UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

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Under the Securities Exchange Act of 1934 (Amendment No. 1)*

T2 Biosystems, Inc.

(Name of Issuer)

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

89853L104 (CUSIP Number)

December 31, 2016 (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)

* 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 the disclosures provided in a prior cover page.

The information required in 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).

CUSI	P No.	8985	53L104		
	LNIAMEC	OF	DEDODTING DEDGONG		
1	NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)				
			Ventures Fund 2004, L.P.		
2			E APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)		
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3	SEC US	ΕO	NLY		
4	CITIZEI	NSH	IP OR PLACE OF ORGANIZATION		
	Delawa	ire			
		5	SOLE VOTING POWER		
NUN	IBER OF				
_	HARES	6	SHARED VOTING POWER		
BENEFICIALLY OWNED BY 1,632,816			1,632,816		
EACH 7 SOLE DISPOSITIVE POWER					
REPORTING					
	ERSON VITH:	_			
		8	SHARED DISPOSITIVE POWER		
			1,632,816		
9	AGGRE	GA	TE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON		
10	1,632,816				
10	CHECK	BO	X IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) □		
11	PERCE	NT (DF CLASS REPRESENTED BY AMOUNT IN ROW 9		
	5.4%				

TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

12

PN

CUSII	?No. 8	3985	3L104			
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			entures General Partner LLC			
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4	CITIZEN	ISH	IP OR PLACE OF ORGANIZATION			
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W	WITH:		SHARED DISPOSITIVE POWER			
			1 500 015			
	1,632,816					
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON					
	1,632,816					
10	CHECK	ВО	X IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) $\ \Box$			
11	PERCEN	IT C	OF CLASS REPRESENTED BY AMOUNT IN ROW 9			
	5.4%					

TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

CUSII	P No. 8	3985	3L104			
1	NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)					
2			E APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)			
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4	CITIZEN	NSH	IP OR PLACE OF ORGANIZATION			
	Delawa	re				
		5	SOLE VOTING POWER			
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	IBER OF IARES	6	SHARED VOTING POWER			
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PERSON 0			0			
WITH:		8	SHARED DISPOSITIVE POWER			
			245 505			
9	9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON					
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10	CHECK	ВО	X IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) $\ \Box$			
11	PERCEN	NT C	OF CLASS REPRESENTED BY AMOUNT IN ROW 9			
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	1.0%					

TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

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PN

CUSII	P No. 8	3985	3L104	
1	NAMES	OF	REPORTING PERSONS	
	I.R.S. ID	EN	ΓΙFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)	
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3	SEC US	FΩ	NI V	
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	Delawa	re		
		5	SOLE VOTING POWER	
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10	317,767 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) □			
10	CHECK	υd	A IF THE AGGREGATE AMOUNT IN ROW (9) EACLUDES CERTAIN SHARES (SEE INSTRUCTIONS)	
11	PERCEN	IT (OF CLASS REPRESENTED BY AMOUNT IN ROW 9	

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TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

CUSI	P No.	8985	53L104	
1	NAMES	OE	REPORTING PERSONS	
1			TIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)	
			Afeyan, Ph.D.	
2	(a) □		E APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) b) ⊠	
	(a) <u></u>	(.		
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OW	NED BY		1,950,583	
	EACH	7	SOLE DISPOSITIVE POWER	
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	A CCDE	CAT	1,950,583	
9	AGGRE	GA	TE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	
	1,950,583			
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) □			
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11	PERCE	NT (OF CLASS REPRESENTED BY AMOUNT IN ROW 9	
	6.4%			
12	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)			

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CUSI	P No.	8985	53L104	
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1			REPORTING PERSONS TIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)	
	11110112		1110111100101111100110 (2111111111111111	
			Kania, Jr.	
2			E APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)	
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10	1,950,583 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) □			
10	CHECK	Ьυ	A IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)	
11	PERCE	NT (OF CLASS REPRESENTED BY AMOUNT IN ROW 9	
40	6.4%			
12	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)			

IN

Item 1(a). Name of Issuer:

T2 Biosystems, Inc. (the "Issuer")

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

101 Hartwell Avenue, Lexington, Massachusetts 02421

Item 2(a). Names of Persons Filing:

The names of the persons filing this report (collectively, the "Reporting Persons") are:

Flagship Ventures Fund 2004, L.P. ("Fund 2004")

Flagship Ventures General Partner LLC ("Fund 2004 GP")

Flagship Ventures Fund IV, L.P. ("Fund IV")

Flagship Ventures Fund IV General Partner LLC ("Fund IV GP")

Noubar B. Afeyan, Ph.D. ("Mr. Afeyan")

Edwin M. Kania, Jr. ("Mr. Kania")

Item 2(b). Address of Principal Business Office or, if None, Residence:

The address of the principal business office of each of the Reporting Persons is:

c/o Flagship Pioneering Inc.

