BRIGARD& CASTRO
PROPIEDAD INTELECTUAL

Calle 70 A No. 4 – 41
BOGOTÁ – COLOMBIA
TEL: (571) 744 22 00
FAX: (571) 742 22 00
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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
No. 15-268581- -00003-0000
Fecha: 2016-05-10 16:06:35 Dep. 2020 DIR.NUEVASCR
Tra. 11 PATENTEIYII Eve: 378 FASENACIONALI
Act. 444 RESPUESTAREQUE Folios: 3

As. 134.955

Señor
DIRECTOR DIVISIÓN DE NUEVAS CREACIONES
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
E. S. D.

REF: Expediente No. **15.268.581**

RESPUESTA A EXAMEN DE FORMA

JUAN PABLO CADENA SARMIENTO, portador de la tarjeta profesional No. 57.492 del C.S.J., obrando como apoderado de la sociedad solicitante me permito dar respuesta al Oficio No. 430 notificado por fijación en lista el 5 de enero de 2016.

En respuesta a las observaciones realizadas como resultado del examen de forma, es pertinente mencionar que las reivindicaciones definen de forma clara y razonablemente general la invención, razón por la que respetuosamente disiento de los comentarios del señor Examinador a este respecto.

En primer lugar, vemos que la expresión opcionalmente es totalmente clara y tal como como lo reconoce su despacho, este término hace a determinada característica en las reivindicaciones opcional.

En cuanto a las objeciones sobre las reivindicaciones 2-4 y 12, no vemos ninguna necesidad de restringir las reivindicaciones a compuestos específicos. A menos que su despacho encuentre arte previo que afecte todas y cada una de los elementos reivindicados, no vemos ninguna necesidad de restingar la invención de acuerdo a las exigencias de su despacho en esta etapa del trámite.

En cuanto a la reivindicación 12, vemos que se encuentra debidamente caracterizada por su principio activo (compuesto 1) y auxiliares de formulación. Notamos además que el concepto inventivo de la composición no yace en sus proporciones.

Adjuntamos igualmente el documento de cesión en CD.

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En vista de las consideraciones aquí abordadas, se concluye que la totalidad de la materia que conforma la presente divulgación cumple a cabalidad con lo establecido por la legislación vigente, razón por la que solicito sean retiradas las respectivas objeciones y, consecuentemente, se proceda a continuar con el trámite de la presente solicitud.

Atentamente,

JUAN PABLO CADENA SARMIENTO
T.P. No. 57.492 del C.S.J.
C.C. 80.410.337 de Usaquén
Calle 70 A No. 4 - 41

Industria y Comercio SUPERINTENDENCIA	**TESTIGO DOCUMENTAL**	Folio: 3

Dependencia Jerárquica: DEL PROPIEDAD INDUSTRIAL		**Código**	2000
Dependencia Productora: GRUPO DE NUEVAS CREACIONES		**Código**	2020
Tipo de Radicación: Entrada: **X**	Salida: □	Traslado: □	Convenio: □
Radicador:			

DESCRIPCIÓN DE LA PRUEBA

Nombre de la Serie / Subserie:	Código:
Expediente: 15 - 268581 - 3	Solicitante / ***Quejoso / Demandante / otros.***
Prueba excluida: CD	
N°. de Pruebas excluidas: 1	
Fecha de emisión de la Prueba:	

UBICACIÓN DE LA PRUEBA EN LA SECCIÓN DE MATERIAL GRÁFICO

N°. de bloque:		Otras especificaciones:
Nº. de rodante:		
Nº. de estante:		
N°. de archivador:		
Nº. de entrepaño:		
Nº. de gaveta:		
N°. de caja:		

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- El material gráfico ***o especial*** que se encuentra ***dentro o anexo a*** las unidades documentales o expedientes, debe extraerse y llevarse a aquella sección del archivo que se haya dispuesto para conservar documentos en distintos formatos.
- Entiéndase por material gráfico todos aquellos dibujos, croquis, mapas, planos, fotografías, ilustraciones, pictografías, códices, prensa, objetos tridimensionales, entre otros.

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El cd contiene: 1 archivo en formato pdf, procesado y cargado al sistema.

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Soporte Documental

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JONES DAY

222 EAST 41ST STREET • NEW YORK, NEW YORK 10017.6702
TELEPHONE: +1.212.326.3939 • FACSIMILE: +1.212.755.7306

December 7, 2015

Reply to New York Office

Your Ref. 134.955
Our Ref. 700755-026345/10624-345-026

Brigard & Castro
Calle 70A #4-41
Bogota - Colombia
COLOMBIA

VIA DHL

Re: SIGNAL PHARMACEUTICALS, LLC Colombian Patent Application No. 15-268581 filed April 16, 2014 for PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE

Dear Colleague:

In continuation of our letter requesting the filing of the above-identified application, enclosed please find:

Legalized Certified Assignments (2)

Your acknowledgment of the receipt of this letter by return mail will be appreciated.

Very truly yours,

JONES DAY

Amy Lewis

Amy Lewis
International Patent
Applications Manager

Enclosure

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APOSTILLE

(Convention de La Haye du 5 octobre 1961)

1. Country: *United States of America*

This public document

2. has been signed by M. Tarver

3. acting in the capacity of Certifying Officer

4. bears the seal/stamp of U.S. Patent and Trademark Office

Certified

5. at Washington, D.C.

