

ASSIGNMENT

WHEREAS I, the below-named inventor (hereinafter referred to as Assignor), of an invention entitled:

HETEROARYL COMPOUNDS FOR THE TREATMENT OF PAIN

as disclosed and claimed in:

Application Number	Country of Filing	Filing Date
63/333,873	United States	April 22, 2022

and in the applications identified in the table below claiming priority to U.S. Provisional Application No. 63/333,873:

Application Number	Country of Filing	Filing Date
20230100969	Argentina	April 21, 2023
12765	Lebanon	May 17, 2023
249/2023	Pakistan	April 26, 2023
PCT/US2023/066065	PCT	April 21, 2023
112114908	Taiwan	April 21, 2023
18/305,186	United States	April 21, 2023
40235	Uruguay	April 21, 2023
2023-000076	Venezuela	April 21, 2023

by virtue of my agreement with Vertex Pharmaceuticals Incorporated, a corporation of Massachusetts whose post office address is 50 Northern Avenue, Boston, Massachusetts 02210, USA (hereinafter referred to as Assignee), confirm assignment and hereby assign to Assignee the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to all applications for patents on this invention in all countries throughout the world, including any PCT International Application and all national stage applications based thereon that may be filed, and all patents issued upon such applications in all countries throughout the world;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, confirm that all rights in the inventions and applications listed above have already transferred to Assignee by virtue of my agreement. For the avoidance of doubt, Assignor hereby confirm having sold, assigned, transferred, and set over, and does hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention, the above-referenced applications that disclose and/or claim this invention, any PCT International Application and all national stage applications based thereon that may be filed, any other applications for patents filed anywhere in the world that claim this invention, and all divisions, and continuations of any such application, and all patents which may be granted thereon, and all reissues thereof, and all rights to claim priority in any country on the basis of any such applications, and all extensions, renewals, and reissues thereof; and I hereby authorize and request that any official of any country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I covenant that I have not executed and will not execute any agreement in conflict with this Assignment;

AND, I further covenant and agree that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

IN TESTIMONY WHEREOF, I have hereunto set my hands:



Anton V. GULEVICH

Date: 06/29/2023

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

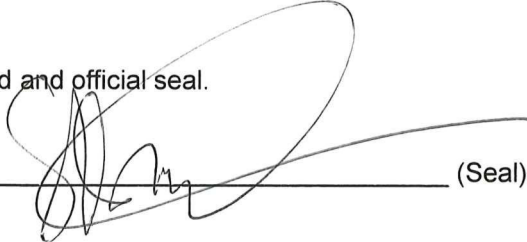
State of California
County of SAN DIEGO

On JUNE 29, 2023 before me, SHERAJADE B. AHMED, NOTARY PUBLIC
(insert name and title of the officer)

personally appeared Anton V. GULEVICH, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature  (Seal)



ACKNOWLEDGEMENT OF ASSIGNEE

On behalf of Vertex Pharmaceuticals Incorporated:

Adrian G. Looney

Name: Adrian G. Looney

Title: Vice President, Chief Intellectual Property Officer

Sept 19, 2023

Date

Commonwealth of Massachusetts

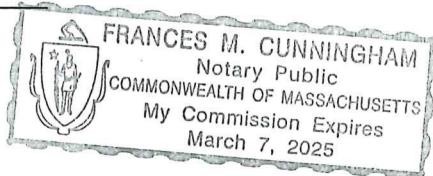
County of Suffolk

On this 19th day of September, 2023, before me, the undersigned notary public, personally appeared Adrian G. Looney (name of document signer), proved to me through satisfactory evidence of identification, which was/were ☒ personal knowledge of identity, ☐ a driver's license, ☐ other (please identify) _____, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Frances M. Cunningham

Notary Public

My Commission Expires March 7, 2025



ASSIGNMENT

WHEREAS I, the below-named inventor (hereinafter referred to as Assignor), of an invention entitled:

HETEROARYL COMPOUNDS FOR THE TREATMENT OF PAIN

as disclosed and claimed in:

