

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D

[Rule 13d-101]

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO § 21.16d-1(a) AND AMENDMENTS THERETO FILED PURSUANT TO § 240.13D-2(a)

(Amendment No. 5)*

Alpine Immune Sciences, Inc.

(Name of Issuer)

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

02083G100
(CUSIP Number)

David Clark
Deerfield Mgmt, L.P.
780 Third Avenue, 37th Floor
New York, New York 10017
(212) 551-1600

With a copy to:

Jonathan D. Weiner, Esq.
Mark D. Wood, Esq.
Katten Muchin Rosenman LLP
575 Madison Avenue
New York, New York 10022
(212) 940-8800

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

August 15, 2018

(Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§ 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box .

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See § 240.13d-7 for other parties to whom copies are to be sent.

(Continued on following pages)
(Page 1 of 16 Pages)

* 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 PERSONS Deerfield Private Design Fund, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 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 76,015
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 76,015
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 76,015	
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) 0.55%	
14	TYPE OF REPORTING PERSON PN	

1	NAME OF REPORTING PERSONS Deerfield Special Situations Fund, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 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 197,523
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 197,523
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 197,523	
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) 1.43%	
14	TYPE OF REPORTING PERSON PN	

1	NAME OF REPORTING PERSONS Deerfield Private Design International, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input checked="" type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION British Virgin Islands	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 122,350
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 122,350
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 122,350	
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) 0.88%	
14	TYPE OF REPORTING PERSON PN	

1	NAME OF REPORTING PERSONS Deerfield Private Design Fund II, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input checked="" 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 137,306
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 137,306
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 137,306	
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) 0.99%	
14	TYPE OF REPORTING PERSON PN	

1	NAME OF REPORTING PERSONS Deerfield Private Design International II, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input checked="" type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION British Virgin Islands	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 157,343
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 157,343
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 157,343	
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) 1.14%	
14	TYPE OF REPORTING PERSON PN	

1	NAME OF REPORTING PERSONS Deerfield Mgmt, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input checked="" 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 690,537 (1)
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 690,537 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 690,537 (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) 4.99%	
14	TYPE OF REPORTING PERSON PN	

(1) Comprised of 197,523 shares held by Deerfield Special Situations Fund, L.P., 76,015 shares held by Deerfield Private Design Fund, L.P., 122,350 shares held by Deerfield Private Design International, L.P., 137,306 shares held by Deerfield Private Design Fund II, L.P., and 157,343 shares held by Deerfield Private Design International II, L.P.

1	NAME OF REPORTING PERSONS Deerfield Management Company, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input checked="" 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 690,537 (2)
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 690,537 (2)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 690,537 (2)	
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) 4.99%	
14	TYPE OF REPORTING PERSON PN	

(2) Comprised of 197,523 shares held by Deerfield Special Situations Fund, L.P., 76,015 shares held by Deerfield Private Design Fund, L.P., 122,350 shares held by Deerfield Private Design International, L.P., 137,306 shares held by Deerfield Private Design Fund II, L.P., and 157,343 shares held by Deerfield Private Design International II, L.P.

1	NAME OF REPORTING PERSONS James E. Flynn	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION United States of America	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 690,537 (3)
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 690,537 (3)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 690,537 (3)	
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) 4.99 %	
14	TYPE OF REPORTING PERSON IN	

(3) Comprised of 197,523 shares held by Deerfield Special Situations Fund, L.P., 76,015 shares held by Deerfield Private Design, L.P., 122,350 shares held by Deerfield Private Design International, L.P., 137,306 shares held by Deerfield Private Design Fund II, L.P., and 157,343 shares held by Deerfield Private Design International II, L.P.