6. the seventeenth of November, 2015

7. by *Assistant Authentication Officer, United States Department of State*

8. No. 16006973-2

9. Seal/Stamp:

10. Signature:

Derrick Branch

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E UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

November 06, 2015

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON JANUARY 06, 2014.

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By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office

M. Tarver

M. TARVER
Certifying Officer

PATENT ASSIGNMENT COVER SHEET

sion v1.1
ersion v1.2

EPAS ID: PAT2715410

N TYPE:	NEW ASSIGNMENT
F CONVEYANCE:	ASSIGNMENT

G PARTY DATA

Name	Execution Date
NON	01/15/2014
AN K. PARIKH	01/15/2014
VISKY	01/29/2014
EW MICHAEL KREILEIN	01/15/2014
AN BOERSEN	01/14/2014
IAS LEE	01/17/2014
ZHONG LIANG	01/29/2014
JAMIN COHEN	01/22/2014
G LI	01/16/2014
N XU	01/16/2014
LLIAM WEI-HWA LEONG	01/15/2014

CEIVING PARTY DATA

ame:	Signal Pharmaceuticals LLC
Street Address:	10300 Campus Point Drive
nternal Address:	Suite 100
City:	San Diego
State/Country:	CALIFORNIA
Postal Code:	92121

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	61911201

CORRESPONDENCE DATA

Fax Number: (404)581-8330
Phone: (404) 581-8614
Email: mjbruner@jonesday.com
Correspondence will be sent via US Mail when the email attempt is unsuccessful.

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Correspondent Name:	MICHAEL J. BRUNER
Address Line 1:	1420 PEACHTREE STREET, NE
Address Line 2:	SUITE 800
Address Line 4:	ATLANTA, GEORGIA 30309

ATTORNEY DOCKET NUMBER:	10624-345-888
NAME OF SUBMITTER:	MICHAEL J. BRUNER
Signature:	/Michael J. Bruner/
Date:	02/06/2014

Total Attachments: 42
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JOINT--PROVISIONAL

ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 1605 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-345-888

☒ which was filed on December 3, 2013, Application No. 61/911,201

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC**, a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date 15 Jan 2014. , 2014 _____ L.S.
ANIL MENON

PATENT
REEL: 032154 FRAME: 0770

Date 15 Jan , 2014 — DARSHAN K. PARIKH L.S.

Date _____ , 2014 — DORA VISKY L.S.

Date _____ , 2014 — MATTHEW MICHAEL KREILEIN L.S.

Date _____ , 2014 — NATHAN BOERSEN L.S.

Date _____ , 2014 — THOMAS LEE L.S.

Date _____ , 2014 — YING LI L.S.

Date _____ , 2014 — JEAN XU L.S.

Date _____ , 2014 — XIAOZHANG LIANG L.S.

Date _____ , 2014 — WILLIAM WEI-HWA LEONG L.S.

Date _____ , 2014 — BENJAMIN COHEN L.S.

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Application No. 61/911,201

STATE OF NEW JERSEY)

COUNTY OF)

On 1/15/14 before me, Paula L. Johnson, Notary Public, personally appeared **ANIL MENON**, 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)

PAULA L JOHNSON
Notary Public, State of New Jersey
My Commission Expires
March 23, 2017

STATE OF NEW JERSEY)

COUNTY OF)

On 1/15/14 before me, Paula L. Johnson, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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)

PAULA L JOHNSON
Notary Public, State of New Jersey
My Commission Expires
March 23, 2017

STATE OF NEW JERSEY)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DORA VISKY**, 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)

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STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **THOMAS LEE**, 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)

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Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **YING LI**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **JEAN XU**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **XIAOZHANG LIANG**, 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)

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Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

ACCEPTED AND AGREED TO BY ASSIGNEE, **SIGNAL PHARMACEUTICALS LLC**:

Signature_____ Date:_____

Printed name_____

Title_____

PDF Create 8 Trial
www.nuance.com

PATENT
REEL: 032154 FRAME: 0775

ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 1605 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-345-888

☒ which was filed on December 3, 2013, Application No. 61/911,201

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC**, a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date _____ , 2014 _____ L.S.

ANIL MENON

PATENT
REEL: 032154 FRAME: 0776

Date _____, 2014 _____ L.S.
DARSHAN K. PARIKH

Date January 29, 2014 _____ L.S.
DORA VISKY

Date _____, 2014 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date _____, 2014 _____ L.S.
NATHAN BOERSEN

Date _____, 2014 _____ L.S.
THOMAS LEE

Date _____, 2014 _____ L.S.
YING LI

Date _____, 2014 _____ L.S.
JEAN XU

Date _____, 2014 _____ L.S.
XIAOZHANG LIANG

Date _____, 2014 _____ L.S.
WILLIAM WEI-HWA LEONG

Date _____, 2014 _____ L.S.
BENJAMIN COHEN

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Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **ANIL MENON**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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)

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Hunterdon)

On January 29, 2014 before me, Linda J. Taylor, Notary Public, personally appeared **DORA VISKY**, 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 Linda J. Taylor (Seal)

