#### UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, DC 20549

# FORM 8-K

### **CURRENT REPORT**

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

May 9, 2024 Date of Report (date of earliest event reported)

## **OpGen, Inc.** (Exact name of Registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

001-37367 (Commission File Number) 06-1614015 (I.R.S. Employer

(I.R.S. Employer Identification Number)

9717 Key West Ave, Suite 100 Rockville, MD 20850 (Address of principal executive offices)(Zip code)

(240) 813-1260

(Registrant's telephone number, including area code)

Not Applicable

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

□ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

□ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

□ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	OPGN	The Nasdaq Capital Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company  $\Box$ 

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.  $\Box$ 

### Item 3.03 Material Modifications to Rights of Security Holders.

To the extent required by Item 3.03 of Form 8-K, the information regarding the Amendment (as defined below) contained in Item 5.03 of this Current Report on Form 8-K is incorporated by reference herein.

### Item 5.03 Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year.

At a Special Meeting (as defined below), the stockholders of OpGen, Inc. (the "Company") approved an amendment (the "Amendment") to the Company's certificate of designation designating the rights, preferences and limitations of the Company's Series E Preferred Stock (the "Certificate of Designation"). As described in the Company's proxy statement for the Special Meeting, the Certificate of Designation provided that the Series E Preferred Stock could not be converted or voted in a manner that would result in the holder or his or her transferees or their affiliates holding or voting more than the lesser of (i) 19.99% (together with any other shares of common stock otherwise held by them or their affiliates) and (ii) such lower percentage as may be required by applicable stock exchange rules of the then issued and outstanding common stock of the Company (the "Ownership Limitation"), prior to the date that the Company's stockholders approve the issuance of shares of common stock to the holder thereof. The Amendment removes such Ownership Limitation so that the shares of Series E Preferred Stock may be converted and voted without regard to such Ownership Limitation.

Following the approval of the Amendment at the Special Meeting, the Company filed the Amendment with the Secretary of State of the State of Delaware on May 9, 2024. Except for the removal of the Ownership Limitation, the Amendment does not make any other changes to the Certificate of Designation.

The foregoing description of the Certificate of Designation and the Amendment do not purport to be complete and are qualified in their entirety by reference to the full text of the form of the Certificate of Designation and the Amendment, which are filed as Exhibits 3.1 and 3.2, respectively, to this Current Report on Form 8-K and incorporated herein by reference.

#### Item 5.07 Submission of Matters to a Vote of Security Holders.

On May 9, 2024, the Company held a special meeting of stockholders (the "Special Meeting"). The Company's stockholders voted on the proposals listed below, each of which was described in the Company's proxy statement for the Special Meeting dated May 9, 2024. At the Special Meeting, shares of the Company's capital stock representing 14,795,642 votes out of a total of 26,435,902 votes of the Company's capital stock, as of April 26, 2024, the record date for the Special Meeting, were represented in person or by proxy at the Special Meeting. The following is a summary of the voting results for the proposals voted upon at the Special Meeting:

1. <u>Proposal 1 – Share Issuance and Change of Control Proposal</u>. At the Special Meeting, the Company's stockholders voted upon and approved (i) the issuance to David Lazar of the common stock issuable upon the conversion of the Company's Series E Preferred Stock in excess of applicable beneficial ownership limitations, the issuance of which would result in a "change of control" under the rules of The Nasdaq Capital Market and (ii) an amendment of the Certificate of Designation for the Series E Preferred Stock removing such ownership limitations. The votes cast on this proposal were as follows:

3,774,290 votes	FOR the proposal
239,337 votes	AGAINST the proposal
5,827 votes	ABSTAIN
0 votes	Broker Non-Votes

2. <u>Proposal 2 – Reverse Stock Split Proposal</u>. At the Special Meeting, the Company's stockholders voted upon and approved the amendment to the Company's Amended and Restated Certificate of Incorporation, as amended (the "Charter"), to effect a reverse stock split at a ratio not less than two-to-one and not more than ten-to-one, such ratio and the implementation and timing of such reverse stock split to be determined in the discretion of our Board of Directors. The votes cast on this proposal were as follows:

14,487,507 votes	FOR the proposal
305,047 votes	AGAINST the proposal
3,088 votes	ABSTAIN
0 votes	Broker Non-Votes

3. <u>Proposal 3 – Adjournment</u>. At the Special Meeting, the Company's stockholders voted upon and approved of an adjournment of the Special Meeting to a later date, if necessary or appropriate, to permit further solicitation and vote of proxies in the event that there are insufficient votes for, or otherwise in connection with, Proposals 1 and 2. Although the proposal was rendered moot because Proposal 1 and 2 were approved, the votes cast on this proposal were as follows:

14,526,470 votes	FOR the proposal
255,619 votes	AGAINST the proposal
13,553 votes	ABSTAIN
0 votes	Broker Non-Votes

# Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

3.1	Certificate of Designation of Preferences, Rights and Limitations of Series E Preferred Stock (incorporated by reference to Exhibit 3.1 of
	the Company's Current Report on Form 8-K filed March 29, 2024)
3.2	Amendment to the Certificate of Designation of Preferences, Rights and Limitations of Series E Preferred Stock filed with the Secretary of
	State of the State of Delaware on May 9, 2024
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

# SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: May 14, 2024

# OpGen, Inc.

By: /s/ David E. Lazar Name: David E. Lazar Title: Chief Executive Officer

#### OPGEN, INC.

### AMENDED AND RESTATED CERTIFICATE OF DESIGNATIONS, PREFERENCES,

## **RIGHTS AND LIMITATIONS**

### OF

# SERIES E CONVERTIBLE PREFERRED STOCK

### **PURSUANT TO SECTION 151 OF THE**

#### DELAWARE GENERAL CORPORATION LAW

The undersigned, David Lazar, does hereby certify that:

1. He is the Chief Executive Officer of OpGen, Inc., a Delaware corporation (the "Corporation").

2. The Corporation is authorized to issue 10,000,000 shares of preferred stock.

3. The board of directors of the Corporation (the "**Board of Directors**") previously adopted a resolution authorizing the creation and issuance of shares of Preferred Stock designated Series E Convertible Preferred Stock and the Certificate of Designations, Rights and Preferences for the Series E Convertible Preferred Stock was filed with the Secretary of State of the State of Delaware on March 25, 2024.

4. The following resolutions were duly adopted by the Board of Directors:

**NOW, THEREFORE, BE IT RESOLVED**, that the Board of Directors, pursuant to authority expressly granted to and vested in the Board of Directors by the Amended and Restated Certificate of Incorporation of the Corporation, as amended, approves and declares it advisable and in the best interest of the Corporation to amend and restate the terms of the Series E Convertible Preferred Stock of the Corporation, and hereby fixes the designation thereof, and the voting powers, preferences and relative, participating, optional and other special rights, and the qualifications, limitations or restrictions thereof, set forth in the Amended and Restated Certificate of Incorporation of the Corporation, as amended, which are applicable to the preferred stock, if any) as follows:

## TERMS OF PREFERRED STOCK

Section 1. Definitions. For the purposes hereof, the following terms shall have the following meanings:

"Affiliate" means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 of the Securities Act.

"Business Day" means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

"Commission" means the United States Securities and Exchange Commission.

"Common Stock" means the Corporation's common stock, par value \$0.01 per share, and stock of any other class of securities into which such securities may hereafter be reclassified or changed.

"Common Stock Equivalents" means any securities of the Corporation or its subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

"Conversion Amount" means the sum of the Stated Value at issue.

"Conversion Date" shall have the meaning set forth in Section 6(a).

"Conversion Shares" means, collectively, the shares of Common Stock issuable upon conversion of the shares of Preferred Stock in accordance with the terms hereof.

"Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

"Fundamental Transaction" shall have the meaning set forth in Section 7(d).

"GAAP" means United States generally accepted accounting principles.

"Holder" shall have the meaning set forth in Section 2.

"Liquidation" shall have the meaning set forth in Section 5.

"New York Courts" shall have the meaning set forth in Section 8(d).

"Notice of Conversion" shall have the meaning set forth in Section 6(a).

"Original Issue Date" means the date of the first issuance of any shares of the Preferred Stock regardless of the number of transfers of any particular shares of Preferred Stock and regardless of the number of certificates which may be issued to evidence such Preferred Stock.

"Person" means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

"Preferred Stock" shall have the meaning set forth in Section 2.

"Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

"Share Delivery Date" shall have the meaning set forth in Section 6(b).

"Stated Value" shall have the meaning set forth in Section 2, as the same may be increased pursuant to Section 3.

"Successor Entity" shall have the meaning set forth in Section 7(d).

"Trading Day" means a day on which the principal Trading Market is open for business.

"Trading Market" means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the NYSE MKT or the New York Stock Exchange (or any successors to any of the foregoing).

"Transfer Agent" means Pacific Stock Transfer, Inc., and any successor transfer agent of the Corporation.

