

**Form 604**  
Corporations Act 2001  
Section 671B

**Notice of change of interests of substantial holder**

To Company Name/Scheme Pharmaxis Ltd

ACN/ARSN 082 811 630

**1. Details of substantial holder (1)**

Name BVF Partners LP on its own behalf and on behalf of BVF Inc., Mark N. Lampert and Biotechnology Value Fund, L.P. and Biotechnology Value Fund II, L.P.

ACN/ARSN (if applicable) \_\_\_\_\_

There was a change in the interests of the substantial holder on:

06/10/2015 to 31/03/2017 (both dates inclusive)

The previous notice was given to the company on 10/09/2015

The previous notice was dated 09/09/2015

**2. Previous and present voting power**

The total number of votes attached to all the voting shares in the company or voting interests in the scheme that the substantial holder or an associate (2) had a relevant interest (3) in when last required, and when now required, to give a substantial holding notice to the company or scheme, are as follows:

Class of securities (4)	Previous notice		Present notice	
	Person's votes	Voting power (5)	Person's votes	Voting power (5)
Fully Paid Ordinary Shares (note: this row relates only to BVF Partners LP, BVF Inc., and Mark N. Lampert, and includes the votes and voting power in the next two rows)	41,209,253	12.99%	60,423,669	18.94%
Fully Paid Ordinary Shares (note: this row relates only to Biotechnology Value Fund, L.P. in respect of its registered holdings)	20,084,414	6.33%	27,649,910	8.66%
Fully Paid Ordinary Shares (note: this row relates only to Biotechnology Value Fund II, L.P. in respect of its registered holdings)	-	-	18,097,097	5.67%

**3. Changes in relevant interests**

Particulars of each change in, or change in the nature of, a relevant interest of the substantial holder or an associate in voting securities of the company or scheme, since the substantial holder was last required to give a substantial holding notice to the company or scheme are as follows:

Date of change	Person whose relevant interest changed	Nature of change (6)	Consideration given in relation to change (7)	Class and number of securities affected	Person's votes affected
06/10/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$920.00	4,000 fully paid ordinary shares	4,000
07/10/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$14,584.76	63,412 fully paid ordinary shares	63,412

20/10/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$22,950.00	100,000 fully paid ordinary shares	100,000
21/10/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$1,145.00	5,000 fully paid ordinary shares	5,000
22/10/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$22,730.00	100,000 fully paid ordinary shares	100,000
23/10/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$848.01	3,687 fully paid ordinary shares	3,687
26/10/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$12,651.15	55,005 fully paid ordinary shares	55,005
27/10/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$15,972.86	69,995 fully paid ordinary shares	69,995
28/10/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$5,390.97	23,439 fully paid ordinary shares	23,439
30/10/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$11,016.00	48,000 fully paid ordinary shares	48,000
02/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$10,580.00	46,000 fully paid ordinary shares	46,000
03/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$9,200.00	40,000 fully paid ordinary shares	40,000
04/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$4,600.00	20,000 fully paid ordinary shares	20,000
05/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$13,674.00	60,000 fully paid ordinary shares	60,000
06/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$8,276.40	36,000 fully paid ordinary shares	36,000
09/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$5,341.51	23,635 fully paid ordinary shares	23,635
10/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$11,583.95	50,365 fully paid ordinary shares	50,365
11/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$9,200.00	40,000 fully paid ordinary shares	40,000
13/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$45,580.00	200,000 fully paid ordinary shares	200,000

17/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$16,627.50	75,000 fully paid ordinary shares	75,000
18/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$3,225.00	15,000 fully paid ordinary shares	15,000
19/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$7,697.14	33,938 fully paid ordinary shares	33,938
20/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$6,210.00	27,000 fully paid ordinary shares	27,000
23/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$11,390.00	50,000 fully paid ordinary shares	50,000
24/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$7,748.60	34,000 fully paid ordinary shares	34,000
25/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$2,300.00	10,000 fully paid ordinary shares	10,000
26/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$20,980.80	93,000 fully paid ordinary shares	93,000
27/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$8,127.76	35,900 fully paid ordinary shares	35,900
30/11/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$11,072.10	50,100 fully paid ordinary shares	50,100
01/12/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$20,322.80	92,000 fully paid ordinary shares	92,000
02/12/2015	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$2,250.00	10,000 fully paid ordinary shares	10,000
21/06/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$18,720.00	72,000 fully paid ordinary shares	72,000
28/06/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$5,200.00	20,000 fully paid ordinary shares	20,000
12/07/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$250,800.00	1,000,000 fully paid ordinary shares	1,000,000
08/07/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$139,909.75	559,639 fully paid ordinary shares	559,639
21/10/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$23,612.94	90,819 fully paid ordinary shares	90,819

