505946094 03/03/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5992814

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

CONVEYING PARTY DATA

Name	Execution Date
HARVEY LODISH	01/20/2017
HIDDE L. PLOEGH	11/21/2016
HSIANG-YING LEE	01/17/2017
JIAHAI SHI	01/11/2017
LENKA HOFFMAN	01/13/2017
NOVALIA PISHESHA	02/10/2017

RECEIVING PARTY DATA

Name:	WHITEHEAD INSTITUTE FOR BIOMEDICAL RESEARCH
Street Address:	455 MAIN STREET
City:	CAMBRIDGE
State/Country:	MASSACHUSETTS
Postal Code:	02142

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16572425

CORRESPONDENCE DATA

Fax Number: (617)646-8646

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: 6176468000

patents_JessicaChao@wolfgreenfield.com, Email:

kfortunati@wolfgreenfield.com

Correspondent Name: JESSICA CHAO

Address Line 1: WOLF, GREENFIELD & SACKS, P.C.

Address Line 2: **600 ATLANTIC AVENUE**

Address Line 4: BOSTON, MASSACHUSETTS 02210

ATTORNEY DOCKET NUMBER:	W0571.70039US03
NAME OF SUBMITTER:	JESSICA J. CHAO
SIGNATURE:	/Jessica J. Chao/
DATE SIGNED:	03/03/2020

PATENT REEL: 052075 FRAME: 0449 505946094

Total Attachments: 42 source=W057170039US03-ASI-JC#page1.tif source=W057170039US03-ASI-JC#page2.tif source=W057170039US03-ASI-JC#page3.tif source=W057170039US03-ASI-JC#page4.tif source=W057170039US03-ASI-JC#page5.tif source=W057170039US03-ASI-JC#page6.tif source=W057170039US03-ASI-JC#page7.tif source=W057170039US03-ASI-JC#page8.tif source=W057170039US03-ASI-JC#page9.tif source=W057170039US03-ASI-JC#page10.tif source=W057170039US03-ASI-JC#page11.tif source=W057170039US03-ASI-JC#page12.tif source=W057170039US03-ASI-JC#page13.tif source=W057170039US03-ASI-JC#page14.tif source=W057170039US03-ASI-JC#page15.tif source=W057170039US03-ASI-JC#page16.tif source=W057170039US03-ASI-JC#page17.tif source=W057170039US03-ASI-JC#page18.tif source=W057170039US03-ASI-JC#page19.tif source=W057170039US03-ASI-JC#page20.tif source=W057170039US03-ASI-JC#page21.tif source=W057170039US03-ASI-JC#page22.tif source=W057170039US03-ASI-JC#page23.tif source=W057170039US03-ASI-JC#page24.tif source=W057170039US03-ASI-JC#page25.tif source=W057170039US03-ASI-JC#page26.tif source=W057170039US03-ASI-JC#page27.tif source=W057170039US03-ASI-JC#page28.tif source=W057170039US03-ASI-JC#page29.tif source=W057170039US03-ASI-JC#page30.tif source=W057170039US03-ASI-JC#page31.tif source=W057170039US03-ASI-JC#page32.tif source=W057170039US03-ASI-JC#page33.tif source=W057170039US03-ASI-JC#page34.tif source=W057170039US03-ASI-JC#page35.tif source=W057170039US03-ASI-JC#page36.tif source=W057170039US03-ASI-JC#page37.tif source=W057170039US03-ASI-JC#page38.tif source=W057170039US03-ASI-JC#page39.tif source=W057170039US03-ASI-JC#page40.tif source=W057170039US03-ASI-JC#page41.tif source=W057170039US03-ASI-JC#page42.tif

PATENT REEL: 052075 FRAME: 0450

ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, the undersigned Assignor, hereby:

- 1. Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware corporation having a place of business at Nine Cambridge Center, Cambridge, Massachusetts 02142, its successors, assigns, and legal representatives, all hereinafter referred to as the Assignee, my entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the international PCT application filed on May 9, 2014, under Serial No. PCT/US2014/037554, bearing Attorney Docket No. W0571.70039WO00, and entitled IN VITRO PRODUCTION OF RED BLOOD CELLS WITH SORTAGGABLE PROTEINS, and in the U.S. national stage patent application filed with the United States Patent and Trademark Office under U.S.S.N. 14/890,241, bearing Attorney Docket No. W0571.70039US01, and entitled IN VITRO PRODUCTION OF RED BLOOD CELLS WITH SORTAGGABLE PROTEINS, and in and to the application, and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications, utility models, industrial designs, or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country. including, but not limited to, China, Japan, and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan, and Korea, as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent;
- 2. Agree that the Assignee may apply for and receive patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, we agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model, and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney, and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;
- 3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the patent to the Assignee;
- 4. Covenant with the Assignee that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and
- 5. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