This Amendment No. 5 (this "Amendment") to Schedule 13D amends the Schedule 13D filed on July 28, 2017 by (i) Deerfield Mgmt, L.P. ("Deerfield Mgmt"), (ii) Deerfield Special Situations Fund, L.P. ("Deerfield Special Situations Fund"), (iii) Deerfield Management Company, L.P. ("Deerfield Management"), (iv) Deerfield Private Design Fund, L.P. ("Deerfield Private Design"), (v) Deerfield Private Design International, L.P. ("Deerfield Private Design International"), (vi) Deerfield Private Design Fund II, L.P. ("Deerfield Private Design II"), (vii) Deerfield Private Design International II, L.P. ("Deerfield Private Design International II") and (viii) James E. Flynn, a natural person ("Flynn") and collectively with Deerfield Mgmt, Deerfield Special Situations Fund, Deerfield Management, Deerfield Private Design, Deerfield Private Design International, Deerfield Private Design II and Deerfield Private Design International II, the "Reporting Persons", with respect to the securities of Alpine Immune Sciences, Inc. (formerly, Nivalis Therapeutics, Inc.) (the "Issuer"), as amended by Amendment Nos. 1, 2, 3 and 4 thereto, filed on September 20, 2016, April 25, 2017, July 28, 2017 and August 22, 2017, respectively (as amended, the "Schedule 13D"). Deerfield Special Situations Fund, Deerfield Private Design, Deerfield Private Design International, Deerfield Private Design II and Deerfield Private Design International II are collectively referred to herein as the "Funds."

Capitalized terms used but not otherwise defined herein shall have the meanings ascribed to them in the Scheduled 13D.

Item 5. Interest in Securities of the Issuer.

Items 5(a), (b), (c) and (e) of the Schedule 13D are hereby amended and restated as follows:

(a)

(1) Deerfield Mgmt

Number of shares: 690,537 (comprised of shares held by Deerfield Special Situations Fund, Deerfield Private Design, Deerfield Private Design International, Deerfield Private Design II and Deerfield Private Design International II)
Percentage of shares: 4.99%

(2) Deerfield Management

Number of shares: 690,537 (comprised of shares held by Deerfield Special Situations Fund, Deerfield Private Design, Deerfield Private Design International, Deerfield Private Design II and Deerfield Private Design International II)
Percentage of shares: 4.99%

(3) Deerfield Special Situations Fund

Number of shares: 197,523
Percentage of shares: 1.43%

(4) Deerfield Private Design

Number of shares: 76,015

Percentage of shares: 0.55%

(5) Deerfield Private Design International

Number of Shares: 122,350
Percentage of Shares: 0.88%

(6) Deerfield Private Design II

Number of Shares: 137,306
Percentage of Shares: 0.99%

(7) Deerfield Private Design International II

Number of Shares: 157,343
Percentage of Shares: 1.14%

(8) Flynn

Number of shares: 690,537 (comprised of shares held by Deerfield Special Situations Fund, Deerfield Private Design, Deerfield Private Design International, Deerfield Private Design II and Deerfield Private Design International II)
Percentage of shares: 4.99%

(b)

(1) Deerfield Mgmt

Sole power to vote or direct the vote: 0
Shared power to vote or direct the vote: 690,537
Sole power to dispose or to direct the disposition: 0
Shared power to dispose or direct the disposition: 690,537

(2) Deerfield Management

Sole power to vote or direct the vote: 0
Shared power to vote or direct the vote: 690,537
Sole power to dispose or to direct the disposition: 0
Shared power to dispose or direct the disposition: 690,537

(3) Deerfield Special Situations Fund

Sole power to vote or direct the vote: 0
Shared power to vote or direct the vote: 197,523
Sole power to dispose or to direct the disposition: 0
Shared power to dispose or direct the disposition: 197,523

(4) Deerfield Private Design

Sole power to vote or direct the vote: 0
Shared power to vote or direct the vote: 76,015
Sole power to dispose or to direct the disposition: 0
Shared power to dispose or direct the disposition: 76,015

(5) Deerfield Private Design International

Sole power to vote or direct the vote: 0
Shared power to vote or direct the vote: 122,350
Sole power to dispose or to direct the disposition: 0
Shared power to dispose or direct the disposition: 122,350

(6) Deerfield Private Design II

Sole power to vote or direct the vote: 0
Shared power to vote or direct the vote: 137,306
Sole power to dispose or to direct the disposition: 0
Shared power to dispose or direct the disposition: 137,306

(7) Deerfield Private Design International II

Sole power to vote or direct the vote: 0
Shared power to vote or direct the vote: 157,343
Sole power to dispose or to direct the disposition: 0
Shared power to dispose or direct the disposition: 157,343

(8) Flynn

Sole power to vote or direct the vote: 0
Shared power to vote or direct the vote: 690,537
Sole power to dispose or to direct the disposition: 0
Shared power to dispose or direct the disposition: 690,537

Flynn is the sole member of the general partner of each of Deerfield Mgmt and Deerfield Management. Deerfield Mgmt is the general partner, and Deerfield Management is the investment advisor, of Deerfield Special Situations Fund, Deerfield Private Design, Deerfield Private Design International, Deerfield Private Design II and Deerfield Private Design International II.

