

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. 8)<sup>1</sup>

CTI BioPharma Corp.  
(Name of Issuer)

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

12648L601  
(CUSIP Number)

JAMES KRATKY  
BVF PARTNERS L.P.  
44 Montgomery St., 40th Floor  
San Francisco, California 94104  
(415) 525-8800

(Name, Address and Telephone Number of Person  
Authorized to Receive Notices and Communications)

August 9, 2022  
(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.

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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	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  19,929,130 (1)
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  19,929,130 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  19,929,130 (1)	
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)  14.4% (1)	
14	TYPE OF REPORTING PERSON  PN	

(1) Includes 15,940,000 shares of Common Stock underlying 1,594 shares of Series X Preferred Stock convertible within 60 days hereof, subject to the Series X Beneficial Ownership Limitation (as defined below). Excludes 3,440,000 shares of Common Stock underlying 344 shares of Series X1 Preferred Stock, which may not be converted due to the Series X1 Beneficial Ownership Limitation (as defined below).

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	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 19,929,130 (1)
	9	SOLE DISPOSITIVE POWER - 0 -
	10	SHARED DISPOSITIVE POWER 19,929,130 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 19,929,130 (1)	
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) 14.4% (1)	
14	TYPE OF REPORTING PERSON OO	

(1) Includes 15,940,000 shares of Common Stock underlying 1,594 shares of Series X Preferred Stock convertible within 60 days hereof, subject to the Series X Beneficial Ownership Limitation (as defined below). Excludes 3,440,000 shares of Common Stock underlying 344 shares of Series X1 Preferred Stock, which may not be converted due to the Series X1 Beneficial Ownership Limitation (as defined below).

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  6,305,239 (1)
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  6,305,239 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  6,305,239 (1)	
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)  5.0% (1)	
14	TYPE OF REPORTING PERSON  PN	

(1) Includes 3,710,000 shares of Common Stock underlying 371 shares of Series X Preferred Stock convertible within 60 days hereof. Excludes 8,790,000 shares of Common Stock underlying 879 shares of Series X Preferred Stock, which may not be converted due to the Series X Beneficial Ownership Limitation, and 2,390,000 shares of Common Stock underlying 239 shares of Series X1 Preferred Stock, which may not be converted due to the Series X1 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	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  6,305,239 (1)
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  6,305,239 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  6,305,239 (1)	
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)  5.0% (1)	
14	TYPE OF REPORTING PERSON  OO	

(1) Includes 3,710,000 shares of Common Stock underlying 371 shares of Series X Preferred Stock convertible within 60 days hereof. Excludes 8,790,000 shares of Common Stock underlying 879 shares of Series X Preferred Stock, which may not be converted due to the Series X Beneficial Ownership Limitation, and 2,390,000 shares of Common Stock underlying 239 shares of Series X1 Preferred Stock, which may not be converted due to the Series X1 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	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  702,505 (1)
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  702,505 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  702,505 (1)	
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)  Less than 1% (1)	
14	TYPE OF REPORTING PERSON  PN	

(1) Excludes 1,910,000 shares of Common Stock underlying 191 shares of Series X Preferred Stock, which may not be converted due to the Series X Beneficial Ownership Limitation, and 170,000 shares of Common Stock underlying 17 shares of Series X1 Preferred Stock, which may not be converted due to the Series X1 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	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  702,505 (1)
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  702,505 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  702,505 (1)	
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)  Less than 1% (1)	
14	TYPE OF REPORTING PERSON  CO	

(1) Excludes 1,910,000 shares of Common Stock underlying 191 shares of Series X Preferred Stock, which may not be converted due to the Series X Beneficial Ownership Limitation, and 170,000 shares of Common Stock underlying 17 shares of Series X1 Preferred Stock, which may not be converted due to the Series X1 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	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  26,234,369 (1)
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  26,234,369 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  26,234,369 (1)	
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)  18.4% (1)	
14	TYPE OF REPORTING PERSON  OO	

(1) Includes 19,650,000 shares of Common Stock underlying 1,965 shares of Series X Preferred Stock convertible within 60 days hereof, subject to the Series X Beneficial Ownership Limitation. Excludes 8,790,000 shares of Common Stock underlying 879 shares of Series X Preferred Stock, which may not be converted due to the Series X Beneficial Ownership Limitation, and 5,830,000 shares of Common Stock underlying 583 shares of Series X1 Preferred Stock, which may not be converted due to the Series X1 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	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  28,463,021 (1)
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  28,463,021 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  28,463,021 (1)	
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)  19.99% (1)	
14	TYPE OF REPORTING PERSON  PN, IA	

