

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D
Under the Securities Exchange Act of 1934

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)

6/8/07
(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).
23.0%

(14) Type of Reporting Person (See Instructions).
00

(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).
23.0%

(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) |
(b) |

(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:
956,756

(8) Shared Voting Power:
7,761,716

(9) Sole Dispositive Power:
956,756

(10) Shared Dispositive Power:
7,761,716

(11) Aggregate Amount Beneficially Owned by Each Reporting Person.
8,718,472

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

(13) Percent of Class Represented by Amount in Row (11).
25.8%

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

Item 1. Security and Issuer

This Schedule 13D relates to the Common Stock, par value \$.0001 per share (the "Common Stock"), of Synta Pharmaceuticals Corp. (the "Company"). The principal executive office of the Company is located at 45 Hartwell Avenue, Lexington, MA 02421.

Item 2. Identity and Background

(a) This statement is filed by CxSynta LLC, a Delaware Limited Liability Company ("CxSynta"), Caxton Corporation, a Delaware Corporation, and Mr. Bruce Kovner.

The persons listed on schedule B annexed hereto are the Executive Officers of CxSynta and the persons listed on Schedule C annexed

hereto are the Directors and Executive Officers of Caxton Corporation (together the "Listed Persons").

(b)

(i) The address of CxSynta is 731 Alexander Road, Bldg. 2 Princeton, NJ 08540

(ii) The address of Caxton Corporation is 731 Alexander Road, Bldg. 2 Princeton, NJ 08540

(iii) The business address of Mr. Kovner is 500 Park Avenue, New York, NY 10022.

(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 managing member of Caxton Associates, L.L.C.

(iii) The present principal occupation of Mr. Kovner is Chairman of Caxton Associates, L.L.C. The address of Caxton Associates, L.L.C., is 731 Alexander Road, Bldg. 2 Princeton, NJ 08540

(d) No person filing this statement and none of the Listed Persons (to the knowledge of the undersigned) has during the past five years, been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) No person filing this statement and none of the Listed Persons (to the knowledge of the undersigned) has during the last five years, been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such a proceeding was or is subject to a judgement, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to Federal or state securities laws or finding any violation with respect to such laws.

(f) Mr. Kovner is a United States citizen. Schedules B and c set forth the citizenship of each of the Listed Persons.

Item 3. Source and Amount of Funds or Other Consideration

CxSynta has expended an aggregate of approximately \$92,662,085 (excluding commissions, if any) to purchase the 7,761,716 shares of Common Stock directly owned by it. The purchase price for such acquired shares was paid out of CxSynta working capital.

Mr. Kovner has expended an aggregate of approximately \$8,947,882 (excluding commissions, if any) to acquire the 902,069 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 4. Purpose of Transaction.

CxSynta and Mr. Kovner each acquired shares of Common Stock of the Company for investment purposes. Based on a review the investment, each of the reporting persons may, in the open market or otherwise, acquire, cause to be acquired, dispose of, or cause to be disposed of Common Stock or other securities of the Company, or derivatives or other instruments related to the securities of the Company.

Mr. Kovner currently serves as a Director of the Company. In that

capacity, he participates in the ordinary course in Board of Directors' related activities and may participate in the management of the Company.

Except as set forth in this Schedule 13D, none of the reporting persons has any plans or proposals that relate to any of the matters referred to in paragraphs (a) through (j) of the instructions to Item 4 of Schedule 13D.

Item 5. Interest in Securities of the Issuer

- (a) (i) CxSynta beneficially owns 7,761,716 shares of Common Stock, representing approximately 23.0% of the total shares of Common Stock issued and outstanding.
- (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 23.0% of the total shares of Common Stock issued and outstanding.
- (iii) Mr. Kovner has sole beneficial ownership of 956,756 shares of Common Stock, which includes options to purchase 54,687 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. As a result of the foregoing, Mr. Kovner may be deemed to beneficially own an aggregate of 8,718,472 shares of Common Stock, representing approximately 25.8% 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 956,756 shares of Common Stock which he directly beneficially owns.
- (c) Schedule A annexed hereto sets forth certain information with respect to transactions by Mr. Kovner in the Common Stock of the Company during the past 60 days. All transaction set forth on Schedule were effected in the NASDAQ Global Market and other electronic trading platforms.

Besides Mr. Kovner, no other reporting person or Listed Person as listed in Schedules B and C has executed any transactions in the Common Stock of the Company during the past 60 days.

- (d) Except as described above, no person is known to have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the Common Stock.
- (e) Not applicable.

