

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

OMB APPROVAL	
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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>Flagship Ventures Fund IV General Partner LLC</u> (Last) (First) (Middle) 55 CAMBRIDGE PARKWAY, SUITE 800E (Street) CAMBRIDGE MA 02142 (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>Kaleido Biosciences, Inc. [KLDO]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) Other (specify below)
	3. Date of Earliest Transaction (Month/Day/Year) 06/04/2020	
	4. If Amendment, Date of Original Filed (Month/Day/Year)	6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	06/04/2020		P		666,667 ⁽¹⁾	A	\$7.5	1,613,778	I	See Footnote ⁽²⁾
Common Stock	06/04/2020		P		666,667 ⁽³⁾	A	\$7.5	2,910,972	I	See Footnote ⁽⁴⁾
Common Stock	06/04/2020		P		666,666 ⁽⁵⁾	A	\$7.5	666,666	I	See Footnote ⁽⁶⁾
Common Stock								42,865	I	See Footnote ⁽⁷⁾
Common Stock								2,500,000	I	See Footnote ⁽⁸⁾
Common Stock								2,560,096	I	See Footnote ⁽⁹⁾
Common Stock								639,360	I	See Footnote ⁽¹⁰⁾
Common Stock								6,560,523	I	See Footnote ⁽¹¹⁾
Common Stock								216,451	I	See Footnote ⁽¹²⁾
Common Stock								1,649,999	I	See Footnote ⁽¹³⁾

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V		(A)	(D)					

1. Name and Address of Reporting Person*
Flagship Ventures Fund IV General Partner LLC

 (Last) (First) (Middle)
 55 CAMBRIDGE PARKWAY, SUITE 800E

(Street)	CAMBRIDGE	MA	02142
(City)	(State)	(Zip)	
1. Name and Address of Reporting Person*			
Flagship Ventures Fund IV, L.P.			
(Last)	(First)	(Middle)	
55 CAMBRIDGE PARKWAY, SUITE 800E			
(Street)	CAMBRIDGE	MA	02142
(City)	(State)	(Zip)	
1. Name and Address of Reporting Person*			
Flagship Ventures Opportunities Fund I General Partner LLC			
(Last)	(First)	(Middle)	
55 CAMBRIDGE PARKWAY, SUITE 800E			
(Street)	CAMBRIDGE	MA	02142
(City)	(State)	(Zip)	
1. Name and Address of Reporting Person*			
Flagship Ventures Opportunities Fund I, L.P.			
(Last)	(First)	(Middle)	
55 CAMBRIDGE PARKWAY, SUITE 800E			
(Street)	CAMBRIDGE	MA	02142
(City)	(State)	(Zip)	
1. Name and Address of Reporting Person*			
AFEYAN NOUBAR			
(Last)	(First)	(Middle)	
55 CAMBRIDGE PARKWAY, SUITE 800E			
(Street)	CAMBRIDGE	MA	02142
(City)	(State)	(Zip)	

Explanation of Responses:

- On June 4, 2020, Flagship Ventures Fund IV, L.P. ("Flagship Fund IV") acquired 666,667 shares pursuant to an underwritten public offering of common stock by the Issuer (the "Offering").
- Shares held by Flagship Fund IV. Flagship Ventures Fund IV General Partner LLC ("Flagship Fund IV GP") is the general partner of Flagship Fund IV. Noubar B. Afeyan, Ph.D. ("Dr. Afeyan") is the sole manager of Flagship Fund IV GP. Each of the reporting persons except for Flagship Fund IV disclaims beneficial ownership of such shares except to the extent of his or its pecuniary interest therein. Edwin M. Kania, Jr. is retired both from Flagship Pioneering, Inc. ("Flagship Pioneering") and as a manager of Flagship Fund IV GP.
- On June 4, 2020, Flagship Ventures Opportunities Fund I, L.P. ("Flagship Opportunities I") acquired 666,667 shares pursuant to the Offering.
- Shares held by Flagship Opportunities I. Flagship Ventures Opportunities Fund I General Partner LLC ("Flagship Opportunities GP") is the general partner of Flagship Opportunities I. Dr. Afeyan serves as sole manager of Flagship Opportunities GP. Each of the reporting persons except for Flagship Opportunities I disclaims beneficial ownership of such shares except to the extent of his or its pecuniary interest therein.
- On June 4, 2020, Nutritional Health LTP Fund, L.P. ("Nutritional LTP") acquired 666,666 shares pursuant to the Offering.
- Shares held by Nutritional LTP. Nutritional Health LTP Fund General Partner LLC ("Nutritional LTP GP") is the general partner of Nutritional LTP. Dr. Afeyan is the sole member and manager of Nutritional LTP GP. Each of the reporting persons except for Nutritional LTP disclaims beneficial ownership of such shares except to the extent of his or its pecuniary interest therein.
- Shares held by Flagship VentureLabs IV, LLC ("VentureLabs IV"). Flagship Fund IV is a member of VentureLabs IV and also serves as its manager. Flagship Fund IV GP is the general partner of Flagship Fund IV. Dr. Afeyan is the sole manager of Flagship Fund IV GP. Each of the reporting persons except for VentureLabs IV disclaims beneficial ownership of such shares except to the extent of his or its pecuniary interest therein.
- Shares held by Flagship VentureLabs V LLC ("VentureLabs V"). Flagship Ventures Fund V, L.P. ("Flagship Fund V") is a member of VentureLabs V. Flagship Ventures Fund V General Partner LLC ("Flagship Fund V GP") is the general partner of Flagship Fund V. Flagship VentureLabs V Manager LLC ("VentureLabs V Manager") serves as manager of VentureLabs V. Flagship Pioneering is the manager of VentureLabs V Manager. Dr. Afeyan serves as sole manager of Flagship Fund V GP and as sole director of Flagship Pioneering. Each of the reporting persons except for VentureLabs V disclaims beneficial ownership of such shares except to the extent of his or its pecuniary interest therein.
- Shares held by Flagship Fund V. Flagship Fund V GP is the general partner of Flagship Fund V. Dr. Afeyan serves as sole manager of Flagship Fund V. Each of the reporting persons except for Flagship Fund V disclaims beneficial ownership of such shares except to the extent of his or its pecuniary interest therein.
- Shares held by Nutritional Health Side Fund, L.P. ("Nutritional Health Side Fund"). Flagship Fund V GP is the general partner of Nutritional Health Side Fund. Dr. Afeyan serves as sole manager of Flagship Fund V GP. Each of the reporting persons except for Nutritional Health Side Fund disclaims beneficial ownership of such shares except to the extent of his or its pecuniary interest therein.
- Shares held by Nutritional Health Disruptive Innovation Fund, L.P. ("Nutritional Innovation Fund"). Flagship Fund V GP is the general partner of Nutritional Innovation Fund. Dr. Afeyan serves as sole manager of Flagship Fund V GP. Each of the reporting persons except for Nutritional Innovation Fund disclaims beneficial ownership of such shares except to the extent of his or its pecuniary interest therein.
- Shares held by Flagship Ventures Fund 2007, L.P. ("Flagship Fund 2007"). Flagship Ventures 2007 General Partner LLC ("Fund 2007 GP") is the general partner of Flagship Fund 2007. Dr. Afeyan is the sole manager of Fund 2007 GP. Each of the reporting persons except for Flagship Fund 2007 disclaims beneficial ownership of such shares except to the extent of his or its pecuniary interest therein. Edwin M. Kania, Jr. is retired both from Flagship Pioneering and as a manager of Fund 2007 GP.

13. Shares held by Cadena LLC ("Cadena"). Dr. Afeyan is the sole manager of Cadena. Each of the reporting persons except for Cadena disclaims beneficial ownership of such shares except to the extent of his or its pecuniary interest therein.

Remarks:

Flagship Ventures Fund IV
General Partner LLC, By: /s/
Noubar B. Afeyan, Ph.D., 06/08/2020
Name: Noubar B. Afeyan,
Ph.D., Title: Manager

Flagship Ventures Fund IV,
L.P., By: Flagship Ventures
Fund IV General Partner LLC,
its general partner, By: /s/ 06/08/2020
Noubar B. Afeyan, Ph.D.,
Name: Noubar B. Afeyan,
Ph.D., Title: Manager

Flagship Ventures
Opportunities Fund I General
Partner LLC, By: /s/ Noubar 06/08/2020
B. Afeyan, Ph.D., Name:
Noubar B. Afeyan, Ph.D.,
Title: Manager

Flagship Ventures
Opportunities Fund I, L.P. By:
Flagship Ventures
Opportunities Fund I General
Partner LLC, its general 06/08/2020
partner, By: /s/ Noubar B.
Afeyan, Ph.D., Name: Noubar
B. Afeyan, Ph.D., Title:
Manager

Noubar B. Afeyan, Ph.D. By: 06/08/2020
/s/ Noubar B. Afeyan, Ph.D.

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.