

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

SCHEDULE 13D
(Rule 13d-101)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT
TO § 240.13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT TO
§ 240.13d-2(a)

(Amendment No. 1)¹

Infinity Pharmaceuticals, Inc.
(Name of Issuer)

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

45665G303
(CUSIP Number)

JAMES KRATKY
BVF PARTNERS L.P.
1 Sansome Street, 30th Floor
San Francisco, California 94104
(415) 525-8890

ADAM W. FINERMAN, ESQ.
OLSHAN FROME WOLOSKY LLP
1325 Avenue of the Americas
New York, New York 10019
(212) 451-2300
(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

June 19, 2018
(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 §§ 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.

¹ 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	NAME OF REPORTING PERSON BIOTECHNOLOGY VALUE FUND, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
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 7,432,656
	9	SOLE DISPOSITIVE POWER - 0 -
	10	SHARED DISPOSITIVE POWER 7,432,656
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 7,432,656	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 13.3%	
14	TYPE OF REPORTING PERSON PN	

1	NAME OF REPORTING PERSON BIOTECHNOLOGY VALUE FUND II, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
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 5,121,099
	9	SOLE DISPOSITIVE POWER - 0 -
	10	SHARED DISPOSITIVE POWER 5,121,099
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 5,121,099	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 9.1%	
14	TYPE OF REPORTING PERSON PN	

1	NAME OF REPORTING PERSON BIOTECHNOLOGY VALUE TRADING FUND OS LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION CAYMAN ISLANDS	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER - 0 -
	8	SHARED VOTING POWER 1,167,191
	9	SOLE DISPOSITIVE POWER - 0 -
	10	SHARED DISPOSITIVE POWER 1,167,191
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,167,191	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 2.1%	
14	TYPE OF REPORTING PERSON PN	

1	NAME OF REPORTING PERSON BVF PARTNERS OS LTD.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION CAYMAN ISLANDS	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER - 0 -
	8	SHARED VOTING POWER 1,167,191
	9	SOLE DISPOSITIVE POWER - 0 -
	10	SHARED DISPOSITIVE POWER 1,167,191
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,167,191	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 2.1%	
14	TYPE OF REPORTING PERSON CO	

1	NAME OF REPORTING PERSON BVF PARTNERS L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
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 15,232,268
	9	SOLE DISPOSITIVE POWER - 0 -
	10	SHARED DISPOSITIVE POWER 15,232,268
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 15,232,268	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 27.2%	
14	TYPE OF REPORTING PERSON PN, IA	

1	NAME OF REPORTING PERSON BVF INC.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
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 15,232,268
	9	SOLE DISPOSITIVE POWER - 0 -
	10	SHARED DISPOSITIVE POWER 15,232,268
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 15,232,268	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 27.2%	
14	TYPE OF REPORTING PERSON CO	

1	NAME OF REPORTING PERSON MARK N. LAMPERT	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION USA	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER - 0 -
	8	SHARED VOTING POWER 15,232,268
	9	SOLE DISPOSITIVE POWER - 0 -
	10	SHARED DISPOSITIVE POWER 15,232,268
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 15,232,268	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 27.2%	
14	TYPE OF REPORTING PERSON IN	

The following constitutes Amendment No. 1 to the Schedule 13D filed by the undersigned ("Amendment No. 1"). This Amendment No. 1 amends the Schedule 13D as specifically set forth herein.

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

Item 3 is hereby amended and restated to read as follows:

The Shares purchased by BVF, BVF2 and Trading Fund OS were purchased with working capital (which may, at any given time, include margin loans made by brokerage firms in the ordinary course of business) in open market purchases, except as otherwise noted. The aggregate purchase price of the 7,432,656 Shares beneficially owned by BVF is approximately \$11,174,235, including brokerage commissions. The aggregate purchase price of the 5,121,099 Shares beneficially owned by BVF2 is approximately \$7,753,346, including brokerage commissions. The aggregate purchase price of the 1,167,191 Shares beneficially owned by Trading Fund OS is approximately \$1,746,472, including brokerage commissions. The aggregate purchase price of the 1,511,322 Shares held in the Partners Managed Accounts is approximately \$2,042,024, including brokerage commissions.

Item 5. Interest in Securities of the Issuer.

