PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	PATENT SECURITY AGREEMENT

CONVEYING PARTY DATA

Name	Execution Date
ARCHERDX	05/10/2019

RECEIVING PARTY DATA

Name:	PERCEPTIVE CREDIT HOLDINGS II, LP, AS ADMINISTRATIVE AGENT
Street Address:	51 ASTOR PLACE, 10TH FLOOR
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State/Country:	NEW YORK
Postal Code:	10003

PROPERTY NUMBERS Total: 53

Property Type	Number
Application Number:	14605030
Application Number:	15945557
Application Number:	16336345
Application Number:	16336348
Application Number:	16336350
Application Number:	16336344
Application Number:	16336322
Application Number:	16336342
Application Number:	16336353
Application Number:	15706642
Application Number:	15706649
Application Number:	15802408
Application Number:	61931974
Application Number:	61721843
Application Number:	14440099
Application Number:	62398841
Application Number:	62399152
Application Number:	62399157
Application Number:	62399184
Application Number:	62399195

PATENT REEL: 049149 FRAME: 0696

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Property Type	Number
Application Number:	62399205
Application Number:	62399211
Application Number:	62399219
Application Number:	62395339
Application Number:	62395347
Application Number:	62416677
Application Number:	16284030
Application Number:	14605363
Application Number:	15984612
Application Number:	61645364
Application Number:	61679302
Application Number:	13793564
Application Number:	15269448
Application Number:	61931943
Application Number:	14605482
Application Number:	61931959
PCT Number:	US2017059804
PCT Number:	US2015012842
PCT Number:	US2013068277
PCT Number:	US2017053097
PCT Number:	US2017053064
PCT Number:	US2017053050
PCT Number:	US2017053058
PCT Number:	US2017053102
PCT Number:	US2017053104
PCT Number:	US2017053106
PCT Number:	US2017053108
PCT Number:	US2017051924
PCT Number:	US2017051927
PCT Number:	US2017059800
PCT Number:	US2013030201
PCT Number:	US2015012841
PCT Number:	US2015012891

CORRESPONDENCE DATA

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NAME OF SUBMITTER:	GOLZAR AHMADI
SIGNATURE:	/Golzar Ahmadi/
DATE SIGNED:	05/10/2019

Total Attachments: 15

source=ArcherDX - Patent Security Agreement#page1.tif source=ArcherDX - Patent Security Agreement#page2.tif source=ArcherDX - Patent Security Agreement#page3.tif source=ArcherDX - Patent Security Agreement#page4.tif source=ArcherDX - Patent Security Agreement#page5.tif source=ArcherDX - Patent Security Agreement#page6.tif source=ArcherDX - Patent Security Agreement#page7.tif source=ArcherDX - Patent Security Agreement#page8.tif source=ArcherDX - Patent Security Agreement#page9.tif source=ArcherDX - Patent Security Agreement#page10.tif source=ArcherDX - Patent Security Agreement#page11.tif source=ArcherDX - Patent Security Agreement#page11.tif source=ArcherDX - Patent Security Agreement#page13.tif source=ArcherDX - Patent Security Agreement#page13.tif source=ArcherDX - Patent Security Agreement#page14.tif source=ArcherDX - Patent Security Agreement#page15.tif

PATENT SECURITY AGREEMENT

This PATENT SECURITY AGREEMENT, dated as of May 10, 2019 ("Patent Security Agreement"), made by each of the signatories hereto (together with any other entity that may become a party hereto as provided herein, the "Patent Grantors"), is in favor of Perceptive Credit Holdings II, LP, as administrative agent for the Secured Parties (in such capacity, together with its successors and assigns, the "Administrative Agent").