(c) Transactions in the Common Stock effected by the Reporting Persons in the last sixty (60) days are set forth on Schedule A to this Amendment. All of the transactions reflected in Schedule A to this Amendment were effected in open market transactions on the Nasdaq Global Market in the ordinary course of the applicable Reporting Person's business.

(e) As of August 17, 2018, the Reporting Persons ceased to beneficially own more than five percent of the Common Stock.

SIGNATURE

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

Dated: August 20, 2018

DEERFIELD MGMT, L.P.

By: J.E. Flynn Capital, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD SPECIAL SITUATIONS FUND, L.P.

By: Deerfield Mgmt, L.P., General Partner
By: J.E. Flynn Capital, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD PRIVATE DESIGN FUND, L.P.

By: Deerfield Mgmt, L.P., General Partner
By: J.E. Flynn Capital, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD PRIVATE DESIGN INTERNATIONAL, L.P.

By: Deerfield Mgmt, L.P., General Partner
By: J.E. Flynn Capital, LLC, General Partner

By:
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD PRIVATE DESIGN FUND II, L.P.

By: Deerfield Mgmt, L.P., General Partner
By: J.E. Flynn Capital, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD PRIVATE DESIGN INTERNATIONAL II, L.P.

By: Deerfield Mgmt, L.P., General Partner
By: J.E. Flynn Capital, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD MANAGEMENT COMPANY, L.P.

By: Flynn Management LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

JAMES E. FLYNN

/s/ Jonathan Isler
Jonathan Isler, Attorney-in-Fact

Schedule A

Reporting Person	Date	Number of shares Sold	Price per Share (\$)*	Price Range (\$)***
Deerfield Private Design Fund II, L.P.	July 31, 2018	13,864	7.02	6.98-7.30
Deerfield Private Design International II, L.P.	July 31, 2018	15,888	7.02	6.98-7.30
Deerfield Private Design Fund, L.P.	July 31, 2018	7,676	7.02	6.98-7.30
Deerfield Private Design International, L.P.	July 31, 2018	12,354	7.02	6.98-7.30
Deerfield Special Situations Fund, L.P.	July 31, 2018	19,945	7.02	6.98-7.30
Deerfield Private Design Fund II, L.P.	August 1, 2018	676	6.91	6.77-7.14
Deerfield Private Design International II, L.P.	August 1, 2018	774	6.91	6.77-7.14
Deerfield Private Design Fund, L.P.	August 1, 2018	374	6.91	6.77-7.14
Deerfield Private Design International, L.P.	August 1, 2018	603	6.91	6.77-7.14
Deerfield Special Situations Fund, L.P.	August 1, 2018	973	6.91	6.77-7.14
Deerfield Private Design Fund II, L.P.	August 2, 2018	1,116	7.13	7.00-7.30
Deerfield Private Design International II, L.P.	August 2, 2018	1,279	7.13	7.00-7.30
Deerfield Private Design Fund, L.P.	August 2, 2018	618	7.13	7.00-7.30
Deerfield Private Design International, L.P.	August 2, 2018	995	7.13	7.00-7.30
Deerfield Special Situations Fund, L.P.	August 2, 2018	1,606	7.13	7.00-7.30
Deerfield Private Design Fund II, L.P.	August 3, 2018	338	7.01	7.00-7.01
Deerfield Private Design International II, L.P.	August 3, 2018	388	7.01	7.00-7.01
Deerfield Private Design Fund, L.P.	August 3, 2018	187	7.01	7.00-7.01
Deerfield Private Design International, L.P.	August 3, 2018	301	7.01	7.00-7.01
Deerfield Special Situations Fund, L.P.	August 3, 2018	486	7.01	7.00-7.01
Deerfield Private Design Fund II, L.P.	August 6, 2018	3,561	6.85	6.78-6.93
Deerfield Private Design International II, L.P.	August 6, 2018	4,080	6.85	6.78-6.93
Deerfield Private Design Fund, L.P.	August 6, 2018	1,971	6.85	6.78-6.93
Deerfield Private Design International, L.P.	August 6, 2018	3,174	6.85	6.78-6.93
Deerfield Special Situations Fund, L.P.	August 6, 2018	5,123	6.85	6.78-6.93
Deerfield Private Design Fund II, L.P.	August 7, 2018	239	6.88	6.81-6.98
Deerfield Private Design International II, L.P.	August 7, 2018	273	6.88	6.81-6.98
Deerfield Private Design Fund, L.P.	August 7, 2018	132	6.88	6.81-6.98
Deerfield Private Design International, L.P.	August 7, 2018	213	6.88	6.81-6.98
Deerfield Special Situations Fund, L.P.	August 7, 2018	343	6.88	6.81-6.98
Deerfield Private Design Fund II, L.P.	August 8, 2018	87	7.10	Not applicable
Deerfield Private Design International II, L.P.	August 8, 2018	99	7.10	Not applicable
Deerfield Private Design Fund, L.P.	August 8, 2018	48	7.10	Not applicable
Deerfield Private Design International, L.P.	August 8, 2018	77	7.10	Not applicable
Deerfield Special Situations Fund, L.P.	August 8, 2018	124	7.10	Not applicable
Deerfield Private Design Fund II, L.P.	August 9, 2018	318	6.87	6.82-6.97
Deerfield Private Design International II, L.P.	August 9, 2018	364	6.87	6.82-6.97
Deerfield Private Design Fund, L.P.	August 9, 2018	176	6.87	6.82-6.97