Section 2. <u>Designation, Amount and Par Value</u>. The series of preferred stock shall be designated as the Series E Convertible Preferred Stock (the "<u>Preferred Stock</u>") and the number of shares so designated shall be 3,000,000 (which shall not be subject to change without the written consent of a majority of the holders of the Preferred Stock (each, a "<u>Holder</u>" and collectively, the "<u>Holders</u>")). Each share of Preferred Stock shall have a par value of \$0.01 per share and a stated value equal to \$1.00 (the "<u>Stated Value</u>").

Section 3. <u>Dividends</u>. Except for stock dividends or distributions for which adjustments are to be made pursuant to **Section 7**, Holders shall be entitled to receive, and the Corporation shall pay, dividends on shares of Preferred Stock equal (on an as-if-converted-to-Common-Stock basis, without regard to conversion limitations herein) to and in the same form as dividends actually paid on shares of the Common Stock when, as and if such dividends are paid on shares of the Common Stock. No other dividends shall be paid on shares of Preferred Stock. The Corporation shall not pay any dividends on the Common Stock unless the Corporation simultaneously complies with this provision.

Section 4. <u>Voting Rights</u>. The Preferred Stock shall be counted for purposes of determining a quorum at a meeting of stockholders and shall vote on matters of the Corporation on an as-if-converted-to-Common-Stock basis.

### Section 5. Liquidation Preference.

(a) In the event of any liquidation, dissolution or winding up of the Corporation, either voluntary or involuntary, subject to the rights of any series of preferred stock which may from time to time hereafter come into existence, the holders of the Preferred Stock shall be entitled to receive, prior and in preference to any distribution of any of the assets of the Corporation to the holders of Common Stock by reason of their ownership thereof, the Stated Value per share of Preferred Stock then held by them, plus declared but unpaid dividends. If, upon the occurrence of any liquidation, dissolution or winding up of the Corporation, the assets and funds thus distributed among the holders of the Preferred Stock shall be insufficient to permit the payment to such holders of the full aforesaid preferential amounts, then, subject to the rights of any series of preferred stock which may from time to time hereafter come into existence, the entire assets and funds of the corporation legally available for distribution shall be distributed ratably among the holders of the each series of preferred stock in proportion to the preferred stock in proportio

(b) Upon the completion of the distribution required by Section 5(a) above and any other distribution that may be required with respect to the rights of any existing series of preferred stock or to the rights of any series of preferred stock which may from time to time hereafter come into existence, if assets remain in the Corporation, the remaining assets shall be distributed to the holders of the Common Stock until such time as the holders of the Common stock shall have received a return of the capital originally contributed thereby. Thereafter, if assets remain in the Corporation, all remaining assets shall be distributed to all holders of Common Stock and to each series of Preferred Stock, pro rata based on the number of shares of Common Stock held by each (assuming conversion of all such Preferred Stock into Common Stock).

(c) For purposes of this Section 5, a liquidation, dissolution or winding up of the Corporation shall be deemed to be occasioned by, or to include, (i) the acquisition of the Corporation by another entity by means of any transaction or series of related transactions (including, without limitation, any reorganization, merger or consolidation, but excluding any merger effected exclusively for the purpose of changing the domicile of the Corporation); or (ii) a sale of all or substantially all of the assets of the Corporation, unless the Corporation's stockholders of record as constituted immediately prior to such acquisition or sale will, immediately after such acquisition or sale (by virtue of securities issued as consideration for the Corporation's acquisition or sale or otherwise) hold at least fifty percent (50%) of the voting power of the surviving or acquiring entity in approximately the same relative percentages after such acquisition or sale as before such acquisition or sale.

(d) In any of the events specified in subsection (c) above, if the consideration received by the corporation is other than cash, its value will be deemed its fair market value. Any securities shall be valued as follows:

(i) Securities not subject to restrictions on free marketability:

(A) If traded on a securities exchange, the value shall be deemed to be the average of the closing prices of the securities on such exchange over the thirty-day period ending three (3) days prior to the closing;

(B) If actively traded over-the-counter, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the thirty-day period ending three (3) days prior to the closing; and

(C) If there is no active public market, the value shall be the fair market value thereof, as determined in good faith by the Board of Directors.

(ii) The method of valuation of securities subject to restrictions on free marketability (other than restrictions arising solely by virtue of a stockholder's status as an affiliate or former affiliate) shall be to make an appropriate discount from the market value determined as above in (i) (A), (B) or (C) to reflect the approximate fair market value thereof, as mutually determined by the Corporation and the holders of at least a majority of the voting power of all then outstanding shares of Preferred Stock.