Application Number	Country of Filing	Filing Date
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112114908	Taiwan	April 21, 2023
18/305,186	United States	April 21, 2023
40235	Uruguay	April 21, 2023
2023-000076	Venezuela	April 21, 2023

by virtue of my agreement with Vertex Pharmaceuticals Incorporated, a corporation of Massachusetts whose post office address is 50 Northern Avenue, Boston, Massachusetts 02210, USA (hereinafter referred to as Assignee), confirm assignment and hereby assign to Assignee the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to all applications for patents on this invention in all countries throughout the world, including any PCT International Application and all national stage applications based thereon that may be filed, and all patents issued upon such applications in all countries throughout the world;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, confirm that all rights in the inventions and applications listed above have already transferred to Assignee by virtue of my agreement. For the avoidance of doubt, Assignor hereby confirm having sold, assigned, transferred, and set over, and does hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention, the above-referenced applications that disclose and/or claim this invention, any PCT International Application and all national stage applications based thereon that may be filed, any other applications for patents filed anywhere in the world that claim this invention, and all divisions, and continuations of any such application, and all patents which may be granted thereon, and all reissues thereof, and all rights to claim priority in any country on the basis of any such applications, and all extensions, renewals, and reissues thereof; and I hereby authorize and request that any official of any country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I covenant that I have not executed and will not execute any agreement in conflict with this Assignment;

AND, I further covenant and agree that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

IN TESTIMONY WHEREOF, I have hereunto set my hands:

Adam Scharf
Adam SCHARF

Date: September 14, 2023

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of San Diego

On September 14, 2023 before me, Amy Kaufman, notary public
(Insert name and title of the officer)

personally appeared Adam SCHARF, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Amy Kaufman (Seal)



AND, I covenant that I have not executed and will not execute any agreement in conflict with this Assignment;

AND, I further covenant and agree that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

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Adam Scharf
Adam SCHARF

Date: September 14, 2023

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State of California
County of San Diego

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(insert name and title of the officer)

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I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Amy Kaufman (Seal)



ACKNOWLEDGEMENT OF ASSIGNEE

On behalf of Vertex Pharmaceuticals Incorporated:

Adrian G. Looney

Name: Adrian G. Looney

Title: Vice President, Chief Intellectual Property Officer

Sept 19, 2023

Date

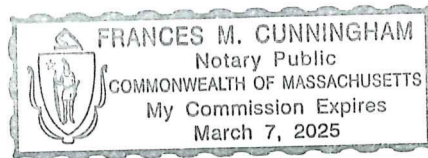
Commonwealth of Massachusetts
County of Suffolk

On this 19th day of September, 2023, before me, the undersigned notary public, personally appeared Adrian G. Looney (name of document signer), proved to me through satisfactory evidence of identification, which was/were ☒ personal knowledge of identity, ☐ a driver's license, ☐ other (please identify) _____, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Frances M. Cunningham

Notary Public

My Commission Expires March 7, 2025



ASSIGNMENT

WHEREAS I, the below-named inventor (hereinafter referred to as Assignor), of an invention entitled:

HETEROARYL COMPOUNDS FOR THE TREATMENT OF PAIN

as disclosed and claimed in:

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by virtue of my agreement with Vertex Pharmaceuticals Incorporated, a corporation of Massachusetts whose post office address is 50 Northern Avenue, Boston, Massachusetts 02210, USA (hereinafter referred to as Assignee), confirm assignment and hereby assign to Assignee the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to all applications for patents on this invention in all countries throughout the world, including any PCT International Application and all national stage applications based thereon that may be filed, and all patents issued upon such applications in all countries throughout the world;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, confirm that all rights in the inventions and applications listed above have already transferred to Assignee by virtue of my agreement. For the avoidance of doubt, Assignor hereby confirm having sold, assigned, transferred, and set over, and does hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention, the above-referenced applications that disclose and/or claim this invention, any PCT International Application and all national stage applications based thereon that may be filed, any other applications for patents filed anywhere in the world that claim this invention, and all divisions, and continuations of any such application, and all patents which may be granted thereon, and all reissues thereof, and all rights to claim priority in any country on the basis of any such applications, and all extensions, renewals, and reissues thereof; and I hereby authorize and request that any official of any country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I covenant that I have not executed and will not execute any agreement in conflict with this Assignment;

AND, I further covenant and agree that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

IN TESTIMONY WHEREOF, I have hereunto set my hands:



Joe A. TRAN

Date: 7/6/2023

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of SAN DIEGO

On JULY 06, 2024 before me, SHERAJADE B. AHMED, NOTARY PUBLIC
(insert name and title of the officer)

personally appeared Joe A. TRAN, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)



ACKNOWLEDGEMENT OF ASSIGNEE

On behalf of Vertex Pharmaceuticals Incorporated:

Adrian G. Looney

Name: Adrian G. Looney
Title: Vice President, Chief Intellectual Property Officer