25/10/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$42,190.46	162,271 fully paid ordinary shares	162,271
25/10/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$9,809.54	37,729 fully paid ordinary shares	37,729
26/10/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$20,435.80	77,000 fully paid ordinary shares	77,000
27/10/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$66,237.64	246,879 fully paid ordinary shares	246,879
31/10/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$15,634.84	58,448 fully paid ordinary shares	58,448
31/10/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$37,865.16	141,552 fully paid ordinary shares	141,552
28/10/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$20,552.67	76,121 fully paid ordinary shares	76,121
07/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$9,808.37	37,710 fully paid ordinary shares	37,710
07/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$24,538.87	94,344 fully paid ordinary shares	94,344
03/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$82,583.36	318,363 fully paid ordinary shares	318,363
04/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$21,029.69	81,637 fully paid ordinary shares	81,637
08/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$3,811.86	14,661 fully paid ordinary shares	14,661
08/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$10,313.94	39,669 fully paid ordinary shares	39,669
09/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$1,998.10	7,685 fully paid ordinary shares	7,685
09/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$1,542.06	5,931 fully paid ordinary shares	5,931
08/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$59,895.60	228,000 fully paid ordinary shares	228,000
10/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$16,511.51	62,901 fully paid ordinary shares	62,901

10/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$35,988.49	137,099 fully paid ordinary shares	137,099
09/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$667.48	2,536 fully paid ordinary shares	2,536
09/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$44,602.92	169,464 fully paid ordinary shares	169,464
10/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$12,935.50	49,867 fully paid ordinary shares	49,867
10/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$9,632.30	37,133 fully paid ordinary shares	37,133
14/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$26,469.56	101,806 fully paid ordinary shares	101,806
14/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$11,576.50	44,525 fully paid ordinary shares	44,525
15/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$13,457.60	51,760 fully paid ordinary shares	51,760
15/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$13,476.58	51,833 fully paid ordinary shares	51,833
11/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$31,255.57	121,617 fully paid ordinary shares	121,617
11/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$9,093.43	35,383 fully paid ordinary shares	35,383
16/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$9.62	0,037 fully paid ordinary shares	37
16/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$10.14	0,039 fully paid ordinary shares	39
14/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$23,899.20	91,920 fully paid ordinary shares	91,920
14/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$3,660.80	14,080 fully paid ordinary shares	14,080
17/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$12,476.10	47,985 fully paid ordinary shares	47,985
17/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$11,662.04	44,854 fully paid ordinary shares	44,854
15/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$29,550.04	113,654 fully paid ordinary shares	113,654

15/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$9,449.96	36,346 fully paid ordinary shares	36,346
16/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$47,784.38	185,139 fully paid ordinary shares	185,139
16/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$14,159.62	54,861 fully paid ordinary shares	54,861
18/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$5,551.26	21,351 fully paid ordinary shares	21,351
18/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$5,777.46	22,221 fully paid ordinary shares	22,221
17/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$30,711.11	120,153 fully paid ordinary shares	120,153
17/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$8,613.98	33,701 fully paid ordinary shares	33,701
21/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$875.16	3,366 fully paid ordinary shares	3,366
21/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$1,620.32	6,232 fully paid ordinary shares	6,232
18/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$25,570.01	99,301 fully paid ordinary shares	99,301
18/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$8,126.70	31,560 fully paid ordinary shares	31,560
22/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$4,623.84	17,784 fully paid ordinary shares	17,784
22/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$8,812.18	33,893 fully paid ordinary shares	33,893
21/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$23,373.31	90,876 fully paid ordinary shares	90,876
21/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$6,277.99	24,409 fully paid ordinary shares	24,409
23/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$4,069.00	15,650 fully paid ordinary shares	15,650
23/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$2,134.86	8,211 fully paid ordinary shares	8,211
22/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$19,670.30	75,655 fully paid ordinary shares	75,655