LINDA J. TAYLOR
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires 3/24/2016

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Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **THOMAS LEE**, 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)

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PATENT
REEL: 032154 FRAME: 0779

Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **YING LI**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **JEAN XU**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **XIAOZHANG LIANG**, 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)

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STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

ACCEPTED AND AGREED TO BY ASSIGNEE, **SIGNAL PHARMACEUTICALS LLC**:

Signature_____ Date:_____

Printed name_____

Title_____

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JOINT--PROVISIONAL

ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 1605 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-345-888

☒ which was filed on December 3, 2013, Application No. 61/911,201

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC,** a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date _____ , 2014 _____ L.S.
ANIL MENON

PATENT
REEL: 032154 FRAME: 0782

Public Version

Date _____, 2014 _____ L.S.
DARSHAN K. PARIKH

Date _____, 2014 _____ L.S.
DORA VISKY

Date 15 January, 2014 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date _____, 2014 _____ L.S.
NATHAN BOERSEN

Date _____, 2014 _____ L.S.
THOMAS LEE

Date 16 Jan., 2014 _____ L.S.
YING LI

Date 16 Jan, 2014 _____ L.S.
JEAN XU

Date _____, 2014 _____ L.S.
XIAOZHANG LIANG

Date 15 January, 2014 _____ L.S.
WILLIAM WEI-HWA LEONG

Date _____, 2014 _____ L.S.
BENJAMIN COHEN

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STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **ANIL MENON**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DORA VISKY**, 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)

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www.huang.com

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Union)

On JAN 15 2014 before me, Ineice Inge, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

INEICE S INGE
Commission # 2378059
Notary Public, State of New Jersey
My Commission Expires
September 17, 2018

STATE OF CALIFORNIA New Jersey)

COUNTY OF Union)

On JAN 14 2014 before me, Ineice Inge, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

INEICE S INGE
Commission # 2378059
Notary Public, State of New Jersey
My Commission Expires
September 17, 2018

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **THOMAS LEE**, 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)

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Application No. 61/911,201

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF UNION)

On JAN 16 2014 before me, Ineice Inge, Notary Public, personally appeared **YING LI**, 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)

INEICE S INGE
Commission # 2378059
Notary Public, State of New Jersey
My Commission Expires
September 17, 2018

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF UNION)

On JAN 16 2014 before me, Ineice Inge, Notary Public, personally appeared **JEAN XU**, 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)

INEICE S INGE
Commission # 2378059
Notary Public, State of New Jersey
My Commission Expires
September 17, 2018

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF UNION)

On JAN 29 2014 before me, Ineice Inge, Notary Public, personally appeared **XIAOZHANG LIANG**, 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)

PDFCreate 8 Trial
www.nuance.com

Application No. 61/911,201

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Union)

On January 15 2013 before me, Ineice Inge, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

INEICE S INGE
Commission # 2378069
Notary Public, State of New Jersey
My Commission Expires
September 17, 2018

STATE OF CALIFORNIA)

COUNTY OF)

On January 22, 2014 before me, Frances G. Housten, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

FRANCES G. HOUSTEN
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires 7/9/2015

ACCEPTED AND AGREED TO BY ASSIGNEE, **SIGNAL PHARMACEUTICALS LLC:**

Signature _____ Date: 2/4/14

Printed name Greg Reyes

Title Sr. VP Drug Discovery

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www.nuance.com

JOINT--PROVISIONAL

ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 1605 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-345-888

☒ which was filed on December 3, 2013, Application No. 61/911,201

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC**, a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date _____ , 2014 _____ L.S.
ANIL MENON

PATENT
REEL: 032154 FRAME: 0788

Application No. 61/911,201

Date _____ , 2014 _____ L.S.
DARSHAN K. PARIKH

Date _____ , 2014 _____ L.S.
DORA VISKY

Date _____ , 2014 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date 14 Jan 2014 , 2014 _____ L.S.
NATHAN BOERSEN

Date _____ , 2014 _____ L.S.
THOMAS LEE

Date _____ , 2014 _____ L.S.
YING LI

Date _____ , 2014 _____ L.S.
JEAN XU

Date _____ , 2014 _____ L.S.
XIAOZHANG LIANG

Date _____ , 2014 _____ L.S.
WILLIAM WEI-HWA LEONG

Date _____ , 2014 _____ L.S.
BENJAMIN COHEN

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Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **ANIL MENON**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DORA VISKY**, 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)

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PATENT
REEL: 032154 FRAME: 0790

Application No. 61/911,201

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Union)

On JAN 15 2014 before me, Ineice Inge, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

INEICE S INGE
Commission # 2378059
Notary Public, State of New Jersey
My Commission Expires
September 17, 2018

STATE OF CALIFORNIA New Jersey)

COUNTY OF Union)

On JAN 14 2014 before me, Ineice Inge, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

INEICE S INGE
Commission # 2378059
Notary Public, State of New Jersey
My Commission Expires
September 17, 2018

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **THOMAS LEE**, 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)

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PATENT
REEL: 032154 FRAME: 0791

Application No. 61/911,201
STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **YING LI**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **JEAN XU**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **XIAOZHANG LIANG**, 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)

