

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

OMB APPROVAL

OMB Number: 3235-0104
Expires: December 31, 2014
Estimated average burden hours per response 0.5

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* Bahcall Safi R <hr/> (Last) (First) (Middle) C/O SYNTA PHARMACEUTICALS CORP., 45 HARTWELL AVENUE <hr/> (Street) LEXINGTON MA 02421 <hr/> (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) 02/05/2007	3. Issuer Name and Ticker or Trading Symbol SYNTA PHARMACEUTICALS CORP [SNTA]	
		4. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) President and CEO	5. If Amendment, Date of Original Filed (Month/Day/Year) 6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security (Instr. 4)	2. Amount of Securities Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
Common Stock	2,245,525 ⁽¹⁾	D	
Common Stock	110,000 ⁽¹⁾	I	By trust ^{(2) (3)}

Table II - Derivative Securities Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of Shares ^M			
Employee Stock Option (Right to Buy)	(4)	02/15/2015	Common Stock	37,500 ⁽⁵⁾	\$ 14 ⁽⁵⁾	D	
Employee Stock Option (Right to Buy)	(6)	02/15/2016	Common Stock	50,000 ⁽⁵⁾	\$ 14 ⁽⁵⁾	D	

Explanation of Responses:

- Reflects a 1-for-4 reverse stock split effected on February 2, 2007 in connection with the Issuer's initial public offering, pursuant to which the number of shares of Common Stock was divided by 4.
- Of these shares, 15,000 are owned directly by the Safi R. Bahcall Irrevocable Trust and indirectly by the Reporting Person as the beneficiary of the trust; 24,250 are owned directly by the 2004 Neta Bahcall GRAT and indirectly by the Reporting Person as the trustee and a beneficiary of the trust; 40,750 are owned directly by the 2006 Neta Bahcall GRAT and indirectly by the Reporting Person as a beneficiary of the trust; 15,000 are owned directly by the Dan O. Bahcall Irrevocable Trust and indirectly by the Reporting Person as the brother of the beneficiary of the trust; and 15,000 are owned directly by the Orli G. Bahcall Irrevocable Trust and indirectly by the Reporting Person as the brother of the beneficiary of the trust.
- The Reporting Person disclaims beneficial ownership of these securities except to the extent of his pecuniary interest therein, if any, and the inclusion of these shares in this report shall not be deemed an admission of the beneficial ownership of all of the reported shares for purposes of Section 16 or for any other purpose.
- The option vested as to 25% of the shares on February 15, 2006 and as to an additional 6.25% of the shares on the last day of each calendar quarter thereafter.
- Reflects a 1-for-4 reverse stock split effected on February 2, 2007 in connection with the Issuer's initial public offering pursuant to which (i) the number of shares of Common Stock underlying the option was divided by 4 and (ii) the exercise price of the option was multiplied by 4.
- The option vests as to 25% of the shares on February 15, 2007 and as to an additional 6.25% of the shares on the last day of each calendar quarter thereafter.

/s/ Ann Margaret Eames, 02/05/2007
Attorney-in-Fact

** Signature of Reporting Date
Person

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 5(b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.

POWER OF ATTORNEY

Know all by these presents, that the undersigned hereby constitutes and appoints each of Safi R. Bahcall, Ph.D., the President and Chief Executive Officer of Synta Pharmaceuticals Corp. (the "Company"), Keith S. Ehrlich, the Vice President, Finance and Administration, Chief Financial Officer of the Company, and Wendy E. Rieder, the Vice President, Intellectual Property and Legal Affairs, General Counsel of the Company, and Brian Keane, Daniel T. Kajunski, and Ann Margaret Eames of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., signing singly, with full power of substitution, the undersigned's true and lawful attorney-in-fact to:

(1) execute for and on behalf of the undersigned, in the undersigned's capacity as an officer, director and/or 10% shareholder of the Company, forms and authentication documents for EDGAR Filing Access;

(2) do and perform any and all acts for and on behalf of the undersigned which may be necessary or desirable to complete and execute any such forms and authentication documents;

(3) execute for and on behalf of the undersigned, in the undersigned's capacity as an officer, director and/or 10% shareholder of the Company, Forms 3, 4 and 5 in accordance with Section 16(a) of the Securities Exchange Act of 1934 and the rules thereunder;

(4) do and perform any and all acts for and on behalf of the undersigned which may be necessary or desirable to complete and execute any such Form 3, 4 or 5 and timely file such form with the United States Securities and Exchange Commission and any stock exchange or similar authority; and

(5) take any other action of any type whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit to, in the best interests of, or legally required by the undersigned, it being understood that the documents executed by such attorney-in-fact on behalf of the undersigned pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The undersigned hereby grants to each such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary, or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The undersigned acknowledges that the foregoing attorneys-in-fact, in serving in such capacity at the request of the undersigned, are not

assuming, nor is the Company assuming, any of the undersigned's responsibilities to comply with Section 16 of the Securities Exchange Act of 1934, as amended.

This Power of Attorney shall remain in full force and effect until the undersigned is no longer required to file Forms 3, 4 and 5 with respect to the undersigned's holdings of and transactions in securities issued by the Company, unless earlier revoked by the undersigned in a signed writing delivered to the foregoing attorneys-in-fact.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 30th day of January 2007.

/s/ Safi Bahcall
Signature

Safi Bahcall
Print Name