

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

SCHEDULE 13G  
(Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT  
TO RULES 13d-1(b), (c), AND (d) AND AMENDMENTS THERETO FILED  
PURSUANT TO RULE 13d-2(b)

(Amendment No. 9)<sup>1</sup>

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Xenon Pharmaceuticals Inc.

(Name of Issuer)

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Common Shares, no par value per share

(Title of Class of Securities)

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98420N105

(CUSIP Number)

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June 16, 2020

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)  
 Rule 13d-1(c)  
 Rule 13d-1(d)

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<sup>1</sup> 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*).

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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	CITIZENSHIP OR PLACE OF ORGANIZATION  Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER  0 shares
	6	SHARED VOTING POWER  1,871,995 (1)
	7	SOLE DISPOSITIVE POWER  0 shares
	8	SHARED DISPOSITIVE POWER  1,871,995 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  1,871,995 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  5.4% (1)	
12	TYPE OF REPORTING PERSON  PN	

(1) Excludes 488,000 shares of Common Stock underlying certain shares of Series 1 Preferred (defined in Item 4) currently not convertible due to the Beneficial Ownership Limitation (defined in Item 4).

1	NAME OF REPORTING PERSON BVF I GP LLC	
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	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0 shares
	6	SHARED VOTING POWER 1,871,995 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 1,871,995 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,871,995 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 5.4% (1)	
12	TYPE OF REPORTING PERSON OO	

(1) Excludes 488,000 shares of Common Stock underlying certain shares of Series 1 Preferred currently not convertible due to the Beneficial Ownership Limitation.

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	CITIZENSHIP OR PLACE OF ORGANIZATION  Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER  0 shares
	6	SHARED VOTING POWER  1,367,750 (1)
	7	SOLE DISPOSITIVE POWER  0 shares
	8	SHARED DISPOSITIVE POWER  1,367,750 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  1,367,750 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  3.9% (1)	
12	TYPE OF REPORTING PERSON  PN	

(1) Excludes 383,000 shares of Common Stock underlying certain shares of Series 1 Preferred currently not convertible due to the Beneficial Ownership Limitation.

1	NAME OF REPORTING PERSON  BVF II GP LLC	
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	CITIZENSHIP OR PLACE OF ORGANIZATION  Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER  0 shares
	6	SHARED VOTING POWER  1,367,750 (1)
	7	SOLE DISPOSITIVE POWER  0 shares
	8	SHARED DISPOSITIVE POWER  1,367,750 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  1,367,750 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  3.9% (1)	
12	TYPE OF REPORTING PERSON  OO	

(1) Excludes 383,000 shares of Common Stock underlying certain shares of Series 1 Preferred currently not convertible due to the Beneficial Ownership Limitation.

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	CITIZENSHIP OR PLACE OF ORGANIZATION  Cayman Islands	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER  0 shares
	6	SHARED VOTING POWER  229,900 (1)
	7	SOLE DISPOSITIVE POWER  0 shares
	8	SHARED DISPOSITIVE POWER  229,900 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  229,900 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  Less than 1% (1)	
12	TYPE OF REPORTING PERSON  PN	

(1) Excludes 80,000 shares of Common Stock underlying certain shares of Series 1 Preferred currently not convertible due to the Beneficial Ownership Limitation.

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	CITIZENSHIP OR PLACE OF ORGANIZATION  Cayman Islands	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER  0 shares
	6	SHARED VOTING POWER  229,900 (1)
	7	SOLE DISPOSITIVE POWER  0 shares
	8	SHARED DISPOSITIVE POWER  229,900 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  229,900 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  Less than 1% (1)	
12	TYPE OF REPORTING PERSON  CO	

(1) Excludes 80,000 shares of Common Stock underlying certain shares of Series 1 Preferred currently not convertible due to the Beneficial Ownership Limitation.

1	NAME OF REPORTING PERSON  BVF GP HOLDINGS LLC	
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	CITIZENSHIP OR PLACE OF ORGANIZATION  Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER  0 shares
	6	SHARED VOTING POWER  3,239,745 (1)
	7	SOLE DISPOSITIVE POWER  0 shares
	8	SHARED DISPOSITIVE POWER  3,239,745 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  3,239,745 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  9.3% (1)	
12	TYPE OF REPORTING PERSON  OO	

(1) Excludes 871,000 shares of Common Stock underlying certain shares of Series 1 Preferred currently not convertible due to the Beneficial Ownership Limitation.