(iii) In the event the requirements of Section 2(c) are not complied with, the Corporation shall forthwith either:

(A) cause such closing to be postponed until such time as the requirements of this Section 5 have been complied with; or

(B) cancel such transaction, in which event the rights, preferences and privileges of the holders of the Preferred Stock shall revert to and be the same as such rights, preferences and privileges existing immediately prior to the date of the first notice referred to in Section 5(c)(iv) hereof.

(iv) The Corporation shall give each holder of record of Preferred Stock written notice of such impending transaction not later than twenty (20) days prior to the stockholders' meeting called to approve such transaction, or twenty (20) days prior to the closing of such transaction, whichever is earlier, and shall also notify such holders in writing of the final approval of such transaction. The first of such notices shall describe the material terms and conditions of the impending transaction and the provisions of this Section 5, and the Corporation shall thereafter give such holders prompt notice of any material changes. The transaction shall in no event take place sooner than twenty (20) days after the Corporation has given the first notice provided for herein or sooner than ten (10) days after the corporation has given notice of any material changes provided for herein; provided, however, that time periods set forth in this paragraph may be shortened upon the written consent of the holders of Preferred Stock that are entitled to such notice rights or similar notice rights and that represent at least a majority of the voting power of all then outstanding shares of such Preferred Stock.

#### Section 6. Conversion.

a) <u>Conversions at Option of Holder</u>. Each one share of Preferred Stock shall be convertible, at any time and from time to time from and after the Original Issue Date at the option of the Holder thereof, into twenty four (24) shares of Common Stock (subject to the limitations set forth in **Section 6(c)**) (the "Conversion Ratio"). Holders shall effect conversions by providing the Corporation with the form of conversion notice attached hereto as **Annex A** (a "<u>Notice of Conversion</u>"). Each Notice of Conversion shall specify the number of shares of Preferred Stock to be converted, the number of shares of Preferred Stock owned prior to the conversion at issue, the number of shares of Preferred Stock owned subsequent to the conversion at issue and the date on which such conversion is to be effected, which date may not be prior to the date the applicable Holder delivers by facsimile or email such Notice of Conversion to the Corporation is deemed delivered hereunder. No ink-original Notice of Conversion shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Conversions of shares of Preferred Stock to the Corporation shall control in the absence of manifest or mathematical error. To effect conversions of shares of Preferred Stock to the Stock at Holder shall not be required to surrender the certificate(s) representing the shares of Preferred Stock to the Corporation unless all of the shares of Preferred Stock to the conversion be shares of Preferred Stock to the conversion of the shares of Preferred Stock to the conversion of the shares of Preferred Stock to the conversion of the shares of Preferred Stock to the conversion of shares of Preferred Stock represented thereby are so converted, in which case such Holder shall deliver the certificate representing such shares of Preferred Stock promptly following the Conversion D

## b) Mechanics of Conversion.

i. <u>Delivery of Conversion Shares Upon Conversion</u>. Not later than the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined below) after each Conversion Date (the "<u>Share Delivery Date</u>"), the Corporation shall deliver, or cause to be delivered, to the converting Holder (A) the number of Conversion Shares being acquired upon the conversion of the Preferred Stock and (B) a bank check in the amount of accrued and unpaid dividends, if any. As used herein, "<u>Standard Settlement Period</u>" means the standard settlement period, expressed in a number of Trading Days, on the Corporation's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Conversion. Notwithstanding the foregoing, with respect to any Notice(s) of Conversion delivered by 12:00 pm (New York time) on the Original Issue Date, the Corporation agrees to deliver the Conversion Shares subject to such notice(s) by 4:00 pm (New York time) on the Original Issue Date.

ii. <u>Failure to Deliver Conversion Shares</u>. If, in the case of any Notice of Conversion, such Conversion Shares are not delivered to or as directed by the applicable Holder by the Share Delivery Date, the Holder shall be entitled to elect by written notice to the Corporation at any time on or before its receipt of such Conversion Shares, to rescind such Conversion, in which event the Corporation shall promptly return to the Holder any original Preferred Stock certificate delivered to the Corporation and the Holder shall promptly return to the Corporation Shares issued to such Holder pursuant to the rescinded Notice of Conversion.

iii. <u>Obligation Absolute; Partial Liquidated Damages</u>. The Corporation's obligation to issue and deliver the Conversion Shares upon conversion of Preferred Stock in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by a Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by such Holder or any other Person of any obligation to the Corporation or any violation or alleged violation of law by such Holder or any other person, and irrespective of any other circumstance which might otherwise limit such obligation of the Corporation to such Holder in connection with the issuance of such Conversion Shares; provided, however, that such delivery shall not operate as a waiver by the Corporation of any such action that the Corporation may have against such Holder. If the Corporation fails to deliver to a Holder such Conversion Shares pursuant to **Section 6(b)(i)** by the Share Delivery Date applicable to such conversion, the Corporation shall pay to such Holder, in cash, as liquidated damages and not as a penalty, for each \$1.00 of Stated Value of Preferred Stock being converted, \$0.01 per Trading Day for each Trading Day after the Share Delivery Date until such Conversion Shares are delivered or Holder rescinds such conversion. Nothing herein shall limit a Holder's right to pursue actual damages for the Corporation's failure to deliver Conversion Shares within the period specified herein, and such Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. The exercise of any such rights shall not prohibit a Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law.

