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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**SCHEDULE 13D**

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

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**Sema4 Holdings Corp.**  
(Name of Issuer)

**Class A Common Stock, par value \$0.0001 per share**  
(Title of Class of Securities)

**81663L101**  
(CUSIP Number)

**John G. Finley**  
**Blackstone Inc.**  
**345 Park Avenue**  
**New York, New York 10154**  
**Tel: (212) 583-5000**  
(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

**July 22, 2021**  
(Date of Event Which Requires Filing of this Statement)

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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.

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**Note:** Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

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\* 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).

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1	NAMES OF REPORTING PERSONS	
	BTO Sema4 Holdings L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)  OO	
5	CHECK 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  24,404,324
	8	SHARED VOTING POWER  0
	9	SOLE DISPOSITIVE POWER  24,404,324
	10	SHARED DISPOSITIVE POWER  0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  24,404,324	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)  <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  10.2%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)  PN	

1	NAMES OF REPORTING PERSONS BTO Holdings Manager L.L.C.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
5	CHECK 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 24,404,324
	8	SHARED VOTING POWER 0
	9	SOLE DISPOSITIVE POWER 24,404,324
	10	SHARED DISPOSITIVE POWER 0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 24,404,324	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 10.2%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) OO	

1	NAMES OF REPORTING PERSONS Blackstone Tactical Opportunities Associates L.L.C.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
5	CHECK 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 24,404,324
	8	SHARED VOTING POWER 0
	9	SOLE DISPOSITIVE POWER 24,404,324
	10	SHARED DISPOSITIVE POWER 0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 24,404,324	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 10.2%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) OO	

1	NAMES OF REPORTING PERSONS	
	BTOA L.L.C.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)  OO	
5	CHECK 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  24,404,324
	8	SHARED VOTING POWER  0
	9	SOLE DISPOSITIVE POWER  24,404,324
	10	SHARED DISPOSITIVE POWER  0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  24,404,324	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)  <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  10.2%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)  OO	

1	NAMES OF REPORTING PERSONS	
	Blackstone Family Tactical Opportunities Investment Partnership III ESC L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)  OO	
5	CHECK 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  147,574
	8	SHARED VOTING POWER  0
	9	SOLE DISPOSITIVE POWER  147,574
	10	SHARED DISPOSITIVE POWER  0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  147,574	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)  <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  0.1%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)  PN	

1	NAMES OF REPORTING PERSONS BTO Side-by-Side GP L.L.C.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
5	CHECK 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 147,574
	8	SHARED VOTING POWER 0
	9	SOLE DISPOSITIVE POWER 147,574
	10	SHARED DISPOSITIVE POWER 0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 147,574	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 0.1%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) OO	

1	NAMES OF REPORTING PERSONS Blackstone Holdings III L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
5	CHECK 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 24,551,898
	8	SHARED VOTING POWER 0
	9	SOLE DISPOSITIVE POWER 24,551,898
	10	SHARED DISPOSITIVE POWER 0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 24,551,898	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 10.2%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN	



1	NAMES OF REPORTING PERSONS	
	Blackstone Holdings III GP L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)  OO	
5	CHECK 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  24,551,898
	8	SHARED VOTING POWER  0
	9	SOLE DISPOSITIVE POWER  24,551,898
	10	SHARED DISPOSITIVE POWER  0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  24,551,898	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)  <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  10.2%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)  PN	

1	NAMES OF REPORTING PERSONS	
	Blackstone Holdings III GP Management L.L.C.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)  OO	
5	CHECK 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  24,551,898
	8	SHARED VOTING POWER  0
	9	SOLE DISPOSITIVE POWER  24,551,898
	10	SHARED DISPOSITIVE POWER  0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  24,551,898	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)  <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  10.2%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)  OO	

1	NAMES OF REPORTING PERSONS Blackstone Tactical Opportunities Fund - FD L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
5	CHECK 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 505,095
	8	SHARED VOTING POWER 0
	9	SOLE DISPOSITIVE POWER 505,095
	10	SHARED DISPOSITIVE POWER 0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 505,095	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 0.2%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN	

1	NAMES OF REPORTING PERSONS	
	Blackstone Tactical Opportunities Associates III - NQ L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)  OO	
5	CHECK 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  505,095
	8	SHARED VOTING POWER  0
	9	SOLE DISPOSITIVE POWER  505,095
	10	SHARED DISPOSITIVE POWER  0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  505,095	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)  <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  0.2%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)  PN	

1	NAMES OF REPORTING PERSONS BTO DE GP - NQ L.L.C.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
5	CHECK 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 505,095
	8	SHARED VOTING POWER 0
	9	SOLE DISPOSITIVE POWER 505,095
	10	SHARED DISPOSITIVE POWER 0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 505,095	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 0.2%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) OO	

1	NAMES OF REPORTING PERSONS Blackstone Holdings II L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
5	CHECK 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 505,095
	8	SHARED VOTING POWER 0
	9	SOLE DISPOSITIVE POWER 505,095
	10	SHARED DISPOSITIVE POWER 0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 505,095	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 0.2%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN	

