| FIVE PRIME THERAPEUTICS IN | 1(|
|----------------------------|----|
| Form SC 13G | |
| September 04, 2018 | |
| 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.)¹

Five Prime Therapeutics, Inc. (Name of Issuer)

Common stock, par value \$0.001 per share (Title of Class of Securities)

33830X104 (CUSIP Number)

August 24, 2018 (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 I | REPORTING |
|------------------------|--|---|
| 2 | Fund, L. CHECK TH APPROPRI BOX IF A MEMBER (| E ATE (a) |
| | GROUP | (b) |
| 3 | SEC USE O | NLY |
| 4 | CITIZENSH OF ORGAN | HIP OR PLACE NIZATION |
| | Delawar | e |
| NUMBER OF | 5 | SOLE VOTING POWER |
| SHARES BENEFICIALLY | • | 0 shares |
| OWNED BY | 6 | SHARED VOTING POWER |
| EACH REPORTING | | 1,035,025 |
| PERSON WITH | 7 | SOLE DISPOSITIVE POWER |
| | 8 | 0 shares SHARED DISPOSITIVE POWER |
| 9 | BENEFICIA | 1,035,025 TE AMOUNT ALLY OWNED REPORTING |
| 10 | 1,035,02 CHECK BC THE AGGR AMOUNT 1 | X IF REGATE |

(9) EXCLUDES CERTAIN SHARES

PERCENT OF CLASS 11 REPRESENTED BY AMOUNT IN ROW (9)

2.9%

12 TYPE OF REPORTING PERSON

PN

CUSIP NO. 33830X104

| 1 | NAME OF I PERSON | REPORTING |
|------------------------|--|---|
| | Biotechn Fund II, CHECK TH APPROPRI | E |
| 2 | BOX IF A MEMBER O GROUP | (a) |
| | | (b) |
| 3 | SEC USE O | NLY |
| 4 | CITIZENSH OF ORGAN | IIP OR PLACE IIZATION |
| | Delaware | 2 |
| NUMBER OF | 5 | SOLE VOTING POWER |
| SHARES BENEFICIALLY | 7 | 0 shares |
| OWNED BY | 6 | SHARED VOTING POWER |
| EACH REPORTING | | 773,196 |
| PERSON WITH | 7 | SOLE DISPOSITIVE POWER |
| | 8 | 0 shares SHARED DISPOSITIVE POWER |
| 9 | BENEFICIA | 773,196 TE AMOUNT ALLY OWNED REPORTING |
| 10 | 773,196 CHECK BO THE AGGR AMOUNT I (9) EXCLU | EGATE N ROW |

CERTAIN SHARES

PERCENT OF CLASS 11 REPRESENTED BY AMOUNT IN ROW (9)

2.2%

12 TYPE OF REPORTING PERSON

PN

| 1 | NAME OF DERSON | REPORTING |
|------------------------|---|---|
| | Trading CHECK TH | |
| 2 | APPROPRI BOX IF A MEMBER O GROUP | (a) |
| | | (b) |
| 3 | SEC USE O | NLY |
| 4 | CITIZENSI OF ORGAN | HIP OR PLACE |
| | Cayman | |
| NUMBER OF | 5 | SOLE VOTING POWER |
| SHARES BENEFICIALLY | 7 | 0 shares |
| OWNED BY | 6 | SHARED VOTING POWER |
| EACH REPORTING | | 154,225 |
| PERSON WITH | 7 | SOLE DISPOSITIVE POWER |
| | 8 | 0 shares SHARED DISPOSITIVE POWER |
| 9 | BENEFICIA | 154,225 TE AMOUNT ALLY OWNED REPORTING |
| 10 | 154,225 CHECK BC THE AGGR | |

AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES

PERCENT OF CLASS 11 REPRESENTED BY AMOUNT IN ROW (9)

> Less than 1% TYPE OF REPORTING PERSON

> > PN

4

| 1 | NAME OF I PERSON | REPORTING |
|------------------------|--|---|
| 2 | BVF Par CHECK TH APPROPRI BOX IF A MEMBER O GROUP | ATE (a) |
| | | (b) |
| 3 | SEC USE O | NLY |
| 4 | CITIZENSH OF ORGAN | IIP OR PLACE IIZATION |
| | Cayman | |
| NUMBER OF | 5 | SOLE VOTING POWER |
| SHARES BENEFICIALLY | 7 | 0 shares |
| OWNED BY | 6 | SHARED VOTING POWER |
| EACH REPORTING | | 154,225 SOLE |
| PERSON WITH | 7 | DISPOSITIVE POWER |
| | 8 | 0 shares SHARED DISPOSITIVE POWER |
| 9 | BENEFICIA | 154,225 TE AMOUNT ALLY OWNED REPORTING |
| 10 | 154,225 CHECK BO THE AGGR AMOUNT I | EGATE |