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	CITIZENSHIP OR PLACE OF ORGANIZATION  Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER  0 shares
	6	SHARED VOTING POWER  3,516,851 (1)
	7	SOLE DISPOSITIVE POWER  0 shares
	8	SHARED DISPOSITIVE POWER  3,516,851 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  3,516,851 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  10.1% (1)	
12	TYPE OF REPORTING PERSON  PN, IA	

(1) Excludes 1,016,000 shares of Common Stock underlying certain shares of Series 1 Preferred currently not convertible due to the Beneficial Ownership Limitation.

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	CITIZENSHIP OR PLACE OF ORGANIZATION  Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER  0 shares
	6	SHARED VOTING POWER  3,516,851 (1)
	7	SOLE DISPOSITIVE POWER  0 shares
	8	SHARED DISPOSITIVE POWER  3,516,851 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  3,516,851 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  10.1% (1)	
12	TYPE OF REPORTING PERSON  CO	

(1) Excludes 1,016,000 shares of Common Stock underlying certain shares of Series 1 Preferred currently not convertible due to the Beneficial Ownership Limitation.

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	CITIZENSHIP OR PLACE OF ORGANIZATION  United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER  0 shares
	6	SHARED VOTING POWER  3,516,851 (1)
	7	SOLE DISPOSITIVE POWER  0 shares
	8	SHARED DISPOSITIVE POWER  3,516,851 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  3,516,851 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  10.1% (1)	
12	TYPE OF REPORTING PERSON  IN	

(1) Excludes 1,016,000 shares of Common Stock underlying certain shares of Series 1 Preferred currently not convertible due to the Beneficial Ownership Limitation.

Item 1(a). Name of Issuer:

Xenon Pharmaceuticals Inc., incorporated in 1996 under the British Columbia Business Corporations Act and continued federally in 2000 under the Canada Business Corporation Act (the "Issuer").

Item 1(b). Address of Issuer's Principal Executive Offices:

200-3650 Gilmore Way  
Burnaby, British Columbia  
Canada V5G 4W8

Item 2(a). Name of Person Filing

Item 2(b). Address of Principal Business Office or, if None, Residence

Item 2(c). Citizenship

Biotechnology Value Fund, L.P. ("BVF")  
44 Montgomery St., 40th Floor  
San Francisco, California 94104  
Citizenship: Delaware

BVF I GP LLC ("BVF GP")  
44 Montgomery St., 40th Floor  
San Francisco, California 94104  
Citizenship: Delaware

Biotechnology Value Fund II, L.P. ("BVF2")  
44 Montgomery St., 40th Floor  
San Francisco, California 94104  
Citizenship: Delaware

BVF II GP LLC ("BVF2 GP")  
44 Montgomery St., 40th Floor  
San Francisco, California 94104  
Citizenship: Delaware

Biotechnology Value Trading Fund OS LP ("Trading Fund OS")  
PO Box 309 Uglan House  
Grand Cayman, KY1-1104  
Cayman Islands  
Citizenship: Cayman Islands

BVF Partners OS Ltd. ("Partners OS")  
PO Box 309 Uglan House  
Grand Cayman, KY1-1104  
Cayman Islands  
Citizenship: Cayman Islands

BVF GP Holdings LLC ("BVF GPH")  
44 Montgomery St., 40th Floor  
San Francisco, California 94104  
Citizenship: Delaware

BVF Partners L.P. ("Partners")  
44 Montgomery St., 40th Floor  
San Francisco, California 94104  
Citizenship: Delaware

BVF Inc.  
44 Montgomery St., 40th Floor  
San Francisco, California 94104  
Citizenship: Delaware

Mark N. Lampert (“Mr. Lampert”)  
44 Montgomery St., 40th Floor  
San Francisco, California 94104  
Citizenship: United States

Each of the foregoing is referred to as a “Reporting Person” and collectively as the “Reporting Persons.”