(1) Includes 19,650,000 shares of Common Stock underlying 1,965 shares of Series X Preferred Stock convertible within 60 days hereof, subject to the Series X Beneficial Ownership Limitation. Excludes 10,820,000 shares of Common Stock underlying 1,082 shares of Series X Preferred Stock, which may not be converted due to the Series X Beneficial Ownership Limitation, and 6,000,000 shares of Common Stock underlying 600 shares of Series X1 Preferred Stock, which may not be converted due to the Series X1 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	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  28,463,021 (1)
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  28,463,021 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  28,463,021 (1)	
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)  19.99% (1)	
14	TYPE OF REPORTING PERSON  CO	

(1) Includes 19,650,000 shares of Common Stock underlying 1,965 shares of Series X Preferred Stock convertible within 60 days hereof, subject to the Series X Beneficial Ownership Limitation. Excludes 10,820,000 shares of Common Stock underlying 1,082 shares of Series X Preferred Stock, which may not be converted due to the Series X Beneficial Ownership Limitation, and 6,000,000 shares of Common Stock underlying 600 shares of Series X1 Preferred Stock, which may not be converted due to the Series X1 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	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  28,463,021 (1)
	9	SOLE DISPOSITIVE POWER  - 0 -
	10	SHARED DISPOSITIVE POWER  28,463,021 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  28,463,021 (1)	
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)  19.99% (1)	
14	TYPE OF REPORTING PERSON  IN	

(1) Includes 19,650,000 shares of Common Stock underlying 1,965 shares of Series X Preferred Stock convertible within 60 days hereof, subject to the Series X Beneficial Ownership Limitation. Excludes 10,820,000 shares of Common Stock underlying 1,082 shares of Series X Preferred Stock, which may not be converted due to the Series X Beneficial Ownership Limitation, and 6,000,000 shares of Common Stock underlying 600 shares of Series X1 Preferred Stock, which may not be converted due to the Series X1 Beneficial Ownership Limitation.

1	NAME OF REPORTING PERSON  MATTHEW D. PERRY	
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  OO	
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  353,139 (1)
	8	SHARED VOTING POWER  - 0 -
	9	SOLE DISPOSITIVE POWER  353,139 (1)
	10	SHARED DISPOSITIVE POWER  - 0 -
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  353,139 (1)	
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)  Less than 1% (1)	
14	TYPE OF REPORTING PERSON  IN	

(1) Includes 310,000 shares of Common Stock issuable upon the exercise of certain options that are currently exercisable, or may become exercisable within 60 days hereof. Excludes 80,000 shares of Common Stock underlying certain options that are not currently exercisable.

The following constitutes Amendment No. 8 to the Schedule 13D filed by the undersigned (“Amendment No. 8”). This Amendment No. 8 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 securities of the Issuer purchased by each of BVF, BVF2 and Trading Fund OS, and held in the Partners Managed Accounts, 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 3,989,130 shares of Common Stock beneficially owned by BVF is approximately \$27,042,769, including brokerage commissions. The aggregate purchase price of the 1,594 shares of Series X Preferred Stock beneficially owned by BVF is approximately \$15,940,000, including brokerage commissions. The aggregate purchase price of the 344 shares of Series X1 Preferred Stock beneficially owned by BVF is approximately \$8,600,000, including brokerage commissions.

The aggregate purchase price of the 2,595,239 shares of Common Stock beneficially owned by BVF2 is approximately \$16,323,884, including brokerage commissions. The aggregate purchase price of the 1,250 shares of Series X Preferred Stock beneficially owned by BVF2 is approximately \$12,500,000, including brokerage commissions. The aggregate purchase price of the 239 shares of Series X1 Preferred Stock beneficially owned by BVF2 is approximately \$5,975,000, including brokerage commissions.

The aggregate purchase price of the 702,505 shares of Common Stock beneficially owned by Trading Fund OS is approximately \$4,995,206, including brokerage commissions. The aggregate purchase price of the 191 shares of Series X Preferred Stock beneficially owned by Trading Fund OS is approximately \$1,910,000, including brokerage commissions. The aggregate purchase price of the 17 shares of Series X1 Preferred Stock beneficially owned by Trading Fund OS is approximately \$425,000, including brokerage commissions.

The aggregate purchase price of the 1,526,147 shares of Common Stock held in certain Partners managed accounts (the “Partners Managed Accounts”), which Partners may be deemed to beneficially own, is approximately \$14,881,764, including brokerage commissions. The aggregate purchase price of the 12 shares of Series X Preferred Stock held in the Partners Managed Accounts is approximately \$120,000, including brokerage commissions.

The securities of the Issuer beneficially owned by Mr. Perry were granted to him by the Issuer in his capacity as a director of the Issuer.

Item 4. Purpose of Transaction.