1	NAMES OF REPORTING PERSONS	
	Blackstone Aqua Master Sub-Fund, a sub-fund of Blackstone Global Master Fund ICAV	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)  WC	
5	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(D) OR 2(E)  <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION  Ireland	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER  809,509
	8	SHARED VOTING POWER  0
	9	SOLE DISPOSITIVE POWER  809,509
	10	SHARED DISPOSITIVE POWER  0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  809,509	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)  <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  0.3%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)  CO	

1	NAMES OF REPORTING PERSONS Blackstone Alternative Solutions L.L.C.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
5	CHECK 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 809,509
	8	SHARED VOTING POWER 0
	9	SOLE DISPOSITIVE POWER 809,509
	10	SHARED DISPOSITIVE POWER 0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 809,509	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 0.3%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) OO, IA	



1	NAMES OF REPORTING PERSONS Blackstone Holdings I L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
5	CHECK 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 809,509
	8	SHARED VOTING POWER 0
	9	SOLE DISPOSITIVE POWER 809,509
	10	SHARED DISPOSITIVE POWER 0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 809,509	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 0.3%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN	

1	NAMES OF REPORTING PERSONS	
	Blackstone Holdings I/II GP L.L.C.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)  OO, WC	
5	CHECK 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  1,314,604
	8	SHARED VOTING POWER  0
	9	SOLE DISPOSITIVE POWER  1,314,604
	10	SHARED DISPOSITIVE POWER  0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  1,314,604	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)  <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  0.5%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)  OO	

1	NAMES OF REPORTING PERSONS	
	Blackstone Inc.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)  OO, WC	
5	CHECK 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  25,156,993
	8	SHARED VOTING POWER  0
	9	SOLE DISPOSITIVE POWER  25,156,993
	10	SHARED DISPOSITIVE POWER  0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  25,156,993	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)  <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  10.7%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)  CO	

1	NAMES OF REPORTING PERSONS Blackstone Group Management L.L.C.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO, WC	
5	CHECK 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 25,156,993
	8	SHARED VOTING POWER 0
	9	SOLE DISPOSITIVE POWER 25,156,993
	10	SHARED DISPOSITIVE POWER 0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 25,156,993	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 10.7%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) OO	

1	NAMES OF REPORTING PERSONS  SCHWARZMAN STEPHEN A	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)  OO, WC	
5	CHECK 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  25,156,993
	8	SHARED VOTING POWER  0
	9	SOLE DISPOSITIVE POWER  25,156,993
	10	SHARED DISPOSITIVE POWER  0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  25,156,993	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)  <input checked="" type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  10.7%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)  IN	

## Item 1. Security and Issuer

This Schedule 13D relates to the Class A common stock, par value \$0.0001 per share (the “Class A Common Stock”) of Sema4 Holdings Corp. (formerly known as CM Life Sciences, Inc.), a Delaware corporation (the “Issuer”). The address of the principal executive office of the Issuer is 333 Ludlow Street, North Tower, 8<sup>th</sup> Floor, Stamford, Connecticut 06902.

## Item 2. Identity and Background

(a)-(b) Each of the following is hereinafter individually referred to as a “Reporting Person” and collectively as the “Reporting Persons”. This statement is filed on behalf of:

- (i) BTO Sema4 Holdings L.P., a Delaware limited partnership, (ii) BTO Holdings Manager L.L.C., a Delaware limited liability company, (iii) Blackstone Tactical Opportunities Associates L.L.C., a Delaware limited liability company, (iv) BTOA L.L.C., a Delaware limited liability company, (v) Blackstone Family Tactical Opportunities Investment Partnership III ESC L.P., a Delaware limited partnership, (vi) BTO Side-by-Side GP L.L.C., a Delaware limited liability company, (vii) Blackstone Holdings III L.P., a Delaware limited partnership, (viii) Blackstone Holdings III GP L.P., a Delaware limited partnership, (ix) Blackstone Holdings III GP Management L.L.C., a Delaware limited liability company, (x) Blackstone Tactical Opportunities Fund – FD L.P., a Delaware limited partnership, (xi) Blackstone Tactical Opportunities Associates III – NQ L.P., a Delaware limited partnership, (xii) BTO DE GP – NQ L.L.C., a Delaware limited liability company, (xiii) Blackstone Holdings II L.P., a Delaware limited partnership, (xiv) Blackstone Aqua Master Sub-Fund, a sub-fund of Blackstone Global Master Fund ICAV, an Irish collective asset-management vehicle, (xv) Blackstone Alternative Solutions L.L.C., a Delaware limited liability company, (xvi) Blackstone Holdings I L.P., a Delaware limited partnership, (xvii) Blackstone Holdings I/II GP L.L.C., a Delaware limited liability company, (xviii) Blackstone Inc., a Delaware corporation (“Blackstone”), and (xix) Blackstone Group Management L.L.C., a Delaware limited liability company; and
- Stephen A. Schwarzman, a United States citizen.

The address of the principal business office of each of the Reporting Persons is c/o Blackstone Inc., 345 Park Avenue, New York, NY 10154.

