

CUSIP No: 293602207

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 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.

(Amendment No. ____)*

Ensysce Biosciences, Inc.

(Name of Issuer)

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

293602207
(CUSIP Number)

December 7, 2022
(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 purposes 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

CVI Investments, Inc.

(2) CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

(a)
(b)

(3) SEC USE ONLY

(4) CITIZENSHIP OR PLACE OF ORGANIZATION

Cayman Islands

NUMBER OF (5) SOLE VOTING POWER

SHARES
BENEFICIALLY OWNED BY

0

EACH (6) SHARED VOTING POWER **

REPORTING PERSON WITH

500,000

(7) SOLE DISPOSITIVE POWER

0

(8) SHARED DISPOSITIVE POWER **

500,000

(9) AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

500,000

(10) CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

(11) PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

7.8%

(12) TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

CO

** Heights Capital Management, Inc. is the investment manager to CVI Investments, Inc. and as such may exercise voting and dispositive power over these shares.

CUSIP No: 293602207

(1) NAMES OF REPORTING PERSONS

Heights Capital Management, Inc.

(2) CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

(a)
(b)

(3) SEC USE ONLY

(4) CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

NUMBER OF
SHARES
BENEFICIALLY
OWNED BY

(5) SOLE VOTING POWER

0

EACH
REPORTING
PERSON WITH

(6) SHARED VOTING POWER **

500,000

(7) SOLE DISPOSITIVE POWER

0

(8) SHARED DISPOSITIVE POWER **

500,000

(9) AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

500,000

(10) CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

(11) PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

7.8%

(12) TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

CO

** Heights Capital Management, Inc. is the investment manager to CVI Investments, Inc. and as such may exercise voting and dispositive power over these shares.

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Item 1.

(a) Name of Issuer

Ensysce Biosciences, Inc. (the "Company")

(b) Address of Issuer's Principal Executive Offices

7946 Ivanhoe Avenue, Suite 201, La Jolla, CA 92037

Item 2(a). Name of Person Filing

This statement is filed by the entities listed below, who are collectively referred to herein as "Reporting Persons," with respect to the shares of common stock of the Company, \$0.0001 par value per share (the "Shares").

(i) CVI Investments, Inc.

(ii) Heights Capital Management, Inc.

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

The address of the principal business office of CVI Investments, Inc. is:

P.O. Box 309GT
Ugland House
South Church Street
George Town
Grand Cayman
KY1-1104
Cayman Islands

The address of the principal business office of Heights Capital Management, Inc. is:

101 California Street, Suite 3250
San Francisco, California 94111

Item 2(c). Citizenship

Citizenship is set forth in Row 4 of the cover page for each Reporting Person hereto and is incorporated herein by reference for each such Reporting Person.

Item 2(d) Title of Class of Securities

Common stock, \$0.0001 par value per share

Item 2(e) CUSIP Number

293602207

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. 78o).

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(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 of 1940 (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 Rule 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

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

The information required by Items 4(a) – (c) is set forth in Rows 5 – 11 of the cover page for each Reporting Person hereto and is incorporated herein by reference for each such Reporting Person.

The Company's Prospectus (Registration No. 333-268038), filed on December 9, 2022, indicates there were 6,413,324 Shares outstanding (excluding Shares underlying warrants issued at the same time) as of the completion of the offering of the Shares referred to therein.

Heights Capital Management, Inc., which serves as the investment manager to CVI Investments, Inc., may be deemed to be the beneficial owner of all Shares owned by CVI Investments, Inc. Each of the Reporting Persons hereby disclaims any beneficial ownership of any such Shares, except for their pecuniary interest therein.

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 person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following: []

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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. Certification

By signing below each of the undersigned certifies that, to the best of its 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.

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SIGNATURES

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

Dated: December 16, 2022

CVI INVESTMENTS, INC.

By: Heights Capital Management, Inc.
pursuant to a Limited Power of Attorney, a copy of which is attached as Exhibit I hereto

By: /s/ Brian Sopinsky
Name: Brian Sopinsky
Title: Secretary

HEIGHTS CAPITAL MANAGEMENT, INC.

By: /s/ Brian Sopinsky
Name: Brian Sopinsky
Title: Secretary

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EXHIBIT	DESCRIPTION
<u>I</u>	<u>Limited Power of Attorney</u>
<u>II</u>	<u>Joint Filing Agreement</u>

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Exhibit I

LIMITED POWER OF ATTORNEY

THIS LIMITED POWER OF ATTORNEY given on the 16th day of July, 2015 by CVI Investments, Inc. (hereinafter called "the Company"), whose Registered Office is situated at PO Box 309GT, Uglund House, South Church Street, George Town, Grand Cayman, Cayman Islands.

WHEREAS, by agreement dated July 16, 2015, by and between the Company and Heights Capital Management, Inc., the Company expressly authorized Heights Capital Management, Inc. to enter into transactions in certain designated areas as defined in the Discretionary Investment Management Agreement attached hereto marked "Appendix I."

NOW THIS DEED WITNESSETH that William Walmsley, Director of the Company, hereby appoints on behalf of the Company the firm of HEIGHTS CAPITAL MANAGEMENT, INC., which through its officers, directors and employees is hereby formally granted limited power of attorney for the purpose of entering into transactions on behalf and for the account of the Company; and to take all actions on behalf of the Company as may be necessary to consummate such transactions, including but not limited to making, negotiating, signing, endorsing, executing, acknowledging and delivering in the name of the Company all applications, contracts, agreements, notes, statements, certificates, proxies and any other instruments of whatever kind and nature as may be necessary or proper in connection with the entering into of such transactions, instructing the transfer of funds where necessary with respect to such transactions, and performing all of the services specified under the Discretionary Investment Management Agreement with respect to such transactions.

IN WITNESS WHEREOF, the Company has caused this Limited Power of Attorney to take effect on the day and year above written.

CVI Investments, Inc.

By: /s/ William Walmsley
William Walmsley, Director

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EXHIBIT II

JOINT FILING AGREEMENT

This will confirm the agreement by and among the undersigned that the Schedule 13G filed with the Securities and Exchange Commission on or about the date hereof with respect to the beneficial ownership by the undersigned of the shares of common stock of Ensysce Biosciences, Inc., \$0.0001 par value per share, is being filed, and all amendments thereto will be filed, on behalf of each of the persons and entities named below in accordance with Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

Dated as of December 16, 2022

CVI INVESTMENTS, INC.

By: Heights Capital Management, Inc.
pursuant to a Limited Power of Attorney

HEIGHTS CAPITAL MANAGEMENT, INC.

By: /s/ Brian Sopinsky
Name: Brian Sopinsky
Title: Secretary

By: /s/ Brian Sopinsky
Name: Brian Sopinsky
Title: Secretary