22/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$6,329.70	24,345 fully paid ordinary shares	24,345
24/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$11,258.52	43,302 fully paid ordinary shares	43,302
24/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$20,604.22	79,247 fully paid ordinary shares	79,247
23/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$4,364.58	17,116 fully paid ordinary shares	17,116
23/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$2,010.42	7,884 fully paid ordinary shares	7,884
25/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$435.76	1,676 fully paid ordinary shares	1,676
25/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$257.66	0,991 fully paid ordinary shares	991
25/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$10,934.04	41,925 fully paid ordinary shares	41,925
25/11/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$4,713.96	18,075 fully paid ordinary shares	18,075
29/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$6,601.68	24,912 fully paid ordinary shares	24,912
29/11/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$3,905.04	14,736 fully paid ordinary shares	14,736
12/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$12,129.52	46,652 fully paid ordinary shares	46,652
12/12/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$3,470.48	13,348 fully paid ordinary shares	13,348
14/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$45,053.22	171,305 fully paid ordinary shares	171,305
14/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market sale of fully paid ordinary shares	\$7,546.79	28,695 fully paid ordinary shares	28,695
13/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$9,953.58	38,283 fully paid ordinary shares	38,283
13/12/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$446.42	1,717 fully paid ordinary shares	1,717
15/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$52,060.00	200,000 fully paid ordinary shares	200,000

15/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$37,462.62	144,087 fully paid ordinary shares	144,087
15/12/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$11,937.38	45,913 fully paid ordinary shares	45,913
19/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market sale of fully paid ordinary shares	\$39,445.21	151,654 fully paid ordinary shares	151,654
16/12/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$4,046.12	15,562 fully paid ordinary shares	15,562
16/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$15,761.46	60,621 fully paid ordinary shares	60,621
16/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market purchase of fully paid ordinary shares	\$8,792.42	33,817 fully paid ordinary shares	33,817
19/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$8,613.67	33,155 fully paid ordinary shares	33,155
19/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market purchase of fully paid ordinary shares	\$1,242.62	4,783 fully paid ordinary shares	4,783
19/12/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$3,133.71	12,062 fully paid ordinary shares	12,062
20/12/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund, L.P.	On Market purchase of fully paid ordinary shares	\$354.64	1,364 fully paid ordinary shares	1,364
20/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$9,030.32	34,732 fully paid ordinary shares	34,732
20/12/2016	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$2,404.22	9,247 fully paid ordinary shares	9,247
20/12/2016	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market purchase of fully paid ordinary shares	\$1,210.82	4,657 fully paid ordinary shares	4,657
31/03/2017	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund, L.P.	On Market purchase of fully paid ordinary shares	\$2,004,494.98	7,564,132 fully paid ordinary shares	7,564,132
31/03/2017	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Biotechnology Value Fund II LP	On Market purchase of fully paid ordinary shares	\$1,372,630.31	5,179,737 fully paid ordinary shares	5,179,737
31/03/2017	BVF Partners LP, BVF Inc. and Mark N. Lampert, and Investment 10 LLC	On Market purchase of fully paid ordinary shares	\$367,686.18	1,387,495 fully paid ordinary shares	1,387,495
31/03/2017	BVF Partners, L.P., BVF Inc. and Mark N. Lampert, BVF Partners OS, Ltd., and Biotechnology Value Trading Fund OS, L.P.	On Market purchase of fully paid ordinary shares	\$310,265.98	1,170,815 fully paid ordinary shares	1,170,815
31/03/2017	BVF Partners LP, BVF Inc. and Mark N. Lampert, and MSI BVF SPV LLC	On Market purchase of fully paid ordinary shares	\$428,867.52	1,618,368 fully paid ordinary shares	1,618,368

4. Present relevant interests

Particulars of each relevant interest of the substantial holder in voting securities after the change are as follows:

Holder of relevant interest	Registered holder of securities	Person entitled to be registered as holder (8)	Nature of relevant interest (6)	Class and number of securities	Person's votes
BVF Partners, L.P.	Biotechnology Value Fund, L.P., Biotechnology Value Fund II, L.P., Biotechnology Value Trading Fund OS, L.P., Investment 10 LLC, MSI BVF SPV, LLC, as per their relevant interests below.	Biotechnology Value Fund, L.P., Biotechnology Value Fund II, L.P., Biotechnology Value Trading Fund OS, L.P., Investment 10 LLC, MSI BVF SPV, LLC, as per their relevant interests below.	Relevant interest arises under section 608(1)(b) of the Corporations Act 2001 (Cth) ( <b>Corporations Act</b> ) by virtue of BVF Partners, L.P. (i) acting as general partner of, and/or (ii) acting as investment manager of, respectively, the registered holders of the securities, whereby it holds the authority to cast votes in respect of the securities.	60,423,669 fully paid ordinary shares	60,423,669
BVF Inc. and Mark N. Lampert	Biotechnology Value Fund, L.P., Biotechnology Value Fund II, L.P., Biotechnology Value Trading Fund OS, L.P., Investment 10 LLC, MSI BVF SPV, LLC, as per their relevant interests below.	Biotechnology Value Fund, L.P., Biotechnology Value Fund II, L.P., Biotechnology Value Trading Fund OS, L.P., Investment 10 LLC, MSI BVF SPV, LLC, as per their relevant interests below.	Relevant interest arises under section 608(3)(b) of the Corporations Act as each of BVF Inc. and Mark N. Lampert controls BVF Partners, L.P.	60,423,669 fully paid ordinary shares	60,423,669
BVF Partners OS Ltd.	Biotechnology Value Trading Fund OS, L.P.	Biotechnology Value Trading Fund OS, L.P.	Relevant interest arises under section 608(1)(b) of the Corporations Act by virtue of BVF Partners OS, Ltd. acting as general partner of Biotechnology Value Trading Fund OS, L.P., a registered holder of securities, whereby it holds the authority to cast votes in respect to the securities.	5,040,839 fully paid ordinary shares	5,040,839
Biotechnology Value Trading Fund OS, L.P.	Biotechnology Value Trading Fund OS, L.P.	Biotechnology Value Trading Fund OS, L.P.	Relevant interest arises under section 608(1)(a) of the Corporations Act as holder of the securities	5,040,839 fully paid ordinary shares	5,040,839
Biotechnology Value Fund, L.P.	Biotechnology Value Fund, L.P.	Biotechnology Value Fund, L.P.	Relevant interest arises under section 608(1)(a) of the Corporations Act as holder of the securities	27,649,910 fully paid ordinary shares	27,649,910
Biotechnology Value Fund II, L.P.	Biotechnology Value Fund II, L.P.	Biotechnology Value Fund II, L.P.	Relevant interest arises under section 608(1)(a) of the Corporations Act as holder of the securities	18,097,097 fully paid ordinary shares	18,097,097
Investment 10 LLC	Investment 10 LLC	Investment 10 LLC	Relevant interest arises under section 608(1)(a) of the Corporations Act as holder of the securities	3,016,729 fully paid ordinary shares	3,016,729
MSI BVF SPV, LLC	MSI BVF SPV, LLC	MSI BVF SPV, LLC	Relevant interest arises under section 608(1)(a) of the Corporations Act as holder of the securities	6,619,094 fully paid ordinary shares	6,619,094

**5. Changes in association**

The persons who have become associates (2) of, ceased to be associates of, or have changed the nature of their association (9) with, the substantial holder in relation to voting interests in the company or scheme are as follows:

Name and ACN/ARSN (if applicable)	Nature of association
Not applicable	Not applicable

**6. Addresses**

The addresses of persons named in this form are as follows:

Name	Address
BVF Partners LP Biotechnology Value Fund, L.P. Biotechnology Value Fund II, L.P. BVF Inc.	One Sansome Street, 30 <sup>th</sup> Floor San Francisco, California 94104 United States of America
BVF Partners OS, Ltd Biotechnology Value Trading Fund OS, L.P.	PO Box 309 Ugland House Grand Cayman, KY1-1104 Cayman Islands
Investment 10 LLC	900 North Michigan Avenue, Suite 1100 Chicago, Illinois 60611 United States of America
MSI BVF SPV, LLC	c/o Magnitude Capital, L.L.C. 601 Lexington Avenue, 59 <sup>th</sup> Floor New York, NY 10022
Mark N. Lampert	c/o BVF Inc One Sansome Street, 30 <sup>th</sup> Floor San Francisco, California 94104 United States of America



**Signature**

print name	BVF Partners LP BY BVF Inc., its general partner, BY Mark N. Lampert, President	capacity	General Partner and Attorney-in-Fact for the Substantial Holders
sign here		date	04/04/2017