Deerfield Private Design International, L.P.	August 9, 2018	284	6.87	6.82-6.97
Deerfield Special Situations Fund, L.P.	August 9, 2018	458	6.87	6.82-6.97
Deerfield Private Design Fund II, L.P.	August 13, 2018	2,086	6.90	6.81-6.98
Deerfield Private Design International II, L.P.	August 13, 2018	2,390	6.90	6.81-6.98
Deerfield Private Design Fund, L.P.	August 13, 2018	1,155	6.90	6.81-6.98
Deerfield Private Design International, L.P.	August 13, 2018	1,859	6.90	6.81-6.98
Deerfield Special Situations Fund, L.P.	August 13, 2018	3,000	6.90	6.81-6.98
Deerfield Private Design Fund II, L.P.	August 14, 2018	179	7.07	7.05-7.10
Deerfield Private Design International II, L.P.	August 14, 2018	205	7.07	7.05-7.10
Deerfield Private Design Fund, L.P.	August 14, 2018	99	7.07	7.05-7.10
Deerfield Private Design International, L.P.	August 14, 2018	160	7.07	7.05-7.10
Deerfield Special Situations Fund, L.P.	August 14, 2018	257	7.07	7.05-7.10
Deerfield Private Design Fund II, L.P.	August 15, 2018	3,160	6.69	6.60-6.76
Deerfield Private Design International II, L.P.	August 15, 2018	3,623	6.69	6.60-6.76
Deerfield Private Design Fund, L.P.	August 15, 2018	1,750	6.69	6.60-6.76
Deerfield Private Design International, L.P.	August 15, 2018	2,817	6.69	6.60-6.76
Deerfield Special Situations Fund, L.P.	August 15, 2018	4,547	6.69	6.60-6.76
Deerfield Private Design Fund II, L.P.	August 16, 2018	1,259	6.52	6.50-6.56
Deerfield Private Design International II, L.P.	August 16, 2018	1,442	6.52	6.50-6.56
Deerfield Private Design Fund, L.P.	August 16, 2018	697	6.52	6.50-6.56
Deerfield Private Design International, L.P.	August 16, 2018	1,122	6.52	6.50-6.56
Deerfield Special Situations Fund, L.P.	August 16, 2018	1,811	6.52	6.50-6.56
Deerfield Private Design Fund II, L.P.	August 17, 2018	17,371	6.05	5.85-6.85
Deerfield Private Design International II, L.P.	August 17, 2018	19,905	6.05	5.85-6.55
Deerfield Private Design Fund, L.P.	August 17, 2018	9,617	6.05	5.85-6.55
Deerfield Private Design International, L.P.	August 17, 2018	15,479	6.05	5.85-6.55
Deerfield Special Situations Fund, L.P.	August 17, 2018	24,988	6.05	5.85-6.55

* Each price per share reported in the “Price per Share” column of this Schedule A is a weighted average price, except with respect to trades on August 8, 2018. The Reporting Persons undertake to provide to the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each separate price within the ranges set forth in the “Price Range” column of this Schedule A.

** The shares were sold in multiple transactions at prices within the price range indicated (unless otherwise indicated).