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

Pursuant to the Company's Director Compensation Policy, Mr. Kovner has a right to elect to receive compensation as a Director in the form of cash and or restricted stock. As disclosed in Item 5, Mr. Kovner has received in his capacity as a Director options to purchase 54,687 shares of Common Stock which are exercisable at a price of \$10.84 per share.

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

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

Exhibit 1 - Joint Acquisition Statement Pursuant To Rule 13d-1(k)(1)

Exhibit 2 - Company's Director Compensation Policy (The Company's Director Compensation Policy is filed as Exhibit 2 and is incorporated herein by reference to Exhibit 10.3 to the Company's Registration Statement on Form S-1 filed with the Securities and Exchange Commission on November 22, 2006).

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: 6/18/2007 By Caxton Corporation, Managing Member
of CxSynta LLC,
by /s/ Scott B. Bernstein,
Secretary of Caxton Corporation

Caxton Corporation

Date: 6/18/2007 /s/ Scott B. Bernstein, Secretary of
Caxton Corporation

Bruce S. Kovner

Date: 6/18/2007 /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).

Schedule A

No of Shares	Price Per Share	
Trade Date	Purchased (Sold)	(Excluding Commission)
6/8/2007	16,550	8.283
6/8/2007	19,317	8.303
6/11/2007	4,100	8.5639
6/11/2007	30,500	8.5833

Exhibit 1

JOINT ACQUISITION STATEMENT
PURSUANT TO RULE 13d-1(k) (1)

The undersigned acknowledge and agree that the foregoing statement on Schedule 13D is filed on behalf of each of the undersigned and that all subsequent amendments to this statement on Schedule 13D shall be filed on behalf of each of the undersigned without the necessity of filing additional joint acquisition statements. The undersigned acknowledge that each shall be responsible for the timely filing of such amendments, and for the completeness and accuracy of the information concerning him or it contained therein, but shall not be responsible for the completeness and accuracy of the information concerning the other, except to the extent that he or it knows or has reason to believe that such information is inaccurate.

CxSynta LLC

Date: 6/18/2007 By Caxton Corporation, Managing Member
of CxSynta LLC,
by /s/ Scott B. Bernstein,
Secretary of Caxton Corporation

Caxton Corporation

Date: 6/18/2007 Caxton Corporation
/s/ Scott B. Bernstein, Secretary of
Caxton Corporation

Bruce S. Kovner

Date: 6/18/2007 /s/ Scott B. Bernstein, Attorney-in-Fact

Schedule B

CxSynta LLC

Executive Officers - CxSynta LLC

Bruce Kovner, Chairman
500 Park Avenue
New York, NY 10022
Principal Occupation: Chairman, Caxton Associates, L.L.C.
Citizenship: United States

Peter P. D'Angelo, President
500 Park Avenue
New York, NY 10022
Principal Occupation: President, Caxton Associates, L.L.C.
Citizenship: United States

John G. Forbes, Jr., Treasurer
500 Park Avenue
New York, NY 10022
Principal Occupation: Chief Financial Officer, Caxton Associates, L.L.C.
Citizenship: United States

Scott B. Bernstein, Secretary
500 Park Avenue
New York, NY 10022
Principal Occupation: General Counsel and Secretary, Caxton Associates, L.L.C.
Citizenship: United States

Karen Cross, Controller

500 Park Avenue
New York, NY 10022
Principal Occupation: Controller, Caxton Associates, L.L.C.
Citizenship: United States

Schedule C

Caxton Corporation

Board of Directors

Bruce Kovner, Chairman
500 Park Avenue
New York, NY 10022
Principal Occupation: Chairman, Caxton Associates, L.L.C.
Citizenship: United States

Peter P. D'Angelo, President
500 Park Avenue
New York, NY 10022
Principal Occupation: President, Caxton Associates, L.L.C.
Citizenship: United States

Executive Officers - Caxton Corporation

Bruce Kovner, Chairman
500 Park Avenue
New York, NY 10022
Principal Occupation: Chairman, Caxton Associates, L.L.C.
Citizenship: United States

Peter P. D'Angelo, President
500 Park Avenue
New York, NY 10022
Principal Occupation: President, Caxton Associates, L.L.C.
Citizenship: United States

John G. Forbes, Jr., Senior Vice President and Chief Financial Officer
500 Park Avenue
New York, NY 10022
Principal Occupation: Chief Financial Officer, Caxton Associates, L.L.C.
Citizenship: United States

Scott B. Bernstein, Vice President, General Counsel and Secretary
500 Park Avenue
New York, NY 10022
Principal Occupation: General Counsel and Secretary, Caxton Associates, L.L.C.
Citizenship: United States

Karen Cross, Vice President and Controller
500 Park Avenue
New York, NY 10022
Principal Occupation: Controller, Caxton Associates, L.L.C.
Citizenship: United States