iv. <u>Compensation for Buy-In on Failure to Timely Deliver Conversion Shares Upon Conversion</u>. In addition to any other rights available to the Holder, if the Corporation fails for any reason to deliver to a Holder the applicable Conversion Shares by the Share Delivery Date pursuant to **Section 6(b)(i)**, and if after such Share Delivery Date such Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by such Holder of the Conversion Shares which such Holder (in addition to any other remedies available to or elected by such Holder) the amount, if any, by which (x) such Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that such Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale

price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of such Holder, either reissue (if surrendered) the shares of Preferred Stock equal to the number of shares of Preferred Stock submitted for conversion (in which case, such conversion shall be deemed rescinded) or deliver to such Holder the number of shares of Common Stock that would have been issued if the Corporation had timely complied with its delivery requirements under Section **6(b)(i)**. For example, if a Holder purchases shares of Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted conversion of shares of Preferred Stock with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of \$10,000 under clause (A) of the immediately preceding sentence, the Corporation shall be required to pay such Holder \$1,000. The Holder shall provide the Corporation written notice indicating the amounts payable to such Holder in respect of the Buy-In and, upon request of the Corporation, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Corporation's failure to timely deliver Conversion Shares upon conversion of the shares of Preferred Stock as required pursuant to the terms hereof.

v. <u>Reservation of Shares Issuable Upon Conversion</u>. Until no shares of Preferred Stock remain outstanding, the Corporation covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of the Preferred Stock as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holder (and the other holders of the Preferred Stock), not less than such aggregate number of shares of the Common Stock as shall be issuable (taking into account the adjustments and restrictions of Section 7) upon the conversion of the then outstanding shares of Preferred Stock. The Corporation covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable.

# vi. <u>RESERVED</u>

vii. <u>Transfer Taxes and Expenses</u>. The issuance of Conversion Shares on conversion of the Preferred Stock shall be made without charge to any Holder for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such Conversion Shares, provided that the Corporation shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such Conversion Shares upon conversion in a name other than that of the Holders of such shares of Preferred Stock and the Corporation shall not be required to issue or deliver such Conversion Shares unless or until the Person or Persons requesting the issuance thereof shall have paid to the Corporation the amount of such tax or shall have established to the satisfaction of the Corporation that such tax has been paid. The Corporation shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion and all fees to the DTC (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Conversion Shares.

c) <u>Conversion Limitation</u>. Notwithstanding anything to the contrary herein, the Corporation shall not effect any conversion of the Preferred Stock, and a Holder shall not have the right to convert any portion of the Preferred Stock, to the extent that, after giving effect to the conversion set forth on the applicable Notice of Conversion, such Holder (together with such Holder's Affiliates, and any Persons acting as a group together with such Holder or any of such Holder's Affiliates (such Persons, "<u>Attribution Parties</u>")) would beneficially own the number of shares of Common Stock which would be in excess of any statutory threshold pursuant to which the acquisition of such shares would trigger a compulsory offer requirement under applicable federal or state tender offer rules for the Holder and its Affiliates and Attribution Parties to make a tender offer for all the shares of the Company. For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by such Holder and its Affiliates shall include the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted Stated Value of Preferred Stock beneficially owned by such Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Corporation subject to a limitation on conversion or exercise analogous to the limitation contained herein (including, without limitation, the Preferred Stock) beneficially owned by such Holder or any of its Affiliates or any of its Affiliates or any of its Affiliates or Attribution Parties and (ii) exercise analogous to the limitation contained herein (including, without limitation, the Preferred Stock) beneficially owned by such Holder or any of its Affiliates or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for

purposes of this Section 6(c), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 6(c) applies, the determination of whether the Preferred Stock is convertible (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and of how many shares of Preferred Stock are convertible shall be in the sole discretion of such Holder, and the submission of a Notice of Conversion shall be deemed to be such Holder's determination of whether the shares of Preferred Stock may be converted (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and how many shares of the Preferred Stock are convertible. To ensure compliance with this restriction, each Holder will be deemed to represent to the Corporation each time it delivers a Notice of Conversion that such conversion will not violate the restriction set forth in this paragraph and the Corporation shall have no obligation to verify or confirm the accuracy of such representation. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 6(c), in determining the number of outstanding shares of Common Stock, a Holder may rely solely on the number of outstanding shares of Common Stock as stated in a written notice by the Corporation or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request (which may be via email) of a Holder, the Corporation shall within two Trading Days confirm orally and in writing to such Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Corporation, including the Preferred Stock, by such Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 6(c) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended limitation contained herein or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of Preferred Stock.