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Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

ACCEPTED AND AGREED TO BY ASSIGNEE, **SIGNAL PHARMACEUTICALS LLC**:

Signature_____ Date:_____

Printed name_____

Title_____

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www.huange.com

PATENT
REEL: 032154 FRAME: 0793

JOINT--PROVISIONAL

ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 1605 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-345-888

☒ which was filed on December 3, 2013, Application No. 61/911,201

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC,** a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date _____ , 2014 _____ L.S.
ANIL MENON

PATENT
REEL: 032154 FRAME: 0794

EFW Jones Day

Application No. 61/911,201

Date _____, 2014 _____ L.S.
DARSHAN K. PARIKH

Date _____, 2014 _____ L.S.
DORA VISKY

Date _____, 2014 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date _____, 2014 _____ L.S.
NATHAN BOERSEN

Date Jan 17, 2014 _____ L.S.
THOMAS LEE

Date _____, 2014 _____ L.S.
YING LI

Date _____, 2014 _____ L.S.
JEAN XU

Date _____, 2014 _____ L.S.
XIAOZHANG LIANG

Date _____, 2014 _____ L.S.
WILLIAM WEI-HWA LEONG

Date _____, 2014 _____ L.S.
BENJAMIN COHEN

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www.nuance.com

Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **ANIL MENON**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DORA VISKY**, 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)

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STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

_____

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

_____

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **THOMAS LEE**, 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)

_____

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PATENT
REEL: 032154 FRAME: 0797

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **THOMAS LEE**, 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)

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www.nuance.com

PATENT
REEL: 032154 FRAME: 0797

Application No. 61/911,201
STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **YING LI**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **JEAN XU**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **XIAOZHANG LIANG**, 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)

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www.nuance.com

Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

ACCEPTED AND AGREED TO BY ASSIGNEE, **SIGNAL PHARMACEUTICALS LLC**:

Signature_____ Date:_____

Printed name_____

Title_____

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www.huange.com

PATENT
REEL: 032154 FRAME: 0799

JOINT--PROVISIONAL

ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 1605 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-345-888

☒ which was filed on December 3, 2013, Application No. 61/911,201

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC,** a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date _____ , 2014 _____ L.S.
ANIL MENON

PATENT
REEL: 032154 FRAME: 0800

Date _____, 2014 _____ L.S.
DARSHAN K. PARIKH

Date _____, 2014 _____ L.S.
DORA VISKY

Date _____, 2014 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date _____, 2014 _____ L.S.
NATHAN BOERSEN

Date _____, 2014 _____ L.S.
THOMAS LEE

Date _____, 2014 _____ L.S.
YING LI

Date _____, 2014 _____ L.S.
JEAN XU

Date 29 Jan, 2014 _____ L.S.
XIAOZHANG LIANG

Date _____, 2014 _____ L.S.
WILLIAM WEI-HWA LEONG

Date _____, 2014 _____ L.S.
BENJAMIN COHEN

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Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **ANIL MENON**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DORA VISKY**, 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)

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www.nuance.com

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **THOMAS LEE**, 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)

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PATENT
REEL: 032154 FRAME: 0803

Application No. 61/911,201

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Union)

On JAN 16 2014 before me, Ineice Inge, Notary Public, personally appeared **YING LI**, 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)

INEICE S INGE
Commission # 2378059
Notary Public, State of New Jersey
My Commission Expires
September 17, 2018

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Union)

On JAN 16 2014 before me, Ineice Inge, Notary Public, personally appeared **JEAN XU**, 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)

INEICE S INGE
Commission # 2378059
Notary Public, State of New Jersey
My Commission Expires
September 17, 2018

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Union)

On JAN 29 2014 before me, Ineice Inge, Notary Public, personally appeared **XIAOZHANG LIANG**, 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)

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www.nuance.com

Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

_____

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

_____

ACCEPTED AND AGREED TO BY ASSIGNEE, **SIGNAL PHARMACEUTICALS LLC**:

Signature_____ Date:_____

Printed name_____

Title_____

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JOINT--PROVISIONAL

ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 1605 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-345-888

☒ which was filed on December 3, 2013, Application No. 61/911,201

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC,** a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date _____ , 2014 _____ L.S.
ANIL MENON

Electronic Copy

Date _____, 2014 _____ L.S.
DARSHAN K. PARIKH

Date _____, 2014 _____ L.S.
DORA VISKY

Date _____, 2014 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date _____, 2014 _____ L.S.
NATHAN BOERSEN

Date _____, 2014 _____ L.S.
THOMAS LEE

Date _____, 2014 _____ L.S.
YING LI

Date _____, 2014 _____ L.S.
JEAN XU

Date _____, 2014 _____ L.S.
XIAOZHANG LIANG

Date _____, 2014 _____ L.S.
WILLIAM WEI-HWA LEONG

Date January 22, 2014 _____ L.S.
BENJAMIN COHEN

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Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **ANIL MENON**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DORA VISKY**, 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)

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PATENT
REEL: 032154 FRAME: 0808

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **THOMAS LEE**, 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)

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PATENT
REEL: 032154 FRAME: 0809

Application No. 61/911,201

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **YING LI**, 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)

_____

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **JEAN XU**, 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)