Item 4 is hereby amended to add the following:

On August 9, 2022, pursuant to the terms of the Series O Preferred Stock, the Reporting Persons delivered notices of conversion to the Issuer with respect to all shares of Series O Preferred Stock beneficially owned by the Reporting Persons (the “Series O Conversion”). In connection with the Series O Conversion, the Reporting Persons converted an aggregate of 12,575 shares of Series O Preferred Stock into an aggregate of 8,383,331 shares of Common Stock. Accordingly, the Reporting Persons no longer own any shares of Series O Preferred Stock.

Also on August 9, 2022, pursuant to the terms of each of the Series X Preferred Stock and the Series X1 Preferred Stock, the Reporting Persons delivered written notice to the Issuer raising each of the Series X Beneficial Ownership Limitation and the Series X1 Beneficial Ownership Limitation from 9.99% to 19.99%.

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 of Common Stock reported owned by each person named herein is based on a denominator that is the sum of: (i) 114,385,307 shares of Common Stock outstanding, as of August 1, 2022, as disclosed in the Issuer's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 8, 2022, (ii) certain or all of the 19,650,000 shares of Common Stock that would be issuable upon the conversion of certain shares of Series X Preferred Stock held by the Reporting Persons, as applicable, and (iii) 8,383,331 shares of Common Stock issued to the Reporting Persons in connection with the Series O Conversion.

As of the date hereof, the Reporting Persons hold an aggregate of 3,047 shares of Series X Preferred Stock, convertible into an aggregate of 30,470,000 shares of Common Stock. Each share of Series X Preferred Stock is convertible into 10,000 shares of Common Stock at the election of the holder; provided, however, the Series X Preferred Stock 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, as amended, more than 19.99% of the shares of Common Stock outstanding immediately after giving effect to such conversion (the "Series X Beneficial Ownership Limitation"). The Series X Beneficial Ownership Limitation limits the conversion of the Series X Preferred Stock to 1,965 out of 3,047 shares of Series X Preferred Stock.

As of the date hereof, the Reporting Persons hold an aggregate of 600 shares of Series X1 Preferred Stock, convertible into an aggregate of 6,000,000 shares of Common Stock. Each share of Series X1 Preferred Stock is convertible into 10,000 shares of Common Stock at the election of the holder; provided, however, the Series X1 Preferred Stock 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, as amended, more than 19.99% of the shares of Common Stock outstanding immediately after giving effect to such conversion (the "Series X1 Beneficial Ownership Limitation"). The Series X1 Beneficial Ownership Limitation limits the conversion of the Series X1 Preferred Stock to 0 out of 600 shares of Series X1 Preferred Stock.

As of the date hereof, (i) BVF beneficially owned 19,929,130 shares of Common Stock, including 15,940,000 shares of Common Stock issuable upon the conversion of 1,594 shares of Series X Preferred Stock and excluding 3,440,000 shares of Common Stock underlying 344 shares of Series X1 Preferred Stock, representing percentage ownership of approximately 14.4% of the shares of Common Stock outstanding, (ii) BVF2 beneficially owned 6,305,239 shares of Common Stock, including 3,710,000 shares of Common Stock issuable upon the conversion of 371 shares of Series X Preferred Stock and excluding 8,790,000 shares of Common Stock underlying 879 shares of Series X Preferred Stock and 2,390,000 shares of Common Stock underlying 239 shares of Series X1 Preferred Stock, representing percentage ownership of approximately 5.0% of the shares of Common Stock outstanding, (iii) Trading Fund OS beneficially owned 702,505 shares of Common Stock, excluding 1,910,000 shares of Common Stock underlying 191 shares of Series X Preferred Stock and 170,000 shares of Common Stock underlying 17 shares of Series X1 Preferred Stock, representing percentage ownership of less than 1% of the shares of Common Stock outstanding, and (iv) 1,526,147 shares of Common Stock were held in the Partners Managed Accounts, excluding 120,000 shares of Common Stock underlying 12 shares of Series X Preferred Stock, representing percentage ownership of approximately 1.2% of the shares of Common Stock outstanding.

BVF GP, as the general partner of BVF, may be deemed to beneficially own the 19,929,130 shares of Common Stock beneficially owned by BVF, representing percentage ownership of approximately 14.4% of the shares of Common Stock outstanding.

BVF2 GP, as the general partner of BVF2, may be deemed to beneficially own the 6,305,239 shares of Common Stock beneficially owned by BVF2, representing percentage ownership of approximately 5.0% of the shares of Common Stock outstanding.

Partners OS, as the general partner of Trading Fund OS, may be deemed to beneficially own the 702,505 shares of Common Stock beneficially owned by Trading Fund OS, representing percentage ownership of less than 1% of the shares of Common Stock outstanding.