Item 2(d). Title of Class of Securities:

Common Shares, no par value per share (the “Common Stock”)

Item 2(e). CUSIP Number:

98420N105

Item 3. If This Statement is Filed Pursuant to Rule 13d-1(b), or 13d-2(b) or (c), Check Whether the Person Filing is a:

Item 3. If This Statement is Filed Pursuant to Rule 13d-1(b), or 13d-2(b) or (c), Check Whether the Person Filing is a:

- |     |                                     |  |
|-----|-------------------------------------|--|
|     | <input checked="" type="checkbox"/> | Not applicable.  |
| (a) | <input type="checkbox"/>            | Broker or dealer registered under Section 15 of the Exchange Act.  |
| (b) | <input type="checkbox"/>            | Bank as defined in Section 3(a)(6) of the Exchange Act.  |
| (c) | <input type="checkbox"/>            | Insurance company as defined in Section 3(a)(19) of the Exchange Act.  |
| (d) | <input type="checkbox"/>            | Investment company registered under Section 8 of the Investment Company Act.   |
| (e) | <input type="checkbox"/>            | An investment adviser in accordance with Rule 13d-1(b)(1)(ii)(E).  |
| (f) | <input type="checkbox"/>            | An employee benefit plan or endowment fund in accordance with Rule 13d-1(b)(1)(ii)(F).   |
| (g) | <input type="checkbox"/>            | A parent holding company or control person in accordance with Rule 13d-1(b)(1)(ii)(G).   |
| (h) | <input type="checkbox"/>            | A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act.   |
| (i) | <input type="checkbox"/>            | A church plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act.  |
| (j) | <input type="checkbox"/>            | Group, in accordance with Rule 13d-1(b)(1)(ii)(J).   |
| (k) | <input type="checkbox"/>            | Group, in accordance with Rule 240.13d-1(b)(1)(ii)(K). If filing as a non-U.S. institution in accordance with Rule 240.13d-1(b)(1)(ii)(J), please specify the type of institution: _____ |

## Item 4. Ownership

## (a) Amount beneficially owned:

The Reporting Persons hold 1,016,000 shares of Series 1 Preferred Shares, (the “Series 1 Preferred”) convertible for an aggregate of 1,016,000 shares of Common Stock. Each share of Series 1 Preferred is convertible into one share of Common Stock. The Series 1 Preferred may not be converted if, after such conversion, the Reporting Persons would beneficially own, as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, in excess of 9.99% of the number of shares of Common Stock then issued and outstanding (the “Beneficial Ownership Limitation”). As of the close of business on June 22, 2020, the Beneficial Ownership Limitation limits the aggregate conversion of Series 1 Preferred by the Reporting Persons to zero out of the 1,016,000 shares of Common Stock underlying the Series 1 Preferred owned by the Reporting Persons in the aggregate.

As of the close of business on June 22, 2020, (i) BVF beneficially owned 1,871,995 shares of Common Stock, excluding 488,000 shares of Common Stock issuable upon the conversion of Series 1 Preferred, (ii) BVF2 beneficially owned 1,367,750 shares of Common Stock, excluding 383,000 shares of Common Stock issuable upon the conversion of Series 1 Preferred, and (iii) Trading Fund OS beneficially owned 229,900 shares of Common Stock, excluding 80,000 shares of Common Stock issuable upon the conversion of Series 1 Preferred.

BVF GP, as the general partner of BVF, may be deemed to beneficially own the 1,871,995 shares of Common Stock beneficially owned by BVF.

BVF2 GP, as the general partner of BVF2, may be deemed to beneficially own the 1,367,750 shares of Common Stock beneficially owned by BVF2.

Partners OS, as the general partner of Trading Fund OS, may be deemed to beneficially own the 229,900 shares of Common Stock beneficially owned by Trading Fund OS.

BVF GPH, as the sole member of each of BVF GP and BVF2 GP, may be deemed to beneficially own the 3,239,745 shares of Common Stock beneficially owned in the aggregate by BVF and BVF2.

Partners, as the investment manager of BVF, BVF2 and Trading Fund OS, and the sole member of Partners OS, may be deemed to beneficially own the 3,516,851 shares of Common Stock beneficially owned in the aggregate by BVF, BVF2, Trading Fund OS, and a certain Partners managed account (the “Partners Managed Account”), including 47,206 shares of Common Stock held in the Partners Managed Account and excluding 65,000 shares of Common Stock issuable upon the conversion of Series 1 Preferred.

BVF Inc., as the general partner of Partners, may be deemed to beneficially own the 3,516,851 shares of Common Stock beneficially owned by Partners.

Mr. Lampert, as a director and officer of BVF Inc., may be deemed to beneficially own the 3,516,851 shares of Common Stock beneficially owned by BVF Inc.

