PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT7844762

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------|----------------|
| ISHAN CAPILA | 02/02/2023 |
| VICTOR FARUTIN | 02/01/2023 |
| THOMAS PROD'HOMME | 02/13/2023 |
| KEVIN MCCONNELL | 02/02/2023 |
| LEONA LING | 01/31/2023 |

RECEIVING PARTY DATA

| Name: | MOMENTA PHARMACEUTICALS, INC. |
|-----------------|-------------------------------|
| Street Address: | 1125 TRENTON-HARBOURTON ROAD |
| City: | TITUSVILLE |
| State/Country: | NEW JERSEY |
| Postal Code: | 08560 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16648955 |

CORRESPONDENCE DATA

Fax Number: (610)640-7835

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 6106407800

Email: docketingTP@Troutman.com

Correspondent Name: MARK R. BELL

Address Line 1:400 BERWYN PARK,Address Line 2:899 CASSATT ROAD

Address Line 4: BERWYN, PENNSYLVANIA 19312

| ATTORNEY DOCKET NUMBER: | 258199.030001 |
|-------------------------|--------------------|
| NAME OF SUBMITTER: | TAMMY S. COLLINS |
| SIGNATURE: | /Tammy S. Collins/ |
| DATE SIGNED: | 03/14/2023 |
| | |

Total Attachments: 10

PATENT REEL: 062976 FRAME: 0553

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PATENT REEL: 062976 FRAME: 0554

| COMBINED | DECLARATION AND ASSIGNMENT |
|--|---|
| Title of Invention: METHODS FOR PRE | DICTING RESPONSE TO TREATMENT |
| This declaration and assignment is directed to: | The attached or filed herewith application of (list of named inventors), |
| or | |
| | The United States application or PCT international application number 16/648,955 filed on March 19, 2020. |
| Declaration | 2011001 1000 1000 1000 1000 1000 1000 1 |
| As the below named inventor, I hereby dec | clare that: |
| The above-identified application ("Application") | ation") was made or authorized by me. |
| I believe that I am the original inventor or | an original inventor of a claimed invention or discovery in the Application. |
| | ents of the Application, including the claims, and I acknowledge the duty to disclose efined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of |
| | se statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or the for filings of this Application in the United States of America. |
| A corpe | Momenta Pharmaceuticals, Inc. 125 Trenton-Harbourton Road Titusville, NJ 08560 pration of the state or country of Delaware reinafter designated as the "Assignee") |
| | I the above-identified invention by previous assignment (attached hereto) to Assignee S Patent Office and I confirm I have and do assign and transfer: |
| 0 1 | |
| | e sufficiency of which is acknowledged. I hereby assign and transfer and/or have ent being made effective as of <u>March 19, 2020</u> . (either the filing date or signature date e the filing date of the first filed priority here) |
| the right to claim priority to the Application, all in States, European Patent Office and of all other co such inventions or discoveries and all rights in continuations thereof, and to all Letters Patent the supplementary protection certificates, reexamination | the Application, including all priority rights for other countries arising therefrom and ventions or discoveries therein disclosed, and any and all Letters Patent of the United countries, which may be granted for such inventions or discoveries, or any of them, all such Application including any and all provisionals, substitutions, divisions, and at may be granted for said inventions and discoveries, and in and to all extensions, ans, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use for which such Letters Patent may be granted, as fully and entirely as the same would ment and sale not been made. |
| | rith the Application in the United States Patent and Trademark Office, European Patent to Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, |
| | |

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REEL: 062976 FRAME: 0555

any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

I shall execute all papers necessary in connection with any litigation or any other judicial proceeding in the United States or other country, or any administrative proceeding in the United States Patent and Trademark Office, European Patent Office, any other patent office, or under the Patent Cooperation Treaty concerning the Application(s) or any continuation, divisional, or reissue applications thereof, or any reexamination of any such applications, or any Letters Patent issued therefrom or any patent term extensions or supplementary protection certificates of any such applications and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such litigation or proceeding.

I shall execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

I shall do all other acts which, in the opinion of Assignee, may be necessary or desirable to secure the grant of Letters Patent to Assignee or its nominees, in the United States, by the European Patent Office and in all other countries where Assignee may desire to have such inventions or discoveries, or any of them, patented, with specifications and claims in such form as shall be approved by Assignee and to vest and confirm in Assignee or its nominees the full and complete legal and equitable title to all such Letters Patent.

