

SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 13D  
Under the Securities Exchange Act of 1934

(Amendment No. 1)

Synta Pharmaceuticals Corp.  
(Name of Issuer)

Common Stock  
(Title of Class of Securities)

87162T206  
(CUSIP Number)

Mr. Scott B. Bernstein  
Caxton Corporation  
731 Alexander Road, Bldg. 2  
Princeton, New Jersey 08540  
(609) 419-1800  
(Name, Address and Telephone Number of Person Authorized to  
Receive Notices and Communications)

1/8/2010  
(Date of Event which Requires Filing of this Statement)

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 Section 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 Section 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).

- (1) Names of Reporting Persons.  
I.R.S. Identification Nos. of above persons (entities only).

CxSynta LLC  
02-0604347

- (2) Check the Appropriate Box if a Member of a Group (See Instructions) (a) | ☐ |  
(b) | ☒ |

- (3) SEC Use Only.

- (4) Source of Funds (See Instructions).  
WC

- (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:

7,761,716

(9) Sole Dispositive Power:

0

(10) Shared Dispositive Power:

7,761,716

(11) Aggregate Amount Beneficially Owned by Each Reporting Person.

7,761,716

(12) Check if the Aggregate Amount in Row (11) Excludes Certain Shares  
(see instructions). ☐

(13) Percent of Class Represented by Amount in Row (11).

19.6%

(14) Type of Reporting Person (See Instructions).

OO

(1) Names of Reporting Persons.

I.R.S. Identification Nos. of above persons (entities only).

Caxton Corporation

22-2437619

(2) Check the Appropriate Box if a Member of a Group (See Instructions) (a) ☐

(b) ☒

(3) SEC Use Only.

(4) Source of Funds (See Instructions).

AF

(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:

7,761,716

(9) Sole Dispositive Power:

0

(10) Shared Dispositive Power:

7,761,716

(11) Aggregate Amount Beneficially Owned by Each Reporting Person.

7,761,716

(12) Check if the Aggregate Amount in Row (11) Excludes Certain Shares  
(see instructions). ☐

(13) Percent of Class Represented by Amount in Row (11).

19.6%

(14) Type of Reporting Person (See Instructions).

CO

(1) Names of Reporting Persons.

I.R.S. Identification Nos. of above persons (entities only).

Kovner, Bruce

(2) Check the Appropriate Box if a Member of a Group (See Instructions) (a) ☐

- (3) SEC Use Only.
- (4) Source of Funds (See Instructions).  
AF, PF
- (5) Check if Disclosure of Legal Proceedings is Required Pursuant to Items  
2(d) or 2(e) | \_ |
- (6) Citizenship or Place of Organization  
United States

Number of Shares Beneficially Owned by Each Reporting Person With:

- (7) Sole Voting Power:  
1,563,610
- (8) Shared Voting Power:  
7,761,716
- (9) Sole Dispositive Power:  
1,563,610
- (10) Shared Dispositive Power:  
7,761,716
- (11) Aggregate Amount Beneficially Owned by Each Reporting Person.  
9,325,326
- (12) Check if the Aggregate Amount in Row (11) Excludes Certain Shares  
(see instructions). | \_ |
- (13) Percent of Class Represented by Amount in Row (11).  
23.6%
- (14) Type of Reporting Person (See Instructions).  
IN

Item 2. Identity and Background

Subparagraph (c) of Item 2 of the Schedule 13D is hereby amended and replaced by the following:

- (c)
- (i) The principal business of CxSynta is to serve primarily as an investment vehicle for investment in the securities of the Company.
- (ii) The principal business of Caxton Corporation is serving as general partner of Caxton Associates LP.
- (iii) The present principal occupation of Mr. Kovner is Chairman of Caxton Associates LP. The address of Caxton Associates LP, is 731 Alexander Road, Bldg. 2 Princeton, NJ 0854

Item 3. Source and Amount of Funds or Other Consideration

Item 3 is hereby amended by adding the following thereto:

Mr. Kovner has expended an aggregate of approximately \$11,611,932 (excluding commissions, if any) to acquire the 1,563,610 shares of Common Stock directly owned by him. The purchase price for the shares of Common Stock acquired by Mr. Kovner was paid out of Mr. Kovner's personal funds.

Item 5. Interest in Securities of the Issuer

Subparagraph (a), (b) and (c) of Item 5 of the Schedule 13D is hereby amended and replaced by the following:

- (a) (i) CxSynta beneficially owns 7,761,716 shares of Common Stock, representing approximately 19.6% of the 39,533,856

shares of Common Stock reported to be outstanding as of January 13, 2010, as reported in the Company's Prospectus filed with the Securities Exchange Commission on Form 424B5 on January 8, 2010 (the "Company's Prospectus"). The percentages used herein and in the rest of this Amendment No. 1 are calculated based upon such number of outstanding shares.

