfy the Company's obligations under the Stockholders' Agreement with respect to the delivery of a Notice of Issuance with respect to the Firm Shares and shall constitute the Investor's notice of exercise pursuant to Section 5(a)(i) of the Supplement.

This Agreement shall automatically terminate upon any termination of the Underwriting Agreement. The provisions of Sections 9.03 and 9.04 and Article X of the Securities Purchase Agreement are incorporated herein by reference and shall apply to this Agreement mutatis mutandis.

*[Signature Page Follows]*

Sincerely,

INVUS, L.P.,  
a Bermuda limited partnership

By: Invus Advisors, L.L.C., its general partner

By: /s/ Raymond Debbane

Name: Raymond Debbane

Title: President

Accepted and agreed to:

LEXICON PHARMACEUTICALS, INC.,  
a Delaware corporation

By: /s/ Arthur T. Sands

Name:

Title:

*[Signature Page to Purchase Agreement]*

PURCHASE AGREEMENT SUPPLEMENT

March 19, 2010

Invus, L.P.  
c/o The Invus Group, LLC  
750 Lexington Avenue (30<sup>th</sup> Floor)  
New York, New York 10022

Invus C.V.  
c/o The Invus Group, LLC  
750 Lexington Avenue (30<sup>th</sup> Floor)  
New York, New York 10022

Lexicon Pharmaceuticals, Inc.  
8800 Technology Forest Place  
The Woodlands, Texas 77381  
Attn: President and Chief Executive Officer

Re: Purchase Agreement Supplement

Ladies and Gentlemen:

Reference is made to the Purchase Agreement, dated as March 15, 2010 (the "Purchase Agreement"), by and between Invus, L.P. ("Invus, L.P.") and Lexicon Pharmaceuticals, Inc. (the "Company") and to the Supplement to Transaction Agreements (the "Supplement to Transaction Agreements"), dated as of March 15, 2010, by and among Invus, L.P., Invus C.V. ("Invus C.V."), and together with Invus, L.P., the "Investors") and the Company. Capitalized terms used but not otherwise defined herein shall have the meanings ascribed to them in the Purchase Agreement. The Company has informed the Investors that the underwriters under the Underwriting Agreement, dated as of March 15, 2010, by and between the Company and the several underwriters party thereto have exercised their over-allotment option thereunder to purchase an additional 8,804,348 shares of Company Common Stock.

In connection with the Offering (as defined in the Supplement to Transaction Agreements), Invus, L.P. hereby assigns to Invus C.V. its right under Section 4.02(a) of the Stockholders' Agreement to purchase that number of shares of Company Common Stock as set forth below.

Accordingly, the Investors hereby agree to purchase from the Company the number of additional shares of Company Common Stock specified below (the “Additional Invus Shares”) at a price per share equal to the Price to Public, for the total purchase price specified below:

Number of shares to be purchased by Invus, L.P.:	5,190,848 shares of Company Common Stock
Number of shares to be purchased by Invus C.V.:	760,870 shares of Company Common Stock
Total Purchase Price:	\$6,844,475.70

The issuance, purchase and delivery of the Additional Invus Shares is being made on the basis of the same representations and warranties and on the same terms and subject to the same conditions, and is considered a part of, the sale of the Invus Shares. The closing of the sale of the Additional Invus Shares shall take place at a time and place to be mutually agreed to by the parties.

This supplement to the Purchase Agreement shall be deemed to satisfy the Company’s obligations under the Stockholders’ Agreement with respect to the delivery of a Notice of Issuance with respect to the Additional Invus Shares.

This supplement shall automatically terminate upon any termination of the Purchase Agreement and shall be interpreted as a part of and in accordance with the Purchase Agreement.

*[Signature Pages Follow]*

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Sincerely,

INVUS, L.P.,  
a Bermuda limited partnership

By: Invus Advisors, L.L.C., its general partner

By: /s/ Raymond Debbane

Name: Raymond Debbane

Title: President

*[Signature Page to Purchase Agreement Supplement]*

INVUS C.V.,  
a Netherlands limited partnership

By: Ulys, L.L.C., its general partner

By:         /s/ Raymond Debbane        

Name: Raymond Debbane

Title: President

*[Signature Page to Purchase Agreement Supplement]*

Accepted and agreed to:

LEXICON PHARMACEUTICALS, INC.,  
a Delaware corporation

By: /s/ Arthur T. Sands  
Name: \_\_\_\_\_  
Title:

*[Signature Page to Purchase Agreement Supplement]*