505822901 12/16/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5869731

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	CONFIRMATORY DEED OF ASSIGNMENT EFFECTIVE APRIL 7, 2019

CONVEYING PARTY DATA

Name	Execution Date
ALCON REFRACTIVEHORIZONS, LLC	11/22/2019

RECEIVING PARTY DATA

Name:	NOVARTIS AG
Street Address:	LICHTSTRASSE 35
City:	BASEL
State/Country:	SWITZERLAND
Postal Code:	4056

PROPERTY NUMBERS Total: 2

Property Type	Number
Patent Number:	6866661
Patent Number:	8375956

CORRESPONDENCE DATA

Fax Number: (216)579-6073

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 216-579-1700

Email:cgilmore@pearne.comCorrespondent Name:PEARNE & GORDON LLPAddress Line 1:1801 EAST 9TH STREET

Address Line 2: SUITE 1200

Address Line 4: CLEVELAND, OHIO 44114-3108

ATTORNEY DOCKET NUMBER:	BRAQ-J1427
NAME OF SUBMITTER:	JOHN P. MURTAUGH
SIGNATURE:	/johnpmurtaugh/
DATE SIGNED:	12/16/2019

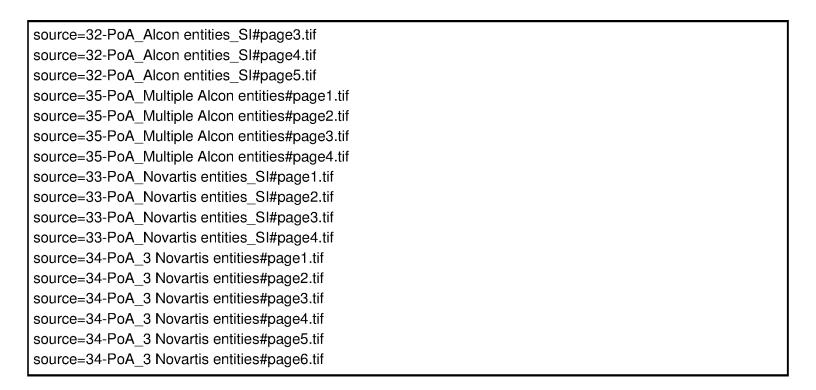
Total Attachments: 21

source=12 AREHOR ASN1 AI US DoA (Step 1)#page1.tif source=12 AREHOR ASN1 AI US DoA (Step 1)#page2.tif

source=32-PoA_Alcon entities_SI#page1.tif source=32-PoA_Alcon entities_SI#page2.tif

> PATENT REEL: 051312 FRAME: 0437

505822901



Confirmatory Deed of Assignment

United States of America

THIS DEED is made between:

Alcon RefractiveHorizons, LLC, a company duly organized and existing under the Laws of State Delaware, USA, of 6201 South Freeway, Fort Worth, TX 76134, United States of America ("the Assignor");

and

Novartis AG, a company duly organized and existing under the Laws of Switzerland, of 4002 Basel, Switzerland

("the Assignee");

WHEREAS:

- (a) The Assignor was the proprietor of the patents in the United States of America as set out in the attached schedules marked "Annex A" and
- (b) Pursuant to the Intellectual Property Assignment Agreement dated April 7th, 2019, Assignor has assigned Assignor's entire right, title and interest in and to the patents to Assignee.
- (c) The Assignment of the afore-mentioned patents became effective on the 7th day of April 2019.

IT IS AGREED THAT:

For good and valuable consideration, receipt of which is hereby acknowledged by the Assignor, the Assignor hereby confirms that it has assigned, transferred and set over unto the Assignee, its successors and assigns, effective on April 7th, 2019, all right, title and interests in the **United States of America** in the patents together with the goodwill of the business represented and symbolised by the patents and the Assignee accepts the said assignment.

IN WITNESS WHEREOF, the Assignor and Assignee have caused this Confirmatory Assignment to be executed by their authorized representatives.

Signed as a Deed in Ljubljana on behalf of the **Assignor** this 22 day of November 2019 by Signed as a Deed in Ljubljana on behalf of the **Assignee** this 22 day of November 2019 by

Maja Babnik, Proxy-Holder of Alcon RefractiveHorizons, LLC Katja Berk Bevc, Proxy-Holder of

Novartis AG

Annex A

IP Right Name	Application No.	Publication No.	Grant No.
EYE REGISTRATION AND ASTIGMATISM ALIGNMENT CONTROL SYSTEMS AND METHOD	10/733874	2004-0143245	6866661
EYE REGISTRATION SYSTEM FOR REFRACTIVE SURGERY AND ASSOCIATED METHODS	12/777325	2010-0220181	8375956

POWER OF ATTORNEY

THIS DEED made on July 30th, 2019 on behalf of:

- Alcon-Couvreur N.V. a company organized and existing under the laws of Belgium
- Alcon Grieshaber AG, a company organized and existing under the laws of Switzerland;
- Alcon Healthcare, a company organized and existing under the laws of Spain;
- Alcon Inc. (CH), a company organized and existing under the laws of Switzerland;
- Alcon Lensx, Inc., a company organized and existing under the laws of the State Delaware, USA;
- Alcon Pharmaceuticals Ltd., a company organized and existing under the laws of Switzerland;
- Alcon Portugal-Produtos e Equipamentos Oftalmológicos Lda. a company organized and existing under the laws of Portugal;
- Alcon (Puerto Rico), Inc., a company organized and existing under the laws of the State Delaware, USA;
- Alcon Refractive Horizons, LLC, a company organized and existing under the laws of the State Delaware, USA;
- Alcon Research, LLC, a company organized and existing under the laws of the State Delaware, USA;
- Alcon Vision, LLC, a company organized and existing under the laws of the State Delaware, USA;
- CIBA Vision GmbH, a company organized and existing under the laws of Germany;
- Ciba Vision, LLC, a company organized and existing under the laws of the State Delaware, USA;
- Clarvista Medical, Inc., a company organized and existing under the laws of the State Delaware, USA;
- Optonol Ltd., a company organized and existing under the laws of Israel;
- PowerVision, Inc.; a company organized and existing under the laws of the State Delaware, USA;
- Tear Film Innovations, Inc., a company organized and existing under the laws of the State Delaware, USA;
- Transcend Medical, Inc., a company organized and existing under the laws of the State Delaware, USA;
- TrueVision Systems, Inc., a company organized and existing under the laws of the State Delaware, USA;
- WaveLight GmbH, a company organized and existing under the laws of Germany;

(each of the above companies shall be individually and collectively referred to hereafter as "the Company")

WITNESSETH as follows:

1. Appointment

Each company hereby appoints

 Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Katarina Urbanija, born on May 6th, 1975, General Manager of Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Ana Bobnar, born on January 7th, 1990, Trademark Assistant at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Eva Margareta Krisper, born on February 7th, 1991, Trademark Assistant at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenja

and/or

 Maja Babnik, born on May 29th, 1993, Trademark Assistant at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Katja Berk Bevc, born on March 28th, 1991, Trademark Assistant at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Matjuša Jakopin, born on November 15th, 1984, Trademark Attorney at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Vesna Dumendžić, born on July 14th, 1984, Trademark Attorney at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Urban Tavčar, born on June 3rd, 1980, Head of Docketing at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

to act on behalf of the company in respect of exclusively the recordal/submission of

∆ assignment

⊠ merger

Change of name

Change of legal entity

change of address

renewals and other related maintenance tasks (such as reclassification, affidavits, annuity payments, merging of registrations, etc.)

licenses and sub-licenses

of the trademarks, patents, designs and other intellectual property rights of the company.

For the aforesaid purpose, we hereby authorize said agents to appoint a substitute, or substitutes, to execute and amend any documents in order to maintain our trademarks, patents, designs and other intellectual property rights in force.

This Power of Attorney is valid until 31st December 2019 and supersedes as of its effective date all previous versions of Power of Attorney relating to the subject matter herein.

IN WITNESS WHEREOF and year before written.	this	Deed has	been	executed	for and or	n behalf of the Company on the day
The state of the s					1	

Munich, July 30th, 2019 (Place and Date)

Anna Popova, Proxy-Holder

UrkRNr. 3454 vom 30. Juli 2019

File No [see above] dating from [see above and below]

Notar Dr. Heinrich Kreuzer Perusastr. 7, D 80333 München 💥 +49 89 290 916-0 Fax -66 notar@kreuzer-muenchen.de

Sachbearbeiter: sm Data TX010040LXXC Vogang Band stock 2019 0730 CO. Develop 30 - 1420 19

Country of Bavaria (Germany) City of München [Munich]

I herewith certify, that

Mrs

Given Names:

Anna (Ganna)

Family Name:

Popova

Date of Birth [Day, Month, Year]: 6.4.1982

Address [street and house number]: Rückertstr. 1

[postal code and city]:

80336 München (Munich)

personally known to me, the notary, has subscribed and sworn (affirmed) today the foregoing document in front of me.

30th day of September, two thousand nineteen

Peter Dicerofer

Dr. Peter Dillinger as official representative of

Dr. Heinrich Kreuzer, Notary

Perusastr. 7 [street and house number],

D-80333 München (Munich) [postal code and city]

🕿 +49 (89) 290 916-0, Fax -66; notar@kreuzer-muenchen.de

the law of the state in which this document shall be used it may be necessary that my mature get voalized. Competent therefore is usually the President of the court "Landgericht München I" here in Munich Valace of Justice, Prielmayerstr.7, D-80335 München.

Original: --> versandt / ausgeh / digt an | sent to / handed out to Brandstock

Scan:

X

Urkundensammlung | file-cl action of the notary

APOSTILLE

(Convention de La Haye du 5 octobre 1961)

1. Land: Bundesrepublik Deutschland

Diese öffentliche Urkunde

- ist unterschrieben von Vorsitzender Richter am Oberlandesgericht a.D. Dr. Peter Dillinger
- 3. in seiner Eigenschaft als amtlich bestellter Vertreter.
- Sie ist versehen mit dem Siegel des Notars Dr. Heinrich Kreuzer in München

Bestätigt

- 5. in München
- 6. am 19. August 2019
- 7. durch die Präsidentin des Landgerichts München I
- 8. unter Nr. 910 a 10488/2019
- 9. Siegel

10. Unterschrift

Im Auftrag

Marcel Rath Vustizhauptsekretär



The State of Texas

Secretary of State

Not for use within the United States of America
This Apostille only certifies the signature, the capacity of the signer and the seal or stamp it bears. It does not certify the content of the document for which it was issued.
Certificate Validation available at www.sos.state.tx.us

APOSTILLE

(Convention de La Haye du 5 Octobre 1961)

1. Country

United States of America

This public document

2. has been signed by

BARBARA MCKENZIE

3. acting in the capacity of

Notary Public, State of Texas

4. and bears the seal/stamp of

BARBARA MCKENZIE, Notary Public, State of Texas, Commission Expires: 11-18-21

CERTIFIED

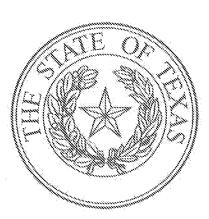
5. at Austin, Texas

6. on September 9, 2019

- 7. by the Secretary of State of Texas
- 8. Certificate No. 11797522

9. Seal

10. Signature:



Ruth R. Hughs Secretary of State

GF/aw

PATENT

REEL: 051312 FRAME: 0446

The State of Texas

§

County of Tarrant

Ş

BEFORE ME, Notary Public for and in Fort Worth, Texas, on this date personally appeared Christine Bohmann and Patrick M. Ryan known to me or proved to me on the basis of satisfactory evidence to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that he executed the same of the purposes and consideration therein expressed. Given under my hand and seal of office this 29th day of August, 2019.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal this 29th day of August, 2019, at Fort Worth, Texas.

NOTARY PUBLIC

Barbara McKenzie

Printed Name of Notary Public

Notary Commission Expires: November 18, 2021

[SEAL]



POWER OF ATTORNEY

THIS DEED made on the 20th day of August, 2019, by:

- . Alcon-Couvreur N.V., a company organized and existing under the laws of Belgium.
- Alcon Grieshaber AG, a company organized and existing under the laws of Switzerland;
- · Alcon Healthcare, a company organized and existing under the laws of Spain
- Alcon Inc. (CH), a company organized and existing under the laws of Switzerland;
- Alcon Lensx, Inc., a company organized and existing under the laws of the State Delaware, USA;
- Alcon Pharmaceuticals Ltd., a company organized and existing under the laws of Switzerland;
- Alcon Portugal-Produtos e Equipamentos Oftalmológicos Lda, a company organized and existing under the laws of Spain
- Alcon (Puerto Rico), Inc., a company organized and existing under the laws of the State Delaware, USA;
- Alcon RefractiveHorizons, LLC, a company organized and existing under the laws of the State
 of Delaware, USA;
- Alcon Research, LLC, a company organized and existing under the laws of the State Delaware, USA;
- Alcon Vision, LLC, a company organized and existing under the laws of the State Delaware, USA;
- CIBA Vision GmbH, a company organized and existing under the laws of Germany;
- CIBA Vision, LLC, a company organized and existing under the laws of the State Delaware, USA:
- Clarvista Medical, Inc., a company organized and existing under the laws of the State Delaware, USA;
- Optonol Ltd., a company organized and existing under the laws of Israel;
- PowerVision, Inc., a company organized and existing under the laws of the State of Delaware, USA;
- Tear Film Innovations, Inc., a company organized and existing under the laws of the State Delaware, USA;
- Transcend Medical, Inc., a company organized and existing under the laws of the State Delaware, USA;
- TrueVision Systems, Inc., a company organized and existing under the laws of the State Delaware, USA;
- WaveLight GmbH, a company organized and existing under the laws of Germany:

(each of the above companies shall be individually and collectively referred to hereafter as "the Company")

WITNESSETH as follows:

1. Appointment

Each company hereby appoints

- Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany and/or
- Dr. Volker Spitz, born on January 17th, 1961, CEO of Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

and/or

 Laura Morris, born on June 26, 1980, Director Renewals at Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

and/or

Anna (Ganna) Popova, born on April 6th, 1982, Director IP Recordals at Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

and/or

 Faustine Waternaux, born on May 10, 1981, Renewals Project Leader at Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

and/or

 Alizée Mothion, born on April 14, 1988, Renewals Project Leader at Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

and/or

 Michal Moican, born on February 09th, 1988, Project Leader in IP Recordals Department of Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

and/or

 Juliane Weiß, born on May 17th, 1991, Project Leader in IP Recordals Department of Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

to act or	n behalf of the company in respect of exclusively the recordal/submission of
	assignment
\boxtimes	merger
\boxtimes	change of name
\boxtimes	change of legal entity
\boxtimes	change of address
\mathbb{Z}	renewals and other related maintenance tasks (such as reclassification, affiday
	payments, merging of registrations, etc.)

licenses and sub-licenses of the trademarks, patents, designs and other intellectual property rights of the Company.

For the aforesaid purpose, we hereby authorize said agents to appoint a substitute, or substitutes, to execute and amend any documents in order to maintain our trademarks, patents, designs and other intellectual property rights in force.

IN WITNESS WHEREOF this Deed has been executed for and on behalf of the Company on the day and year before written.

Fort Worth, Texas

Christine Bohmann

Head Legal IP and Assistant Secretary

Bollman

Fort Worth, Texas Patrick M. Ryan

Head Patent Strategy and Operations

2

its, annuity

POWER OF ATTORNEY

THIS DEED made on July 30th, 2019 on behalf of:

- Novartis AG, a company organized and existing under the laws of Switzerland;
- Novartis Pharma AG, a company organized and existing under the laws of Switzerland;
- Novartis Pharmaceuticals Corporation., a company organized and existing under the laws
 of the State Delaware, USA;
- Novartis Pharma S.A.S. a company organized and existing under the laws of France;

(each of the above companies shall be individually and collectively referred to hereafter as "the Company")

WITNESSETH as follows:

1. Appointment

Each company hereby appoints

 Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Katarina Urbanija, born on May 6th, 1975, General Manager of Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Ana Bobnar, born on January 7th, 1990, Trademark Assistant at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Eva Margareta Krisper, born on February 7th, 1991, Trademark Assistant at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Maja Babnik, born on May 29th, 1993, Trademark Assistant at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Katja Berk Bevc, born on March 28th, 1991, Trademark Assistant at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Matjuša Jakopin, born on November 15th, 1984, Trademark Attorney at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Vesna Dumendžić, born on July 14th, 1984, Trademark Attorney at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

and/or

 Urban Tavčar, born on June 3rd, 1980, Head of Docketing at Brandstock Services GmbH, with business address at Cesta v Gorice 34b, 1000 Ljubljana, Slovenia

to act on behalf of the company in respect of exclusively the recordal/submission of

assignment
merger
change of name
change of legal entity
change of address
renewals and other related maintenance tasks (such as reclassification, affidavits, annuity payments, merging of registrations, etc.)

of the trademarks, patents, designs and other intellectual property rights of the company, and for no other purpose.

For the aforesaid purpose, we hereby authorize said agents to appoint a substitute, or substitutes, to execute and amend any documents in order to maintain our trademarks, patents, designs and other intellectual property rights in force.

This Appointment is revocable at any time and supersedes as of its effective date all previous such appointments and/or power of attorney relating to the subject matter of this deed.

IN WITNESS WHEREOF this Deed has been executed for and on behalf of the Company on the day and year before written.

Munich, July 30th, 2019 (Place and Date)

licenses and sub-licenses

Anna Popova, Proxy-Holder

UrkRNr. vom 30, Juli 2019

File No [see above] dating from [see above and below]

Notar Dr. Heinrich Kreuzer Perusastr. 7, D 80333 München 3 +49 89 290 916-0 Fax -66 notar@kreuzer-muenchen.de

statk 2019 0730 (100 (100 talks) 2014 (2019

Sachbearbeiter; sn Data TXXXXXVXXXXX Vogany Band

Country of Bavaria (Germany) City of München [Munich]

I herewith certify, that

Mrs

Given Names:

Anna (Ganna)

Family Name:

Popova

Date of Birth [Day, Month, Year]:

6.4.1982

Address [street and house number]: Rückertstr. 1 [postal code and city];

80336 München (Munich)

personally known to me, the notary, has subscribed and sworn (affirmed) today the foregoing document in front of me.

July ay of September, two thousand nineteen

Peter Dillinger as official representative of

Dr. Heinrich Kreuzer, Notary

Perusastr. 7 [street and house number],

D-80333 München (Munich) [postal code and city]

+49 (89) 290 916-0, Fax -66; notar@kreuzer-muenchen.de

of the state in which this document shall be used it may be necessary that my notary's - signature gets (galized. Competent therefore is usually the President of the court "Landgericht München I" here in Munic Palace of Justice, Prielmayerstr.7, D-80335 München.

Original: → versandt / aus jo handigt an I sent to / handed out to Brandstock

Scan:

(3)

Urkundensammlun[\] Ite-collection of the notary

APOSTILLE

(Convention de La Haye du 5 octobre 1961)

1. Land: Bundesrepublik Deutschland

Diese öffentliche Urkunde

- ist unterschrieben von Vorsitzender Richter am Oberlandesgericht a.D. Dr. Peter Dillinger
- 3. in seiner Eigenschaft als amtlich bestellter Vertreter.
- Sie ist versehen mit dem Siegel des Notars Dr. Heinrich Kreuzer in München

Bestätigt

- 5. in München
- 6. am 19. August 2019
- 7. durch die Präsidentin des Landgerichts München I
- 8. unter Nr. 910 a 10487/2019
- 9. Siegel

10. Unterschrift

Im Auftrag

Marcel Rath Justizhauptsekretär

PATENT REEL: 051312 FRAME: 0453]

APOSTILLE

(CONVENTION DE LA HAYE DU 5 OCTOBRE 1961)

- 1. COUNTRY: UNITED STATES OF AMERICA
- 2. THIS PUBLIC DOCUMENT HAS BEEN SIGNED BY: LILA E FREEMAN
- 3. ACTING IN THE CAPACITY OF: NOTARY PUBLIC OF NEW JERSEY
- 4. BEARS THE SEAL/STAMP OF: LILA E PREEMAN, NOTARY

CERTIFIED

- 5. AT TRENTON, NEW JERSEY
- 6. THE 21ST DAY OF MAY 2019
- 7. BY: Elizabeth Maher Muoio State Treasurer
- 8. NO: A684153
- 9. SEAL/STAMP:

10. SIGNATURE



Elizabeth Maher Muoio State Treasurer

Sunon Mus

Certificate Number: 141413943

Verify this certificate at https://www.l.state.nj.us/TYTR_StandingCert/JSP/Verify_Cert.jsp/

POWER OF ATTORNEY

THIS DEED made on the 15 of May 2019.

- Novartis AG, a company organized and existing under the laws of Switzerland;
- Novartis Pharma AG, a company organized and existing under the laws of Switzerland;
- Novartis Pharmaceuticals Corporation, a company organized and existing under the laws of the State Delaware, USA;

(each of the above companies shall be individually and collectively referred to hereafter as "the Company")

WITNESSETH as follows:

1. Appointment

Each company hereby appoints

 Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

and/or

 Dr. Volker Spitz, born on January 17th, 1961, CEO of Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

and/or

 Laura Morris, born on June 26, 1980, Director Renewals at Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

and/or

 Anna (Ganna) Popova, born on April 6th, 1982, Director IP Recordals at Brandstock Services AG, with business address at Rückerlstr. 1, 80336 München, Germany

and/or

 Faustine Waternaux, born on May 10, 1981, Renewals Project Leader at Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

and/or

 Alizée Mothion, born on April 14, 1988, Renewals Project Leader at Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

and/or

 Michal Molcan, born on February 09th, 1988, Project Leader in IP Recordals Department of Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

and/or

 Juliane Weiß, born on May 17th, 1991, Project Leader in IP Recordals Department of Brandstock Services AG, with business address at Rückertstr. 1, 80336 München, Germany

to act on behalf of the company in respect of exclusively the recordal/submission of

1

change of name
 change of legal entity
 change of address

renewals and other related maintenance tasks (such as reclassification, affidavits, annuity payments, merging of registrations, etc.)

icenses and sub-licenses

of the trademarks, patents, designs and other intellectual property rights of the company, and for no other purpose.

For the aforesaid purpose, we hereby authorize said agents to appoint a substitute, or substitutes, to execute and amend any documents in order to maintain our trademarks, patents, designs and other intellectual property rights in force.

This Appointment is revocable at any time and supersedes as of its effective date all previous such appointments and/or powers of attorney relating to the subject matter of this deed.

IN WITNESS WHEREOF this Deed has been executed for and on behalf of the Company on the day and year before written.

East Hanover, United States, 15 May 2019

Novartis AG

Authorized Signatory VP, IP Tagnsactions

Dillon Kim

Authorized Signatory
Group IP Litigation and Transactions

[See Next Page for Additional Signatures]

East Henover, United States, 614 May 2019

Novartis Pharma AG

Drew Holmes

Authorized Signatory Senior Patent Attorney

Glegory Fefrelo

Authorized Signatory Senior Patent Attorney

East Hanover, United States, 16 May 2019

Novartis Pharmaceutical Corporation

Drew Holmes

Authorized Signatory Senior Patent Attorney

dregory Ferraro

Authorized Signatory Senior Patent Attorney State of New Jersey)

SS:

County of Middlesex)

On this 15th day of May, 2019, before me, **Lila E. Freeman** a notary public, the undersigned, **Frank A. Smith** and **Dillon Kim** personally appeared, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

Notary Public

LILA E FREEMAN Notary Public State of New Jersey My Commission Expires November 8, 2023 No. 50093703

State of New Jersey)

SS:

County of Middlesex)

On this 16th day of May, 2019, before me, **Lila E. Freeman** a notary public, the undersigned, **Drew Holmes**, and **Gregory Ferraro** personally appeared, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

Notary Public

LILA E FREEMAN
Notary Public
State of New Jersey
My Commission Expires November 8, 2023
No. 50093703

PATENT REEL: 051312 FRAME: 0459

RECORDED: 12/16/2019