1/7

W0571.70039US01 HI 13-02 4418645.1

PATENT <u>REEL: 052075 FRAME: 0451</u>

STATE/COMMONWEALTH OF COUNTY OF MINO / NEW YEY	MASSACHUS	:778
	rvey Lodish	, perfore me, the undersigned notary public, , proved to me through satisfactory evidence of
to be the person who signed the pre- to me that the contents of the docur	eceding or attached ment are truthful ar	I document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge ned it voluntarily for its stated purpose.
SEAL MA	n luur)	
My commission expires:	Motary Public C	1822

Citizenship: US

Inventor: Harvey Lodish

Inventor: Harvey Lodisn

Address: 196 Fisher Avenue 120 Settion 57

Brookline, Massachusetts 02446

US 07445 WIT

W0571.70039US01 HL13-02

2/7

Date	In	ventor:	Hidde L. Ploegh
	Ac	ddress:	1 Toxteth Street
			Brookline, Massachusetts 02445
	Citize	enship:	Netherlands
o			
STATE/COMMONWEA	'L I H O F		
COUNTY OF	:		
On this	day of	,	, before me, the undersigned notary public,
personally appeared	Hidde L. Ploegh		, proved to me through satisfactory evidence of
identification, which we	re		
to be the person who si	gned the preceding or att	tached c	document in my presence and swore or affirmed
to me that the contents	of the document are truth	nful and	accurate to the best of (his) (her) knowledge
and belief and acknowle	edged to me that (he) (sh	ıe) signe	ed it voluntarily for its stated purpose.
SEAL			
OLAL			
	Notary Publ	lic	
My commission exp	ires:		

Date Inventor: Hsiang-Ying Lee Address: 26 John F. Kennedy Street, Apt. 6 Cambridge, Massachusetts 02138 Citizenship: Taiwan ROC STATE/COMMONWEALTH OF COUNTY OF :	
Cambridge, Massachusetts 02138 Citizenship: Taiwan ROC STATE/COMMONWEALTH OF	
Citizenship: Taiwan ROC STATE/COMMONWEALTH OF	
STATE/COMMONWEALTH OF	
COUNTY OF:	
On this day of , before me, the undersigned notary public,	
personally appeared Hsiang-Ying (Sherry) Lee , proved to me through satisfactory evidence of	
identification, which were	,
to be the person who signed the preceding or attached document in my presence and swore or affirmed	
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge	
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.	
SEAL	
Notary Public	
My commission expires:	

Date	Inventor:	Jiahai Shi
	Address:	88 Tak Chee Avenue
		Kowloon, Hong Kong 000000
	Citizenship:	Republic of Singapore
Witness:		
Date	Signature)
	Name:	
	Address:	
Witness:		
Date	Signature	
	Name:	
	Address:	

W0571.70039US01 5/7 **4418645.1** HL13-02

Date		Inventor:	Lenka Hoffman
		Address:	12 Quarry Lane
			Malden, Massachusetts 02148
		Citizenship:	US
STATE/COMMONWEAL	LTH OF		
COUNTY OF		:	
On this	day of	,	, before me, the undersigned notary public,
personally appeared	Ī	Lenka Kundrat	, proved to me through satisfactory evidence of
identification, which were	е		<u> </u>
•		•	document in my presence and swore or affirmed
to me that the contents of	of the doo	cument are truthful and	accurate to the best of (his) (her) knowledge
and belief and acknowle	dged to r	me that (he) (she) signe	ed it voluntarily for its stated purpose.
SEAL			
OL/IL		Notary Public	
		1 total y 1 dollo	
My commission expi	res:		

Date		Inventor:	Novalia Pishesha
		Address:	70 Pacific Street, Apt. 285A
			Cambridge, Massachusetts 02139
		Citizenship:	Indonesia
STATE/COMMONWEA	LTH OF		
COUNTY OF		:	
On this	day of	,	, before me, the undersigned notary public,
personally appeared	Novalia Pish	nesha	, proved to me through satisfactory evidence of
identification, which we	re		
to be the person who si	gned the preceding	or attached o	document in my presence and swore or affirmed
to me that the contents	of the document are	e truthful and	accurate to the best of (his) (her) knowledge
and belief and acknowle	edged to me that (he	e) (she) signe	ed it voluntarily for its stated purpose.
OF AL			
SEAL			
	Notary	Public	
My commission exp	ires:		

ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, the undersigned Assignor, hereby:

- Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware corporation having a place of business at Nine Cambridge Center, Cambridge, Massachusetts 02142, its successors, assigns, and legal representatives, all hereinafter referred to as the Assignee, my entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the international PCT application filed on May 9, 2014, under Serial No. PCT/US2014/037554, bearing Attorney Docket No. W0571.70039WO00, and entitled IN VITRO PRODUCTION OF RED BLOOD CELLS WITH SORTAGGABLE PROTEINS, and in the U.S. national stage patent application filed with the United States Patent and Trademark Office under U.S.S.N. 14/890,241, bearing Attorney Docket No. W0571.70039US01, and entitled IN VITRO PRODUCTION OF RED BLOOD CELLS WITH SORTAGGABLE PROTEINS, and in and to the application, and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications, utility models, industrial designs, or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country. including, but not limited to, China, Japan, and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan, and Korea, as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent:
- 2. Agree that the Assignee may apply for and receive patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, we agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model, and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney, and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;
- 3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the patent to the Assignee;
- 4. Covenant with the Assignee that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and
- 5. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