_____

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **XIAOZHANG LIANG**, 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)

_____

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PATENT
REEL: 032154 FRAME: 0810

Application No. 61/911,201

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Union)

On January 15 2013 before me, Inez a Lyles, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

INEICE S INGE
Commission # 2378059
Notary Public, State of New Jersey
My Commission Expires
September 17, 2018

STATE OF CALIFORNIA)

COUNTY OF)

On January 22, 2014 before me, Frances G. Housten, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

FRANCES G. HOUSTEN
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires 7/9/2015

ACCEPTED AND AGREED TO BY ASSIGNEE, **SIGNAL PHARMACEUTICALS LLC:**

Signature _____ Date: 2/4/14

Printed name GREG REYES

Title SR. VP Drug Discovery

PDFCreate 8 Trial
www.nuance.com

APOSTILLE

(Convention de La Haye du 5 octobre 1961)

1. Country: *United States of America*

This public document

2. has been signed by John A. Burson

3. acting in the capacity of Certifying Officer

4. bears the seal/stamp of U.S. Patent and Trademark Office

Certified

5. at Washington, D.C.

6. the seventeenth of November, 2015

7. by *Assistant Authentication Officer, United States Department of State*

8. No. 16006973-6

9. Seal/Stamp:

10. Signature:

Derrick Branch

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A 7556254

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

November 06, 2015

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON AUGUST 15, 2013.

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By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office

JOHN A BURSON
Certifying Officer

PATENT ASSIGNMENT

Electronic Version v1.1
Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Anil Menon	07/18/2013
Darshan K. Parikh	06/12/2013
Dora Visky	07/12/2013
Matthew Michael Kreilein	06/11/2013
Nathan Boersen	06/11/2013
Thomas Lee	06/12/2013
Ying Li	06/12/2013
Jean Xu	06/12/2013
Xiaozhang Liang	07/30/2013
William Wei-Hwa Leong	06/21/2013
Benjamin Cohen	06/15/2013

RECEIVING PARTY DATA

Name:	Signal Pharmaceuticals LLC
Street Address:	10300 Campus Point Drive
Internal Address:	Suite 100
City:	San Diego
State/Country:	CALIFORNIA
Postal Code:	92121

CH $40.00 61813064

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	61813064

CORRESPONDENCE DATA

Fax Number: 4045818330
Correspondence will be sent via US Mail when the fax attempt is unsuccessful.
Phone: (404) 581-8614
Email: mjbruner@jonesday.com

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www.nuance.com

Correspondent Name:	Michael J. Bruner
Address Line 1:	1420 Peachtree Street, NE
Address Line 2:	Suite 800
Address Line 4:	Atlanta, GEORGIA 30309

ATTORNEY DOCKET NUMBER:	10624-298-888
NAME OF SUBMITTER:	Michael J. Bruner
Signature:	/Michael J. Bruner/
Date:	08/15/2013

Total Attachments: 42
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ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 16505 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-298-888

☒ which was filed on April 17, 2013, Application No. 61/813,064

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC**, a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date 18 July, 2013

_____ L.S.
ANIL MENON

PATENT
REEL: 031018 FRAME: 0046

Date _____, 2013 _____ L.S.
DARSHAN K. PARIKH

Date _____, 2013 _____ L.S.
DORA VISKY

Date _____, 2013 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date _____, 2013 _____ L.S.
NATHAN BOERSEN

Date _____, 2013 _____ L.S.
THOMAS LEE

Date _____, 2013 _____ L.S.
YING LI

Date _____, 2013 _____ L.S.
JEAN XU

Date _____, 2013 _____ L.S.
XIAOZHANG LIANG

Date _____, 2013 _____ L.S.
WILLIAM WEI-HWA LEONG

Date _____, 2013 _____ L.S.
BENJAMIN COHEN

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Application No. 61/715,510

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Union)

On July 18, 2013 before me, Denise Errigo, Notary Public, personally appeared **ANIL MENON**, 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 Denise Errigo (Seal)

DENISE ERRIGO
Notary Public
State of New Jersey
My Commission Expires Apr 24, 2018

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DORA VISKY**, 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)

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STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **THOMAS LEE**, 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)

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Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **YING LI**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **JEAN XU**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **XIAOZHANG LIANG**, 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)

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Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

STATE OF CALIFORNIA)

COUNTY OF

On _____ before me, _____, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

ACCEPTED AND AGREED TO BY ASSIGNEE, **SIGNAL PHARMACEUTICALS LLC:**

Signature_____ Date:_____

Printed name Greg Reyes

Title Sr. V P Drug Discovery

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ATI-2567621v1

JOINT--PROVISIONAL

ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 16505 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of ~~China~~ United States of America, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-298-888

☒ which was filed on April 17, 2013, Application No. 61/813,064

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

United States of America
TL 6/12/2013

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC**, a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence of forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date _____, 2013 _____ L.S.
ANIL MENON

PATENT
REEL: 031018 FRAME: 0052

Date _____, 2013 _____ L.S.
DARSHAN K. PARIKH

Date _____, 2013 _____ L.S.
DORA VISKY

Date _____, 2013 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date _____, 2013 _____ L.S.
NATHAN BOERSEN

