UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

SCHEDULE 13G

(Rule 13d-102)

Information to be Included in Statements Filed Pursuant to § 240.13d-1(b), (c) and (d) and Amendments Thereto Filed Pursuant to § 240.13d-2

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

ARYA Sciences Acquisition Corp III

(Name of Issuer)

Class A ordinary shares, \$0.0001 par value per share (Title of Class of Securities)

> G3166W106 (CUSIP Number)

August 11, 2020 (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).

1	Names of Reporting Persons					
	Bain Cap	ital L	ife Sciences Fund II, L.P.			
2	Check th	е Арр	ropriate Box if a Member of a Group			
	(a) □	(b)				
3	SEC Use	Only				
		3				
4	4 Citizenship or Place of Organization					
	Cayman Islands					
		5	Sole Voting Power			
Number of			0 Class A ordinary shares			
	Shares	6	Shared Voting Power			
Ве	eneficially					
Owned by			891,429 Class A ordinary shares			
Each		7	Sole Dispositive Power			
Reporting						
	Person		0 Class A ordinary shares			
With		8	Shared Dispositive Power			
			891,429 Class A ordinary shares			
9	9 Aggregate Amount Beneficially Owned by Each Reporting Person					
	891,429 Class A ordinary shares					
10	Check if the Aggregate Amount in Row (9) Excludes Certain Shares					
	_					
11	Percent o	of Clas	ss Represented by Amount in Row 9			
	5.8%					
12	2 Type of Reporting Person					
	PN					

1	1 Names of Reporting Persons					
			ences Associates, LP			
2						
	(a) 🗆	(0)				
3	3 SEC Use Only					
4	4 Citizenship or Place of Organization					
	Delaware					
		5	Sole Voting Power			
Number of			0 Class A ordinary shares			
Shares		6	Shared Voting Power			
Beneficially Owned by			108,571 Class A ordinary shares			
Each		7	Sole Dispositive Power			
Reporting Person			0 Class A ordinary shares			
With		8	Shared Dispositive Power			
			108,571 Class A ordinary shares			
9						
	108,571 Class A ordinary shares					
10	·					
11	Percent of Class Represented by Amount in Row 9					
	0.7%					
12	2 Type of Reporting Person					
	PN					

Item 1(a) Name of Issuer

The name of the issuer to which this filing on Schedule 13G relates is ARYA Sciences Acquisition Corp III (the "Issuer").

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

The principal executive offices of the Issuer are located at 51 Astor Place, 10th Floor, New York, New York 10003.

Item 2(a) Name of Person Filing

This Schedule 13G is being filed jointly by Bain Capital Life Sciences Fund II, L.P., a Cayman exempted limited partnership ("BCLS II"), and BCIP Life Sciences Associates, LP, a Delaware limited partnership ("BCIPLS" and, together with BCLS II, the "Reporting Persons").

Bain Capital Life Sciences Investors, LLC, a Delaware limited liability company ("BCLSI"), whose managers are Jeffrey Schwartz and Adam Koppel, is the manager of Bain Capital Life Sciences Investors II, LLC, a Cayman limited liability company ("BCLSI II"), which is the general partner of BCLS II.

Boylston Coinvestors, LLC, a Delaware limited liability company ("Boylston"), is the general partner of BCIPLS. BCLSI governs the investment strategy and decision-making process with respect to investments held by BCIPLS.

As a result, each of BCLSI, Mr. Schwartz and Dr. Koppel may be deemed to share voting and dispositive power with respect to the securities held by the Reporting Persons.

The Reporting Persons have entered into a Joint Filing Agreement, dated August 13, 2020, pursuant to which the Reporting Persons have agreed to file this Schedule 13G jointly in accordance with the provisions of Rule 13d-1(k)(1) promulgated under the Act.

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

The principal business address of each of the Reporting Persons, BCLSI, BCLSI II, Boylston, Mr. Schwartz and Dr. Koppel is 200 Clarendon Street, Boston, Massachusetts 02116.

Item 2(c) Citizenship

BCLS II and BCLSI II are each organized under the laws of the Cayman Islands. BCIPLS, BCLSI and Boylston are each organized under the laws of the State of Delaware. Mr. Schwartz and Dr. Koppel are citizens of the United States.

Item 2(d) Title of Class of Securities

The class of securities of the Issuer to which this Schedule 13G relates is Class A ordinary shares, \$0.0001 par value per share ("Class A ordinary shares").

Item 2(e) CUSIP Number

The CUSIP number of the Class A ordinary shares is G3166W106.