W0571.70039US01 1/7 4418645.1 HL13-02

Date		Inventor	r: Harvey Lodish
		Address	s: 195 Fisher Avenue
			Brookline, Massachusetts 02446
		Citizenship	o: US
STATE/COMMONWEA	ALTH OF		
COUNTY OF		:	
On this	day of	,	, before me, the undersigned notary public,
ersonally appeared	F	Harvey Lodish	, proved to me through satisfactory evidence o
lentification, which we	re		
		<u> </u>	d document in my presence and swore or affirmed
me that the contents	of the doc	ument are truthful an	id accurate to the best of (his) (her) knowledge
nd belief and acknowle	edged to m	ne that (he) (she) sigi	ned it voluntarily for its stated purpose.
SEAL			
SLAL			
		Notary Public	
My commission exp	oires:		
·	_		

2/7

NOV 21 2016		De peno	
Date	Inventor:	Hidde L. Ploegh	•
	Address:	1 Toxteth Street	
		Brookline, Massachusetts 02445	
	Citizenship:	Netherlands	
STATE/COMMONWEALTH OF \(\sum_{\lambda}\)	assacl	nusetts	
countrof Middlesex			
On this 🔾 day of 🌡 VCM	lber, 20	ريرًا, before me, the undersigned notary public,	
personally appeared Hidde L. P	loegh	, proved to me through satisfactory evidence of	
identification, which were $\ oldsymbol{ ext{MADR}}$	ivers Lica	ense	
		document in my presence and swore or affirmed	
		accurate to the best of (his) (her) knowledge	
My	(EP(LYId) GIB 60 Notary Public WEALTH OF MASSAGE Commission Expire December 12, 2019	Huset⊤s es	
SEAL			
Notar	y Public		

12-12-19

My commission expires:

Date		Inventor:	Hsiang-Ying Lee
			<u> </u>
		Address:	,
			Cambridge, Massachusetts 02138
		Citizenship:	Taiwan ROC
STATE/COMMONWE	ALTH OF		
COUNTY OF	 	: .	***
On this	day of		, before me, the undersigned notary public,
	. • <u></u>	(Sherry) Lee	, before me, the undersigned notary public, proved to me through satisfactory evidence or
personally appeared	Hsiang-Ying	(Sherry) Lee	
personally appeared dentification, which we be the person who s	Hsiang-Ying ere igned the preced	ling or attached of	, proved to me through satisfactory evidence or document in my presence and swore or affirmed
personally appeared dentification, which we be the person who so me that the contents	Hsiang-Ying re igned the preced of the documen	ling or attached of	, proved to me through satisfactory evidence or document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
personally appeared dentification, which we be the person who so me that the contents	Hsiang-Ying re igned the preced of the documen	ling or attached of	, proved to me through satisfactory evidence or document in my presence and swore or affirmed
personally appeared dentification, which we be the person who so me that the contents	Hsiang-Ying re igned the preced of the documen	ling or attached of	, proved to me through satisfactory evidence or document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
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personally appeared dentification, which we be the person who so me that the contents	Hsiang-Ying re igned the preced of the documen	ling or attached of	, proved to me through satisfactory evidence or document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
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4418645.1

PATENT REEL: 052075 FRAME: 0461

Date		Inventor:	Jiahai Shi
		Address:	11 Peabody Terrace, Apt. 2202
			Cambridge, Massachusetts 02138
		Citizenship:	Republic of Singapore
STATE/COMMONWE	ALTH OF		
COUNTY OF		:	
On this	day of	1	, before me, the undersigned notary public,
personally appeared		Jiahai Shi	, proved to me through satisfactory evidence of
dentification, which we	re		_
			document in my presence and swore or affirmed
o me that the contents	of the doc	ument are truthful and	accurate to the best of (his) (her) knowledge
	edged to n	ne that (he) (she) signe	ed it voluntarily for its stated purpose.
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and belief and acknowl	ougua to II		a it voluntarily for its stated purpose.
and belief and acknowl	oogou to n	no alar (no) (one) digne	a it voluntarily for its stated purpose.
and belief and acknowl SEAL	ougou to n	no trat (no) (ono) digita	a it voluntarily for its stated purpose.
		Notary Public	

5/7

Date		Inventor:	Lenka Kundrat
		Address:	10 Roberts Street, Apt. 34
			Somerville, Massachusetts 02145
		Citizenship:	US
STATE/COMMONWE/	NI TU OF		
	ALTH OF		
OUNTY OF		•	
		<u>-</u>	
on this	day of	,	, before me, the undersigned notary public.
	day of	Lenka Kundrat	, before me, the undersigned notary public, , proved to me through satisfactory evidence o
ersonally appeared	·	Lenka Kundrat	
ersonally appeared lentification, which we be the person who s	re igned the	preceding or attached of	, proved to me through satisfactory evidence of document in my presence and swore or affirmed
me that the contents	re igned the	preceding or attached ocument are truthful and	, proved to me through satisfactory evidence of document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
ersonally appeared dentification, which we be the person who so me that the contents	re igned the	preceding or attached ocument are truthful and	, proved to me through satisfactory evidence of document in my presence and swore or affirmed
ersonally appeared dentification, which we be the person who so me that the contents	re igned the	preceding or attached ocument are truthful and	, proved to me through satisfactory evidence of document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
ersonally appeared dentification, which we be the person who so me that the contents and belief and acknowless	re igned the	preceding or attached ocument are truthful and	, proved to me through satisfactory evidence of document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
ersonally appeared dentification, which we be the person who so me that the contents	re igned the	preceding or attached ocument are truthful and me that (he) (she) signe	, proved to me through satisfactory evidence of document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
ersonally appeared dentification, which we be the person who so me that the contents and belief and acknowless	re igned the	preceding or attached ocument are truthful and	, proved to me through satisfactory evidence of document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge

6/7

Date	Ir	nventor:	Novalia Pishesha
	А	ddress:	70 Pacific Street, Apt. 285A
			Cambridge, Massachusetts 02139
	Citiz	zenship:	Indonesia
STATE/COMMONWEA	LTH OF		
COUNTY OF	:		
On this	day of	,	, before me, the undersigned notary public,
personally appeared	Novalia Pishesh	 ıa	, proved to me through satisfactory evidence of
identification, which wer	е		
to be the person who sig	gned the preceding or a	ttached c	document in my presence and swore or affirmed
to me that the contents	of the document are trut	thful and	accurate to the best of (his) (her) knowledge
and belief and acknowle	edged to me that (he) (s	he) signe	ed it voluntarily for its stated purpose.
SEAL			
SEAL			
	Notary Pub	olic	
My commission exp	ires:		

ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, the undersigned Assignor, hereby:

- 1. Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware corporation having a place of business at Nine Cambridge Center, Cambridge, Massachusetts 02142, its successors, assigns, and legal representatives, all hereinafter referred to as the Assignee, my entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the international PCT application filed on May 9, 2014, under Serial No. PCT/US2014/037554, bearing Attorney Docket No. W0571.70039WO00, and entitled IN VITRO PRODUCTION OF RED BLOOD CELLS WITH SORTAGGABLE PROTEINS, and in the U.S. national stage patent application filed with the United States Patent and Trademark Office under U.S.S.N. 14/890,241, bearing Attorney Docket No. W0571.70039US01, and entitled IN VITRO PRODUCTION OF RED BLOOD CELLS WITH SORTAGGABLE PROTEINS, and in and to the application, and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications, utility models, industrial designs, or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including, but not limited to, China, Japan, and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan, and Korea, as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent:
- 2. Agree that the Assignee may apply for and receive patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, we agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model, and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney, and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;
- 3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the patent to the Assignee;
- 4. Covenant with the Assignee that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and
- 5. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

W0571.70039US01 HL13-02

1/7

Date		Inventor:	Harvey Lodish
		Address:	195 Fisher Avenue
			Brookline, Massachusetts 02446
		Citizenship:	US
STATE/COMMONWEA	LTH OF		
COUNTY OF			
On this	day of	,	, before me, the undersigned notary public,
personally appeared	Harvey	y Lodish	, proved to me through satisfactory evidence of
identification, which we			
			document in my presence and swore or affirmed
			I accurate to the best of (his) (her) knowledge
and belief and acknowl	edged to me tha	it (he) (she) sign	ed it voluntarily for its stated purpose.
SEAL			
	No	otary Public	
My commission exp	oires:		

2/7

W0571.70039US01 HL13-02

Date	Inventor:	Hidde L. Ploegh
	Address:	1 Toxteth Street
		Brookline, Massachusetts 02445
	Citizenship:	Netherlands
STATE/COMMONWEA	LTH OF	
COUNTY OF	:	
On this	day of ,	, before me, the undersigned notary public,
personally appeared	Hidde L. Ploegh	, proved to me through satisfactory evidence of
identification, which wer		
	-	document in my presence and swore or affirmed I accurate to the best of (his) (her) knowledge
		ed it voluntarily for its stated purpose.
		,
SEAL STATE	1914 Planes	
SEAL	Marie Marie Dublic	
	Notary Public	
My commission exp	ir es :	
No. 1	Account to	

3/7

1/17/2017	Loty of Lev
Date Inventor:	Hsiang-Ying Lee
Address:	26 John F. Kennedy Street, Apt. 6
	Cambridge, Massachusetts 02138
Citizenship:	Taiwan ROC
STATE/COMMONWEALTH OF Massachuse country of Middlesex:	Hs
On this 17th day of January, 201 personally appeared Hsiang-Ying (Sherry) Lee identification, which were personal knows to	1 , before me, the undersigned notary public, proved to me through satisfactory evidence of
to be the person who signed the preceding or attached to me that the contents of the document are truthful and and belief and acknowledged to me that (he) (she) signed	document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
SEAL Warna Dais Notary Public	WARY STATE OF THE PROPERTY OF
My commission expires: 2.24.23	HAN PUBLICATION OF THE PROPERTY OF THE PROPERT

4/7

Date	Inventor:	Jiahai Shi
	Address:	88 Tak Chee Avenue
		Kowloon, Hong Kong 000000
	Citizenship:	Republic of Singapore
Witness:		
Date	Signature	
	Name:	
	Address:	
Witness:		
Date	Signature	
	Name:	
	Address:	

5/7

Date	Inventor:	Lenka Kundrat Hoffman
	Address:	12 Quarry Lane
		Malden, Massachusetts 02148
	Citizenship:	US
STATE/COMMONWEA	ALTH OF	
COUNTY OF	•	
On this	day of,	, before me, the undersigned notary public,
personally appeared	Lenka Kundrat	, proved to me through satisfactory evidence of
identification, which we	re	1
to be the person who s	igned the preceding or attached	document in my presence and swore or affirmed
to me that the contents	of the document are truthful and	accurate to the best of (his) (her) knowledge
and belief and acknowl	edged to me that (he) (she) sign	ed it voluntarily for its stated purpose.
SEAL		
	Notary Public	
My commission exp	pires:	

Date		Inventor:	Novalia Pishesha
		Address:	70 Pacific Street, Apt. 285A
			Cambridge, Massachusetts 02139
		Citizenship:	Indonesia
STATE/COMMONWE	ALTH OF		
COUNTY OF		: :	
On this	day of		, before me, the undersigned notary public,
personally appeared	Novalia F	Pishesha	, proved to me through satisfactory evidence o
identification, which we	ere		_ `
to be the person who s to me that the contents	signed the precedi	are truthful and	document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge ned it voluntarily for its stated purpose.
SEAL			
	No	tary Public	
My commission ex	pires:		
-			

7/7

ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, the undersigned Assignor, hereby:

- Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware corporation having a place of business at Nine Cambridge Center, Cambridge, Massachusetts 02142, its successors, assigns, and legal representatives, all hereinafter referred to as the Assignee, my entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the international PCT application filed on May 9, 2014, under Serial No. PCT/US2014/037554, bearing Attorney Docket No. W0571.70039WO00, and entitled IN VITRO PRODUCTION OF RED BLOOD CELLS WITH SORTAGGABLE PROTEINS, and in the U.S. national stage patent application filed with the United States Patent and Trademark Office under U.S.S.N. 14/890,241, bearing Attorney Docket No. W0571.70039US01, and entitled IN VITRO PRODUCTION OF RED BLOOD CELLS WITH SORTAGGABLE PROTEINS, and in and to the application, and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications, utility models, industrial designs, or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including, but not limited to, China, Japan, and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan, and Korea, as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent;
- 2. Agree that the Assignee may apply for and receive patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, we agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model, and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney, and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;
- 3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the patent to the Assignee;
- 4. Covenant with the Assignee that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and
- 5. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

W0571.70039US01 1/7 **4418645.1** HL13-02

Date		Inventor:	Harvey Lodish
		Address:	195 Fisher Avenue
			Brookline, Massachusetts 02446
		Citizenship:	US
STATE/COMMONWEA	LTH OF		
COUNTY OF		<u> </u>	
On this	day of	,	, before me, the undersigned notary public,
personally appeared	Harve	ey Lodish	, proved to me through satisfactory evidence of
identification, which wer	re		
to be the person who sig	gned the prece	eding or attached	document in my presence and swore or affirmed
to me that the contents	of the docume	nt are truthful and	accurate to the best of (his) (her) knowledge
and belief and acknowle	edged to me th	at (he) (she) signe	ed it voluntarily for its stated purpose.
SEAL			
OLAL		latan / Bublic	
	IN	lotary Public	
My commission exp			

Date		Inventor:	Hidde L. Ploegh
		Address:	1 Toxteth Street
			Brookline, Massachusetts 02445
	(Citizenship:	Netherlands
STATE/COMMONWEAL	LTH OF		
COUNTY OF		:	
On this	day of	,	, before me, the undersigned notary public,
personally appeared	Hidde L. Pla	pegh	, proved to me through satisfactory evidence of
identification, which were			,
			document in my presence and swore or affirmed
			accurate to the best of (his) (her) knowledge
and belief and acknowle	dged to me that (he) (she) signe	ed it voluntarily for its stated purpose.
SEAL			
	Notary	Public	
My commission expi	res:		

Date Inventor: Hsiang-Ying Lee Address: 26 John F. Kennedy Street, Apt. 6 Cambridge, Massachusetts 02138 Citizenship: Taiwan ROC STATE/COMMONWEALTH OF COUNTY OF :	
Cambridge, Massachusetts 02138 Citizenship: Taiwan ROC STATE/COMMONWEALTH OF	
Citizenship: Taiwan ROC STATE/COMMONWEALTH OF	
STATE/COMMONWEALTH OF	
COUNTY OF:	
On this day of , before me, the undersigned notary public,	
personally appeared Hsiang-Ying (Sherry) Lee , proved to me through satisfactory evidence of	
identification, which were	,
to be the person who signed the preceding or attached document in my presence and swore or affirmed	
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge	
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.	
SEAL	
Notary Public	
My commission expires:	