WITNESSETH:

WHEREAS, the Patent Grantors are party to a Security Agreement dated as of May 10, 2019 (the "Security Agreement") in favor of the Administrative Agent, pursuant to which the Patent Grantors are required to execute and deliver this Patent Security Agreement (capitalized terms used but not otherwise defined herein shall have the meanings given to them in the Security Agreement);

WHEREAS, pursuant to the terms of the Security Agreement, each Patent Grantor has created in favor of the Administrative Agent a security interest in, and the Administrative Agent has become a secured creditor with respect to, the Patent Collateral (as defined below);

NOW, THEREFORE, in consideration of the premises and to induce the Administrative Agent and the Lender to enter into the Credit Agreement and to induce the Lender to make their respective extensions of credit to the Borrower thereunder, each Patent Grantor hereby grants to the Administrative Agent, for the ratable benefit of the Secured Parties, a security interest in all of the following property now owned or at any time hereafter acquired by such Patent Grantor or in which such Patent Grantor now has or at any time in the future may acquire any right, title or interest (collectively, the "*Patent Collateral*"), as collateral security for the complete payment and performance when due (whether at the stated maturity, by acceleration or otherwise) of all Secured Obligations:

- (a) all Patents of such Patent Grantor, including, without limitation, the registered and applied-for Patents of such Grantor listed on **Schedule 1** attached hereto;
- (b) to the extent not covered by **clause (a)**, all Proceeds of any of the foregoing; and
- (c) to the extent not covered by **clause (a)**, all causes of action arising prior to or after the date hereof for infringement of any of the Patents.

The Patent Collateral shall not include any Excluded Assets.

The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Administrative Agent pursuant to the Security Agreement, and the Patent Grantors hereby acknowledge and affirm that the rights and remedies of the Administrative Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement. In the event that any provision

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of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall govern.

Each Patent Grantor hereby authorizes and requests that the Commissioner of Patents and Trademarks record this Patent Security Agreement.

THIS PATENT SECURITY AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES UNDER THIS PATENT SECURITY AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK.

This Patent Security Agreement may be executed by one or more of the parties to this Patent Security Agreement on any number of separate counterparts, and all of said counterparts taken together shall be deemed to constitute one and the same instrument. Delivery of an executed signature page of this Patent Security Agreement by facsimile transmission or electronic transmission (in PDF format) shall be effective as delivery of a manually executed counterpart hereof.

[Signature Pages Follow]

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IN WITNESS WHEREOF, each Patent Grantor has caused this PATENT SECURITY AGREEMENT to be executed and delivered by its duly authorized officer as of the date first above written.

ARCHERDX, INC.

Name: Jason Myers

Title: Chief Executive Officer

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Boulder, CO 80301

Attn: Jason Myers Tel.: 650-387-2590

Email: jmyers@archerdx.com

[Signature Page to Patent Security Agreement]

Accepted and Agreed:

PERCEPTIVE CREDIT HOLDINGS II, LP, as the Administrative Agent

By: PERCEPTIVE CREDIT OPPORTUNITIES GP, LLC, its general partner

By & Dat

Name: Sandeep Dixit

Title: Chief Credit Officer

By

Name: Sam Chawla Title: Portfolio Manager

Perceptive Credit Holdings II, LP c/o Perceptive Advisors LLC 51 Astor Place, 10th Floor New York, NY 10003