#### Section 7. Certain Adjustments.

a) <u>Stock Dividends and Stock Splits</u>. If the Corporation, at any time while this Preferred Stock is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions payable in shares of Common Stock on shares of Common Stock or any other Common Stock Equivalents (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Corporation upon conversion of, or payment of a dividend on, this Preferred Stock), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues, in the event of a reclassification of shares of the Common Stock shall be convertible into shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding any treasury shares of Common Stock outstanding immediately before such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section 7(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) <u>Subsequent Rights Offerings</u>. In addition to any adjustments pursuant to Section 7(a) above, if at any time the Corporation grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "<u>Purchase Rights</u>"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete conversion of such Holder's Preferred Stock (without regard to any limitations on exercise hereof) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights.

c) <u>Pro Rata Distributions</u>. During such time as this Preferred Stock is outstanding, if the Corporation declares or makes any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "<u>Distribution</u>"), at any time after the issuance of this Preferred Stock, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete conversion of this Preferred Stock (without regard to any limitations on conversion hereof) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution.

d) Fundamental Transaction. If, at any time while any shares of Preferred Stock are outstanding, (i) the Corporation, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Corporation with or into another Person, (ii) the Corporation, directly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Corporation or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Corporation, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Corporation, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a "Fundamental Transaction"), then, upon any subsequent conversion of the Preferred Stock by the Holder thereof, the Holder shall receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 6(c) on the conversion of the Preferred Stock), the number of shares of common stock (as applicable) of the successor or acquiring corporation or the number of shares of Common Stock of the Corporation (as applicable), if it is the surviving corporation, and all additional securities (equity or debt), cash, property or other consideration (all such additional consideration, the "Alternate Consideration"), receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which such Holder's Preferred Stock is convertible immediately prior to such Fundamental Transaction (without regard to any limitation in Section 6(c) on the conversion of the Preferred Stock). If holders of Common Stock are entitled to elect the proportion of securities, cash, property or other consideration to be received by holders of Common Stock in a Fundamental Transaction, then each Holder of Preferred Stock shall be given the same choice as to the proportion of securities, cash, property or other consideration such Holder is entitled to receive upon any conversion of such Holder's shares of Preferred Stock following such Fundamental Transaction. To the extent necessary to effectuate the foregoing provisions, any successor to the Corporation or surviving entity in such Fundamental Transaction shall file a new Certificate of Designations in respect of a new series of preferred stock of the successor or acquiring corporation, or the Corporation, if it is the surviving corporation, setting forth the same rights, preferences, privileges and other terms contained in this Amended and Restated Certificate of Designations in respect of the Preferred Stock, including, without limitation, the provisions contained in this Section 7(d) and evidencing, among other things, the Holders' right to convert such new preferred stock into Alternate Consideration. The Corporation shall cause any successor entity in a Fundamental Transaction in which the Corporation is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Corporation under this Amended and Restated Certificate of Designations in accordance with the provisions of this Section 7(d) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of a Holder of Preferred Stock, deliver to such Holder in exchange for such Holder's Preferred Stock a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to the Preferred Stock which is convertible for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon conversion of the Preferred Stock (without regard to any limitations on the conversion of the Preferred Stock) prior to such Fundamental Transaction, and with a conversion price which applies the conversion price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such conversion price being for the purpose of protecting the economic value of the Preferred Stock immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder(s) thereof. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Amended and Restated Certificate of Designations referring to the "Corporation" shall refer instead to the Successor Entity), and may exercise every right and power of the Corporation and shall assume all of the obligations of the Corporation under this Amended and Restated Certificate of Designations with the same effect as if such Successor Entity had been named as the Corporation herein. For the avoidance of doubt, if, at any time while any shares of Preferred Stock are outstanding, a Fundamental Transaction occurs, pursuant to the terms of this Section 7(d), a Holder of Preferred Stock shall not be entitled to receive any consideration in such Fundamental Transaction in respect of such Holder's shares of Preferred Stock, except as provided for in this Amended and Restated Certificate of Designations (or any new Certificate of Designations in respect of a new series of preferred stock issued to the Holders of Preferred Stock as contemplated hereby).