Items 5(a) – (c) are hereby amended and restated to read as follows:

(a) The aggregate percentage of Shares reported owned by each person named herein is based on 56,069,632 Shares outstanding as of May 1, 2018, as disclosed in the Issuer's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 8, 2018.

As of the close of business on June 21, 2018, (i) BVF beneficially owned 7,432,656 Shares, representing percentage ownership of approximately 13.3% of the Shares outstanding, (ii) BVF2 beneficially owned 5,121,099 Shares, representing percentage ownership of approximately 9.1% of the Shares outstanding, (iii) Trading Fund OS beneficially owned 1,167,191 Shares, representing percentage ownership of approximately 2.1% of the Shares outstanding and (iv) 1,511,322 Shares were held in the Partners Managed Accounts, representing percentage ownership of approximately 2.7% of the Shares outstanding.

Partners OS as the general partner of Trading Fund OS, may be deemed to beneficially own the 1,167,191 Shares beneficially owned by Trading Fund OS, representing percentage ownership of approximately 2.1% of the Shares outstanding.

Partners, as the general partner of BVF and BVF2, the sole member of Partners OS, and the investment manager of Trading Fund OS and the Partners Managed Accounts, may be deemed to beneficially own the 15,232,268 Shares beneficially owned in the aggregate by BVF, BVF2, Trading Fund OS, and the Partners Managed Accounts, representing percentage ownership of approximately 27.2% of the Shares outstanding.

BVF Inc., as the general partner of Partners, may be deemed to beneficially own the 15,232,268 Shares beneficially owned by Partners, representing percentage ownership of approximately 27.2% of the Shares outstanding.

Mr. Lampert, as a director and officer of BVF Inc. may be deemed to beneficially own the 15,232,268 Shares beneficially owned by BVF Inc., representing percentage ownership of approximately 27.2% of the Shares outstanding.

(b) Each of BVF, BVF2, and Trading Fund OS, shares with Partners voting and dispositive power over the Shares each such entity beneficially owns. Trading Fund OS, shares with Partners OS, voting and dispositive power over the Shares beneficially owned by Trading Fund OS. Partners, BVF Inc. and Mr. Lampert share voting and dispositive power over the 15,232,268 Shares they may be deemed to beneficially own with BVF, BVF2, Trading Fund OS, Partners OS and the Partners Managed Accounts.

(c) Schedule A annexed hereto lists all transactions in securities of the Issuer during the past sixty days by the Reporting Persons. All of such transactions were effected in the open market, except as otherwise noted.

SIGNATURES

After reasonable inquiry and to the best of his knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

Dated: June 21, 2018

BIOTECHNOLOGY VALUE FUND, L.P.

By: BVF Partners L.P., its general partner
By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

BVF INC.

By: /s/ Mark N. Lampert
Mark N. Lampert
President

/s/ Mark N. Lampert
MARK N. LAMPERT

BIOTECHNOLOGY VALUE FUND II, L.P.

By: BVF Partners L.P., its general partner
By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

BVF PARTNERS L.P.

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

BVF PARTNERS OS LTD.

By: BVF Partners L.P., its sole member
By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

BIOTECHNOLOGY VALUE TRADING FUND OS LP

By: BVF Partners L.P., its investment manager
By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

SCHEDULE A**Transactions in the Securities of the Issuer During the Past Sixty Days**

<u>Class of Security</u>	<u>Securities Purchased / (Sold)</u>	<u>Price (\$)</u>	<u>Date of Purchase / Sale</u>
<u>BIOTECHNOLOGY VALUE FUND, L.P.</u>			
Common Stock	1,916,760	1.6500	06/19/2018
Common Stock	230,555	1.6500	06/21/2018
<u>BIOTECHNOLOGY VALUE FUND II, L.P.</u>			
Common Stock	1,419,907	1.6500	06/19/2018
Common Stock	158,151	1.6500	06/21/2018
<u>BIOTECHNOLOGY VALUE TRADING FUND OS LP</u>			
Common Stock	179,893	1.6500	06/19/2018
Common Stock	36,825	1.6500	06/21/2018
<u>BVF PARTNERS L.P.</u> <u>(Through the BVF Partners L.P. Managed Accounts)</u>			
Common Stock	13,669	1.6500	06/21/2018