Information regarding each director and executive officer of Blackstone Inc. is set forth on Schedule I attached hereto.

(c) The principal business of each of BTO Sema4 Holdings LP., Blackstone Family Tactical Opportunities Investment Partnership III ESC L.P., Blackstone Tactical Opportunities Fund-FD L.P. and Blackstone Aqua Master Sub-Fund, a sub-fund of Blackstone Global Master Fund ICAV is investing in securities.

The principal business of BTO Holdings Manager L.L.C. is performing the functions of, and serving as, a general partner (or similar position) of BTO Sema4 Holdings L.P. and of other affiliated Blackstone entities. The principal business of Blackstone Tactical Opportunities Associates L.L.C. is performing the functions of, and serving as, the managing member (or similar position) of BTO Holdings Manager L.L.C. and of other affiliated Blackstone entities. The principal business of BTOA L.L.C. is performing the functions of, and serving as, the managing member (or similar position) of Blackstone Tactical Opportunities Associates L.L.C. and of other affiliated Blackstone entities.

The principal business of BTO Side-by-Side GP L.L.C. is performing the functions of, and serving as, the general partner (or similar position) of Blackstone Family Tactical Opportunities Investment Partnership III ESC L.P. and of other affiliated Blackstone entities.

The principal business of Blackstone Holdings III L.P. is performing the functions of, and serving as, the sole member (or similar position) of and member or equity holder of BTO Side-by-Side GP L.L.C. and as managing member of BTOA L.L.C., and other affiliated Blackstone entities. The principal business of Blackstone Holdings III GP L.P. is performing the functions of, and serving as, the general partner of Blackstone Holdings III L.P. and other affiliated Blackstone entities. The principal business of Blackstone Holdings III GP Management L.L.C. is performing the functions of, and serving as, the general partner of Blackstone Holdings III GP L.P. and other affiliated Blackstone entities.

The principal business of Blackstone Tactical Opportunities Associates III – NQ L.P. is performing the functions of, and serving as, a general partner (or similar position) of Blackstone Tactical Opportunities Fund – FD L.P. The principal business of BTO DE GP – NQ L.L.C. is performing the functions of, and serving as, a general partner (or similar position) of Blackstone Tactical Opportunities Associates III – NQ L.P. The principal business of Blackstone Holdings II L.P. is performing the functions of, and serving as, the managing member (or similar position) of and member or equity holder of BTO DE GP – NQ L.L.C. and other affiliated Blackstone entities.

The principal business of Blackstone Alternative Solutions L.L.C. is serving as the investment manager of Blackstone Aqua Master Sub-Fund, a sub-fund of Blackstone Global Master Fund ICAV and other affiliated Blackstone entities.

The principal business of Blackstone Holdings I/II GP L.L.C. is performing the functions of, and serving as, the general partner (or similar position) of Blackstone Holdings I L.P., Blackstone Holdings II L.P. and other affiliated Blackstone entities.

The principal business of Blackstone Inc. is performing the functions of, and serving as, the sole member of each of Blackstone Holdings I/II GP L.L.C. and Blackstone Holdings III GP Management L.L.C., and in a similar capacity for other affiliated Blackstone entities. The principal business of Blackstone Group Management L.L.C. is performing the functions of, and serving as, the sole holder of the Series II preferred stock of Blackstone Inc. The principal occupation of Mr. Schwarzman is serving as an executive of Blackstone Inc. and Blackstone Group Management L.L.C.

(d) During the last five years, none of the Reporting Persons or, to the best knowledge of the Reporting Persons, any of the other persons set forth on Schedule I attached hereto, has been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) During the last five years, none of the Reporting Persons or, to the best knowledge of the Reporting Persons, any of the other persons set forth on Schedule I attached hereto, has been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and, as a result of such proceeding, was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(f) See Item 2(a)-(b) above for citizenship or place of organization, as applicable, of each of the Reporting Persons.

### **Item 3. Source and Amount of Funds or Other Consideration**

The securities reported herein as beneficially owned by each of BTO Sema4 Holdings L.P., Blackstone Family Tactical Opportunities Investment Partnership III ESC L.P. and Blackstone Tactical Opportunities Fund – FD L.P. were acquired in connection with the consummation of the transactions contemplated by the Agreement and Plan of Merger, dated February 9, 2021, by and among CM Life Sciences, Inc. (“CMLS”), S-IV Sub, Inc. (“Merger Sub”) and Mount Sinai Genomics, Inc. d/b/a Sema4 (“Sema4”) (as amended from time to time, the “Merger Agreement”). Pursuant to the terms of the Merger Agreement, Merger Sub merged with and into Sema4 with Sema4 surviving the merger as a wholly owned subsidiary of CMLS, which was renamed “Sema4 Holdings Corp” (the “Merger” and together with the other transactions contemplated by the Merger Agreement, the “Business Combination”).

Pursuant to the terms of the Merger Agreement, the owners of Sema4 (the “Sema4 Stockholders”) prior to the closing of the Business Combination (the “Closing,” and such date of the consummation of the Business Combination, the “Closing Date”) received 123.83 shares of Class A Common Stock for each share of Sema4 capital stock held by them immediately prior to the Closing and certain rights to receive additional shares of Class A Common Stock upon the achievement of certain milestones as described in the Merger Agreement (the “Earnout Rights”).