Date June 12, 2013 _____ L.S.
THOMAS LEE

Date _____, 2013 _____ L.S.
YING LI

Date _____, 2013 _____ L.S.
JEAN XU

Date 30 July, 2013 _____ L.S.
XIAOZHANG LIANG

Date _____, 2013 _____ L.S.
WILLIAM WEI-HWA LEONG

Date _____, 2013 _____ L.S.
BENJAMIN COHEN

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www.nuance.com

Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **ANIL MENON**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DORA VISKY**, 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)

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PATENT
REEL: 031018 FRAME: 0054

Application No. 61/715,510

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Essex)

On June 11 2013 before me, Ineice Inge, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Essex)

On June 11 2013 before me, Ineice Inge, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Essex)

On June 12 2013 before me, Ineice Inge, Notary Public, personally appeared **THOMAS LEE**, 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)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

PDFCreate 8 Trial
www.nuance.com

Application No. 61/715,510
STATE OF NEW JERSEY)

COUNTY OF Essex)

On June 12 2013 before me, Ineice Inge, Notary Public, personally appeared **YING LI**, 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 NEW JERSEY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

STATE OF NEW JERSEY)

COUNTY OF Essex)

On June 12 2013 before me, Ineice Inge, Notary Public, personally appeared **JEAN XU**, 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 NEW JERSEY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

STATE OF NEW JERSEY)

COUNTY OF Essex)

On July 30 2013 before me, Ineice Inge, Notary Public, personally appeared **XIAOZHANG LIANG**, 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 NEW JERSEY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

PDF Create 8 Trial
www.nuance.com

Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

ACCEPTED AND AGREED TO BY ASSIGNEE, **SIGNAL PHARMACEUTICALS LLC**:

Signature_____ Date:_____

Printed name_____

Title_____

PDF Create 8 Trial
www.nuance.com

JOINT--PROVISIONAL

ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 1605 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-298-888

☒ which was filed on April 17, 2013, Application No. 61/813,064

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known,

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC,** a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date _____, 2013 _____ L.S.

ANIL MENON

PATENT
REEL: 031018 FRAME: 0058

PDF created on this site
www.pdfonline.com

Application No. 61/715,510

Date 12 Jun , 2013 _____ L.S.
DARSHAN K. PARIKH

Date _____ , 2013 _____ L.S.
DORA VISKY

Date _____ , 2013 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date _____ , 2013 _____ L.S.
NATHAN BOERSEN

Date _____ , 2013 _____ L.S.
THOMAS LEE

Date _____ , 2013 _____ L.S.
YING LI

Date _____ , 2013 _____ L.S.
JEAN XU

Date _____ , 2013 _____ L.S.
XIAOZHANG LIANG

Date 21 June , 2013 _____ L.S.
WILLIAM WEI-HWA LEONG

Date _____ , 2013 _____ L.S.
BENJAMIN COHEN

PDF Create 8 Trial
www.nuance.com

Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **ANIL MENON**, 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)

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Essex)

On June 12, 2013 before me, Darshan Parikh, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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~~ New Jersey that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____(Seal)

PAULA L JOHNSON
Notary Public, State of New Jersey
My Commission Expires
March 23, 2017

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DORA VISKY**, 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)

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STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **THOMAS LEE**, 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)

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www.nuance.com

Application No. 61/715.510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **YING LI**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **JEAN XU**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **XIAOZHANG LIANG**, 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)

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www.nuance.com

Application No. 61/715,510

STATE OF ~~CALIFORNIA~~ NewJersey)

COUNTY OF ESSEX)

On June 21 2013 before me, Sneice Inge, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

SNEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

STATE OF ~~CALIFORNIA~~ NewJersey)

COUNTY OF Essex)

On June 15 2013 before me, Sneice Inge, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

SNEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

ACCEPTED AND AGREED TO BY ASSIGNEE, SIGNAL PHARMACEUTICALS LLC:

Signature _____ Date: July 30 2013

Printed name Robert Hugin

Title Chairman | CEO

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www.nuance.com

JOINT--PROVISIONAL

ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 1605 Vroom Drive, Bridgewater, New Jersey, 08807; the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-298-888

☒ which was filed on April 17, 2013, Application No. 61/813,064

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC**, a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date _____, 2013 _____ L.S.

ANIL MENON

PATENT
REEL: 031018 FRAME: 0064

Date _____, 2013 _____ L.S.
DARSHAN K. PARIKH

Date July 12, 2013 Dora Visky L.S.
DORA VISKY

Date _____, 2013 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date _____, 2013 _____ L.S.
NATHAN BOERSEN

Date _____, 2013 _____ L.S.
THOMAS LEE

Date _____, 2013 _____ L.S.
YING LI

Date _____, 2013 _____ L.S.
JEAN XU

Date _____, 2013 _____ L.S.
XIAOZHANG LIANG

Date _____, 2013 _____ L.S.
WILLIAM WEI-HWA LEONG

Date _____, 2013 _____ L.S.
BENJAMIN COHEN

PDF Create 8 Trial
www.nuance.com

Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared ANIL MENON, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared DARSHAN K. PARIKH, 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)

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Hunterdon)