Attn: Sandeep Dixit

Email: Sandeep@perceptivelife.com

Schedule 1

PATENTS

Patent Registrations and Applications

Technology	WGS Ref.	Country	Filing Date	Serial Number	Title
Isothermal	A1100.70000US01	US	01/26/2015	14/605,030	ISOTHERMAL METHODS AND RELATED COMPOSITIONS FOR PREPARING NUCLEIC ACIDS
Isothermal	A1100.70000AU00	AU	01/26/2015	2015209103	ISOTHERMAL METHODS AND RELATED COMPOSITIONS FOR PREPARING NUCLEIC ACIDS
Isothermal	A1100.70000CA00	CA	01/26/2015	2,938,141	ISOTHERMAL METHODS AND RELATED COMPOSITIONS FOR PREPARING NUCLEIC ACIDS
Isothermal	A1100.70000CN00	CN	01/26/2015	201580016111.4	ISOTHERMAL METHODS AND RELATED COMPOSITIONS FOR PREPARING NUCLEIC ACIDS
Isothermal	A1100.70000JP00	JP	01/26/2015	2016-549245	ISOTHERMAL METHODS AND RELATED COMPOSITIONS FOR PREPARING NUCLEIC ACIDS
Isothermal	A1100.70000EP00	EP	01/26/2015	15739782.9	ISOTHERMAL METHODS AND RELATED COMPOSITIONS FOR PREPARING NUCLEIC ACIDS
Lyoph. Reagents	A1100.70001US02	US	04/04/2018	15/945,557	METHODS AND KITS FOR NUCLEIC ACID SAMPLE

OPERATION OF A LIBRARY PREPARATION SYSTEM TO PERFORM A PROTOCOL ON A BIOLOGICAL SAMPLE	16/336,344	09/22/2017	US	A1100.70008US01	Crossbow
SYSTEM FOR NUCLEIC ACID PREPARATION	2019-515918	09/22/2017	JP	A1100.70007JP00	Crossbow (V3 AMP)
SYSTEM FOR NUCLEIC ACID PREPARATION	to be confirmed	09/22/2017	EP	A1100.70007EP00	Crossbow (V3 AMP)
SYSTEM FOR NUCLEIC ACID PREPARATION	to be confirmed	09/22/2017	CN	A1100.70007CN00	Crossbow (V3 AMP)
SYSTEM FOR NUCLEIC ACID PREPARATION	to be confirmed	09/22/2017	CA	A1100.70007CA00	Crossbow (V3 AMP)
SYSTEM FOR NUCLEIC ACID PREPARATION	to be confirmed	09/22/2017	AU	A1100.70007AU00	Crossbow (V3 AMP)
SYSTEM FOR NUCLEIC ACID PREPARATION	16/336,350	09/22/2017	US	A1100.70007US01	Crossbow (V3 AMP)
MAGNETIC ASSEMBLY	to be confirmed	09/22/2017	EP	A1100.70006EP00	Crossbow
MAGNETIC ASSEMBLY	16/336,348	09/22/2017	US	A1100.70006US01	Crossbow
THERMAL ASSEMBLIES FOR NUCLEIC ACID PREPARATION	16/336,345	09/22/2017	US	A1100.70005US01	Crossbow
PREPARATION FOR SEQUENCING					

RELATED METHODS					
FLUIDIC SYSTEM AND	to be confirmed	09/22/2017	AU	A1100.70011AU00	Crossbow
FLUIDIC SYSTEM AND RELATED METHODS	16/336,342	09/22/2017	US	A1100.70011US01	Crossbow
FLUIDIC SYSTEM AND RELATED METHODS	16/336,322	09/22/2017	SU	A1100.70010US01	Crossbow
OPERATION OF A LIBRARY PREPARATION SYSTEM TO PERFORM A PROTOCOL ON A BIOLOGICAL SAMPLE	2019-516121	09/22/2017	JP	A1100.70008JP00	Crossbow
OPERATION OF A LIBRARY PREPARATION SYSTEM TO PERFORM A PROTOCOL ON A BIOLOGICAL SAMPLE	to be confirmed	09/22/2017	EP	A1100.70008EP00	Crossbow
OPERATION OF A LIBRARY PREPARATION SYSTEM TO PERFORM A PROTOCOL ON A BIOLOGICAL SAMPLE	to be confirmed	09/22/2017	CN	A1100.70008CN00	Crossbow
OPERATION OF A LIBRARY PREPARATION SYSTEM TO PERFORM A PROTOCOL ON A BIOLOGICAL SAMPLE	to be confirmed	09/22/2017	CA	A1100.70008CA00	Crossbow
OPERATION OF A LIBRARY PREPARATION SYSTEM TO PERFORM A PROTOCOL ON A BIOLOGICAL SAMPLE	to be confirmed	09/22/2017	AU	A1100.70008AU00	Crossbow

METHODS OF NUCLEIC ACID SAMPLE PREPARATION	2019-514776	09/15/2017	JP	A1100.70013JP00	V3
METHODS OF NUCLEIC ACID SAMPLE PREPARATION	to be confirmed	09/15/2017	EP	A1100.70013EP00	V3
METHODS OF NUCLEIC ACID SAMPLE PREPARATION	to be confirmed	09/15/2017	CN	A1100.70013CN00	V3
METHODS OF NUCLEIC ACID SAMPLE PREPARATION	to be confirmed	09/15/2017	CA	A1100.70013CA00	V3
METHODS OF NUCLEIC ACID SAMPLE PREPARATION	to be confirmed	09/15/2017	AU	A1100.70013AU00	V3
METHODS OF NUCLEIC ACID SAMPLE PREPARATION	15/706642	09/15/2017	SU	A1100.70013US01	V3
FLUIDIC SYSTEMS INCLUDING VESSELS AND RELATED METHODS	16/336,353	09/22/2017	S	A1100.70012US01	Crossbow
FLUIDIC SYSTEM AND RELATED METHODS	2019-516111	09/22/2017	JP	A1100.70011JP00	Crossbow
FLUIDIC SYSTEM AND RELATED METHODS	to be confirmed	09/22/2017	EP	A1100.70011EP00	Crossbow
FLUIDIC SYSTEM AND RELATED METHODS	to be confirmed	09/22/2017	CN	A1100.70011CN00	Crossbow
FLUIDIC SYSTEM AND RELATED METHODS	to be confirmed	09/22/2017	CA	A1100.70011CA00	Crossbow

METHODS OF NUCLEIC ACID SAMPLE PREPARATION FOR IMMUNE REPERTOIRE SEQUENCING	PCT/US2017/059804	11/02/2017	PCT	A1100.70015WO00	V3' Immunoverse
METHODS OF NUCLEIC ACID SAMPLE PREPARATION FOR IMMUNE REPERTOIRE SEQUENCING	15/802408	11/02/2017	US	A1100.70015US01	V3' Immunoverse
METHODS OF NUCLEIC ACID SAMPLE PREPARATION FOR ANALYSIS OF CELL-FREE DNA	2019-514776	09/15/2017	JP	A1100.70014JP00	V3 ctDNA
METHODS OF NUCLEIC ACID SAMPLE PREPARATION FOR ANALYSIS OF CELL-FREE DNA	to be confirmed	09/15/2017	ΕP	A1100.70014EP00	V3 ctDNA
METHODS OF NUCLEIC ACID SAMPLE PREPARATION FOR ANALYSIS OF CELL-FREE DNA	to be confirmed	09/15/2017	CN	A1100.70014CN00	V3 ctDNA
METHODS OF NUCLEIC ACID SAMPLE PREPARATION FOR ANALYSIS OF CELL-FREE DNA	to be confirmed	09/15/2017	CA	A1100.70014CA00	V3 ctDNA
METHODS OF NUCLEIC ACID SAMPLE PREPARATION FOR ANALYSIS OF CELL-FREE DNA	to be confirmed	09/15/2017	AU	A1100.70014AU00	V3 ctDNA
METHODS OF NUCLEIC ACID SAMPLE PREPARATION FOR ANALYSIS OF CELL-FREE DNA	15/706649	09/15/2017	US	A1100.70014US01	V3 ctDNA

MAGNETIC ASSEMBLY	PCT/US2017/053064	09/22/2017	PCT	A1100.70006WO00	Crossbow
MAGNETIC ASSEMBLY	62/399152	09/23/2016	Sn	A1100.70006US00	Crossbow
THERMAL ASSEMBLIES FOR NUCLEIC ACID PREPARATION	PCT/US2017/053097	09/22/2017	PCT	A1100.70005WO00	Crossbow
THERMAL ASSEMBLIES FOR NUCLEIC ACID PREPARATION	62/398841	09/23/2016	US	A1100.70005US00	Crossbow
METHODS AND KITS FOR NUCLEIC ACID SAMPLE PREPARATION FOR SEQUENCING	14/440,099	05/01/2015	S	A1100.70001US01	Lyoph. Reagents
METHODS AND KITS FOR NUCLEIC ACID SAMPLE PREPARATION FOR SEQUENCING	PCT/US2013/068277	11/04/2013	PCT	A1100.70001WO00	Lyoph. Reagents
METHODS AND KITS FOR NUCLEIC ACID SAMPLE PREPARATION FOR SEQUENCING	61/721,843	11/02/2012	S	A1100.70001US00	Lyoph. Reagents
ISOTHERMAL METHODS AND RELATED COMPOSITIONS FOR PREPARING NUCLEIC ACIDS	PCT/US2015/012842	01/26/2015	PCT	A1100.70000WO00	Isothermal
ISOTHERMAL METHODS AND RELATED COMPOSITIONS FOR PREPARING NUCLEIC ACIDS	61/931,974	01/27/2014	US	A1100.70000US00	Isothermal

FLUIDIC SYSTEM AND RELATED METHODS	62/399211	09/23/2016	SU	A1100.70011US00	Crossbow
FLUIDIC SYSTEM AND RELATED METHODS	PCT/US2017/053104	09/22/2017	PCT	A1100.70010WO00	Crossbow
FLUIDIC SYSTEM AND RELATED METHODS	62/399205	09/23/2016	S	A1100.70010US00	Crossbow
ROTATIONAL AND MICROFLUIDIC ELEMENTS FOR A SYSTEM	PCT/US2017/053102	09/22/2017	PCT	A1100.70009W000	Crossbow
ROTATIONAL AND MICROFLUIDIC ELEMENTS FOR A SYSTEM	62/399195	09/23/2016	US	A1100.70009US00	Crossbow
OPERATION OF A LIBRARY PREPARATION SYSTEM TO PERFORM A PROTOCOL ON A BIOLOGICAL SAMPLE	PCT/US2017/053058	09/22/2017	PCT	A1100.70008WO00	Crossbow
OPERATION OF A LIBRARY PREPARATION SYSTEM TO PERFORM A PROTOCOL ON A BIOLOGICAL SAMPLE	62/399184	09/23/2016	US	A1100.70008US00	Crossbow
SYSTEM FOR NUCLEIC ACID PREPARATION	PCT/US2017/053050	09/22/2017	PCT	A1100.70007WO00	Crossbow
SYSTEM FOR NUCLEIC ACID PREPARATION	62/399157	09/23/2016	US	A1100.70007US00	Crossbow

METHODS OF NUCLEIC ACID SAMPLE PREPARATION FOR	PCT/US2017/059800	11/02/2017	PCT	A1100.70016W000	V3' Immunoverse
METHODS OF NUCLEIC ACID SAMPLE PREPARATION FOR IMMUNE REPERTOIRE SEQUENCING	62/416677	11/02/2016	US	A1100.70015US00	V3' Immunoverse
METHODS OF NUCLEIC ACID SAMPLE PREPARATION FOR ANALYSIS OF CELL-FREE DNA	PCT/US2017/051927	09/15/2017	PCT	A1100.70014WO00	V3 ctDNA
METHODS OF NUCLEIC ACID SAMPLE PREPARATION FOR ANALYSIS OF CELL-FREE DNA	62/395347	09/15/2016	S	A1100.70014US00	V3 ctDNA
METHODS OF NUCLEIC ACID SAMPLE PREPARATION	PCT/US2017/051924	09/15/2017	PCT	A1100.70013WO00	V3
METHODS OF NUCLEIC ACID SAMPLE PREPARATION	62/395339	09/15/2016	SU	A1100.70013US00	V3
FLUIDIC SYSTEMS INCLUDING VESSELS AND RELATED METHODS	PCT/US2017/053108	09/22/2017	PCT	A1100.70012WO00	Crossbow
FLUIDIC SYSTEMS INCLUDING VESSELS AND RELATED METHODS	62/399219	09/23/2016	US	A1100.70012US00	Crossbow
FLUIDIC SYSTEM AND RELATED METHODS	PCT/US2017/053106	09/22/2017	PCT	A1100.70011WO00 PCT	Crossbow