In the Merger, BTO Sema4 Holdings L.P. received 24,404,324 shares of Class A Common Stock and Earnout Rights with respect to up to 2,750,264 shares of Class A Common Stock, Blackstone Tactical Opportunities Fund – FD L.P. received 505,095 shares of Class A Common Stock and Earnout Rights with respect to up to 56,922 shares of Class A Common Stock and Blackstone Family Tactical Opportunities Investment Partnership III ESC L.P. received 147,574 shares of Class A Common Stock and Earnout Rights with respect to up to 16,632 shares of Class A Common Stock. Pursuant to the terms of the Merger Agreement, the Earnout Rights entitle the holder to receive additional shares of Class A Common Stock if, from the Closing until the second anniversary thereof, the volume-weighted average price of the Class A Common Stock exceeds certain thresholds as discussed below. Of these Earnout Rights, one-third will be issued if the volume-weighted average price of the Class A Common Stock equals or exceeds \$13.00 for any 20 trading days within any 30 trading day period, one-third will be issued if the volume-weighted average price of the Class A Common Stock equals or exceeds \$15.00 for any 20 trading days within any 30 trading day period and one-third will be issued if the volume-weighted average price of the Class A Common Stock equals or exceeds \$18.00 for any 20 trading days within any 30 trading day period. The issuance of such shares are subject to certain adjustments, including pro rata adjustments, pursuant to the terms set forth in the Merger Agreement.

The description of the Merger Agreement contained in this Item 3 is not intended to be complete and is qualified in its entirety by reference to such agreement, which is filed as an exhibit hereto and incorporated by reference herein.

#### **Item 4. Purpose of Transaction**

The Reporting Persons acquired the securities reported herein for investment purposes, subject to the following:

The information in Item 6 of this Schedule 13D is incorporated herein by reference.

The Reporting Persons intend to review their investment in the Issuer on an ongoing basis and, in the course of their review, may take actions (including through their affiliates) with respect to their investment or the Issuer, including communicating with the board of directors of the Issuer (the “Board”), members of management or other security-holders of the Issuer, or other third parties from time to time, taking steps to implement a course of action, including, without limitation, engaging advisors, including legal, financial, regulatory, technical and/or industry advisors, to assist in any review, and evaluating strategic alternatives as they may become available. Such discussions and other actions may relate to, subject to the terms and conditions of the documents described herein to which the Reporting Persons are a party, various alternative courses of action, including, without limitation, those related to an extraordinary corporate transaction (including, but not limited to a merger, reorganization or liquidation) involving the Issuer or any of its subsidiaries; business combinations involving the Issuer or any of its subsidiaries, a sale or transfer of a material amount of assets of the Issuer or any of its subsidiaries; material asset purchases; the formation of joint ventures with the Issuer or any of its subsidiaries or the entry into other material projects; changes in the present business, operations, strategy, future plans or prospects of the Issuer, financial or governance matters; changes to the Board (including board composition) or management of the Issuer; acting as a participant in debt financings of the Issuer or any of its subsidiaries, changes to the capitalization, ownership structure, dividend policy, business or corporate structure or governance documents of the Issuer; de-listing or de-registration of the Issuer’s securities, or any action similar to those enumerated above.



Such discussions and actions may be preliminary and exploratory in nature, and not rise to the level of a plan or proposal. Subject to the terms and conditions of the documents described herein to which the Reporting Persons are a party, the Reporting Persons or their affiliates may seek to acquire securities of the Issuer, including Class A Common Stock and/or other equity, debt, notes or other financial instruments related to the Issuer or the Class A Common Stock (which may include rights or securities exercisable or convertible into securities of the Issuer), and/or sell or otherwise dispose of some or all of such Issuer securities or financial instruments (which may include distributing some or all of such securities to such Reporting Person's respective partners or beneficiaries, as applicable) from time to time, in each case, in open market or private transactions, block sales or otherwise. Any transaction that any of the Reporting Persons or their affiliates may pursue, subject to the terms and conditions of the documents described herein to which the Reporting Persons are a party, may be made at any time and from time to time without prior notice and will depend on a variety of factors, including, without limitation, the price and availability of the Issuer's securities or other financial instruments, the Reporting Persons' or such affiliates' trading and investment strategies, subsequent developments affecting the Issuer, the Issuer's business and the Issuer's prospects, other investment and business opportunities available to such Reporting Persons and their affiliates, general industry and economic conditions, the securities markets in general, tax considerations and other factors deemed relevant by such Reporting Persons and such affiliates.

Except as described in this Schedule 13D, the Reporting Persons do not have any present plans or proposals that relate to or would result in any of the actions described in subparagraphs (a) through (j) of Item 4 of Schedule 13D, although, subject to the agreements described herein, the Reporting Persons, at any time and from time to time, may review, reconsider and change their position and/or change their purpose and/or develop such plans and may seek to influence management or the Board of the Issuer with respect to the business and affairs of the Issuer and may from time to time consider pursuing or proposing such matters with advisors, the Issuer or other persons.