On July 12, 2013 before me, Sandra S Quairoli, Notary Public, personally appeared DORA VISKY, 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 Sandra S Quairoli (Seal)

SANDRA S QUAIROLI
Notary Public
State of New Jersey
My Commission Expires Mar 21, 2016

PDF Create 8 Trial
www.nuance.com

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **THOMAS LEE**, 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)

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Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **YING LI**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **JEAN XU**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **XIAOZHANG LIANG**, 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)

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www.nuance.com

Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

ACCEPTED AND AGREED TO BY ASSIGNEE, **SIGNAL PHARMACEUTICALS LLC**:

Signature_____ Date:_____

Printed name_____

Title_____

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www.nuance.com

PATENT
REEL: 031018 FRAME: 0069

JOINT--PROVISIONAL

ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 1605 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-298-888

☒ which was filed on April 17, 2013, Application No. 61/813,064

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC**, a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date _____, 2013 _____ L.S.

ANIL MENON

PATENT
REEL: 031018 FRAME: 0070

Date _____, 2013 _____ L.S.
DARSHAN K. PARIKH

Date _____, 2013 _____ L.S.
DORA VISKY

Date 11 June, 2013 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date _____, 2013 _____ L.S.
NATHAN BOERSEN

Date _____, 2013 _____ L.S.
THOMAS LEE

Date 12 June, 2013 _____ L.S.
YING LI

Date 12 June, 2013 _____ L.S.
JEAN XU

Date 12 June, 2013 _____ L.S.
XIAOZHANG LIANG

Date _____, 2013 _____ L.S.
WILLIAM WEI-HWA LEONG

Date _____, 2013 _____ L.S.
BENJAMIN COHEN

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www.nuance.com

Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **ANIL MENON**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DORA VISKY**, 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)

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PATENT
REEL: 031018 FRAME: 0072

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Essex)

On June 11 2013 before me, Ineice Inge, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Essex)

On June 11 2013 before me, Ineice Inge, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

INEICE S. INGE
ID # 2370059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Essex)

On June 12 2013 before me, Ineice Inge, Notary Public, personally appeared **THOMAS LEE**, 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)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

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Application No. 61/715,510
STATE OF NEW JERSEY)

COUNTY OF ESSEX)

On JUNE 12 2013 before me, Ineice Inge, Notary Public, personally appeared **YING LI**, 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 NEW JERSEY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

STATE OF NEW JERSEY)

COUNTY OF ESSEX)

On JUNE 12 2013 before me, Ineice Inge, Notary Public, personally appeared **JEAN XU**, 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 NEW JERSEY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

STATE OF NEW JERSEY)

COUNTY OF ESSEX)

On JULY 30 2013 before me, Ineice Inge, Notary Public, personally appeared **XIAOZHANG LIANG**, 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 NEW JERSEY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

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www.nuance.com

Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

_____

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

_____

ACCEPTED AND AGREED TO BY ASSIGNEE, **SIGNAL PHARMACEUTICALS LLC**:

Signature_____ Date:_____

Printed name_____

Title_____

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JOINT--PROVISIONAL

ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 1605 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-298-888

☒ which was filed on April 17, 2013, Application No. 61/813,064

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC**, a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date _____, 2013 _____ L.S.

ANIL MENON

PATENT
REEL: 031018 FRAME: 0076

Date _____, 2013 _____ L.S.
DARSHAN K. PARIKH

Date _____, 2013 _____ L.S.
DORA VISKY

Date _____, 2013 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date 11 June 2013, 2013 _____ L.S.
NATHAN BOERSEN

Date _____, 2013 _____ L.S.
THOMAS LEE

Date _____, 2013 _____ L.S.
YING LI

Date _____, 2013 _____ L.S.
JEAN XU

Date _____, 2013 _____ L.S.
XIAOZHANG LIANG

Date _____, 2013 _____ L.S.
WILLIAM WEI-HWA LEONG

Date _____, 2013 _____ L.S.
BENJAMIN COHEN

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www.nuance.com

Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **ANIL MENON**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DORA VISKY**, 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)

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www.nuance.com

PATENT
REEL: 031018 FRAME: 0078

Application No. 61/715,510

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Essex)

On June 11 2013 before me, Ineice Inge, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Essex)

On June 11 2013 before me, Ineice Inge, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

STATE OF ~~CALIFORNIA~~ New Jersey)

COUNTY OF Essex)

On June 12 2013 before me, Ineice Inge, Notary Public, personally appeared **THOMAS LEE**, 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)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

PDFCreate 8 Trial
www.nuance.com

Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **YING LI**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **JEAN XU**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **XIAOZHANG LIANG**, 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)

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www.nuance.com

Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

_____

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

_____

ACCEPTED AND AGREED TO BY ASSIGNEE, **SIGNAL PHARMACEUTICALS LLC**:

Signature_____ Date:_____

Printed name_____

Title_____

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ASSIGNMENT

WHEREAS, WE, **ANIL MENON**, citizen of the United States of America, having a mailing address of 1717 Merriam Drive, Martinsville, New Jersey, 08836, the United States of America residing at Martinsville, New Jersey, the United States of America; **DARSHAN K. PARIKH**, citizen of the United States of America, having a mailing address of 1605 Vroom Drive, Bridgewater, New Jersey, 08807, the United States of America residing at Bridgewater, New Jersey, the United States of America; **DORA VISKY**, citizen of Hungary, having a mailing address of 9 Wyckoff Lane, Flemington, New Jersey, 08822, the United States of America residing at Flemington, New Jersey, the United States of America; **MATTHEW MICHAEL KREILEIN**, citizen of the United States of America, having a mailing address of 14307 Crystal Ridge Dr., Watchung, New Jersey, 07069, the United States of America residing at Watchung, New Jersey, the United States of America; **NATHAN BOERSEN**, citizen of the United States of America, having a mailing address of 105 New England Ave., Apt. G-1, Summit, New Jersey, 07901, the United States of America residing at Summit, New Jersey, the United States of America; **THOMAS LEE**, citizen of China, having a mailing address of 11 Four Oaks Road, Bedminster, New Jersey, 07921, the United States of America residing at Bedminster, New Jersey, the United States of America; **YING LI**, citizen of China, having a mailing address of 20 Rahway Road, Millburn, New Jersey, 07041, the United States of America residing at Millburn, New Jersey, the United States of America; **JEAN XU**, citizen of the United States of America, having a mailing address of 2 Cherry Tree Lane, Warren, New Jersey, 07059, the United States of America residing at Warren, New Jersey, the United States of America; **XIAOZHANG LIANG**, citizen of the United States of America, having a mailing address of 22 Ellison Ave., Edison, New Jersey, 08820, the United States of America residing at Edison, New Jersey, the United States of America; **WILLIAM WEI-HWA LEONG**, citizen of the United States of America, having a mailing address of 342 Edgewood Avenue, Westfield, New Jersey, 07090, the United States of America residing at Westfield, New Jersey, the United States of America; and **BENJAMIN COHEN**, citizen of the United States of America, having a mailing address of 32 Hillcrest Avenue, Cranford, New Jersey, 07016, the United States of America residing at Cranford, New Jersey, the United States of America, ASSIGNORS, are the inventors of the invention in **PHARMACEUTICAL FORMULATIONS, PROCESSES, SOLID FORMS AND METHODS OF USE RELATING TO 1-ETHYL-7-(2-METHYL-6-(1H-1,2,4-TRIAZOL-3-YL)PYRIDIN-3-YL)-3,4-DIHYDROPYRAZINO[2,3-b]PYRAZIN-2(1H)-ONE** for which we have filed a provisional application for a Patent of the United States

☒ which is identified by Jones Day docket no. 10624-298-888

☒ which was filed on April 17, 2013, Application No. 61/813,064

☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number _____, filed _____) the filing date and application number of said application when known.

and WHEREAS, **SIGNAL PHARMACEUTICALS LLC**, a corporation organized and existing under the laws of the state of California, and having an office for the transaction of business at 10300 Campus Point Drive, Suite 100, San Diego, California, 92121, the United States of America, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States provisional application and all applications claiming priority thereto under 35 U.S.C. § 119(e) and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement;

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date _____, 2013 _____ L.S.

ANIL MENON

PATENT
REEL: 031018 FRAME: 0082

PDFmyURL.com

Date _____, 2013 _____ L.S.
DARSHAN K. PARIKH

Date _____, 2013 _____ L.S.
DORA VISKY

Date _____, 2013 _____ L.S.
MATTHEW MICHAEL KREILEIN

Date _____, 2013 _____ L.S.
NATHAN BOERSEN

Date _____, 2013 _____ L.S.
THOMAS LEE

Date _____, 2013 _____ L.S.
YING LI

Date _____, 2013 _____ L.S.
JEAN XU

Date _____, 2013 _____ L.S.
XIAOZHANG LIANG

Date _____, 2013 _____ L.S.
WILLIAM WEI-HWA LEONG

Date 6/15, 2013 _____ L.S.
BENJAMIN COHEN

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Application No. 61/715,510

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **ANIL MENON**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DARSHAN K. PARIKH**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **DORA VISKY**, 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)

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STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **MATTHEW MICHAEL KREILEIN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **NATHAN BOERSEN**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **THOMAS LEE**, 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)

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Application No. 61/715,510
STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **YING LI**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **JEAN XU**, 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)

STATE OF CALIFORNIA)

COUNTY OF)

On _____ before me, _____, Notary Public, personally appeared **XIAOZHANG LIANG**, 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)

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Application No. 61/715,510

STATE OF ~~CALIFORNIA~~ NewJersey)

COUNTY OF ESSEX)

On June 21 2013 before me, Ineice Inge, Notary Public, personally appeared **WILLIAM WEI-HWA LEONG**, 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)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

STATE OF ~~CALIFORNIA~~ NewJersey)

COUNTY OF Essex)

On June 15 2013 before me, Ineice Inge, Notary Public, personally appeared **BENJAMIN COHEN**, 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)

INEICE S. INGE
ID # 2378059
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/17/2013

ACCEPTED AND AGREED TO BY ASSIGNEE, SIGNAL PHARMACEUTICALS LLC:

Signature _____ Date: July 30 2013

Printed name Robert Huggin

Title Chairman / CEO

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www.nuance.com

RECORDED: 08/15/2013

PATENT
REEL: 031018 FRAME: 0087