Jan. 11/2017	•	Frahai SC.
Date	Inventor: Ji	ahai Shi
	Address: 88	3 Tak Chee Avenue
	K	owloon, Hong Kong 000000
С	tizenship: R	epublic of Singapore
Witness: Jan 11, 2017 Date	Signature Name: Address:	Zongli Zheng 88 Tak Chee Avenue Konloon, HK
Witness: Jan 11,2017 Date	Signature	blink
	Name:	Le Thi Nguyet Minh

Address:

88 Tak Chee Avenue

Kowloon, HIC

Date		Inventor:	Lenka Hoffman
		Address:	12 Quarry Lane
			Malden, Massachusetts 02148
		Citizenship:	US
STATE/COMMONWEA	LTH OF		
COUNTY OF		_:	
On this	day of	3	, before me, the undersigned notary public,
personally appeared	Lenka Kı	undrat	, proved to me through satisfactory evidence of
identification, which wer	е		
·	•	-	document in my presence and swore or affirmed
to me that the contents	of the document a	re truthful and	accurate to the best of (his) (her) knowledge
and belief and acknowle	edged to me that (he) (she) signe	ed it voluntarily for its stated purpose.
SEAL			
	Nota	ry Public	
My commission expi	ires:		

Date	Inv	entor:	Novalia Pishesha
	Ad	ldress:	70 Pacific Street, Apt. 285A
			Cambridge, Massachusetts 02139
	Citize	nship:	Indonesia
STATE/COMMONWEA	ALTH OF		
COUNTY OF	:		
On this	day of	,	, before me, the undersigned notary public,
personally appeared	Novalia Pishesha		, proved to me through satisfactory evidence of
identification, which we	re		,
to be the person who si	gned the preceding or atta	ached do	ocument in my presence and swore or affirmed
to me that the contents	of the document are truth	ful and a	accurate to the best of (his) (her) knowledge
and belief and acknowle	edged to me that (he) (she	e) signed	d it voluntarily for its stated purpose.
SEAL			
SLAL			
	Notary Publi	IC	
My commission exp	pires:		

ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, the undersigned Assignor, hereby:

- Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware corporation having a place of business at Nine Cambridge Center, Cambridge, Massachusetts 02142, its successors, assigns, and legal representatives, all hereinafter referred to as the Assignee, my entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the international PCT application filed on May 9, 2014, under Serial No. PCT/US2014/037554, bearing Attorney Docket No. W0571.70039WO00, and entitled IN VITRO PRODUCTION OF RED BLOOD CELLS WITH SORTAGGABLE PROTEINS, and in the U.S. national stage patent application filed with the United States Patent and Trademark Office under U.S.S.N. 14/890,241, bearing Attorney Docket No. W0571.70039US01, and entitled IN VITRO PRODUCTION OF RED BLOOD CELLS WITH SORTAGGABLE PROTEINS, and in and to the application, and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications, utility models, industrial designs, or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including, but not limited to, China, Japan, and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan, and Korea. as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent:
- 2. Agree that the Assignee may apply for and receive patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, we agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model, and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney, and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;
- 3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the patent to the Assignee;
- 4. Covenant with the Assignee that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and
- 5. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

W0571.70039US01 HL13-02 1/7

Date	Inventor	Harvey Lodish
	Address:	195 Fisher Avenue
		Brookline, Massachusetts 02446
	Citizenship:	US
STATE/COMMONWE	ALTH OF	
OUNTY OF		
	:	
	day of	, before me, the undersigned notary public,
On this	day of Harvey Lodish	, before me, the undersigned notary public, , proved to me through satisfactory evidence of
On this ersonally appeared dentification, which we	Harvey Lodish	, proved to me through satisfactory evidence of
On this ersonally appeared dentification, which we be the person who s	Harvey Lodish ere signed the preceding or attached	, proved to me through satisfactory evidence of document in my presence and swore or affirmed
On this personally appeared dentification, which we be the person who s o me that the contents	Harvey Lodish ere signed the preceding or attached s of the document are truthful and	, proved to me through satisfactory evidence of document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
On this personally appeared dentification, which we be the person who s o me that the contents	Harvey Lodish ere signed the preceding or attached s of the document are truthful and	, proved to me through satisfactory evidence of document in my presence and swore or affirmed
o me that the contents	Harvey Lodish ere signed the preceding or attached s of the document are truthful and	, proved to me through satisfactory evidence o document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
On this personally appeared dentification, which we be the person who s o me that the contents	Harvey Lodish ere signed the preceding or attached s of the document are truthful and	, proved to me through satisfactory evidence or document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
On this personally appeared dentification, which we to be the person who s me that the contents and belief and acknow	Harvey Lodish ere signed the preceding or attached s of the document are truthful and	, proved to me through satisfactory evidence or document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge

2/7

Date	Inventor	Hidde L. Ploegh
	Address	1 Toxteth Street
		Brookline, Massachusetts 02445
	Citizenship	Netherlands
STATE/COMMONWE	ALTH OF	
COUNTY OF	•	
On this	day of ,	, before me, the undersigned notary public,
personally appeared	Hidde L. Ploegh	, proved to me through satisfactory evidence of
identification, which we	re	→
to me that the contents	of the document are truthful and	document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge ed it voluntarily for its stated purpose.
SEAL		
	Notary Public	
My commission exp	ires:	

3/7

4418645.1

PATENT REEL: 052075 FRAME: 0481

Date	Inventor:	Hsiang-Ying Lee
	Address:	26 John F. Kennedy Street, Apt. 6
		Cambridge, Massachusetts 02138
	Citizenship:	Taiwan ROC
STATE/COMMONWE	ALTH OF	
COUNTY OF	:	
On this	day of ,	, before me, the undersigned notary public,
personally appeared dentification, which we	Hsiang-Ying (Sherry) Lee	, proved to me through satisfactory evidence of
'ucillication, which we	., -	
to be the person who s		document in my presence and swore or affirmed
to be the person who s to me that the contents	of the document are truthful and	accurate to the best of (his) (her) knowledge
to be the person who s to me that the contents	of the document are truthful and	
to be the person who s to me that the contents	of the document are truthful and	accurate to the best of (his) (her) knowledge
to be the person who s to me that the contents	of the document are truthful and	accurate to the best of (his) (her) knowledge
to be the person who s to me that the contents and belief and acknow	of the document are truthful and	accurate to the best of (his) (her) knowledge
to be the person who s to me that the contents and belief and acknow	of the document are truthful and ledged to me that (he) (she) signed Notary Public	accurate to the best of (his) (her) knowledge

4/7

	1	
Date	Inventor:	Jiahai Shi
	Address:	88 Tak Chee Avenue
		Kowloon, Hong Kong 000000
	Citizenship:	Republic of Singapore
Witness:		
Date	Signature	
	Name:	
	Address:	
Witness:		
Date	Signature	
	Name:	
	Address:	

5/7

Address:	12 Quarry Lane
	Malden, Massachusetts 02148
Citizenship:	US
	1
STATE/COMMONWEALTH OF Massachuset	<u>ts</u>
COUNTY OF Middlesex:	
On this 13th day of January, 201-	🚶 , before me, the undersigned notary public,
personally appeared Lenka Kundrat	, proved to me through satisfactory evidence of
identification, which were	
identification, which were Hoffman pot to be the person who signed the preceding or attached to	document in my presence and swore or affirmed
to me that the contents of the document are truthful and $% \left(\mathbf{r}\right) =\left(\mathbf{r}\right) $	
and belief and acknowledged to me that (he) (she) signed	d it voluntarily for its stated purpose.
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SEAL (A) A A A	AND OF THE PARTY O
Notary Public	—— COMPY CARY
A CO	1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
My commission expires: <u> </u>	
	THE CONTRACT PUBLIC OF LINE
	MACHUSETING

ru Mellin

Inventor: Lenka Hoffman

1/13/17 Date

Date	· · · ·	Inventor:	Novalia Pishesha
		Address:	70 Pacific Street, Apt. 285A
			Cambridge, Massachusetts 02139
		Citizenship:	Indonesia
STATE/COMMONWE	ALTH OF		
COUNTY OF		_:	,
	day of	:	, before me, the undersigned notary public,
On this	day of Novalia P	ishesha	, before me, the undersigned notary public, proved to me through satisfactory evidence o
On this personally appeared dentification, which we	Novalia Piere		, proved to me through satisfactory evidence o
On this personally appeared dentification, which we be the person who so me that the contents	Novalia Piere signed the precedings of the document a	ng or attached o	, proved to me through satisfactory evidence o
On this personally appeared dentification, which we be the person who s o me that the contents	Novalia Piere signed the precedings of the document a	ng or attached o	, proved to me through satisfactory evidence of document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge
o me that the contents and belief and acknow	Novalia Piere signed the precedings of the document a ledged to me that (ng or attached o	, proved to me through satisfactory evidence of document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge

7/7

ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, the undersigned Assignor, hereby:

- Sell, assign, and transfer to Whitehead Institute for Biomedical Research, a Delaware 1. corporation having a place of business at Nine Cambridge Center, Cambridge, Massachusetts 02142, its successors, assigns, and legal representatives, all hereinafter referred to as the Assignee, my entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the international PCT application filed on May 9, 2014, under Serial No. PCT/US2014/037554, bearing Attorney Docket No. W0571.70039WO00, and entitled IN VITRO PRODUCTION OF RED BLOOD CELLS WITH SORTAGGABLE PROTEINS, and in the U.S. national stage patent application filed with the United States Patent and Trademark Office under U.S.S.N. 14/890,241, bearing Attorney Docket No. W0571.70039US01, and entitled IN VITRO PRODUCTION OF RED BLOOD CELLS WITH SORTAGGABLE PROTEINS, and in and to the application, and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications, utility models, industrial designs, or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including, but not limited to, China, Japan, and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan, and Korea, as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent;
- 2. Agree that the Assignee may apply for and receive patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, we agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model, and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney, and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;
- 3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the patent to the Assignee;
- 4. Covenant with the Assignee that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and
- 5. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

W0571.70039US01 HI 13-02

1/7

Date		Inventor:	Harvey Lodish
		Address:	195 Fisher Avenue
			Brookline, Massachusetts 02446
		Citizenship:	US
STATE/COMMONWEAL	LTH OF		
COUNTY OF		<u>:</u>	
On this	day of	,	, before me, the undersigned notary public,
personally appeared	Harvey Lo	dish	, proved to me through satisfactory evidence of
identification, which were	e		<u> </u>
to be the person who sig	gne <mark>d the preceding</mark>	or attached of	document in my presence and swore or affirmed
to me that the contents of	of the document are	e truthful and	accurate to the best of (his) (her) knowledge
and belief and acknowle	edged to me that (he	e) (she) signe	ed it voluntarily for its stated purpose.
SEAL			
	Notary	/ Public	
My commission expi	ires:		

Date	Inventor:	Hidde L. Ploegh
	Address:	1 Toxteth Street
		Brookline, Massachusetts 02445
	Citizenship:	Netherlands
STATE/COMMONWEA	I TH OF	
COUNTY OF	:	
On this	day of ,	, before me, the undersigned notary public,
personally appeared	Hidde L. Ploegh	, proved to me through satisfactory evidence of
identification, which wer	е	
to be the person who sign	gned the preceding or attached	document in my presence and swore or affirmed
to me that the contents	of the document are truthful and	accurate to the best of (his) (her) knowledge
and belief and acknowle	edged to me that (he) (she) signe	ed it voluntarily for its stated purpose.
OF AL		
SEAL		
	Notary Public	
My commission exp	ires:	

Date	Inventor:	Hsiang-Ying Lee
	Address:	26 John F. Kennedy Street, Apt. 6
		Cambridge, Massachusetts 02138
	Citizenship:	Taiwan ROC
STATE/COMMONWEA	LTH OF	
COUNTY OF	:	
On this	day of ,	, before me, the undersigned notary public,
personally appeared	Hsiang-Ying (Sherry) Lee	, proved to me through satisfactory evidence of
identification, which wer		,
to be the person who sign	gned the preceding or attached	document in my presence and swore or affirmed
to me that the contents	of the document are truthful and	accurate to the best of (his) (her) knowledge
and belief and acknowle	edged to me that (he) (she) sign	ed it voluntarily for its stated purpose.
SEAL		
SEAL		
	Notary Public	
My commission exp	ires:	

W0571.70039US01 4/7 **4418645.1** HL13-02

Date	Inventor:	Jiahai Shi
	Address:	88 Tak Chee Avenue
		Kowloon, Hong Kong 000000
	Citizenship:	Republic of Singapore
Witness:		
Date	Signature	
	Name:	
	Address:	
Witness:		
Date	Signature)
	Name:	
	Address:	

W0571.70039US01 5/7 **4418645.1** HL13-02

Date		Inventor:	Lenka Hoffman
		Address:	12 Quarry Lane
			Malden, Massachusetts 02148
		Citizenship:	US
STATE/COMMONWEA	LTH OF		
COUNTY OF		_:	
On this	day of	,	, before me, the undersigned notary public,
personally appeared	Lenka K	undrat	, proved to me through satisfactory evidence of
identification, which wer	re		-
to be the person who sign	gned the precedin	ng or attached	document in my presence and swore or affirmed
to me that the contents	of the document a	are truthful and	accurate to the best of (his) (her) knowledge
and belief and acknowle	edged to me that ((he) (she) signe	ed it voluntarily for its stated purpose.
SEAL			
GLAL			<u></u>
	Nota	ry Public	
My commission exp	ires:		

2/10/17		AS
Date	Inventor:	Novalia Pishesha
	Address:	70 Pacific Street, Apt. 285A
		Cambridge, Massachusetts 02139
	Citizenship:	Indonesia
On this 101 day personally appeared identification, which were to be the person who signed to me that the contents of the and belief and acknowledge SEAL.	y of Ferminary 220 Novalia Pishesha Pensonary Halos of the preceding of attached one document are truthful and sed to me that (he) (she) signed Many Clare I	, before me, the undersigned notary public, , proved to me through satisfactory evidence of document in my presence and swore or affirmed accurate to the best of (his) (her) knowledge ed it voluntarily for its stated purpose.
_	STATE/COMMONWEALTH COUNTY OF Management of the person who signed to me that the contents of the and belief and acknowledge.	Date Inventor: Address: Citizenship: STATE/COMMONWEALTH OF MASSACHUMEN COUNTY OF MIDIMEN On this 10th day of FRAMANY 200 personally appeared Novalia Pishesha identification, which were Novalia Pishesha identification, which were to be the person who signed the preceding or attached to me that the contents of the document are truthful and and belief and acknowledged to me that (he) (she) signed SEAL SEAL Notary Public

W0571.70039US01 HL13-02

RECORDED: 03/03/2020

7/7

4418645.1

REEL: 052075 FRAME: 0492