#### **Item 5. Interest in Securities of the Issuer**

(a) and (b) Calculations of the percentage of the shares of Class A Common Stock beneficially owned assumes that there were 240,190,402 shares of Class A Common Stock outstanding as of July 28, 2021, as set forth in the prospectus dated August 12, 2021, filed with the Securities and Exchange Commission (the "SEC") on August 12, 2021, and takes into account shares of Class A Common Stock underlying warrants beneficially owned by the Reporting Persons, as applicable.

The aggregate number and percentage of the Class A Common Stock beneficially owned by each Reporting Person and, for each Reporting Person, the number of shares as to which there is sole power to vote or to direct the vote, shared power to vote or to direct the vote, sole power to dispose or to direct the disposition, or shared power to dispose or to direct the disposition are set forth on rows 7 through 11 and row 13 of the cover pages of this Schedule 13D and are incorporated herein by reference.

As of the date hereof,

(i) BTO Sema4 Holdings L.P. directly holds 24,404,324 shares of Class A Common Stock and Earnout Rights with respect to up to 2,750,264 shares of Class A Common Stock;

(ii) Blackstone Tactical Opportunities Fund – FD L.P. directly holds 505,095 shares of Class A Common Stock and Earnout Rights with respect to up to 56,922 shares of Class A Common Stock;

(iii) Blackstone Family Tactical Opportunities Investment Partnership III ESC L.P. directly holds 147,574 shares of Class A Common Stock and Earnout Rights with respect to up to 16,632 shares of Class A Common Stock; and

(iv) Blackstone Aqua Master Sub-Fund, a sub-fund of Blackstone Global Master Fund ICAV, directly holds 100,000 shares of Class A Common Stock and warrants to purchase 709,509 shares of Class A Common Stock which are exercisable within 60 days. Each warrant is exercisable to purchase one share of Class A Common Stock at a price of \$11.50 per share, subject to adjustment, and becomes exercisable September 3, 2021.

BTO Holdings Manager L.L.C. is the general partner of BTO Sema4 Holdings L.P. Blackstone Tactical Opportunities Associates L.L.C. is the managing member of BTO Holdings Manager L.L.C. BTOA L.L.C. is the sole member of Blackstone Tactical Opportunities Associates L.L.C.

BTO Side-by-Side GP L.L.C. is the general partner of Blackstone Family Tactical Opportunities Investment Partnership III ESC L.P. Blackstone Holdings III L.P. is the sole member of BTO Side-by-Side GP L.L.C. and the managing member of BTOA L.L.C.

Blackstone Holdings III GP L.P. is the general partner of Blackstone Holdings III L.P. Blackstone Holdings III GP Management L.L.C. is the general partner of Blackstone Holdings III GP L.P.

Blackstone Tactical Opportunities Associates III – NQ L.P. is the general partner of Blackstone Tactical Opportunities Fund – FD L.P. BTO DE GP – NQ L.L.C. is the general partner of Blackstone Tactical Opportunities Associates III – NQ L.P. Blackstone Holdings II L.P. is the managing member of BTO DE GP – NQ L.L.C.

Blackstone Alternative Solutions L.L.C. is the investment manager of Blackstone Aqua Master Sub-Fund, a sub-fund of Blackstone Global Master Fund ICAV. Blackstone Holdings I L.P. is the sole member of Blackstone Alternative Solutions L.L.C. Blackstone Holdings I/II GP L.L.C. is the general partner of Blackstone Holdings I L.P.

Blackstone Holdings I/II L.L.C. is the general partner of each of Blackstone Holdings I L.P. and Blackstone Holdings II L.P.

Blackstone Inc. is the sole member of each Blackstone Holdings I/II GP L.L.C. and Blackstone Holdings III GP Management L.L.C. The sole holder of the Series II preferred stock of Blackstone Inc. is Blackstone Group Management L.L.C. Blackstone Group Management L.L.C. is wholly-owned by Blackstone's senior managing directors and controlled by its founder, Stephen A. Schwarzman.

Neither the filing of this Schedule 13D nor any of its contents shall be deemed to constitute an admission that any Reporting Person is the beneficial owner of the Class A Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or for any other purpose and each of the Reporting Persons expressly disclaims beneficial ownership of such shares of Class A Common Stock.

Any beneficial ownership of Class A Common Stock by any of the persons listed on Schedule I is set forth on Schedule I attached hereto.

(c) Except as set forth in this Schedule 13D and below, none of the Reporting Persons or, to the best knowledge of the Reporting Persons, any other person named in Schedule I, has effected any transaction in Class A Common Stock in the past 60 days.

(d) To the best knowledge of the Reporting Persons, no one other than the Reporting Persons, or the partners, members, affiliates or shareholders of the Reporting Persons, has the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the Class A Common Stock reported herein as beneficially owned by the Reporting Persons.

(e) Not applicable.

**Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer**

The information provided or incorporated by reference in Items 3, 4 and 5 is hereby incorporated by reference herein.

