

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT8230798

<b>SUBMISSION TYPE:</b>	CORRECTIVE ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	Corrective Assignment to correct the CORRECT SPELLING OF THE ASSIGNEE'S NAME AND ADDRESS previously recorded on Reel 058777 Frame 0249. Assignor(s) hereby confirms the ASSIGNEE'S NAME IS SYNFUELS AMERICAS CORPORATION, 17 PIDGEON HILL DRIVE, SUITE 300, STERLING, VA 20165.

## CONVEYING PARTY DATA

Name	Execution Date
YI WANG	10/11/2023
FANGZHOU XIA	07/10/2020
CHEN YANG	01/18/2022
TZVETAN IVANOV	07/08/2020
MATHIAS HOLZ	07/08/2020
IVO W. RANGELOW	07/08/2020
KAMAL YOUCEF-TOUMI	07/10/2020
CHRISTOPH REUTER	05/08/2020

## RECEIVING PARTY DATA

<b>Name:</b>	MASSACHUSETTS INSTITUTE OF TECHNOLOGY
<b>Street Address:</b>	77 MASSACHUSETTS AVENUE
<b>City:</b>	CAMBRIDGE
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	02139
<b>Name:</b>	SYNFUELS AMERICAS CORPORATION
<b>Street Address:</b>	17 PIDGEON HILL DRIVE
<b>Internal Address:</b>	SUITE 300
<b>City:</b>	STERLING
<b>State/Country:</b>	VIRGINIA
<b>Postal Code:</b>	20165
<b>Name:</b>	NANO ANALYTIK GMBH
<b>Street Address:</b>	ENRENBURGSTRASSE 1
<b>City:</b>	ILMENAU
<b>State/Country:</b>	GERMANY
<b>Postal Code:</b>	98693

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	62870668
PCT Number:	US2020040920

**CORRESPONDENCE DATA**

**Fax Number:** (617)316-5311  
*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:** 6173165318  
**Email:** ipdocket@btlaw.com  
**Correspondent Name:** RORY P. PHEIFFER  
**Address Line 1:** BARNES & THORNBURG LLP  
**Address Line 2:** ONE MARINA PARK, SUITE 1530  
**Address Line 4:** BOSTON, MASSACHUSETTS 02210

<b>ATTORNEY DOCKET NUMBER:</b>	MIT 21538J   88212-351817
<b>NAME OF SUBMITTER:</b>	RORY P. PHEIFFER
<b>SIGNATURE:</b>	/Rory P. Pheiffer/
<b>DATE SIGNED:</b>	10/19/2023

**Total Attachments: 31**  
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## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT7141847

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
FANGZHOU XIA	07/10/2020
CHEN YANG	01/18/2022
KAMAL YOUCEF-TOUMI	07/10/2020
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	MASSACHUSETTS INSTITUTE OF TECHNOLOGY
<b>Street Address:</b>	77 MASSACHUSETTS AVENUE
<b>City:</b>	CAMBRIDGE
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	02139
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	17623789
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(317)231-7433
<i>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.</i>	
<b>Phone:</b>	3172317762
<b>Email:</b>	heather.behlmer@btlaw.com
<b>Correspondent Name:</b>	HEATHER BEHLMER
<b>Address Line 1:</b>	BARNES & THORNBURG LLP (IN)
<b>Address Line 2:</b>	11 SOUTH MERIDIAN STREET
<b>Address Line 4:</b>	INDIANAPOLIS, INDIANA 46204
<b>ATTORNEY DOCKET NUMBER:</b>	88212-351817
<b>NAME OF SUBMITTER:</b>	RORY P. PHEIFFER
<b>SIGNATURE:</b>	/RPP/
<b>DATE SIGNED:</b>	01/26/2022
<b>Total Attachments: 18</b>	
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**COMBINED DECLARATION AND ASSIGNMENT**

This declaration and assignment is directed to the following patent application(s):

- United States Provisional Patent Application No.: 62/870,668  
 Title: COATED ACTIVE CANTILEVER PROBES FOR USE IN TOPOGRAPHY IMAGING IN OPAQUE LIQUID ENVIRONMENTS, AND METHODS OF PERFORMING TOPOGRAPHY IMAGING  
 Filed On: July 3, 2019
- United States Non-Provisional Patent Application No.: 17/623,789  
 Title: COATED ACTIVE CANTILEVER PROBES FOR USE IN TOPOGRAPHY IMAGING IN OPAQUE LIQUID ENVIRONMENTS, AND METHODS OF PERFORMING TOPOGRAPHY IMAGING  
 Filed On: December 29, 2021
- International Patent Application No.: PCT/US2020/040920  
 Title: COATED ACTIVE CANTILEVER PROBES FOR USE IN TOPOGRAPHY IMAGING IN OPAQUE LIQUID ENVIRONMENTS, AND METHODS OF PERFORMING TOPOGRAPHY IMAGING  
 Filed On: July 6, 2020

To the extent any of the above-identified applications has previously been assigned by the undersigned, this declaration and assignment confirms any such previous assignment.

**Declaration**

As the below named inventor, I hereby declare that:

The above-identified application(s) ("Application(s)") was made or authorized by me.

I believe that I am the original inventor or an original inventor of a claimed invention or discovery in the Application(s).

I have reviewed and understood the contents of the Application(s), including the claims, and I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of this Application(s) in the United States of America.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both for filings of this Application(s) in the United States of America.

**Corrective Assignment**

<b>MASSACHUSETTS INSTITUTE OF TECHNOLOGY</b> 77 Massachusetts Avenue Cambridge, Massachusetts 02139  a university organized under and pursuant to the laws of Massachusetts.	<b>SYNFUELS AMERICAS CORPORATION</b> 17 Pidgeon Hill Drive, Suite 300 Sterling, VA 20165  a privately held company organized under and pursuant to the laws of Virginia
--	---

(hereinafter designated as the "Assignees"),

For good and valuable consideration, the sufficiency of which is acknowledged, I hereby assign and transfer and/or have assigned and transferred to Assignees my entire right, title, and interest in, to, and under the Application(s), including all priority rights for other countries arising therefrom and the right to claim priority to the Application(s), all inventions or discoveries therein disclosed, and any and all Letters Patent of the United States, European Patent Office, and of all other countries, which may be granted for such inventions or discoveries, or any of them, all such inventions or discoveries and all rights in such Application(s) including any and all provisionals, substitutions, divisions, and continuations thereof, and to all Letters Patent that may be granted for said inventions and discoveries, and in and to all extensions, supplementary protection certificates, reexaminations, renewals, and reissues thereof, to be held and enjoyed by Assignees for its own use and enjoyment to the full end of the term or terms for which such Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

I shall execute all papers necessary in connection with the Application(s) in the United States Patent and Trademark Office, European Patent Office, any other patent offices, and under the Patent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignees may deem necessary or expedient.

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

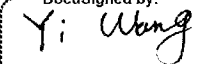
I shall execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

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

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

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

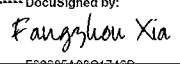
**LEGAL NAME OF INVENTOR: Yi Wang**

DocuSigned by:  
  
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 / \_\_\_\_\_ /  
 Signature

10/11/2023

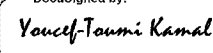
\_\_\_\_\_  
 Date

Witness #1 Name Fangzhou Xia

DocuSigned by:  
  
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 Witness Signature / \_\_\_\_\_ /

10/11/2023  
 Date \_\_\_\_\_

Witness #2 Name Youcef-Toumi Kamal

DocuSigned by:  
  
 BC079CDB8AFC8A...  
 Witness Signature / \_\_\_\_\_ /

10/16/2023  
 Date \_\_\_\_\_

## ASSIGNMENT BY INVENTORS

THIS ASSIGNMENT, made by Fangzhou Xia; Chen Yang; and Kamal Youcef-Toumi (hereinafter referred to as Assignors), residing at 79 Hampshire Street, Unit 2, Cambridge, MA, 02139; 100 Memorial Drive, Cambridge, Massachusetts 02142; and 25 Magnolia Avenue, Cambridge, Massachusetts 02138, respectively;

WHEREAS, Assignors have invented certain new and useful improvements in COATED ACTIVE PROBES FOR USE IN TOPOGRAPHY IMAGING IN OPAQUE LIQUID ENVIRONMENTS, AND METHODS OF PERFORMING TOPOGRAPHY IMAGING, set forth in an International Application, already filed on July 6, 2020, as International Application No. PCT/US20/40920; and

WHEREAS, Massachusetts Institute of Technology, a university organized under and pursuant to the laws of Massachusetts having its principal place of business at 77 Massachusetts Avenue, Cambridge, Massachusetts 02139 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said inventions and said Application for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefore and thereon.

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions and application for Letters Patent, and in and to any and all direct and indirect divisions, continuations and continuations-in-part of said application, and any and all Letters Patent in the United States and all foreign countries which may be granted therefore and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this sale and assignment not been made.



AND for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles and/or interests that have arisen to Assignee under law or that have already been transferred to Assignee, Assignors are the sole and lawful owner of the entire right, title and interest in and to the said inventions and application for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to Assignee, its successors, legal representatives and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise: that any proceeding in connection with said inventions, or said Patent application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

AND Assignors hereby request the Commissioner for Patents and Trademarks to issue said Letters Patent of the United States to Assignee, as Assignee of said inventions and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns.

AND Assignors hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document:

BARNES & THORNBURG LLP

All practitioners at Customer Number 181386

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

Fangzhou Xia  
Fangzhou Xia

Date: 07/10/2020

..... (signature of witness)

..... (name of witness)

..... (signature of witness)

..... (name of witness)

.....  
Chen Yang

Date: .....

..... (signature of witness)

..... (name of witness)

..... (signature of witness)

..... (name of witness)

.....  
Kamal Youcef-Toumi

Date: .....

..... (signature of witness)

..... (name of witness)

..... (signature of witness)

..... (name of witness)

4867113.1

## ASSIGNMENT BY INVENTORS

THIS ASSIGNMENT, made by Fangzhou Xia; Chen Yang; and Kamal Youcef-Toumi (hereinafter referred to as Assignors), residing at 79 Hampshire Street, Unit 2, Cambridge, MA, 02139; 100 Memorial Drive, Cambridge, Massachusetts 02142; and 25 Magnolia Avenue, Cambridge, Massachusetts 02138, respectively;

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AND for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles and/or interests that have arisen to Assignee under law or that have already been transferred to Assignee, Assignors are the sole and lawful owner of the entire right, title and interest in and to the said inventions and application for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to Assignee, its successors, legal representatives and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise: that any proceeding in connection with said inventions, or said Patent application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

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AND Assignors hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document:

BARNES & THORNBURG LLP

All practitioners at Customer Number 181386

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.



.....  
Fangzhou Xia

Date: .....

..... (signature of witness)

..... (name of witness)

..... (signature of witness)

..... (name of witness)

*Chen Yang*

Chen Yang

Date: 1 / 18 / 2022

\_\_\_\_\_ (signature of witness)

\_\_\_\_\_ (name of witness)

\_\_\_\_\_ (signature of witness)

\_\_\_\_\_ (name of witness)

.....  
Kamal Youcef-Toumi

Date: .....

..... (signature of witness)

..... (name of witness)

..... (signature of witness)

..... (name of witness)

4867113.1

## ASSIGNMENT BY INVENTORS

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AND Assignors hereby request the Commissioner for Patents and Trademarks to issue said Letters Patent of the United States to Assignee, as Assignee of said inventions and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns.

AND Assignors hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document:

BARNES & THORNBURG LLP

All practitioners at Customer Number 181386

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

.....  
Fangzhou Xia

Date: .....

..... (signature of witness)

..... (name of witness)

..... (signature of witness)

..... (name of witness)

.....  
Chen Yang

Date: .....

..... (signature of witness)

..... (name of witness)

..... (signature of witness)

..... (name of witness)



*KAMAL YUCEF TOUMI*

Kamal Youcef-Toumi

Date: July 10, 2020

..... (signature of witness)

..... (name of witness)

..... (signature of witness)

..... (name of witness)

4867113.1

## ASSIGNMENT BY INVENTORS

**THIS ASSIGNMENT**, made by Christoph Reuter; Tzvetan Ivanov; Mathias Holz; and Ivo W. Rangelow (hereinafter referred to as Assignors), residing at Schwanitzstrasse 2, 98693 Ilmenau, Germany; Carlstr. 1, 98693 Ilmenau, Germany; Arnstadter Str. 20, Ilmenau OT Gehren, 98708 Ilmenau, Germany; and Obere Somerbach Str. 45, 34225 Banatal, Germany, respectively;

**WHEREAS**, Assignors have invented certain new and useful improvements in **COATED ACTIVE PROBES FOR USE IN TOPOGRAPHY IMAGING IN OPAQUE LIQUID ENVIRONMENTS, AND METHODS OF PERFORMING TOPOGRAPHY IMAGING**, set forth in an International Application, already filed on July 6, 2020, as International Application No. PCT/US20/40920; and

**WHEREAS**, Nano Analytik GmbH, a company organized under and pursuant to the laws of Germany having its principal place of business at Ehrenbergstraße 1, 98693 Ilmenau, Germany (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said inventions and said Application for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefore and thereon.

**NOW, THEREFORE**, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions and application for Letters Patent, and in and to any and all direct and indirect divisions, continuations and continuations-in-part of said application, and any and all Letters Patent in the United States and all foreign countries which may be granted therefore and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this sale and assignment not been made.

AND for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles and/or interests that have arisen to Assignee under law or that have already been transferred to Assignee, Assignors are the sole and lawful owner of the entire right, title and interest in and to the said inventions and application for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to Assignee, its successors, legal representatives and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise: that any proceeding in connection with said inventions, or said Patent application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

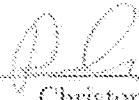
AND Assignors hereby request the Commissioner for Patents and Trademarks to issue said Letters Patent of the United States to Assignee, as Assignee of said inventions and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns.

AND Assignors hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document:

BARNES & THORNBURG LLP

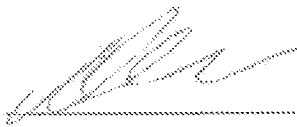
All practitioners at Customer Number 181386

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

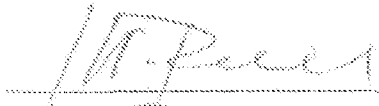


Christoph Reuter

Date: 08-05-2020

 (signature of witness)

Matthias Holz (name of witness)

 (signature of witness)

Leo Ranzow (name of witness)

*Tzvetan I*

Tzvetan Ivanov

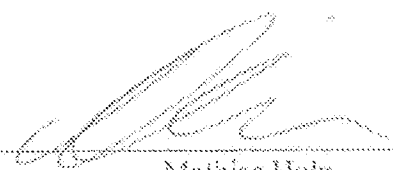
Date: 08-07-2020

*Rel* (signature of witness)

Christoph Reuter (name of witness)

*[Signature]* (signature of witness)

Martina Hertz (name of witness)

  
Mathias Holz

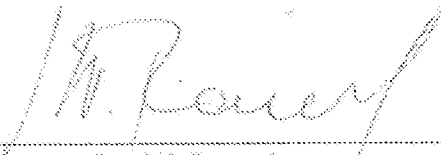
Date: 08-07-2020

Rel (signature of witness)

Christoph Reuter (name of witness)

W. Zeyher (signature of witness)

Two Zeyher (name of witness)



Ivo W. Rangelow

Date: 06-07-2020

Rehn (signature of witness)

Christoph Reuter (name of witness)

M (signature of witness)

Matthias Holz (name of witness)

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