

ARQULE INC
Filed by
BIOTECHNOLOGY VALUE FUND L P

FORM SC 13G/A
(Amended Statement of Ownership)

Filed 10/16/17

Address	ONE WALL STREET BURLINGTON, MA, 01803
Telephone	781-994-0300
CIK	0001019695
Symbol	ARQL
SIC Code	2834 - Pharmaceutical Preparations
Industry	Biotechnology & Medical Research
Sector	Healthcare
Fiscal Year	12/31

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. 5)¹

ArQule, Inc.

(Name of Issuer)

Common Stock, par value \$0.01 per share

(Title of Class of Securities)

04269E107

(CUSIP Number)

October 11, 2017

(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)

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	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 8,820,763 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 8,820,763 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 8,820,763 (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) 10.0% (1)	
12	TYPE OF REPORTING PERSON PN	

(1) Includes 1,115,932 shares of Common Stock currently issuable upon the exercise of certain warrants. As of October 16, 2017, the warrant exercise limitation described in the next sentence limits the aggregate exercise of warrants by the Reporting Persons to 1,115,932 out of the 2,439,932 shares of Common Stock underlying the warrants owned by the Reporting Persons in the aggregate. The warrants may not be exercised if, after such exercise, the Reporting Persons would beneficially own in the aggregate, as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, more than 19.9% of the number of shares of Common Stock then issued and outstanding. In providing beneficial ownership described herein, the Reporting Persons have assumed 1,115,932 of the 1,201,053 warrants owned by BVF would be exercised. BVF2 holds warrants to purchase 823,231 additional shares which are excluded herein as a result of the 19.9% limitation. BVTOS holds warrants to purchase 199,687 additional shares which are excluded herein as a result of the 19.9% limitation. The Reporting Persons through certain managed accounts holds warrants to purchase 215,961 additional shares which are excluded herein as a result of the 19.9% limitation. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

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 5,124,370 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 5,124,370 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 5,124,370 (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) 5.8% (1)	
12	TYPE OF REPORTING PERSON PN	

(1) Excludes 823,231 shares of Common Stock not issuable upon the exercise of certain warrants due to the warrant exercise limitation. As of October 16, 2017, the warrant exercise limitation described in the next sentence limits the aggregate exercise of warrants by the Reporting Persons to 1,115,932 out of the 2,439,932 shares of Common Stock underlying the warrants owned by the Reporting Persons in the aggregate. The warrants may not be exercised if, after such exercise, the Reporting Persons would beneficially own in the aggregate, as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, more than 19.9% of the number of shares of Common Stock then issued and outstanding. In providing beneficial ownership described herein, the Reporting Persons have assumed 1,115,932 of the 1,201,053 warrants owned by BVF would be exercised. BVF2 holds warrants to purchase 823,231 additional shares which are excluded herein as a result of the 19.9% limitation. BVTOS holds warrants to purchase 199,687 additional shares which are excluded herein as a result of the 19.9% limitation. The Reporting Persons through certain managed accounts holds warrants to purchase 215,961 additional shares which are excluded herein as a result of the 19.9% limitation. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

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 1,378,980 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 1,378,980 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,378,980 (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) 1.6% (1)	
12	TYPE OF REPORTING PERSON PN	

(1) Excludes 199,687 shares of Common Stock not issuable upon the exercise of certain warrants due to the warrant exercise limitation. As of October 16, 2017, the warrant exercise limitation described in the next sentence limits the aggregate exercise of warrants by the Reporting Persons to 1,115,932 out of the 2,439,932 shares of Common Stock underlying the warrants owned by the Reporting Persons in the aggregate. The warrants may not be exercised if, after such exercise, the Reporting Persons would beneficially own in the aggregate, as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, more than 19.9% of the number of shares of Common Stock then issued and outstanding. In providing beneficial ownership described herein, the Reporting Persons have assumed 1,115,932 of the 1,201,053 warrants owned by BVF would be exercised. BVF2 holds warrants to purchase 823,231 additional shares which are excluded herein as a result of the 19.9% limitation. BVTOS holds warrants to purchase 199,687 additional shares which are excluded herein as a result of the 19.9% limitation. The Reporting Persons through certain managed accounts holds warrants to purchase 215,961 additional shares which are excluded herein as a result of the 19.9% limitation. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

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 1,378,980 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 1,378,980 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,378,980 (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) 1.6% (1)	
12	TYPE OF REPORTING PERSON CO	

(1) Excludes 199,687 shares of Common Stock not issuable upon the exercise of certain warrants due to the warrant exercise limitation. As of October 16, 2017, the warrant exercise limitation described in the next sentence limits the aggregate exercise of warrants by the Reporting Persons to 1,115,932 out of the 2,439,932 shares of Common Stock underlying the warrants owned by the Reporting Persons in the aggregate. The warrants may not be exercised if, after such exercise, the Reporting Persons would beneficially own in the aggregate, as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, more than 19.9% of the number of shares of Common Stock then issued and outstanding. In providing beneficial ownership described herein, the Reporting Persons have assumed 1,115,932 of the 1,201,053 warrants owned by BVF would be exercised. BVF2 holds warrants to purchase 823,231 additional shares which are excluded herein as a result of the 19.9% limitation. BVTOS holds warrants to purchase 199,687 additional shares which are excluded herein as a result of the 19.9% limitation. The Reporting Persons through certain managed accounts holds warrants to purchase 215,961 additional shares which are excluded herein as a result of the 19.9% limitation. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

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 17,553,114 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 17,553,114 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 17,553,114 (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) 19.9% (1)	
12	TYPE OF REPORTING PERSON PN, IA	

(1) Includes 1,115,932 shares of Common Stock currently issuable upon the exercise of certain warrants. Excludes 1,324,000 shares of Common Stock not issuable upon the exercise of certain warrants due to the warrant exercise limitation. As of October 16, 2017, the warrant exercise limitation described in the next sentence limits the aggregate exercise of warrants by the Reporting Persons to 1,115,932 out of the 2,439,932 shares of Common Stock underlying the warrants owned by the Reporting Persons in the aggregate. The warrants may not be exercised if, after such exercise, the Reporting Persons would beneficially own in the aggregate, as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, more than 19.9% of the number of shares of Common Stock then issued and outstanding. In providing beneficial ownership described herein, the Reporting Persons have assumed 1,115,932 of the 1,201,053 warrants owned by BVF would be exercised. BVF2 holds warrants to purchase 823,231 additional shares which are excluded herein as a result of the 19.9% limitation. BVTOS holds warrants to purchase 199,687 additional shares which are excluded herein as a result of the 19.9% limitation. The Reporting Persons through certain managed accounts holds warrants to purchase 215,961 additional shares which are excluded herein as a result of the 19.9% limitation. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

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 17,553,114 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 17,553,114 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 17,553,114 (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) 19.9% (1)	
12	TYPE OF REPORTING PERSON CO	

(1) Includes 1,115,932 shares of Common Stock currently issuable upon the exercise of certain warrants. Excludes 1,324,000 shares of Common Stock not issuable upon the exercise of certain warrants due to the warrant exercise limitation. As of October 16, 2017, the warrant exercise limitation described in the next sentence limits the aggregate exercise of warrants by the Reporting Persons to 1,115,932 out of the 2,439,932 shares of Common Stock underlying the warrants owned by the Reporting Persons in the aggregate. The warrants may not be exercised if, after such exercise, the Reporting Persons would beneficially own in the aggregate, as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, more than 19.9% of the number of shares of Common Stock then issued and outstanding. In providing beneficial ownership described herein, the Reporting Persons have assumed 1,115,932 of the 1,201,053 warrants owned by BVF would be exercised. BVF2 holds warrants to purchase 823,231 additional shares which are excluded herein as a result of the 19.9% limitation. BVTOS holds warrants to purchase 199,687 additional shares which are excluded herein as a result of the 19.9% limitation. The Reporting Persons through certain managed accounts holds warrants to purchase 215,961 additional shares which are excluded herein as a result of the 19.9% limitation. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

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 17,553,114 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 17,553,114 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 17,553,114 (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) 19.9% (1)	
12	TYPE OF REPORTING PERSON IN	

(1) Includes 1,115,932 shares of Common Stock currently issuable upon the exercise of certain warrants. Excludes 1,324,000 shares of Common Stock not issuable upon the exercise of certain warrants due to the warrant exercise limitation. As of October 16, 2017, the warrant exercise limitation described in the next sentence limits the aggregate exercise of warrants by the Reporting Persons to 1,115,932 out of the 2,439,932 shares of Common Stock underlying the warrants owned by the Reporting Persons in the aggregate. The warrants may not be exercised if, after such exercise, the Reporting Persons would beneficially own in the aggregate, as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, more than 19.9% of the number of shares of Common Stock then issued and outstanding. In providing beneficial ownership described herein, the Reporting Persons have assumed 1,115,932 of the 1,201,053 warrants owned by BVF would be exercised. BVF2 holds warrants to purchase 823,231 additional shares which are excluded herein as a result of the 19.9% limitation. BVTOS holds warrants to purchase 199,687 additional shares which are excluded herein as a result of the 19.9% limitation. The Reporting Persons through certain managed accounts holds warrants to purchase 215,961 additional shares which are excluded herein as a result of the 19.9% limitation. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

Item 1(a). Name of Issuer:

ArQule, Inc., a Delaware corporation (the "Issuer").