Sept 19, 2023

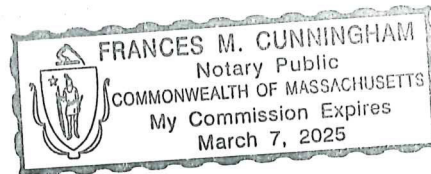
Date

Commonwealth of Massachusetts
County of Suffolk

On this 19th day of September, 2023, before me, the undersigned notary public, personally appeared Adrian G. Looney (name of document signer), proved to me through satisfactory evidence of identification, which was/were ☒ personal knowledge of identity, ☐ a driver's license, ☐ other (please identify) _____, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Frances M. Cunningham

Notary Public
My Commission Expires March 7, 2025



ASSIGNMENT

WHEREAS I, the below-named inventor (hereinafter referred to as Assignor), of an invention entitled:

HETEROARYL COMPOUNDS FOR THE TREATMENT OF PAIN

as disclosed and claimed in:

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by virtue of my agreement with Vertex Pharmaceuticals Incorporated, a corporation of Massachusetts whose post office address is 50 Northern Avenue, Boston, Massachusetts 02210, USA (hereinafter referred to as Assignee), confirm assignment and hereby assign to Assignee the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to all applications for patents on this invention in all countries throughout the world, including any PCT International Application and all national stage applications based thereon that may be filed, and all patents issued upon such applications in all countries throughout the world;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, confirm that all rights in the inventions and applications listed above have already transferred to Assignee by virtue of my agreement. For the avoidance of doubt, Assignor hereby confirm having sold, assigned, transferred, and set over, and does hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention, the above-referenced applications that disclose and/or claim this invention, any PCT International Application and all national stage applications based thereon that may be filed, any other applications for patents filed anywhere in the world that claim this invention, and all divisions, and continuations of any such application, and all patents which may be granted thereon, and all reissues thereof, and all rights to claim priority in any country on the basis of any such applications, and all extensions, renewals, and reissues thereof; and I hereby authorize and request that any official of any country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I covenant that I have not executed and will not execute any agreement in conflict with this Assignment;

AND, I further covenant and agree that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

IN TESTIMONY WHEREOF, I have hereunto set my hands:

Yoshihiro Ishihara
Yoshihiro ISHIHARA

Date: *Jun 30, 2023*

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of *San Diego*

On *June 30, 2023* before me, *Vicki Collo notary public*
(insert name and title of the officer)

personally appeared Yoshihiro ISHIHARA, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature *Vicki Collo* (Seal)



ACKNOWLEDGEMENT OF ASSIGNEE

On behalf of Vertex Pharmaceuticals Incorporated:

Adrian G. Looney

Name: Adrian G. Looney

Title: Vice President, Chief Intellectual Property Officer

Sept 19, 2023

Date

Commonwealth of Massachusetts

County of Suffolk

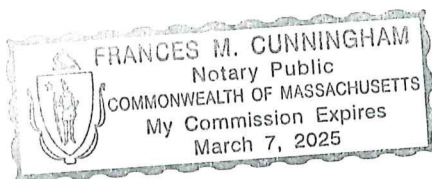
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Frances M. Cunningham

Notary Public

My Commission Expires

March 7, 2025



ASSIGNMENT

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18/305,186	United States	April 21, 2023
40235	Uruguay	April 21, 2023
2023-000076	Venezuela	April 21, 2023

* WE authorize and request a patent practitioner of record in the above-referenced application to insert the filing date and application number of the application when known.

by virtue of our agreements with Vertex Pharmaceuticals Incorporated, a corporation of Massachusetts whose post office address is 50 Northern Avenue, Boston, Massachusetts 02210, USA (hereinafter referred to as Assignee), confirm assignment and hereby assign to Assignee the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to all applications for patents on this invention in all countries throughout the world, including any PCT International Application and all national stage applications based thereon that may be filed, and all patents issued upon such applications in all countries throughout the world;

NOW THEREFORE, be it known that, for good and valuable consideration, the receipt of which from Assignee is hereby acknowledged, WE, as Assignors, confirm that all rights in the inventions and applications listed above have already transferred to Assignee by virtue of our agreements. For the avoidance of doubt, Assignors hereby confirm having sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention, the above-referenced applications that disclose and/or claim this invention, any PCT International Application and all national stage applications based thereon that may be filed, any other applications for patents filed anywhere in the world that claim this invention, and all divisions, and continuations of any such application, and all patents which may be granted thereon, and all reissues thereof, and all rights to claim priority in any country on the basis of any such applications, and all extensions, renewals, and reissues thereof; and WE hereby authorize and request that any official of any country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, WE covenant that WE have not executed and will not execute any agreement in conflict with this Assignment;

AND, WE further covenant and agree that WE will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

IN TESTIMONY WHEREOF, WE have hereunto set our hands:

S.N. Elamprakash
Elamprakash NESAN SAVARIAR

Date: April / 13 / 2023

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of San Diego

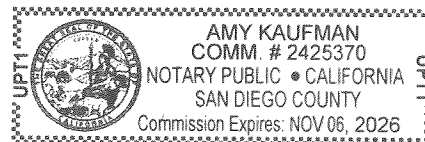
On April 13, 2023 before me, Amy Kaufman, notary public
(insert name and title of the officer)

personally appeared Elamprakash NESAN SAVARIAR, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Amy Kaufman (Seal)



Robert Martin Demoret
Robert Martin DEMORET

Date: April 13, 2023

ACKNOWLEDGMENT

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State of California
County of San Diego

On April 13, 2023 before me, Amy Kaufman, notary public
(insert name and title of the officer)

personally appeared Robert Martin DEMORET, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

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WITNESS my hand and official seal.

Signature Amy Kaufman (Seal)





Roman Askatovich VALIULIN

Date: April 18th 2023

ACKNOWLEDGMENT

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State of California
County of San Diego

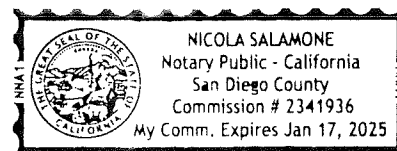
On April 18, 2023 before me, Nicola Salamone, Notary Public
(insert name and title of the officer)

personally appeared Roman Askatovich VALIULIN, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature  (Seal)




Alexander Frederik KINTZER

Date: April 13, 2023

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of San Diego)

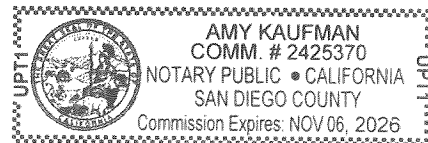
On April 13, 2023 before me, Amy Kaufman, notary public
(insert name and title of the officer)

personally appeared Alexander Frederik KINTZER, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Amy Kaufman (Seal)



Peter Webb
Peter WEBB

Date: 07/13/2023

ACKNOWLEDGMENT

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State of California
County of San Diego

On April 13, 2023 before me, Amy Kaufman, notary public
(insert name and title of the officer)

personally appeared Peter WEBB, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Amy Kaufman (Seal)




David Robert SLOCHOWER

Date: 4/18/23

ACKNOWLEDGMENT

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State of California
County of San Diego

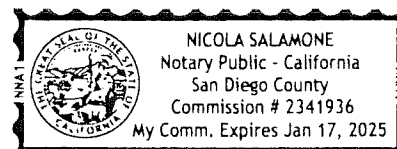
On April 18, 2023 before me, Nicola Salamone, Notary Public
(insert name and title of the officer)

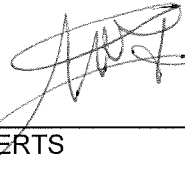
personally appeared David Robert SLOCHOWER, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

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WITNESS my hand and official seal.

Signature  (Seal)





Kathleen AERTGEERTS

Date: April 13, 2023

ACKNOWLEDGMENT

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State of California
County of San Diego

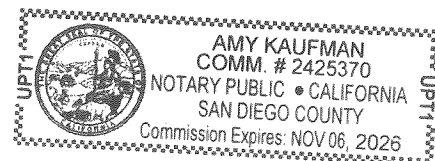
On April 13, 2023 before me, Amy Kaufman, notary public
(insert name and title of the officer)

personally appeared Kathleen AERTGEERTS, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Amy Kaufman (Seal)



ACKNOWLEDGEMENT OF ASSIGNEE

On behalf of Vertex Pharmaceuticals Incorporated:

Adrian G. Looney
Name: Adrian G. Looney
Title: Vice President, Chief Intellectual Property Officer

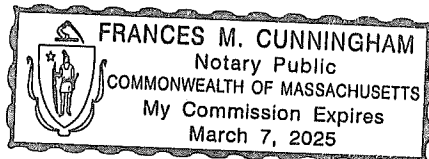
April 19, 2023
Date

Commonwealth of Massachusetts
County of Suffolk

On this 19th day of April, 2023, before me, the undersigned notary public, personally appeared Adrian G. Looney (name of document signer), proved to me through satisfactory evidence of identification, which was/were ☒ personal knowledge of identity, ☐ a driver's license, ☐ other (please identify) _____, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Frances M. Cunningham

Notary Public
My Commission Expires March 7, 2025



ASSIGNMENT

WHEREAS I, the below-named inventor (hereinafter referred to as Assignor), of an invention entitled:

HETEROARYL COMPOUNDS FOR THE TREATMENT OF PAIN

as disclosed and claimed in:

Application Number	Country of Filing	Filing Date
63/333,873	United States	April 22, 2022

and in the applications identified in the table below claiming priority to U.S. Provisional Application No. 63/333,873:

Application Number*	Country of Filing	Filing Date*
20230100969	Argentina	April 21, 2023
12765	Lebanon	May 17, 2023
249/2023	Pakistan	April 26, 2023
PCT/US2023/066065	PCT	April 21, 2023
112114908	Taiwan	April 21, 2023
18/305,186	United States	April 21, 2023
40235	Uruguay	April 21, 2023
2023-000076	Venezuela	April 21, 2023

* I authorize and request a patent practitioner of record in the above-referenced applications to insert the filing date and application number of the applications when known.

by virtue of my agreement with Vertex Pharmaceuticals (San Diego) LLC, a corporation of Delaware whose post office address is 3215 Merryfield Row, San Diego, CA 92121, USA (hereinafter referred to as Assignee), confirm assignment and hereby assign to Assignee the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to all applications for patents on this invention in all countries throughout the world, including any PCT International Application and all national stage applications based thereon that may be filed, and all patents issued upon such applications in all countries throughout the world;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, confirm that all rights in the inventions and applications listed above have already transferred to Assignee by virtue of my agreements. For the avoidance of doubt, Assignor hereby confirm having sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention, the above-referenced applications that disclose and/or claim this invention, any PCT International Application and all national stage applications based thereon that may be filed, any other applications for patents filed anywhere in the world that claim this invention, and all divisions, and continuations of any such application, and all patents which may be granted thereon, and all reissues thereof, and all rights to claim priority in any country on the basis of any such applications, and all extensions, renewals, and reissues thereof; and I hereby authorize and request that any official of any country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I covenant that I have not executed and will not execute any agreement in conflict with this Assignment;

AND, I further covenant and agree that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

IN TESTIMONY WHEREOF, I have hereunto set my hands:

Mark Thomas Miller
Mark Thomas MILLER

Date: April 18, 2023

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of San Diego

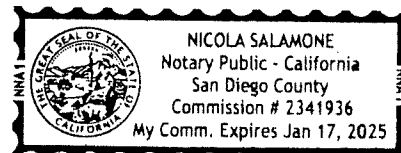
On April 18, 2023 before me, Nicola Salamone, Notary Public
(insert name and title of the officer)

personally appeared Mark Thomas MILLER, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Nicola Salamone (Seal)



ACKNOWLEDGEMENT OF ASSIGNEE

On behalf of Vertex Pharmaceuticals (San Diego) LLC:

Adrian G. Looney
Name: Adrian G. Looney
Title: Vice President, Chief Intellectual Property Officer

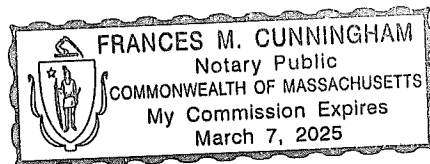
April 19, 2023
Date

Commonwealth of Massachusetts
County of Suffolk

On this 19th day of April, 2023, before me, the undersigned notary public, personally appeared Adrian G. Looney (name of document signer), proved to me through satisfactory evidence of identification, which was/were ☒ personal knowledge of identity, ☐ a driver's license, ☐ other (please identify) _____, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Frances M. Cunningham

Notary Public
My Commission Expires March 7, 2025



ASSIGNMENT

WHEREAS WE, the below-named inventors (hereinafter referred to as Assignors), of an invention entitled:

HETEROARYL COMPOUNDS FOR THE TREATMENT OF PAIN

as disclosed and claimed in:

Application Number	Country of Filing	Filing Date
63/333,873	United States	April 22, 2022

and in the applications identified in the table below claiming priority to U.S. Provisional Application No. 63/333,873:

Application Number*	Country of Filing	Filing Date*
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112114908	Taiwan	April 21, 2023
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* WE authorize and request a patent practitioner of record in the above-referenced application to insert the filing date and application number of the application when known.

by virtue of our agreements with Vertex Pharmaceuticals (San Diego) LLC, a corporation of Delaware whose post office address is 3215 Merryfield Row, San Diego, CA 92121, USA (hereinafter referred to as Assignee), confirm assignment and hereby assign to Assignee the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to all applications for patents on this invention in all countries throughout the world, including any PCT International Application and all national stage applications based thereon that may be filed, and all patents issued upon such applications in all countries throughout the world;