#### e) Full Ratchet Protection.

If at any time after the date of filing of this Amended and Restated Certificate of Designations (x) the Corporation shall issue shares of Common Stock (or other shares of capital stock or other securities convertible into Common Stock), and (y) the consideration per share payable to the Corporation for the Common Stock (or other share of capital stock or other securities convertible into Common Stock) reflects a pre-money imputed equity value of the Corporation of less than Ten Million United States Dollars (US\$10,000,000), then in each such case (subject to Section 7(e)(ii)), the Preferred Stock Conversion Ratio shall be adjusted by increasing the Stated Value reflecting the lowest price per share at which any such share of Common Stock (or other share of capital stock or other securities convertible into Common Stock) has been so issued or sold.

#### (ii) Adjustments Only After Stock Issued; Determination of Consideration.

(A) The mere issuance of options, warrants or other securities (other than capital stock) convertible into capital stock of the Corporation shall not require an adjustment hereunder until such securities are exercised or converted into Common Stock capital stock of the Corporation (or capital stock convertible into Common Stock of the Corporation).

(B) For purposes of Section 7(e)(i), the reference to the consideration received by the Corporation for an issuance of capital stock convertible into Common Stock shall mean the aggregate of the consideration received for the issuance of such capital stock, plus the consideration that will be payable to the Corporation upon its conversion into Common Stock.

(iii) Exceptions. The provisions of Section 7(e)(i) shall not apply to the following issuances:

(A) any issuance otherwise covered by Sections 7(a) through 7(d);

(B) any stock options, stock or other securities granted to employees, consultants or directors of the Corporation or the issuance of shares upon exercise thereof;

(C) any issuance as consideration for mergers or acquisitions;

(D) any issuance upon the exercise of warrants outstanding as of the date hereof;

(E) any issuance in connection with the formation of joint ventures, strategic business relationships, or corporate partnering transactions; or

(F) any issuance of shares in a public offering.

(iv) <u>Effectiveness</u>. Any adjustment made pursuant to Section 7(e)(i) above shall be made on the next Business Day following the date on which any such issuance is made and shall be effective retroactively immediately after the close of business on such date. <u>Calculations</u>. All calculations under this **Section 7** shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this **Section 7**, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding any treasury shares of the Corporation) issued and outstanding.



#### f) Notice to the Holders.

i. <u>Adjustment to Conversion Amount</u>. Whenever the number of shares of Common Stock that the shares of Preferred Stock are convertible into is adjusted pursuant to any provision of this **Section 7**, the Corporation shall promptly deliver to each Holder a notice setting forth the number of shares of Common Stock after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Conversion by Holder. If (A) the Corporation shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Corporation shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Corporation shall authorize the granting to all holders of the Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Corporation shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Corporation is a party, any sale or transfer of all or substantially all of the assets of the Corporation, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) the Corporation shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Corporation, then, in each case, the Corporation shall cause to be filed at each office or agency maintained for the purpose of conversion of this Preferred Stock, and shall cause to be delivered to each Holder at its last address as it shall appear upon the stock books of the Corporation, at least fifteen (15) calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange, provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Corporation or any of the Subsidiaries, the Corporation shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to convert the Conversion Amount of this Preferred Stock (or any part hereof) during the 15-day period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

#### Section 8. Miscellaneous.

a) <u>Notices</u>. Any and all notices or other communications or deliveries to be provided by the Holders hereunder including, without limitation, any Notice of Conversion, shall be in writing and delivered personally, by facsimile, email address or sent by a nationally recognized overnight courier service, addressed to the Corporation at:

OpGen Inc. 9717 Key West Ave, Suite 100 Rockville, MD 20850 Attention: Chief Executive Officer Email: david@activistinvestingllc.com

or such other facsimile number or address (physical or email) as the Corporation may specify for such purposes by notice to the Holders delivered in accordance with this **Section 8**. Any and all notices or other communications or deliveries to be provided by the Corporation hereunder shall be in writing and delivered personally, by facsimile, by email attachment or sent by a nationally recognized overnight courier service addressed to each Holder at the facsimile number, email address or address of such Holder appearing on the books of the Corporation, or if no such facsimile number, email address or address of such Holder appearing on the books of the Corporation, or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the time of transmission, if such notice or communication is delivered via facsimile or email attachment at the facsimile number or email address set forth in this Section prior to 5:30 p.m. (New York City time) on any date, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile number or email address set forth in this Section prior to 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (iv) upon actual receipt by the Person to whom such notice is required to be given. Notwithstanding any other provision of this Amended and Restated Certificate of Designations provides for notice of any event to a Holder, if the Preferred Stock is held in global form by DTC (or any successor depositary), such notice may be delivered via DTC (or such successor depositary) pursuant to the procedures of DTC (or such successor depositary).