The foregoing should not be construed in and of itself as an admission by any Reporting Person as to beneficial ownership of any shares of Common Stock owned by another Reporting Person. BVF GP disclaims beneficial ownership of the shares of Common Stock beneficially owned by BVF. BVF2 GP disclaims beneficial ownership of the shares of Common Stock beneficially owned by BVF2. Partners OS disclaims beneficial ownership of the shares of Common Stock beneficially owned by Trading Fund OS. BVF GPH disclaims beneficial ownership of the shares of Common Stock beneficially owned by BVF and BVF2. Each of Partners, BVF Inc. and Mr. Lampert disclaims beneficial ownership of the shares of Common Stock beneficially owned by BVF, BVF2, Trading Fund OS, and the Partners Managed Account, and the filing of this statement shall not be construed as an admission that any such person or entity is the beneficial owner of any such securities.

(b) Percent of class:

The following percentages are based on 34,974,119 shares of Common Stock outstanding as of May 18, 2020, as disclosed in the Issuer's Amended Quarterly Report on Form 10-Q/A filed with the Securities and Exchange Commission on May 26, 2020.

As of the close of business on June 22, 2020, (i) BVF beneficially owned approximately 5.4% of the outstanding shares of Common Stock, (ii) BVF2 beneficially owned approximately 3.9% of the outstanding shares of Common Stock, (iii) Trading Fund OS beneficially owned less than 1% of the outstanding shares of Common Stock, (iv) BVF GP may be deemed to beneficially own approximately 5.4% of the outstanding shares of Common Stock, (v) BVF2 GP may be deemed to beneficially own approximately 3.9% of the outstanding shares of Common Stock, (vi) Partners OS may be deemed to beneficially own less than 1% of the outstanding shares of Common Stock, (vii) BVF GPH may be deemed to beneficially own approximately 9.3% of the outstanding shares of Common Stock and (viii) each of Partners, BVF Inc. and Mr. Lampert may be deemed to beneficially own approximately 10.1% of the outstanding shares of Common Stock (less than 1% of the outstanding shares of Common Stock are held in the Partners Managed Account).

(c) Number of shares as to which such person has:

(i) Sole power to vote or to direct the vote

See Cover Pages Items 5-9.

(ii) Shared power to vote or to direct the vote

See Cover Pages Items 5-9.

(iii) Sole power to dispose or to direct the disposition of

See Cover Pages Items 5-9.

(iv) Shared power to dispose or to direct the disposition of

See Cover Pages Items 5-9.

Item 5. Ownership of Five Percent or Less of a Class.

Not Applicable.

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

BVF GP, BVF GPH, Partners, BVF Inc. and Mr. Lampert share voting and dispositive power over the shares of Common Stock beneficially owned by BVF. BVF GPH, Partners, BVF Inc. and Mr. Lampert share voting and dispositive power over the shares of Common Stock beneficially owned by BVF2. Partners, BVF Inc. and Mr. Lampert share voting and dispositive power over the shares of Common Stock beneficially owned by Trading Fund OS and the Partners Managed Accounts.

Item 7. Identification and Classification of the Subsidiary That Acquired the Security Being Reported on by the Parent Holding Company or Control Person.

Not Applicable.

Item 8. Identification and Classification of Members of the Group.

See Exhibit 99.1 to Amendment No. 8 to the Schedule 13G filed with the Securities and Exchange Commission on February 14, 2020.

Item 9. Notice of Dissolution of Group.

Not Applicable.

Item 10. Certifications.

By signing below each of the undersigned certifies that, to the best of its knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.



SIGNATURE

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 22, 2020

BIOTECHNOLOGY VALUE FUND, L.P.

By: BVF I GP LLC., its general partner

By: /s/ Mark N. Lampert  
Mark N. Lampert  
Chief Executive Officer

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 Lampert  
President

BVF I GP LLC

By: /s/ Mark N. Lampert  
Mark N. Lampert  
Chief Executive Officer

BVF GP HOLDINGS LLC

By: /s/ Mark N. Lampert  
Mark Lampert  
Chief Executive Officer

BIOTECHNOLOGY VALUE FUND II, L.P.

By: BVF II GP LLC, its general partner

By: /s/ Mark N. Lampert  
Mark N. Lampert  
Chief Executive Officer

BVF PARTNERS L.P.

By: BVF Inc., its general partner

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

BVF II GP LLC

By: /s/ Mark N. Lampert  
Mark N. Lampert  
Chief Executive Officer

BVF INC.

By: /s/ Mark N. Lampert  
Mark 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

/s/ Mark N. Lampert  
MARK N. LAMPERT