I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that I have full right to convey the interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR

| Attorney | Docket | No.: | MPI51 | 51U | SPCT1 |
|----------|--------|------|-------|-----|-------|
| | | | | | |

| COMBINE | D DECLARATION AND ASSIGNMENT |
|--|---|
| Title of Invention: METHODS FOR PR | EDICTING RESPONSE TO TREATMENT |
| This declaration and assignment is directed to: | The attached or filed herewith application of (list of named inventors), |
| Declaration | The United States application or PCT international application number 16/648,955 filed on March 19, 2020. |
| As the below named inventor, I hereby do | eclare that: |
| The above-identified application ("Applie | cation") was made or authorized by me. |
| I believe that I am the original inventor o | r an original inventor of a claimed invention or discovery in the Application. |
| | tents of the Application, including the claims, and I acknowledge the duty to disclose defined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of |
| | lse statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or oth for filings of this Application in the United States of America. |
| A corp (h I hereby acknowledge that I have assigned | Momenta Pharmaceuticals, Inc. 1125 Trenton-Harbourton Road Titusville, NJ 08560 poration of the state or country of Delaware ereinafter designated as the "Assignee") and the above-identified invention by previous assignment (attached hereto) to Assignee LS Petert Office and Loading Lhous and the assign and transfer. |
| or | JS Patent Office and I confirm I have and do assign and transfer: |
| For good and valuable consideration, to assigned and transferred to Assignee, such assigned—whichever is first; if this is a USPSP2 etc. then use my entire right, title, and interest in, to, and under the right to claim priority to the Application, all it States. European Patent Office and of all other continuations or discoveries and all rights in continuations thereof, and to all Letters Patent to supplementary protection certificates, reexamination. | r the Application, including all priority rights for other countries arising therefrom and any and all Letters Patent of the United countries, which may be granted for such inventions or discoveries, or any of them, all a such Application including any and all provisionals, substitutions, divisions, and that may be granted for said inventions and discoveries, and in and to all extensions, ons, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use |
| have been held and enjoyed by me had this assign I shall execute all papers necessary in connection | s for which such Letters Patent may be granted, as fully and entirely as the same would ment and sale not been made. with the Application in the United States Patent and Trademark Office, European Patent ent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, |
| | |

PATENT REEL: 062976 FRAME: 0557

any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

I shall execute all papers necessary in connection with any litigation or any other judicial proceeding in the United States or other country, or any administrative proceeding in the United States Patent and Trademark Office, European Patent Office, any other patent office, or under the Patent Cooperation Treaty concerning the Application(s) or any continuation, divisional, or reissue applications thereof, or any reexamination of any such applications, or any Letters Patent issued therefrom or any patent term extensions or supplementary protection certificates of any such applications and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such litigation or proceeding.

I shall execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

I shall do all other acts which, in the opinion of Assignee, may be necessary or desirable to secure the grant of Letters Patent to Assignee or its nominees, in the United States, by the European Patent Office and in all other countries where Assignee may desire to have such inventions or discoveries, or any of them, patented, with specifications and claims in such form as shall be approved by Assignee and to vest and confirm in Assignee or its nominees the full and complete legal and equitable title to all such Letters Patent.

I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that I have full right to convey the interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR

| Wido-Fardin | Feb. 01, 2023 |
|-------------|---------------|
| Signature | Date |
| | |

PATENT

REEL: 062976 FRAME: 0558

| COMBINED DECLARATION AND ASSIGNMENT |
|---|
| Title of Invention: METHODS FOR PREDICTING RESPONSE TO TREATMENT |
| This declaration and assignment is directed to: The attached or filed herewith application of (list of named inventors), |
| or |
| The United States application or PCT international application number 16/648,955 filed on March 19, 2020. Declaration |
| As the below named inventor, I hereby declare that: |
| The above-identified application ("Application") was made or authorized by me. |
| I believe that I am the original inventor or an original inventor of a claimed invention or discovery in the Application. |
| I have reviewed and understood the contents of the Application, including the claims, and I acknowledge the duty to discle information which is material to patentability as defined in Title 37, the United States Code of Federal Regulations, §1.56 for filings this Application in the United States of America. |
| I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine imprisonment of not more than five (5) years, or both for filings of this Application in the United States of America. |
| Assignment |
| Momenta Pharmaceuticals, Inc. 1125 Trenton-Harbourton Road |
| Titus ville, NJ 08560 A corporation of the state or country of Delaware (hereinafter designated as the "Assignee") |
| I hereby acknowledge that I have assigned the above-identified invention by previous assignment (attached hereto) to Assign which is hereby conformed for recordation in the US Patent Office and I confirm I have and do assign and transfer: |
| or · |
| For good and valuable consideration, the sufficiency of which is acknowledged, I hereby assign and transfer and/or has assigned and transferred to Assignee, such assignment being made effective as of March 19, 2020. (either the filing date or signature date whichever is first; if this is a USPSP2 etc. then use the filing date of the first filed priority here) |
| my entire right, title, and interest in, to, and under the Application, including all priority rights for other countries arising therefrom are the right to claim priority to the Application, all inventions or discoveries therein disclosed, and any and all Letters Patent of the United States, European Patent Office and of all other countries, which may be granted for such inventions or discoveries, or any of them, a such inventions or discoveries and all rights in such Application including any and all provisionals, substitutions, divisions, are continuations thereof, and to all Letters Patent that may be granted for said inventions and discoveries, and in and to all extension supplementary protection certificates, reexaminations, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own under any end of the term of terms for which such Letters Patent may be granted, as fully and entirely as the same would nave been held and enjoyed by me had this assignment and sale not been made. |
| shall execute all papers necessary in connection with the Application in the United States Patent and Trademark Office, European Pater Office, any other patent offices, and under the Patent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, |
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REEL: 062976 FRAME: 0559

any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

I shall execute all papers necessary in connection with any litigation or any other judicial proceeding in the United States or other country, or any administrative proceeding in the United States Patent and Trademark Office, European Patent Office, any other patent office, or under the Patent Cooperation Treaty concerning the Application(s) or any continuation, divisional, or reissue applications thereof, or any reexamination of any such applications, or any Letters Patent issued therefrom or any patent term extensions or supplementary protection certificates of any such applications and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such litigation or proceeding.

I shall execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

I shall do all other acts which, in the opinion of Assignee, may be necessary or desirable to secure the grant of Letters Patent to Assignee or its nominees, in the United States, by the European Patent Office and in all other countries where Assignee may desire to have such inventions or discoveries, or any of them, patented, with specifications and claims in such form as shall be approved by Assignee and to vest and confirm in Assignee or its nominees the full and complete legal and equitable title to all such Letters Patent.

I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that I have full right to convey the interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR

THOMAS PROPHOTIME

Signature

February 13, 2023

| CON | MBINED DECLARATION AND ASSIGNMENT |
|---|---|
| Title of Invention: METHODS F | FOR PREDICTING RESPONSE TO TREATMENT |
| This declaration and assignment is direct | ted to: The attached or filed herewith application of (list of named inventors), |
| | or |
| | The United States application or PCT international application number 16/648,955 filed on March 19, 2020. |
| Declaration | |
| As the below named inventor, I | hereby declare that: |
| The above-identified application | n ("Application") was made or authorized by me. |
| I believe that I am the original in | nventor or an original inventor of a claimed invention or discovery in the Application. |
| I have reviewed and understood information which is material to patental this Application in the United States of A | d the contents of the Application, including the claims, and I acknowledge the duty to disclose bility as defined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of America. |
| | willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or tears, or both for filings of this Application in the United States of America. |
| Assignment | |
| | Momenta Pharmaceuticals, Inc. 1125 Trenton-Harbourton Road |
| | Titusville, NJ 08560 A corporation of the state or country of <u>Delaware</u> |
| | (hereinafter designated as the "Assignee") |
| | ve assigned the above-identified invention by previous assignment (attached hereto) to Assigned on in the US Patent Office and I confirm I have and do assign and transfer: |
| or | |
| assigned and transferred to Assignee, suc | eration, the sufficiency of which is acknowledged, I hereby assign and transfer and/or have the assignment being made effective as of March 19, 2020. (either the filing date or signature date atc. then use the filing date of the first filed priority here) |
| the right to claim priority to the Applicat States, European Patent Office and of a such inventions or discoveries and all continuations thereof, and to all Letters supplementary protection certificates, ree | and under the Application, including all priority rights for other countries arising therefrom and tion, all inventions or discoveries therein disclosed, and any and all Letters Patent of the United II other countries, which may be granted for such inventions or discoveries, or any of them, all rights in such Application including any and all provisionals, substitutions, divisions, and Patent that may be granted for said inventions and discoveries, and in and to all extensions, examinations, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own used for terms for which such Letters Patent may be granted, as fully and entirely as the same would his assignment and sale not been made. |
| | nuection with the Application in the United States Patent and Trademark Office, European Patent or the Patent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, |
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REEL: 062976 FRAME: 0561