b) <u>Absolute Obligation</u>. Except as expressly provided herein, no provision of this Amended and Restated Certificate of Designations shall alter or impair the obligation of the Corporation, which is absolute and unconditional, to pay liquidated damages and accrued dividends, as applicable, on the shares of Preferred Stock at the time, place, and rate, and in the coin or currency, herein prescribed.

c) Lost or Mutilated Preferred Stock Certificate. If a Holder's Preferred Stock certificate shall be mutilated, lost, stolen or destroyed, the Corporation shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated certificate, or in lieu of or in substitution for a lost, stolen or destroyed certificate, a new certificate for the shares of Preferred Stock so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such certificate, and of the ownership hereof reasonably satisfactory to the Corporation.

d) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Amended and Restated Certificate of Designations shall be governed by and construed and enforced in accordance with the internal laws of the State of Delaware, without regard to the principles of conflict of laws thereof. Each of the Corporation and each Holder agrees that all legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by this Amended and Restated Certificate of Designations (whether brought against the Corporation, a Holder or any of their respective Affiliates, directors, officers, stockholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of Wilmington, Delaware (the "Delaware Courts"). Each of the Corporation and each Holder hereby irrevocably submits to the exclusive jurisdiction of the Delaware Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such Delaware Courts, or such Delaware Courts are improper or inconvenient venue for such proceeding. Each of the Corporation and each Holder hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such Person at the address in effect for notices to it under this Amended and Restated Certificate of Designation and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by applicable law. Each of the Corporation and each Holder hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Amended and Restated Certificate of Designations or the transactions contemplated hereby. If the Corporation or any Holder shall commence an action or proceeding to enforce any provisions of this Amended and Restated Certificate of Designations, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorneys' fees and other costs and expenses incurred in the investigation, preparation and prosecution of such action or proceeding.

e) <u>Waiver</u>. Any waiver by the Corporation or a Holder of a breach of any provision of this Amended and Restated Certificate of Designations shall not operate as or be construed to be a waiver of any other breach of such provision or of any breach of any other provision of this Amended and Restated Certificate of Designations or a waiver by any other Holders. The failure of the Corporation or a Holder to insist upon strict adherence to any term of this Amended and Restated Certificate of Designations on one or more occasions shall not be considered a waiver or deprive that Person (or any other Holder) of the right thereafter to insist upon strict adherence to that term or any other term of this Amended and Restated Certificate of Designations on any other occasion. Any waiver by the Corporation or a Holder must be in writing. f) <u>Severability</u>. If any provision of this Amended and Restated Certificate of Designations is invalid, illegal or unenforceable, the balance of this Amended and Restated Certificate of Designations shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances. If it shall be found that any interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law.

g) <u>Next Business Day</u>. Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

h) <u>Headings</u>. The headings contained herein are for convenience only, do not constitute a part of this Amended and Restated Certificate of Designations and shall not be deemed to limit or affect any of the provisions hereof.

i) <u>Status of Converted Preferred Stock</u>. If any shares of Preferred Stock shall be converted or reacquired by the Corporation, such shares shall resume the status of authorized but unissued shares of preferred stock and shall no longer be designated as Series E Convertible Preferred Stock.

**RESOLVED, FURTHER**, that the chief executive officer, the president or any vice-president, and the secretary or any assistant secretary, of the Corporation be and they hereby are authorized and directed to prepare and file this Amended and Restated Certificate of Designations, Preferences, Rights and Limitations in accordance with the foregoing resolution and the provisions of Delaware law.

[Signature Page Follows]

IN WITNESS WHEREOF, the undersigned have executed this Amended and Restated Certificate this 9th day of May, 2024.

OPGEN, INC.

By: /s/ David Lazar Name: David Lazar Title: CEO

# ANNEX A

# NOTICE OF CONVERSION

To:

Date:

OpGen, Inc. (the "Company") hereby notifies you of the conversion of the shares of Series E Convertible Preferred Stock held by \_\_\_\_\_\_\_ (the "Preferred Shares") pursuant to Section 6(a) of the Company's Amended and Restated Certificate of Designation of Preferences, Rights and Limitations of Series E Convertible Preferred Stock. OpGen will instruct its transfer agent to convert the Preferred Shares and issue the shares of Common Stock underlying such Preferred Shares as of.

OPGEN, INC.

By:

Name: Title: