

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT4714968

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

CONVEYING PARTY DATA

Name	Execution Date
CRYOLIFE, INC.	12/01/2017
ON-X LIFE TECHNOLOGIES, INC. (F/K/A MCRI, INC.)	12/01/2017

RECEIVING PARTY DATA

Name:	DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT
Street Address:	60 WALL STREET
City:	NEW YORK
State/Country:	NEW YORK
Postal Code:	10005

PROPERTY NUMBERS Total: 29

Property Type	Number
Patent Number:	6329337
Patent Number:	6372229
Patent Number:	7226615
Patent Number:	7157458
Patent Number:	7318998
Patent Number:	7129035
Patent Number:	7621959
Patent Number:	8071124
Patent Number:	8057818
Patent Number:	7763081
Patent Number:	7621954
Patent Number:	7896920
Patent Number:	8377143
Patent Number:	8475827
Patent Number:	8883408
Application Number:	14625091
Patent Number:	9279181
Patent Number:	9314333
Application Number:	14396553

PATENT

Property Type	Number
Application Number:	14422019
Application Number:	14551844
Application Number:	14757955
Patent Number:	9480565
Application Number:	15062859
Patent Number:	9788947
Application Number:	15177424
Application Number:	15334888
Application Number:	15710362
Application Number:	62447681

CORRESPONDENCE DATA

Fax Number:

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: 6463667120

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Correspondent Name: DANIEL GOLD/WHITE & CASE LLP

Address Line 1: 1221 AVENUE OF THE AMERICAS

Address Line 4: NEW YORK, NEW YORK 10020

ATTORNEY DOCKET NUMBER: 1111779-2697-N997

NAME OF SUBMITTER: DANIEL GOLD

SIGNATURE: /Daniel Gold/

DATE SIGNED: 12/01/2017

Total Attachments: 7

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PATENT SECURITY AGREEMENT

This PATENT SECURITY AGREEMENT, dated as of December 1, 2017 (this “**Agreement**”), is made by each of the signatories hereto indicated as a “Grantor” (each, a “**Grantor**” and collectively, the “**Grantors**”) in favor of DEUTSCHE BANK AG NEW YORK BRANCH, as Collateral Agent for the Secured Parties (in such capacity and together with its successors and assigns in such capacity, the “**Agent**”).

WHEREAS, the Grantors entered into a Pledge and Security Agreement dated as of December 1, 2017 (as amended, restated, supplemented or otherwise modified from time to time, the “**Security Agreement**”), by and among the Grantors and each of the other grantors from time to time party thereto and the Agent, pursuant to which the Grantors granted to the Agent, for the benefit of the Secured Parties, a security interest in the Patent Collateral (as defined below); and

WHEREAS, pursuant to the Security Agreement, the Grantors agreed to execute and deliver this Agreement, in order to record the security interest granted to the Agent for the benefit of the Secured Parties with the United States Patent and Trademark Office.

NOW, THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, each Grantor hereby agrees with the Agent as follows:

SECTION 1. Defined Terms

Capitalized terms used but not defined herein shall have the respective meanings given thereto in the Security Agreement, and if not defined therein, shall have the respective meanings given thereto in the Credit Agreement.

SECTION 2. Grant of Security Interest

Each Grantor hereby grants to the Agent, for the benefit of the Secured Parties, a security interest in and continuing lien on all of such Grantor’s right, title and interest in, to and under all Patents of such Grantor including the following, in each case whether now owned or existing or hereafter acquired or arising and wherever located (collectively, the “**Patent Collateral**”) as collateral security for the Secured Obligations: all United States patents and certificates of invention, or similar industrial property rights, and applications for any of the foregoing, including: (a) each patent and patent application listed on Schedule A attached hereto, (b) all reissues, divisions, continuations, continuations-in-part, extensions, renewals and reexaminations thereof, (c) all rights corresponding thereto throughout the world, (d) all inventions and improvements claimed therein, (e) all rights to sue for past, present and future infringements thereof, and (f) all Proceeds of the foregoing, including license fees, royalties, income, payments, claims, damages and proceeds of suit.

Notwithstanding the foregoing and anything to the contrary contained herein, the security interest created hereby shall not extend to, and the term “Patent Collateral” shall not include, any Excluded Assets.