BVF GPH, as the sole member of each of BVF GP and BVF2 GP, may be deemed to beneficially own the 26,234,369 shares of Common Stock beneficially owned in the aggregate by BVF and BVF2, representing percentage ownership of approximately 18.4% of the shares of Common Stock outstanding.

Partners, as the investment manager of BVF, BVF2, Trading Fund OS and the Partners Managed Accounts and the sole member of Partners OS, may be deemed to beneficially own the 28,463,021 shares of Common Stock beneficially owned in the aggregate by BVF, BVF2 and Trading Fund OS and held in the Partners Managed Accounts, representing percentage ownership of approximately 19.99% of the shares of Common Stock outstanding.

BVF Inc., as the general partner of Partners, may be deemed to beneficially own the 28,463,021 Shares beneficially owned by Partners, representing percentage ownership of approximately 19.99% of the Shares outstanding.

Mr. Lampert, as a director and officer of BVF Inc. may be deemed to beneficially own the 28,463,021 Shares beneficially owned by BVF Inc., representing percentage ownership of approximately 19.99% of the shares of Common Stock outstanding.

As of the date hereof, Mr. Perry directly owns 353,139 shares of Common Stock, including 310,000 shares of Common Stock issuable on the exercise of certain options that are currently or may become exercisable, within 60 days hereof, and excluding 80,000 shares of Common Stock underlying certain options which are not currently, and will not become within 60 days hereof, exercisable, representing percentage ownership of less than 1% of the shares of Common Stock outstanding.

The filing of this Schedule 13D shall not be deemed an admission that the Reporting Persons are, for purposes of Section 13(d) of the Exchange Act, the beneficial owners of any securities of the Issuer he or it does not directly own. Each of the Reporting Persons specifically disclaims beneficial ownership of the securities reported herein that he or it does not directly own.

(b) Each of BVF, BVF2 and Trading Fund OS shares with Partners voting and dispositive power over the shares of Common Stock each such entity beneficially owns. BVF shares with BVF GP voting and dispositive power over the shares of Common Stock beneficially owned by BVF. BVF2 shares with BVF2 GP voting and dispositive power over the shares of Common Stock beneficially owned by BVF2. Each of BVF GP and BVF2 GP shares with BVF GPH voting and dispositive power over the shares of Common Stock each such entity beneficially owns. Trading Fund OS shares with Partners OS voting and dispositive power over the shares of Common Stock beneficially owned by Trading Fund OS. Partners, BVF Inc. and Mr. Lampert share voting and dispositive power over the 28,463,021 shares of Common Stock they may be deemed to beneficially own with BVF, BVF GP, BVF2, BVF2 GP, Trading Fund OS, Partners OS, and BVF GPH and held in the Partners Managed Accounts.

(c) On August 9, 2022, each of BVF, BVF2, Trading Fund OS and Partners (on behalf of the Partners Managed Accounts) sold 3,850,803 shares of Common Stock, 2,890,723 shares of Common Stock, 469,040 shares of Common Stock, and 1,289,434 shares of Common Stock, respectively, on the open market for a price of \$6.1200 per share. In connection with the Series O Conversion (as defined and described in Item 4), (i) BVF received 3,754,000 shares of Common Stock underlying 5,631 shares of Series O Preferred Stock, (ii) BVF2 received 2,426,666 shares of Common Stock underlying 3,640 shares of Series O Preferred Stock, (iii) Trading Fund OS received 682,666 shares of Common Stock underlying 1,024 shares of Series O Preferred Stock, and (iv) Partners (on behalf of the Partners Managed Accounts) received 1,519,999 shares of Common Stock underlying 2,280 shares of Series O Preferred Stock. Other than as disclosed herein, there have been no transactions in the securities of the Issuer by the Reporting Persons during the past 60 days.

Item 6. Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer.

Item 6 is hereby amended to add the following:

On March 9, 2022, in connection with Mr. Perry's service on the Issuer's Board of Directors (the "Board"), he was granted options referencing 80,000 shares of Common Stock, which vests on the first to occur of (i) the date that is twelve months after the date of grant and (ii) immediately prior to the first annual meeting of the Issuer's stockholders in 2023 at which one or more members of the Board are to be elected, subject to the Mr. Perry's continued service through such date or event, and which expires on the 10 year anniversary of the date of grant.

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: August 11, 2022

BIOTECHNOLOGY VALUE FUND, L.P.

By: BVF I GP LLC., its general partner

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

BVF I GP LLC

By: /s/ Mark N. Lampert  
Mark N. 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 II GP LLC

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

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

BVF GP HOLDINGS LLC

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 INC.

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

/s/ Mark N. Lampert  
MARK N. LAMPERT

/s/ Matthew D. Perry  
MATTHEW D. PERRY