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
(a) 🗆	Broker or dealer registered under section 15 of the Act (15 U.S.C. 780);
(b) □	Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c);
(c) 🗆	Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c);
(d) 🗆	Investment company registered under Section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8);
(e) □	An investment adviser in accordance with § 240.13d-1(b)(1)(ii)(E);
(f) 🗆	An employee benefit plan or endowment fund in accordance with § 240.13d-1(b)(1)(ii)(F);
(g) □	A parent holding company or control person in accordance with § 240.13d-1(b)(1)(ii)(G);
(h) □	A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
(i) 🗆	A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act (15 U.S.C. 80a-3);
(j) □	A non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J);
(k) □	Group, in accordance with § 240.13d-1(b)(1)(ii)(K).

If filing as a non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J), please specify the type of institution:

Item 4 Ownership

(a) Amount beneficially owned:

As of the date hereof, BCLS II holds 891,429 Class A ordinary shares, representing approximately 5.8% of the Issuer's outstanding Class A ordinary shares, and BCIPLS holds 108,571 Class A ordinary shares, representing approximately 0.7% of the Issuer's outstanding Class A ordinary shares.

As a result of the foregoing and the relationships described in Item 2(a), the Reporting Persons may be deemed to collectively beneficially own an aggregate of 1,000,000 Class A ordinary shares, representing approximately 6.5% of the Issuer's outstanding Class A ordinary shares.

The percentage of the Issuer's outstanding Class A ordinary shares held by the Reporting Persons is based on 15,449,000 Class A ordinary shares issued and outstanding immediately following the closing of the Issuer's initial public offering and concurrent private placement on August 11, 2020, after giving effect to the exercise in full of the underwriters' over-allotment option, as reported by the Issuer in its Prospectus filed with the Securities and Exchange Commission (the "SEC") pursuant to Rule 424(b)(4) under the Securities Act of 1933, as amended, on August 10, 2020 and its Current Report on Form 8-K filed with the SEC on August 12, 2020.

(b) Percent of class:

See Item 4(a) hereof.

(c) Number of shares as to which the person has:

- (i) Sole power to vote or to direct the vote:
- 0 Class A ordinary shares

(ii) Shared power to vote or to direct the vote:

BCLS II 891,429 Class A ordinary shares

BCIPLS 108,571 Class A ordinary shares

(iii) Sole power to dispose or to direct the disposition of:

0 Class A ordinary shares

(iv) Shared power to dispose or to direct the disposition of:

BCLS II 891,429 Class A ordinary shares

BCIPLS 108,571 Class A ordinary shares

Item 5 Ownership of Five Percent or Less of a Class

Not applicable.

Item 6 Ownership of More Than Five Percent on Behalf of Another Person

Not applicable.

Item 7 Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company or Control Person

Not applicable.

Item 8 Identification and Classification of Members of the Group

Not applicable.

Item 9 Notice of Dissolution of Group

Not applicable.

Item 10 Certifications

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not 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, other than activities solely in connection with a nomination under § 240.14a-11.

SIGNATURES

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

Dated: August 13, 2020

Bain Capital Life Sciences Fund II, L.P.

By: Bain Capital Life Sciences Investors II, LLC

its general partner

By: Bain Capital Life Sciences Investors, LLC

its manager

By: /s/ Jeffrey Schwartz

Name: Jeffrey Schwartz
Title: Managing Director

BCIP Life Sciences Associates, LP

By: Boylston Coinvestors, LLC

its general partner

By: /s/ Jeffrey Schwartz

Name: Jeffrey Schwartz Title: Authorized Signatory

AGREEMENT REGARDING THE JOINT FILING OF SCHEDULE 13G

The undersigned hereby agree as follows:

- (i) Each of them is individually eligible to use the Schedule 13G to which this Exhibit is attached, and such Schedule 13G is filed on behalf of each of them; and
- (ii) Each of them is responsible for the timely filing of such Schedule 13G and any amendments thereto, and for the completeness and accuracy of the information concerning such person contained therein; but none of them is responsible for the completeness or accuracy of the information concerning the other persons making the filing, unless such person knows or has reason to believe that such information is inaccurate.

Dated: August 13, 2020 Bain Capital Life Sciences Fund II, L.P.

By: Bain Capital Life Sciences Investors II, LLC

its general partner

By: Bain Capital Life Sciences Investors, LLC

its manager

By: /s/ Jeffrey Schwartz

Name: Jeffrey Schwartz Title: Managing Director

BCIP Life Sciences Associates, LP

By: Boylston Coinvestors, LLC

its general partner

By: /s/ Jeffrey Schwartz

Name: Jeffrey Schwartz Title: Authorized Signatory