SECTION 3. Security Agreement

The security interest granted pursuant to this Agreement is granted in conjunction with the security interest granted to the Agent for the Secured Parties pursuant to the Security Agreement, and each Grantor hereby acknowledges and affirms that the rights and remedies of the Agent with respect to

the security interest in the Patent Collateral made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control.

SECTION 4. Recordation

Each Grantor authorizes and requests that the Director of the United States Patent and Trademark Office and any other applicable government officer record this Agreement.

SECTION 5. Governing Law, Etc.

THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER AND ALL CLAIMS AND CONTROVERSIES ARISING OUT OF THE SUBJECT MATTER HEREOF WHETHER SOUNDING IN CONTRACT LAW, TORT LAW OR OTHERWISE SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK, WITHOUT REGARD TO CONFLICTS OF LAW PROVISIONS THAT WOULD RESULT IN THE APPLICATION OF ANY OTHER LAW.

SECTIONS 10.15 (CONSENT TO JURISDICTION) AND 10.16 (WAIVER OF JURY TRIAL) OF THE CREDIT AGREEMENT ARE INCORPORATED HEREIN BY THIS REFERENCE AND SUCH INCORPORATION SHALL SURVIVE ANY TERMINATION OF THE CREDIT AGREEMENT.

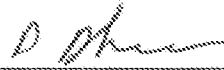
SECTION 6. Counterparts

This Agreement may be executed in one or more counterparts and by different parties hereto in separate counterparts, each of which when so executed and delivered shall be deemed an original, but all such counterparts together shall constitute but one and the same instrument.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, each Grantor has caused this Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

CRYOLIFE, INC.

By: 
Name: D. Ashley Lee
Title: Executive Vice President, Chief Operating
Officer, Chief Financial Officer and
Treasurer

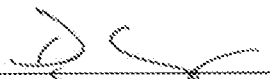
ON-X LIFE TECHNOLOGIES, INC.

By: 
Name: D. Ashley Lee
Title: President and Chief Financial Officer

Accepted and Agreed:

DEUTSCHE BANK AG NEW YORK BRANCH, as Agent

By: 
Name: Mary Kay Coyle
Title: Managing Director

By: 
Name: _____
Title: Doran Lazare
Director

[CryoLife - Signature Page to Patent Security Agreement]

PATENT
REEL: 044616 FRAME: 0945

SCHEDULE A
to
PATENT SECURITY AGREEMENT

ISSUED PATENTS AND PATENT APPLICATIONS

No.	Title	App. No.	App. Date	Reg. No.	Reg. Date	Owner
1.	ADHESIVE FOR BIOLOGICAL TISSUE	09/545,171	2000-04-06	6329337	2001-12-11	CRYOLIFE, INC.
2.	VASCULAR COATING COMPOSITION	09/662,459	2000-09-15	6372229	2002-04-16	CRYOLIFE, INC.
3.	EXPANDABLE FOAM-LIKE BIOMATERIALS AND METHODS	09/986,124	2001-11-07	7226615	2007-06-05	CRYOLIFE, INC.
4.	BIFUNCTIONAL ENERGY-REVERSIBLE ACYL-COMPOSITIONS	10/066,323	1/31/2002	7157458	2007-01-02	CRYOLIFE, INC.
5.	TISSUE DECELLULARIZATION	10/394,576	2003-03-24	7318998	2008-01-15	CRYOLIFE, INC.
6.	METHOD OF PRESERVING TISSUE	10/734,096	2003-12-11	7129035	2006-10-31	CRYOLIFE, INC.
7.	METHODS FOR THE IN SITU FORMATION OF A BIOPROSTHETIC DEVICE, PARTICULARLY VERTEBRAL DISC BIOPROSTHETICS	11/008,609	2004-12-10	7621959	2009-11-24	CRYOLIFE, INC.
8.	METHODS OF USING EXPANDABLE FOAM-LIKE BIOMATERIALS	11/042,180	2005-01-26	8071124	2011-12-06	CRYOLIFE, INC.
9.	METHODS OF MAKING EXPANDABLE FOAM-LIKE BIOMATERIALS	11/042,181	2005-01-26	8057818	2011-11-15	CRYOLIFE, INC.
10.	TISSUE GRAFT	11/049,291	2005-02-03	7763081	2010-07-27	CRYOLIFE, INC.