### ***Stockholder Lock-up Agreement***

In connection with the execution of the Merger Agreement, each Sema4 Stockholder holding more than 1% of the outstanding common stock of Sema4 as of the date thereof, entered into a Stockholder Lock-up Agreement whereby such stockholder agreed, subject to certain exceptions, not to (i) sell, offer to sell, contract or agree to sell, hypothecate pledge, grant any option to purchase or otherwise dispose of or agree to dispose of, directly or indirectly, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Exchange Act with respect to shares of Class A Common Stock issued to such stockholder pursuant to the Merger Agreement (such shares of Class A Common Stock, the “Lock-up Shares”), (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of any of the Lock-up Shares, in cash or otherwise, or (iii) publicly announce any intention to effect any transaction specified in clause (i) or (ii), until the earliest of (a) the date that is 180 calendar days from the Closing Date, and (b) the date following the Closing Date on which the Issuer completes a liquidation, merger, stock exchange or other similar transaction that results in all of the Issuer’s stockholders having the right to exchange their shares of Issuer capital stock for cash, securities or other property. Notwithstanding the foregoing, the stockholder may take any of the actions specified in clauses (i), (ii) and (iii) above at any time after the first date on which the closing price of Class A Common Stock has equaled or exceeded \$12.00 per share (as adjusted for stock splits, stock dividends, reorganizations, recapitalizations and the like) for any 20 trading days within any 30-trading day period commencing at least 150 days after the closing date of the Merger.

### ***Registration Rights Agreement***

In connection with the execution of the Merger Agreement, the Issuer, CMLS Holdings LLC and certain other parties thereto, including certain of the Reporting Persons (collectively, the “rights holders”) entered into the Amended and Restated Registration Rights Agreement (the “Amended and Restated Registration Rights Agreement”) which amends and restates in its entirety the existing registration rights agreement, dated September 1, 2020, by and between the Issuer and the parties thereto. Pursuant to the terms of the Amended and Restated Registration Rights Agreement, the Issuer is to prepare and file with the SEC, no later than 30 days after the Closing Date, a shelf registration statement for an offering to be made on a continuous basis from time to time with respect to the resale of the registrable shares under the Amended and Restated Registration Rights Agreement. The Issuer is further required to use commercially reasonable efforts to cause such shelf registration statement to be declared effective as soon as possible after filing, but in no event later than the earlier of 60 days following the filing date thereof and five business days after the SEC notifies the Issuer that it will not review such registration statement, subject to extension in the event that the registration is subject comments from the SEC. The Issuer filed such shelf registration statement on August 4, 2021, and such shelf registration statement was declared effective by the SEC on August 12, 2021.

In addition, pursuant to the terms of the Amended and Restated Registration Rights Agreement and subject to certain requirements and customary conditions, including with regard to the number of demand rights that may be exercised, the rights holders may demand at any time or from time to time, that the Issuer file a registration statement on Form S-1 or Form S-3 to register certain shares of the Class A Common Stock held by such rights holders. The Amended and Restated Registration Rights Agreement also provides the rights holders with “piggy-back” registration rights, subject to certain requirements and customary conditions. The Issuer will bear the expenses incurred in connection with the filing of any such registration statement.

The description of the Stockholder Lockup Agreement and Amended and Restated Registration Rights Agreement contained in this Item 6 are not intended to be complete and are qualified in their entirety by reference to such documents, which are filed as exhibits hereto and incorporated by reference herein.

### **Item 7. Material to be Filed as Exhibits**

Exhibit A Joint Filing Agreement, by and among the Reporting Persons (filed herewith).

Exhibit B Agreement and Plan of Merger, dated February 9, 2021, by and among CMLS, Merger Sub and Sema4, as amended by Amendment to Agreement and Plan of Merger dated May 3, 2021 (incorporated by reference to Annex A of Form DEFM14A filed by the Issuer on July 2, 2021).

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Exhibit C Form of Lockup Agreement (incorporated by reference to Exhibit 10.2 to the Issuer's Current Report on Form 8-K filed on February 11, 2021).

Exhibit D Amended and Restated Registration Rights Agreement, dated as of July 22, 2021, by and among the Issuer, CMLS Holdings LLC and certain other parties (incorporated by reference as Exhibit 10.2 of the Issuer's Form 8-K, filed with the SEC on July 28, 2021).

**SIGNATURE**

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

Dated: August 30, 2021

**BTO SEMA4 HOLDINGS L.P.**

By: BTO Holdings Manager L.L.C., its general partner

By: Blackstone Tactical Opportunities Associates L.L.C., its managing member

By: BTOA L.L.C., its sole member

By: Blackstone Holdings III L.P., its indirect managing member

By: Blackstone Holdings III GP L.P., its general partner

By: Blackstone Holdings III GP Management L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BTO HOLDINGS MANAGER L.L.C.**

By: Blackstone Tactical Opportunities Associates L.L.C., its managing member

By: BTOA L.L.C., its sole member

By: Blackstone Holdings III L.P., its managing member

By: Blackstone Holdings III GP L.P., its general partner

By: Blackstone Holdings III GP Management L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE TACTICAL OPPORTUNITIES ASSOCIATES, L.L.C.**