any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

I shall execute all papers necessary in connection with any litigation or any other judicial proceeding in the United States or other country, or any administrative proceeding in the United States Patent and Trademark Office, European Patent Office, any other patent office, or under the Patent Cooperation Treaty concerning the Application(s) or any continuation, divisional, or reissue applications thereof, or any reexamination of any such applications, or any Letters Patent issued therefrom or any patent term extensions or supplementary protection certificates of any such applications and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such litigation or proceeding.

I shall execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

I shall do all other acts which, in the opinion of Assignee, may be necessary or desirable to secure the grant of Letters Patent to Assignee or its nominees, in the United States, by the European Patent Office and in all other countries where Assignee may desire to have such inventions or discoveries, or any of them, patented, with specifications and claims in such form as shall be approved by Assignee and to vest and confirm in Assignee or its nominees the full and complete legal and equitable title to all such Letters Patent.

I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that I have full right to convey the interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR

oignaime.

02-Feb-2023

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| COMBINEI | DECLARATION AND ASSIGNMENT |
| Title of Invention: METHODS FOR PRE | EDICTING RESPONSE TO TREATMENT |
| This declaration and assignment is directed to: | The attached or filed herewith application of (list of named inventors), |
| 0r | |
| \boxtimes | The United States application or PCT international application number 16/648,955 filed on March 19, 2020. |
| Declaration | |
| As the below named inventor, I hereby de | clare that: |
| The above-identified application ("Applic | ation") was made or authorized by me. |
| I believe that I am the original inventor or | an original inventor of a claimed invention or discovery in the Application. |
| | ents of the Application, including the claims, and I acknowledge the duty to disclose lefined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of |
| | se statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or oth for filings of this Application in the United States of America. |
| Assignment | |
| | Momenta Pharmaceuticals, Inc. I 125 Trenton-Harbourton Road |
| | Titusville, NJ 08560 |
| | oration of the state or country of <u>Delaware</u> preinafter designated as the "Assignee") |
| | ed the above-identified invention by previous assignment (attached hereto) to Assignee JS Patent Office and I confirm I have and do assign and transfer: |
| or | |
| | ne sufficiency of which is acknowledged, I hereby assign and transfer and/or have nent being made effective as of March 19, 2020. (either the filing date or signature date se the filing date of the first filed priority here) |
| the right to claim priority to the Application, all in States, European Patent Office and of all other c such inventions or discoveries and all rights in continuations thereof, and to all Letters Patent the supplementary protection certificates, reexamination | the Application, including all priority rights for other countries arising therefrom and aventions or discoveries therein disclosed, and any and all Letters Patent of the United ountries, which may be granted for such inventions or discoveries, or any of them, all such Application including any and all provisionals, substitutions, divisions, and nat may be granted for said inventions and discoveries, and in and to all extensions, ons, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use for which such Letters Patent may be granted, as fully and entirely as the same would ment and sale not been made. |
| | with the Application in the United States Patent and Trademark Office, European Patent ent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, |
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PATENT REEL: 062976 FRAME: 0563

any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

I shall execute all papers necessary in connection with any litigation or any other judicial proceeding in the United States or other country, or any administrative proceeding in the United States Patent and Trademark Office, European Patent Office, any other patent office, or under the Patent Cooperation Treaty concerning the Application(s) or any continuation, divisional, or reissue applications thereof, or any reexamination of any such applications, or any Letters Patent issued therefrom or any patent term extensions or supplementary protection certificates of any such applications and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such litigation or proceeding.

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I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that I have full right to convey the interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR

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