(9) EXCLUDES CERTAIN SHARES

PERCENT OF CLASS
REPRESENTED BY
AMOUNT IN ROW (9)

Less than 1%
TYPE OF REPORTING

12 PERSON

CO

CUSIP NO. 33830X104

| 1 | NAME OF I | REPORTING |
|--------------|--|---|
| 2 | BVF Par CHECK TH APPROPRI BOX IF A MEMBER O GROUP | ATE (a) |
| 3 | SEC USE O | NLY |
| 4 | CITIZENSH OF ORGAN | HIP OR PLACE NIZATION |
| | Delawar | e |
| NUMBER OF | 5 | SOLE VOTING POWER |
| SHARES | | |
| BENEFICIALLY | 7 | 0 shares |
| OWNED DV | | SHARED |
| OWNED BY | 6 | VOTING POWER |
| EACH | | FOWER |
| REPORTING | | 2,155,324 |
| PERSON WITH | 7 | SOLE DISPOSITIVE POWER |
| | 8 | 0 shares SHARED DISPOSITIVE POWER |
| 9 | BENEFICIA | 2,155,324 TE AMOUNT ALLY OWNED REPORTING |
| 10 | 2,155,32 CHECK BC THE AGGR AMOUNT I (9) EXCLU | OX IF REGATE IN ROW |

CERTAIN SHARES

PERCENT OF CLASS 11 REPRESENTED BY AMOUNT IN ROW (9)

6.1%

12 TYPE OF REPORTING PERSON

PN, IA

CUSIP NO. 33830X104

| 1 | NAME OF REPORTING PERSON | | |
|------------------------|--|---|--|
| 2 | BVF Inc CHECK TH APPROPRI BOX IF A MEMBER O GROUP | E ATE (a) DF A | |
| | | (b) | |
| 3 | SEC USE O | NLY | |
| 4 | CITIZENSH OF ORGAN | IIP OR PLACE IIZATION | |
| | Delaware | e | |
| NUMBER OF | 5 | SOLE VOTING POWER | |
| SHARES BENEFICIALLY | 7 | 0 shares | |
| OWNED BY | 6 | SHARED VOTING POWER | |
| EACH REPORTING | | 2,155,324 | |
| PERSON WITH | 7 | SOLE DISPOSITIVE POWER | |
| | 8 | 0 shares SHARED DISPOSITIVE POWER | |
| 9 | BENEFICIA | 2,155,324 TE AMOUNT ALLY OWNED REPORTING | |
| 10 | 2,155,32 CHECK BO THE AGGR AMOUNT I (9) EXCLU | X IF EGATE N ROW | |

CERTAIN SHARES

PERCENT OF CLASS 11 REPRESENTED BY AMOUNT IN ROW (9)

6.1%

12 TYPE OF REPORTING PERSON

CO

| 1 | NAME OF REPORTING PERSON | | |
|------------------------|---|---|--|
| 2 | Mark N. CHECK TH APPROPRI BOX IF A MEMBER O GROUP | ATE (a) OF A | |
| | | (b) | |
| 3 | SEC USE O | NLY | |
| 4 | CITIZENSH OF ORGAN | IIP OR PLACE IIZATION | |
| | United S | tates | |
| NUMBER OF | 5 | SOLE VOTING POWER | |
| SHARES BENEFICIALLY | 7 | 0 shares | |
| OWNED BY | 6 | SHARED VOTING POWER | |
| EACH REPORTING | | 2,155,324 | |
| PERSON WITH | 7 | SOLE DISPOSITIVE POWER | |
| | 8 | 0 shares SHARED DISPOSITIVE POWER | |
| 9 | BENEFICIA | 2,155,324 TE AMOUNT ALLY OWNED REPORTING | |
| 10 | 2,155,324 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES | | |

CERTAIN SHARES

PERCENT OF CLASS 11 REPRESENTED BY AMOUNT IN ROW (9)

6.1%

12 TYPE OF REPORTING PERSON

IN

| CI | ICI | ID | NI | \cap | 22 | 883 | $\Lambda \mathbf{v}$ | 10 | 1 |
|----|-----|-----|----|--------|----|-----|----------------------|------|----|
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Item 1(a). Name of Issuer:

Five Prime Therapeutics, Inc., a Delaware corporation (the "Issuer").

