

INFINITY PHARMACEUTICALS, INC.
 Form 4
 September 13, 2006

FORM 4 UNITED STATES SECURITIES AND EXCHANGE COMMISSION
 Washington, D.C. 20549

OMB APPROVAL

OMB Number: 3235-0287
 Expires: January 31, 2005
 Estimated average burden hours per response... 0.5

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN 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

(Print or Type Responses)

1. Name and Address of Reporting Person *
 TANANBAUM JAMES B

2. Issuer Name and Ticker or Trading Symbol
 INFINITY PHARMACEUTICALS, INC. [INFI]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)

3. Date of Earliest Transaction (Month/Day/Year)
 09/12/2006

Director 10% Owner
 Officer (give title below) Other (specify below)

C/O PROSPECT VENTURE PARTNERS, 435 TASSO STREET, SUITE 200

(Street)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)

Form filed by One Reporting Person
 Form filed by More than One Reporting Person

PALO ALTO, CA 94301

(City) (State) (Zip)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)			
			Code	V	Amount	(A) or (D)	Price			
Common Stock	09/12/2006		A		134,688 <u>(1)</u>	A	<u>(2)</u>	134,688 <u>(1)</u>	I	By Tananbaum Family Trust
Common Stock	09/12/2006		A		107,750 <u>(1)</u> <u>(3)</u>	A	<u>(4)</u>	107,750 <u>(1)</u>	I	By Prospect Venture Partners II, L.P.
Common Stock	09/12/2006		A		510,575 <u>(1)</u> <u>(3)</u>	A	<u>(5)</u>	510,575 <u>(1)</u>	I	By Prospect Venture Partners II,

Common Stock	09/12/2006	A	799,152 <u>(1)</u> <u>(3)</u>	A	<u>(6)</u>	799,152 <u>(1)</u>	I	L.P. By Prospect Venture Partners II, L.P.
--------------	------------	---	----------------------------------	---	------------	--------------------	---	--

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

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 control number.

SEC 1474
(9-02)

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

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)	7. Title and Amount of Underlying Securities (Instr. 3 and 4)	8. Amount or Number of Shares
				Code V	(A) (D)	Date Exercisable Expiration Date	Title	
Stock Option (right to buy)	\$ 15.04 <u>(1)</u>	09/12/2006		A	28,125 <u>(1)</u>	<u>(7)</u> 09/12/2016	Common Stock	28,125 <u>(1)</u>
Stock Option (right to buy)	\$ 15.04 <u>(1)</u>	09/12/2006		A	1,875 <u>(1)</u>	<u>(8)</u> 09/12/2016	Common Stock	1,875 <u>(1)</u>

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
TANANBAUM JAMES B C/O PROSPECT VENTURE PARTNERS 435 TASSO STREET, SUITE 200 PALO ALTO, CA 94301	X			

Signatures

/s/ James B.
Tananbaum

09/13/2006

**Signature of Reporting
Person

Date

Explanation of Responses:

* If the form is filed by more than one reporting person, *see* Instruction 4(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).

- (1) Reflects a 1-for-4 reverse stock split, which became effective on September 12, 2006.
- (2) Received in exchange for 609,375 shares of Infinity Discovery, Inc. ("IPI") common stock in connection with the merger of IPI into Infinity Pharmaceuticals, Inc. (the "Merger") based on a conversion ratio of 0.88411.
- (3) The reporting person is a managing member of the general partner of the partnership that owns the reported securities. The reporting person disclaims beneficial ownership of the reported securities except to the extent of his pecuniary interest therein.
- (4) Received in exchange for 487,500 shares of IPI common stock in connection with the Merger based on a conversion ratio of 0.88411.
- (5) Received in exchange for 2,600,000 shares of IPI Series A Preferred Stock in connection with the Merger based on a conversion ratio of 0.78550. The Series A Preferred Stock had no expiration date.
- (6) Received in exchange for 3,200,000 shares of IPI Series B Preferred Stock in connection with the Merger based on a conversion ratio of 0.99894. The Series B Preferred Stock had no expiration date.

(7) The option vests as to 9,375 of the shares on the first anniversary of the grant date, which grant date was September 12, 2006, and the remainder in quarterly installments of 2,343 shares beginning at the end of the first quarter thereafter, provided that the holder continues to serve as a director.

(8) The option vests in quarterly installments of 468 shares beginning at the end of the first quarter after the date of grant, which grant date was September 12, 2006, provided that the holder continues to serve as the chairman of the corporate governance committee of the board of directors.

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

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