No.	Title	App. No.	App. Date	Reg. No.	Reg. Date	Owner
11.	IN SITU BIOPROSTHETIC FILLER AND METHODS, PARTICULARLY FOR IN SITU FORMATION OF VERTEBRAL DISC BIOPROSTHETICS	11/635,928	2006-12-08	7621954	2009-11-24	CRYOLIFE, INC.
12.	IN SITU BIOPROSTHETIC FILLER AND METHOD, PARTICULARLY FOR THE IN SITU FORMATION OF VERTEBRAL DISC BIOPROSTHETICS	11/932,066	2007-10-31	7896920	2011-03-01	CRYOLIFE, INC.
13.	TISSUE IMPLANTS FOR IMPLANTATION AND METHODS FOR PREPARING THE SAME	12/831,053	2010-07-06	8377143	2013-02-19	CRYOLIFE, INC.
14.	TISSUE IMPLANTS FOR IMPLANTATION AND METHODS FOR PREPARING THE SAME	12/831,059	2010-07-06	8475827	2013-07-02	CRYOLIFE, INC.
15.	TISSUE IMPLANTS FOR IMPLANTATION AND METHODS OF PREPARING THE SAME	13/754,029	2013-01-30	8883408	2014-11-11	CRYOLIFE, INC.
16.	METHOD OF TREATMENT OF DISSECTED LYMPH NODE AND/OR VESSEL	14/625,091	2015-02-18			CRYOLIFE, INC.
17.	FLUIDIZED BED PYROCARBON COATING	13/032,213	2011-02-22	9279181	2016-03-08	ON-X LIFE TECHNOLOGIES, INC.
18.	HEART VALVE SEWING CUFF	14/118,656	2013-11-19	9314333	2016-04-19	ON-X LIFE TECHNOLOGIES, INC.

No.	Title	App. No.	App. Date	Reg. No.	Reg. Date	Owner
19.	MASS FINISHING COMPONENT ENCLOSURE DEVICE AND SYSTEM	14/396,553	2014-10-23			ON-X LIFE TECHNOLOGIES, INC.
20.	BIOLOGICAL CHORD REPAIR SYSTEM AND METHODS	14/422,019	2015-02-17			ON-X LIFE TECHNOLOGIES, INC.
21.	CHORDAL SIZER	14/551,844	2014-11-24			ON-X LIFE TECHNOLOGIES, INC.
22.	MORPHOLOGICAL SEWING CUFF ASSEMBLY FOR HEART VALVE	14/757,955	2014-11-24			ON-X LIFE TECHNOLOGIES, INC.
23.	RAPID DEPLOYMENT ARTIFICIAL CHORDAE TENDINAE SYSTEM	15/013,612	2016-02-02	9480565	2016-11-01	ON-X LIFE TECHNOLOGIES, INC.
24.	FLUIDIZED BED PYROCARBON COATING	15/062,859	2016-03-07			ON-X LIFE TECHNOLOGIES, INC.
25.	HEART VALVE SEWING CUFF	15/131,371	2016-04-18	9788947	2017-10-17	ON-X LIFE TECHNOLOGIES, INC.
26.	PRE-SIZED PROSTHETIC CHORDAE IMPLANTATION SYSTEM	15/177,424	2016-06-09			ON-X LIFE TECHNOLOGIES, INC.
27.	RAPID DEPLOYMENT ARTIFICIAL CHORDAE TENDINAE SYSTEM	15/334,888	2016-10-26			ON-X LIFE TECHNOLOGIES, INC.
28.	MORPHOLOGICAL SEWING CUFF ASSEMBLY FOR HEART	15/710,362	2017-09-20			ON-X LIFE TECHNOLOGIES, INC.
29.	PULL-THROUGH CHORDAE TENDINEAE SYSTEM (FOR MITRAL CHORDAE TENDINEAE REPAIR/REPLACEMENT)	62/447,681	2017-01-18			ON-X LIFE TECHNOLOGIES, INC.