NOW THEREFORE, be it known that, for good and valuable consideration, the receipt of which from Assignee is hereby acknowledged, WE, as Assignors, confirm that all rights in the inventions and applications listed above have already transferred to Assignee by virtue of our agreements. For the avoidance of doubt, Assignors hereby confirm having sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention, the above-referenced applications that disclose and/or claim this invention, any PCT International Application and all national stage applications based thereon that may be filed, any other applications for patents filed anywhere in the world that claim this invention, and all divisions, and continuations of any such application, and all patents which may be granted thereon, and all reissues thereof, and all rights to claim priority in any country on the basis of any such applications, and all extensions, renewals, and reissues thereof; and WE hereby authorize and request that any official of any country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, WE covenant that WE have not executed and will not execute any agreement in conflict with this Assignment;

AND, WE further covenant and agree that WE will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

IN TESTIMONY WHEREOF, WE have hereunto set our hands:


Dennis James HURLEY

Date: 04/18/2023

ACKNOWLEDGMENT

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State of California
County of San Diego

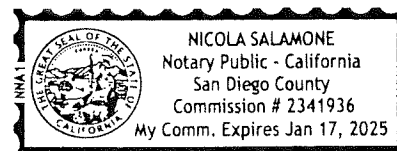
On April 18, 2023 before me, Nicola Salamone, Notary Public
(insert name and title of the officer)

personally appeared Dennis James HURLEY, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature  (Seal)




Timothy Donald NEUBERT

Date: 4/18/2023

ACKNOWLEDGMENT

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State of California
County of San Diego

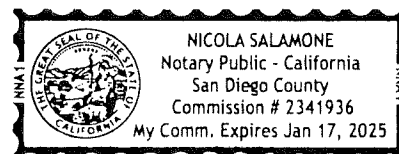
On April 18, 2023 before me, Nicola Salamone, Notary Public
(insert name and title of the officer)

personally appeared Timothy Donald NEUBERT, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(ies), and that by his/~~her/their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature  (Seal)



Urvi PATEL
Urvi PATEL

Date: 4/18/2023

ACKNOWLEDGMENT

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State of California
County of San Diego

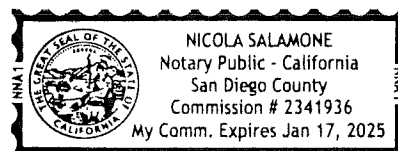
On April 18, 2023 before me, Nicola Salamone, Notary Public
(insert name and title of the officer)

personally appeared Urvi PATEL, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

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WITNESS my hand and official seal.

Signature Nicola Salamone (Seal)



Sara Sabina HADIDA RUAH

Sara Sabina HADIDA RUAH

Date: 04/13/2023

ACKNOWLEDGMENT

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State of California
County of San Diego

On April 13, 2023 before me, Amy Kaufman, notary public
(insert name and title of the officer)

personally appeared Sara Sabina HADIDA RUAH, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

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WITNESS my hand and official seal.

Signature Amy Kaufman (Seal)




Jason McCARTNEY

Date: 04/13/2023

ACKNOWLEDGMENT

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State of California
County of San Diego

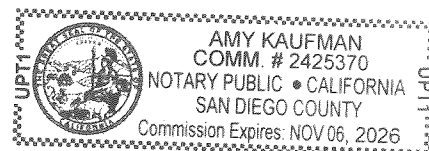
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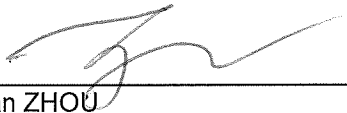
personally appeared Jason McCARTNEY, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

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WITNESS my hand and official seal.

Signature Amy Kaufman (Seal)





Jinglan ZHOU

Date: _____

04/13/2023

ACKNOWLEDGMENT

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State of California

County of San Diego

On April 13, 2023 before me, Amy Kaufman, notary public
(insert name and title of the officer)

personally appeared Jinglan ZHOU, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

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WITNESS my hand and official seal.

Signature Amy Kaufman (Seal)



ACKNOWLEDGEMENT OF ASSIGNEE

On behalf of Vertex Pharmaceuticals (San Diego) LLC:

Adrian G. Looney
Name: Adrian G. Looney
Title: Vice President, Chief Intellectual Property Officer

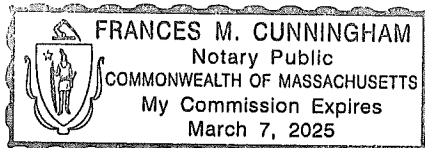
April 19, 2023
Date

Commonwealth of Massachusetts
County of Suffolk

On this 19th day of April, 2023, before me, the undersigned notary public, personally appeared Adrian G. Looney (name of document signer), proved to me through satisfactory evidence of identification, which was/were ☐ personal knowledge of identity, ☐ a driver's license, ☐ other (please identify) _____, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Frances M. Cunningham

Notary Public
My Commission Expires March 7, 2025



ASSIGNMENT

WHEREAS WE, the below-named inventors (hereinafter referred to as Assignors), of an invention entitled:

HETEROARYL COMPOUNDS FOR THE TREATMENT OF PAIN

as disclosed and claimed in:

Application Number	Country of Filing	Filing Date
63/333,873	United States	April 22, 2022

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2023-000076	Venezuela	April 21, 2023

* WE authorize and request a patent practitioner of record in the above-referenced application to insert the filing date and application number of the application when known.

by virtue of our agreements with Vertex Pharmaceuticals (Europe) Limited, a corporation of the United Kingdom whose post office address is 2 Kingdom Street, London, W22 6BD, United Kingdom (hereinafter referred to as Assignee), confirm assignment and hereby assign to Assignee the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to all applications for patents on this invention in all countries throughout the world, including any PCT International Application and all national stage applications based thereon that may be filed, and all patents issued upon such applications in all countries throughout the world;

NOW THEREFORE, be it known that, for good and valuable consideration, the receipt of which from Assignee is hereby acknowledged, WE, as Assignors, confirm that all rights in the inventions and applications listed above have already transferred to Assignee by virtue of our agreements. For the avoidance of doubt, Assignors hereby confirm having sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention, the above-referenced applications that disclose and/or claim this invention, any PCT International Application and all national stage applications based thereon that may be filed, any other applications for patents filed anywhere in the world that claim this invention, and all divisions, and continuations of any such application, and all patents which may be granted thereon, and all reissues thereof, and all rights to claim priority in any country on the basis of any such applications, and all extensions, renewals, and reissues thereof; and WE hereby authorize and request that any official of any country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, WE covenant that WE have not executed and will not execute any agreement in conflict with this Assignment;

AND, WE further covenant and agree that WE will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

IN TESTIMONY WHEREOF, WE have hereunto set our hands:

Em Beck

Elizabeth Mary BECK

Signed by Elizabeth Mary BECK before me, Louisa Evelyn TAYLOR, Notary Public, at Abingdon, England on

19th April 2023.

L. E. Taylor

Notarial Certification:

LOUISA EVELYN TAYLOR
Notary Public
44 Foliat Drive, Wantage
OX12 7AL, England
Tel: 07865 531871
Email: louisa@taylornotarypublic.co.uk
My Commission Expires at Death

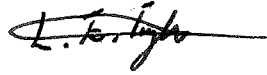
126/2023



Ronald Marcellus Alphonsus KNEGTEL

Signed by Ronald Marcellus Alphonsus KNEGTEL before me, Louisa Evelyn TAYLOR, Notary Public, at Abingdon,
England on 19th April 2023.

Notarial Certification:



LOUISA EVELYN TAYLOR
Notary Public
44 Foliat Drive, Wantage
OX12 7AL, England
Tel: 07865 531871
Email: louisa@taylornotarypublic.co.uk
My Commission Expires at Death

140/2023

Ewa Chudyk
Ewa Iwona CHUDYK

Signed by Ewa Iwona CHUDYK before me, Louisa Evelyn TAYLOR, Notary Public, at Abingdon, England on

19 April 2023.

Notarial Certification:

L. E. Taylor

LOUISA EVELYN TAYLOR
Notary Public
44 Foliat Drive, Wantage
OX12 7AL, England
Tel: 07865 531871
Email: louisa@taylornotarypublic.co.uk
My Commission Expires at Death

122/2023



Joanne Louise PINDER

Signed by Joanne Louise PINDER before me, Louisa Evelyn TAYLOR, Notary Public, at Abingdon, England on
19TH April 2023.

Notarial Certification:



LOUISA EVELYN TAYLOR
Notary Public
44 Foliat Drive, Wantage
OX12 7AL, England
Tel: 07865 531871
Email: louisa@taylornotarypublic.co.uk
My Commission Expires at Death

131/2023

ACKNOWLEDGEMENT OF ASSIGNEE

On behalf of Vertex Pharmaceuticals (Europe) Limited:

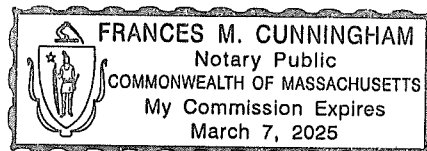
Adrian G. Looney
Name: Adrian G. Looney
Title: Vice President, Chief Intellectual Property Officer