55 Cambridge Parkway, Suite 800E

Cambridge, Massachusetts 02142

Item 2(c). <u>Citizenship</u>:

Fund 2004 Delaware
Fund 2004 GP Delaware
Fund IV Delaware
Fund IV GP Delaware

Mr. Afeyan United States of America Mr. Kania United States of America

Item 2(d). <u>Title of Class of Securities</u>:

Common Stock, par value \$0.001 per share ("Common Stock").

Item 2(e). <u>CUSIP Number</u>:

89853L104

Item 3. If this statement is filed pursuant to §§ 240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

Not applicable.

Item 4. Ownership.

The information required by this item with respect to each Reporting Person is set forth in Rows 5 through 9 and 11 of the cover page to this Schedule 13G. The ownership percentages reported are based on 30,431,301 shares of outstanding Common Stock as of November 7, 2016, as reported in the Issuer's Form 10-Q filed on November 8, 2016.

As the general partner of Fund 2004, Fund 2004 GP may be deemed to beneficially own shares of Common Stock directly held by Fund 2004. As the general partner of Fund IV, Fund IV GP may be deemed to beneficially own shares of Common Stock directly held by Fund IV. Messrs. Afeyan and Kania, as Managers of Fund 2004 GP and Fund IV GP, may be deemed to beneficially own shares of Common Stock beneficially owned by Fund 2004 GP and Fund IV GP, respectively.

Item 5. Ownership of Five Percent or Less of a Class.

If this statement is being filed to report the fact that as of the date hereof the Reporting Persons have ceased to be the beneficial owner of more than five percent of the class of securities, check the following \Box .

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Not applicable.

Item 7. <u>Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company or Control Person.</u>

Not applicable.

Item 8. <u>Identification and Classification of Members of the Group.</u>

Not applicable.

Item 9. <u>Notice of Dissolution of Group.</u>

Not applicable.

Item 10. <u>Certification</u>.

Not applicable.

Material Filed as Exhibits.

Exhibit 1 – Agreement regarding filing of joint Schedule 13G.

SIGNATURE

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

Date: February 13, 2017

FLAGSHIP VENTURES FUND 2004, L.P.

By: Flagship Ventures General Partner LLC

General Partner

By: /s/ Noubar B. Afeyan

Noubar B. Afeyan, Ph.D.

Manager

FLAGSHIP VENTURES GENERAL PARTNER LLC

By: /s/ Noubar B. Afeyan

Noubar B. Afeyan, Ph.D.

Manager

FLAGSHIP VENTURES FUND IV, L.P.

By: Flagship Ventures Fund IV General Partner LLC

General Partner

By: /s/ Noubar B. Afeyan

Noubar B. Afeyan, Ph.D.

Manager

FLAGSHIP VENTURES FUND IV GENERAL PARTNER LLC

By: /s/ Noubar B. Afeyan

Noubar B. Afeyan, Ph.D.

Manager

/s/ NOUBAR B. AFEYAN

NOUBAR B. AFEYAN, PH.D.

/s/ EDWIN M. KANIA, JR.

EDWIN M. KANIA, JR.

AGREEMENT

The persons below hereby agree that the Schedule 13G to which this agreement is attached as an exhibit, as well as all future amendments to such Schedule 13G, shall be filed on behalf of each of them. This agreement is intended to satisfy the requirements of Rule 13d-1(k)(1)(iii) under the Securities Exchange Act of 1934.

Date: February 13, 2017

FLAGSHIP VENTURES FUND 2004, L.P.

By: Flagship Ventures General Partner LLC

General Partner

By: /s/ Noubar B. Afeyan

Noubar B. Afeyan, Ph.D.

Manager

FLAGSHIP VENTURES GENERAL PARTNER LLC

By: /s/ Noubar B. Afeyan

Noubar B. Afeyan, Ph.D.

Manager

FLAGSHIP VENTURES FUND IV, L.P.

By: Flagship Ventures Fund IV General Partner LLC

General Partner

By: /s/ Noubar B. Afeyan

Noubar B. Afeyan, Ph.D.

Manager

FLAGSHIP VENTURES FUND IV GENERAL PARTNER LLC

By: /s/ Noubar B. Afeyan

Noubar B. Afeyan, Ph.D.

Manager

/s/ NOUBAR B. AFEYAN

NOUBAR B. AFEYAN, PH.D.

/s/ EDWIN M. KANIA, JR.

EDWIN M. KANIA, JR.