					IMMUNE REPERTOIRE SEQUENCING
Technology	WGS Ref.	Country	Filing Date	Serial Number	Title
V2A	A1100.70002US02	US	01/26/2015	16/284,030	METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE
V2B	A1100.70003US01	US	01/26/2015	14/605,363	METHODS OF PREPARING NUCLEIC ACIDS FOR SEQUENCING
V2B	A1100.70003EP00	EP	01/26/2015	15740988.9	METHODS OF PREPARING NUCLEIC ACIDS FOR SEQUENCING
V2B	A1100.70003CN00	CN	01/26/2015	201580016908.4	METHODS OF PREPARING NUCLEIC ACIDS FOR SEQUENCING
V2B	A1100.70003JP00	JP	01/26/2015	2016-549249	METHODS OF PREPARING NUCLEIC ACIDS FOR SEQUENCING
V2B	A1100.70003AU00	AU	01/26/2015	2015209079	METHODS OF PREPARING NUCLEIC ACIDS FOR SEQUENCING
V2B	A1100.70003CA00	CA	01/26/2015	2,938,080	METHODS OF PREPARING NUCLEIC ACIDS FOR SEQUENCING
VI	A1100.70004US04	US	09/19/2016	15/984,612	METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE

METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE	15/269448	09/19/2016	US	A1100.70004US03	V1
METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE CONTIGUOUS TO A KNOWN TARGET NUCLEOTIDE SEQUENCE	13/793,564	03/11/2013	US	A1100.70004US02	V1
METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE	61/679,302	08/03/2012	Sn	A1100.70004US01	VI
METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE	PCT/US2013/030201	03/11/2013	PCT	A1100.70004WO00	VI
A NEXT-GENERATION SEQUENCING ASSAY FOR TARGETED SEQUENCING	61/645,364	05/10/2012	US	A1100.70004US00	VI
METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE	2,873,176	03/11/2013	CA	A1100.70004CA00	VI
METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE	201711336949.9	12/14/2017	CN	A1100.70004CN01	VI
METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE	2015-511444	03/11/2013	JP	A1100.70004 JP 00	VI
METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE	13787745.2	03/11/2013	EP	A1100.70004EP00	VI
CONTIGUOUS TO A KNOWN TARGET NUCLEOTIDE SEQUENCE					

RECORDED: 05/10/2019

					CONTIGUOUS TO A KNOWN
					TARGET NUCLEOTIDE SEQUENCE
V1	A1100.70004CN00	CN	03/11/2013	2013800371005.5	METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE
V2A	A1100.70002US00	US	01/27/2014	61/931,943	METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE
V2A	A1100.70002WO00	PCT	01/26/2015	PCT/US2015/012841	METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE
V2A	A1100.70002US01	US	01/26/2015	14/605,482	METHODS FOR DETERMINING A NUCLEOTIDE SEQUENCE
V2B	A1100.70003US00	SN	01/27/2014	61/931,959	METHODS OF PREPARING NUCLEIC ACIDS FOR SEQUENCING
V2B	A1100.70003WO00	PCT	01/26/2015	PCT/US2015/012891	METHODS OF PREPARING NUCLEIC ACIDS FOR SEQUENCING