By: BTOA L.L.C., its sole member

By: Blackstone Holdings III L.P., its managing member

By: Blackstone Holdings III GP L.P., its general partner

By: Blackstone Holdings III GP Management L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BTOA L.L.C.**

By: Blackstone Holdings III L.P., its managing member  
By: Blackstone Holdings III GP L.P., its general partner  
By: Blackstone Holdings III GP Management L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE FAMILY TACTICAL  
OPPORTUNITIES INVESTMENT PARTNERSHIP III  
ESC L.P.**

By: BTO Side-by-Side GP L.L.C., its general partner  
By: Blackstone Holdings III L.P., its sole member  
By: Blackstone Holdings III GP L.P., its general partner  
By: Blackstone Holdings III GP Management L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BTO SIDE-BY-SIDE GP L.L.C.**

By: Blackstone Holdings III L.P., its sole member  
By: Blackstone Holdings III GP L.P., its general partner  
By: Blackstone Holdings III GP Management L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE HOLDINGS III L.P.**

By: Blackstone Holdings III GP L.P., its general partner  
By: Blackstone Holdings III GP Management L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE HOLDINGS III GP L.P.**

By: Blackstone Holdings III GP Management L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE HOLDINGS III GP MANAGEMENT  
L.L.C.**

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE TACTICAL OPPORTUNITIES FUND  
- FD L.P.**

By: Blackstone Tactical Opportunities Associates III - NQ  
L.P., its general partner

By: BTO DE GP - NQ L.L.C., its general partner

By: Blackstone Holdings II L.P., its managing member

By: Blackstone Holdings I/II GP L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE TACTICAL OPPORTUNITIES  
ASSOCIATES III - NQ L.P.**

By: BTO DE GP - NQ L.L.C., its general partner

By: Blackstone Holdings II L.P., its managing member

By: Blackstone Holdings I/II GP L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BTO DE GP - NQ L.L.C.**

By: Blackstone Holdings II L.P., its managing member

By: Blackstone Holdings I/II GP L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE HOLDINGS II L.P.**

By: Blackstone Holdings I/II GP L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE GLOBAL MASTER FUND ICAV**

**Acting solely on behalf of its sub-fund**

**BLACKSTONE AQUA MASTER SUB-FUND**

By: Blackstone Alternative Solutions L.L.C., its investment  
manager

By: /s/ Peter Koffler

Name: Peter Koffler

Title: Authorized Person

**BLACKSTONE ALTERNATIVE SOLUTIONS L.L.C.**

By: /s/ Peter Koffler

Name: Peter Koffler

Title: Authorized Person

**BLACKSTONE HOLDINGS I L.P.**

By: Blackstone Holdings I/II GP L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE HOLDINGS I/II GP L.L.C.**

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE INC.**

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE GROUP MANAGEMENT L.L.C.**

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**Stephen A. Schwarzman**

By: /s/ Stephen A. Schwarzman

Name: Stephen A. Schwarzman



SCHEDULE I

Executive Officers and Directors of Blackstone Inc.

The name and principal occupation of each director and executive officer of Blackstone Inc. are set forth below. The address for each person listed below is c/o Blackstone Inc., 345 Park Avenue, New York, New York 10154. All executive officers and directors listed are United States citizens other than The Honourable Brian Mulrone, who is a citizen of Canada, and Sir John Antony Hood, who is a citizen of New Zealand.

**OFFICERS:**

<b><u>Name</u></b>	<b><u>Present Principal Occupation or Employment</u></b>
Stephen A. Schwarzman	Founder, Chairman and Chief Executive Officer of Blackstone Inc.
Jonathan D. Gray	President, Chief Operating Officer of Blackstone Inc.
Hamilton E. James	Executive Vice Chairman of Blackstone Inc.
Michael S. Chae	Chief Financial Officer of Blackstone Inc.
John G. Finley	Chief Legal Officer of Blackstone Inc.

**DIRECTORS:**

<b><u>Name</u></b>	<b><u>Present Principal Occupation or Employment</u></b>
Stephen A. Schwarzman	Founder, Chairman and Chief Executive Officer of Blackstone Inc.
Jonathan D. Gray	President, Chief Operating Officer of Blackstone Inc.
Hamilton E. James	Executive Vice Chairman of Blackstone Inc.
Kelly A. Ayotte	Former United States Senator from New Hampshire
Joseph P. Baratta	Global Head of Private Equity at Blackstone Inc.
James W. Breyer	Founder and Chief Executive Officer of Breyer Capital
Reginald J. Brown	Partner for the law firm, Kirkland & Ellis
Sir John Antony Hood	Former President and Chief Executive Officer of the Robertson Foundation and Former Chair of the Rhodes Trust
Rochelle B. Lazarus	Chairman Emeritus & Former Chief Executive Officer, Ogilvy & Mather Worldwide
Jay O. Light	Dean Emeritus, Harvard Business School

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The Right Honourable Brian  
Mulroney

Senior Partner for the Montreal law firm, Norton Rose Fulbright Canada LLP

William G. Parrett

Retired CEO and Senior Partner, Deloitte (Deloitte Touche Tohmatsu)

Ruth Porat

Chief Financial Officer of Alphabet Inc. and Google Inc.