April 19, 2023
Date

Commonwealth of Massachusetts
County of Suffolk

On this 19th day of April, 2023, before me, the undersigned notary public, personally appeared Adrian G. Looney (name of document signer), proved to me through satisfactory evidence of identification, which was/were ☒ personal knowledge of identity, ☐ a driver's license, ☐ other (please identify) _____, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Frances M. Cunningham
Notary Public
My Commission Expires March 7, 2025



ASSIGNMENT

WHEREAS Vertex Pharmaceuticals (San Diego) LLC (hereinafter referred to as Assignor), has acquired an interest in an invention entitled:

HETEROARYL COMPOUNDS FOR THE TREATMENT OF PAIN

as disclosed and claimed in the application(s) identified below this paragraph:

Application Number	Country of Filing	Filing Date
63/333,873	United States	April 22, 2022

and in the applications identified in the table below claiming priority to U.S. Provisional Application No. 63/333,873:

Application Number*	Country of Filing	Filing Date*
20230100969	Argentina	April 21, 2023
12765	Lebanon	May 17, 2023
249/2023	Pakistan	April 26, 2023
PCT/US2023/066065	PCT	April 21, 2023
112114908	Taiwan	April 21, 2023
18/305,186	United States	April 21, 2023
40235	Uruguay	April 21, 2023
2023-000076	Venezuela	April 21, 2023

*We authorize and request a patent practitioner of record in the above-referenced application(s) to insert the filing date and application number of the application(s) when known.

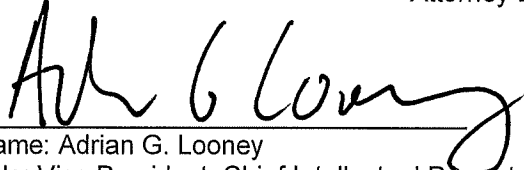
WHEREAS Vertex Pharmaceuticals Incorporated, a corporation of Massachusetts whose post office address is 50 Northern Avenue, Boston, Massachusetts 02210, USA (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to all applications for patents on this invention in all countries throughout the world, including any PCT International Application and all national stage applications based thereon that may be filed, and all patents issued upon such applications in all countries throughout the world;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, Assignor has sold, assigned, transferred, and set over, and does hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, its entire right, title, and interest in and to this invention, the above-referenced applications that disclose and claim this invention, any PCT International Application and all national stage applications based thereon that may be filed, any other applications for patents filed anywhere in the world that claim this invention, and all divisions, continuations, extensions, renewals, reexaminations, and reissues of any application or patent claiming this invention, and all patents which may be granted thereon, and all rights to claim priority in any country on the basis of any such applications; and it hereby authorizes and requests that any official of any country

whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, Assignor covenants that it has the full right to convey the interest assigned by this Assignment, and it has not executed and will not execute any agreement in conflict with this Assignment;

AND, Assignor further covenants and agrees that it will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to it respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

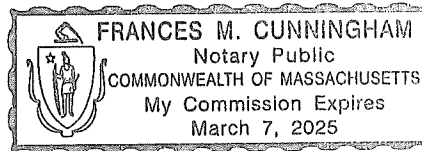

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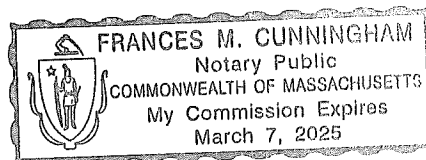
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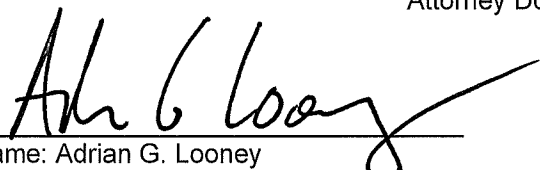
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NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, Assignor has sold, assigned, transferred, and set over, and does hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, its entire right, title, and interest in and to this invention, the above-referenced applications that disclose and claim this invention, any PCT International Application and all national stage applications based thereon that may be filed, any other applications for patents filed anywhere in the world that claim this invention, and all divisions, continuations, extensions, renewals, reexaminations, and reissues of any application or patent claiming this invention, and all patents which may be granted thereon, and all rights to claim priority in any country on the basis of any such applications; and it hereby authorizes and requests that any official of any country

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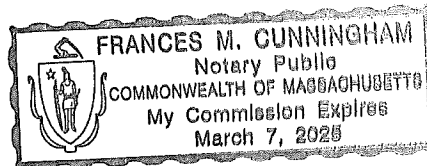
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