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

One Wall Street
Burlington, Massachusetts 01803

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")
1 Sansome Street, 30th Floor
San Francisco, California 94104
Citizenship: Delaware

Biotechnology Value Fund II, L.P. ("BVF2")
1 Sansome Street, 30th Floor
San Francisco, California 94104
Citizenship: Delaware

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

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

BVF Partners L.P. ("Partners")
1 Sansome Street, 30th Floor
San Francisco, California 94104
Citizenship: Delaware

BVF Inc.
1 Sansome Street, 30th Floor
San Francisco, California 94104
Citizenship: Delaware

Mark N. Lampert ("Mr. Lampert")
1 Sansome Street, 30th 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 Stock, par value \$0.01 per share (the "Common Stock")

Item 2(e). CUSIP Number:

04269E107

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:

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

Item 4. Ownership

(a) Amount beneficially owned:

On October 11, 2017, the Reporting Persons participated in a private placement (the "Private Placement") with the Issuer. Pursuant to the Private Placement, the Reporting Persons acquired in the aggregate 9,037,054 Shares of Common Stock and warrants (the "Warrants") exercisable for an aggregate of 2,439,932 Shares of Common Stock. Pursuant to the Private Placement, the Warrants are subject to an exercise limitation, and may not be exercised if, after such exercise, the Reporting Persons would beneficially own in the aggregate, as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, more than 19.9% of the number of shares of Common Stock then issued and outstanding. Such Warrants have an initial exercise price of \$1.75 per Share, subject to adjustment pursuant to the terms of the Warrants, and expire on October 11, 2021. As of October 16, 2017, the warrant exercise limitation described in the prior sentence limits the aggregate exercise of the Warrants by the Reporting Persons to 1,115,932 out of the 2,439,932 shares of Common Stock underlying the Warrants owned by the Reporting Persons in the aggregate. In providing beneficial ownership described herein, the Reporting Persons have assumed 1,115,932 of the 1,201,053 warrants owned by BVF would be exercised. BVF2 holds warrants to purchase 823,231 additional shares which are excluded herein as a result of the 19.9% limitation. BVTOS holds warrants to purchase 199,687 additional shares which are excluded herein as a result of the 19.9% limitation. The Reporting Persons through certain managed accounts holds warrants to purchase 215,961 additional shares which are excluded herein as a result of the 19.9% limitation.

As of October 16, 2017 (i) BVF beneficially owned 8,820,763 shares of Common Stock, including 1,115,932 shares of Common Stock issuable upon the exercise of certain Warrants, (ii) BVF2 beneficially owned 5,124,370 shares of Common Stock, and (iii) Trading Fund OS beneficially owned 1,378,980 shares of Common Stock.

Partners OS as the general partner of Trading Fund OS may be deemed to beneficially own the 1,378,980 shares of Common Stock beneficially owned by Trading Fund OS.

Partners, as the general partner of BVF, BVF2, the investment manager of Trading Fund OS, and the sole member of Partners OS, may be deemed to beneficially own the 17,553,114 shares of Common Stock beneficially owned in the aggregate by BVF, BVF2, Trading Fund OS, and certain Partners managed accounts (the "Partners Managed Accounts"), including 2,229,001 shares of Common Stock held in the Partners Managed Accounts.

BVF Inc., as the general partner of Partners, may be deemed to beneficially own the 17,553,114 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 17,553,114 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. Partners OS disclaims beneficial ownership of the shares of Common Stock beneficially owned by Trading Fund OS. 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 Accounts, 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 a denominator which is the sum of: (i) 71,171,551 shares of Common Stock outstanding as of July 20, 2017, as disclosed in the Issuer's Quarterly Report filed on Form 10-Q with the Securities and Exchange Commission on August 4, 2017, (ii) the 15,918,751 Shares of Common Stock issued by the Issuer pursuant to the Private Placement and (iii) certain of the 2,439,932 shares of Common Stock underlying certain Warrants, as applicable.

As of October 16, 2017 (i) BVF beneficially owned approximately 10.0% of the outstanding shares of Common Stock, including shares of Common Stock issuable upon the exercise of certain Warrants, (ii) BVF2 beneficially owned approximately 5.8% of the outstanding shares of Common Stock, including shares of Common Stock issuable upon the exercise of certain Warrants, (iii) Trading Fund OS beneficially owned approximately 1.6% of the outstanding shares of Common Stock, (iv) Partners OS may be deemed to beneficially own approximately 1.6% of the outstanding shares of Common Stock, and (v) each of Partners, BVF Inc. and Mr. Lampert may be deemed to beneficially own approximately 19.9% of the outstanding shares of Common Stock (approximately 2.5% of which is held in the Partners Managed Accounts).

- (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.

Partners, BVF Inc. and Mr. Lampert share voting and dispositive power over the shares of Common Stock beneficially owned by BVF, BVF2, 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. 3 to the Schedule 13G filed with the Securities and Exchange Commission on February 16, 2016.

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: October 16, 2017

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