(ii) Caxton Corporation is the managing member of CxSynta and as such, has voting and dispositive power with respect to the shares beneficially owned by CxSynta. As a result, Caxton Corporation maybe deemed to beneficially own 7,761,716 shares of Common Stock, representing approximately 19.6% of the total shares of Common Stock issued and outstanding.

(iii) Mr. Kovner has sole beneficial ownership of 1,563,610 shares of Common Stock, which includes options to purchase 62,937 shares of Common Stock upon the exercise of such options. In addition, Mr. Kovner is the Chairman and sole shareholder of Caxton Corporation and as a result may be deemed to beneficially own the securities of the Company owned by CxSynta. Mr. Kovner disclaims beneficial ownership of the shares of Common Stock owned directly by CxSynta except to the extent of his pecuniary interest therein. As a result of the foregoing, Mr. Kovner may be deemed to beneficially own an aggregate of 9,325,326 shares of Common Stock, representing approximately 23.6% of the total shares of Common Stock issued and outstanding.

- (b) Caxton Corporation and Mr. Kovner may be deemed to share voting and dispositive power over the 7,761,716 shares of Common Stock owned directly by CxSynta. In addition, Mr. Kovner has sole voting and dispositive power with respect to the 1,563,610 shares of Common Stock which he directly beneficially owns.
- (c) On January 8, 2010, Mr. Kovner purchased 550,000 shares of Common Stock at a price of approximately \$4.50 per share from Lazard Capital Markets LLC, the underwriters for the Company's Offering of Common Stock (the "Company's Offering"). Such shares were purchased pursuant to the terms of the Company's Prospectus.

In addition, as referenced in Item 6 of this Amendment, Mr. Kovner received a grant of 5500 options to purchase shares of Common Stock of which 1,375 of these options vested on each of September 30, 2009 and December 31, 2009.

Except as reported in this statement on Schedule 13D, the Reporting Persons have not engaged in any other transactions in the Company's securities in the past sixty (60) days.

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

Item 6 is hereby amended by adding the following thereto:

In connection with the Company's Offering of Common Stock, CxSynta and Mr. Kovner subject to certain exceptions, have agreed with Lazard Capital Markets LLC not to dispose of or hedge any of shares of the Company's Common Stock or securities convertible into or exercisable or exchangeable for Common Stock for 90 days after the date of the Company's Prospectus without first obtaining the written consent of Lazard Capital Markets LLC.

In addition, in July 2009 in connection with his service as a Director of the Company, Mr. Kovner received a grant of 5500 options to purchase Common Stock at an exercise price of approximately \$2.38. The options expire on July 1, 2019 and 25% of the options vested on each of September 30, 2009 and December 31, 2009, and 25% will vest on each of March 31, 2010 and June 30, 2010 provided that Mr. Kovner continues to serve as a Director of the Company on such date.

Except as set forth above, there are no contracts, arrangements, understandings or relationships (legal or otherwise) among the persons filing this Report or the Listed Persons or between such persons and any other person with respect to any securities of the Company, including, but not limited to transfer or voting of any of the securities, finder's fees, joint ventures, loan or option arrangements, puts or calls,

guarantees of profits, division of profits or losses, or the giving or with-holding of proxies.

Item 7. Material to Be Filed as Exhibits

Item 7 is hereby amended and replaced with the following:

The following are filed as Exhibits to this statement on Schedule 13D:

Exhibit 1 - Form Lock-Up Agreement (The Form Lock-Up Agreement is filed as Exhibit 1 and is incorporated herein by reference to Exhibit A of Exhibit 1.1 to the Company's 8-K filed with the Securities and Exchange Commission on January 8, 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.

CxSynta LLC

Date: 1/12/2010 By Caxton Corporation, Managing Member  
of CxSynta LLC,  
by /s/ Scott B. Bernstein,  
Secretary of Caxton Corporation  
Caxton Corporation

Date: 1/12/2010 /s/ Scott B. Bernstein, Secretary of  
Caxton Corporation

Bruce S. Kovner  
Date: 1/12/2010 /s/ Scott B. Bernstein, Attorney-in-Fact

The original statement shall be signed by each person on whose behalf the statement is filed or his authorized representative. If the statement is signed on behalf of a person by his authorized representative (other than an executive officer or general partner of the filing person), evidence of the representative's authority to sign on behalf of such person shall be filed with the statement: provided, however, that a power of attorney for this purpose which is already on file with the Commission may be incorporated by reference. The name and any title of each person who signs the statement shall be typed or printed beneath his signature.

ATTENTION: Intentional misstatements or omissions of fact constitute Federal criminal violations (See 18 U.S.C. 1001).