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

111 Oyster Point Boulevard

South San Francisco, California 94080

Biotechnology Value Fund, L.P. ("BVF")

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

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") |
| 44 Montgomery St., 40 th Floor |
| San Francisco, California 94104 |
| Citizenship: Delaware |
| |
| BVF Inc. |
| 44 Montgomery St., 40 th Floor |
| San Francisco, California 94104 |
| Citizenship: Delaware |
| |
| Mark N. Lampert ("Mr. Lampert") |
| 44 Montgomery St., 40 th 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." |
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CUSIP NO. 33830X104

| | Item 2(d). | Title of Class of Securities: |
|---------|--|---|
| Comm | non stock, par value \$0.001 per share (the "Shares"). | |
| | Item 2(e). | CUSIP Number: |
| 33830 | X104 | |
| 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 Ex | change Act. |
| (b)// | Bank as defined in Section 3(a)(6) of the Exchange A | et. |
| (c)// | Insurance company as defined in Section 3(a)(19) of t | he 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 acco | rdance with Rule 13d-1(b)(1)(ii)(F). |
| (g)// | A parent holding company or control person in accord | lance with Rule 13d-1(b)(1)(ii)(G). |
| (h)// | A savings association as defined in Section 3(b) of the | e Federal Deposit Insurance Act. |
| (i) // | A church plan that is excluded from the definition of a Investment Company Act. | an investment company under Section 3(c)(14) of the |
| (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 Rule 240.13d-1(b)(1)(ii)(J), please specify the type of | (). If filing as a non-U.S. institution in accordance with institution: |

CUSIP NO. 33830X104

| Item 4. | Ownership |
|---------|----------------------------|
| | A |
| (a) | Amount beneficially owned: |

As of the close of business on September 4, 2018 (i) BVF beneficially owned 1,035,025 Shares, (ii) BVF2 beneficially owned 773,196 Shares, and (iii) Trading Fund OS beneficially owned 154,225 Shares.

Partners OS, as the general partner of Trading Fund OS, may be deemed to beneficially own the 154,225 Shares beneficially owned by Trading Fund OS.

CUSIP NO. 33830X104

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 2,155,324 Shares beneficially owned in the aggregate by BVF, BVF2, Trading Fund OS, and certain Partners managed accounts (the "Partners Managed Accounts"), including 192,878 Shares held in the Partners Managed Accounts.

BVF Inc., as the general partner of Partners, may be deemed to beneficially own the 2,155,324 Shares beneficially owned by Partners.

Mr. Lampert, as a director and officer of BVF Inc., may be deemed to beneficially own the 2,155,324 Shares 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 owned by another Reporting Person. Partners OS disclaims beneficial ownership of the Shares beneficially owned by Trading Fund OS. Each of Partners, BVF Inc. and Mr. Lampert disclaims beneficial ownership of the Shares 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 35,579,111 Shares outstanding, as of August 1, 2018, as disclosed in the Issuer's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 8, 2018.

As of the close of business on September 4, 2018 (i) BVF beneficially owned approximately 2.9% of the outstanding Shares, (ii) BVF2 beneficially owned approximately 2.2% of the outstanding Shares, (iii) Trading Fund OS beneficially owned less than 1% of the outstanding Shares (iv) Partners OS may be deemed to beneficially own less than 1% of the outstanding Shares, and (v) each of Partners, BVF Inc. and Mr. Lampert may be deemed to beneficially own approximately 6.1% of the outstanding Shares (less than 1% of the outstanding Shares are 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. | | |
| 12 | | |

CUSIP NO. 33830X104

| | Item 5. | Ownership of Five Percent or Less of a Class. |
|------------------|--|--|
| Not Applicable. | | |
| Iter | m 6. Own | ership of More than Five Percent on Behalf of Another Person. |
| | _ | are voting and dispositive power over the Shares beneficially owned by BVF, ers Managed Accounts. |
| | ion and Classification of Company or Control Per | of the Subsidiary That Acquired the Security Being Reported on by the Parent rson. |
| Not Applicable. | | |
| | Item 8. | Identification and Classification of Members of the Group. |
| See Exhibit 99.1 | | |
| | Item 9. | Notice of Dissolution of Group. |
| Not Applicable. | | |
| | Item 10 | . Certifications. |
| | _ | ned certifies that, to the best of its knowledge and belief, the securities referred 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.

CUSIP NO. 33830X104

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: September 4, 2018

BIOTECHNOLOGY VALUE FUND, L.P. BVF INC.

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

By: BVF Inc., its general partner

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

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

President

esident /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