Except as set forth in this Schedule 13D, to the best knowledge of the Reporting Persons, none of the individuals listed above beneficially owns any shares of Class A Common Stock.

**Exhibit A**

**JOINT FILING AGREEMENT**

Pursuant to and in accordance with the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (the “Exchange Act”) the undersigned hereby agree to the joint filing on behalf of each of them of any filing required by such party under Section 13 of the Exchange Act or any rule or regulation thereunder (including any amendment, restatement, supplement, and/or exhibit thereto) with respect to securities of Sema4 Holdings Corp., a Delaware corporation, and further agree to the filing, furnishing, and/or incorporation by reference of this Agreement as an exhibit thereto. Each of them is responsible for the timely filing of such filings 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. This Agreement shall remain in full force and effect until revoked by any party hereto in a signed writing provided to each other party hereto, and then only with respect to such revoking party. This Agreement may be executed in any number of counterparts all of which taken together shall constitute one and the same instrument.

Dated: August 30, 2021

**BTO SEMA4 HOLDINGS L.P.**

By: BTO Holdings Manager L.L.C., its general partner  
By: Blackstone Tactical Opportunities Associates L.L.C., its managing member

By: BTOA L.L.C., its sole member

By: Blackstone Holdings III L.P., its indirect managing member

By: Blackstone Holdings III GP L.P., its general partner

By: Blackstone Holdings III GP Management L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BTO HOLDINGS MANAGER L.L.C.**

By: Blackstone Tactical Opportunities Associates L.L.C., its managing member

By: BTOA L.L.C., its sole member

By: Blackstone Holdings III L.P., its managing member

By: Blackstone Holdings III GP L.P., its general partner

By: Blackstone Holdings III GP Management L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE TACTICAL OPPORTUNITIES  
ASSOCIATES, L.L.C.**

By: BTOA L.L.C., its sole member

By: Blackstone Holdings III L.P., its managing member

By: Blackstone Holdings III GP L.P., its general partner

By: Blackstone Holdings III GP Management L.L.C., its  
general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BTOA L.L.C.**

By: Blackstone Holdings III L.P., its managing member

By: Blackstone Holdings III GP L.P., its general partner

By: Blackstone Holdings III GP Management L.L.C., its  
general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE FAMILY TACTICAL  
OPPORTUNITIES INVESTMENT PARTNERSHIP III  
ESC L.P.**

By: BTO Side-by-Side GP L.L.C., its general partner

By: Blackstone Holdings III L.P., its sole member

By: Blackstone Holdings III GP L.P., its general partner

By: Blackstone Holdings III GP Management L.L.C., its  
general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BTO SIDE-BY-SIDE GP L.L.C.**

By: Blackstone Holdings III L.P., its sole member

By: Blackstone Holdings III GP L.P., its general partner

By: Blackstone Holdings III GP Management L.L.C., its  
general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE HOLDINGS III L.P.**

By: Blackstone Holdings III GP L.P., its general partner  
By: Blackstone Holdings III GP Management L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE HOLDINGS III GP L.P.**

By: Blackstone Holdings III GP Management L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE HOLDINGS III GP MANAGEMENT L.L.C.**

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE TACTICAL OPPORTUNITIES FUND - FD L.P.**

By: Blackstone Tactical Opportunities Associates III - NQ L.P., its general partner

By: BTO DE GP - NQ L.L.C., its general partner

By: Blackstone Holdings II L.P., its managing member

By: Blackstone Holdings I/II GP L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE TACTICAL OPPORTUNITIES ASSOCIATES III - NQ L.P.**

By: BTO DE GP - NQ L.L.C., its general partner

By: Blackstone Holdings II L.P., its managing member

By: Blackstone Holdings I/II GP L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BTO DE GP - NQ L.L.C.**

By: Blackstone Holdings II L.P., its managing member

By: Blackstone Holdings I/II GP L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE HOLDINGS II L.P.**

By: Blackstone Holdings I/II GP L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE GLOBAL MASTER FUND ICAV  
Acting solely on behalf of its sub-fund**

**BLACKSTONE AQUA MASTER SUB-FUND**

By: Blackstone Alternative Solutions L.L.C., its investment manager

By: /s/ Peter Koffler

Name: Peter Koffler

Title: Authorized Person

**BLACKSTONE ALTERNATIVE SOLUTIONS L.L.C.**

By: /s/ Peter Koffler

Name: Peter Koffler

Title: Authorized Person

**BLACKSTONE HOLDINGS I L.P.**

By: Blackstone Holdings I/II GP L.L.C., its general partner

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE HOLDINGS I/II GP L.L.C.**

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE INC.**

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**BLACKSTONE GROUP MANAGEMENT L.L.C.**

By: /s/ Tabea Hsi

Name: Tabea Hsi

Title: Senior Managing Director

**Stephen A. Schwarzman**

By: /s/ Stephen A. Schwarzman

Name: Stephen A. Schwarzman