505833698 12/20/2019 PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:		NEW ASSIGNMENT		
NATURE OF CONVEYANCE:		ASSIGNMENT		
CONVEYING PARTY DAT	Α			
		Name		Execution Date
WILLIAM S. WHITNEY				12/15/2019
MICHELLE C. SHERROTT				12/14/2019
HARRY A. ATWATER				12/18/2019
RECEIVING PARTY DATA	<u> </u>			
Name:		NIA INSTITUTE OF TECHNOLOGY	,	
Street Address: 1	200 E. C	ALIFORNIA BLVD., M/C 6-32		
City: F	ASADEN	IA		
State/Country:		ΑΙΑ		
Postal Code: 9	1125			
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PROPERTY NUMBERS TO	otal: 2		_	
Property Type		Number		
Application Number:	167	723108		
PCT Number:	US	2019067901		
CORRESPONDENCE DAT	A			
Fax Number:	(62	6)792-1342		
		e e-mail address first; if that is un		
using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail. Phone: 626-792-0536				11.
Phone	mail@sbpatlaw.com			
	ma	•		
Email:		•		
	ST	EINFL + BRUNO LLP 5 N. LAKE AVE. SUITE 700		
Email: Correspondent Name:	ST 155	EINFL + BRUNO LLP		
Email: Correspondent Name: Address Line 1:	ST 155 PA	EINFL + BRUNO LLP 5 N. LAKE AVE. SUITE 700		
Email: Correspondent Name: Address Line 1: Address Line 4:	ST 155 PA	EINFL + BRUNO LLP 5 N. LAKE AVE. SUITE 700 SADENA, CALIFORNIA 91101		
Email: Correspondent Name: Address Line 1: Address Line 4: ATTORNEY DOCKET NUM	ST 155 PA	EINFL + BRUNO LLP 5 N. LAKE AVE. SUITE 700 SADENA, CALIFORNIA 91101 P2438-US	,448/	
Email: Correspondent Name: Address Line 1: Address Line 4: ATTORNEY DOCKET NUM NAME OF SUBMITTER:	ST 155 PA	EINFL + BRUNO LLP 5 N. LAKE AVE. SUITE 700 SADENA, CALIFORNIA 91101 P2438-US ALESSANDRO STEINFL	,448/	
Email: Correspondent Name: Address Line 1: Address Line 4: ATTORNEY DOCKET NUM NAME OF SUBMITTER: SIGNATURE:	ST 155 PA	EINFL + BRUNO LLP 5 N. LAKE AVE. SUITE 700 SADENA, CALIFORNIA 91101 P2438-US ALESSANDRO STEINFL /Alessandro Steinfl, Reg. No. 56	,448/	

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PATENT REEL: 051350 FRAME: 0359

ASSIGNMENT

We, William S. WHITNEY, residing in United States of America with a mailing address at 2407 E. Helen St., Seattle, WA, 98112,

Michelle C. SHERROTT, residing in United States of America with a mailing address at 269 Harvard St., Apt. 19, Cambridge, MA, 02139, and

Harry A. ATWATER, residing in United States of America with a mailing address at 1945 Leman St., South Pasadena, CA, 91030,

hereby sell and assign for good and valuable consideration, the receipt of which we hereby acknowledge,

to CALIFORNIA INSTITUTE OF TECHNOLOGY, an entity having its principal place of business in United States of America at 1200 E. California Blvd., M/C 210-85, Pasadena, CA, 91125,

hereinafter referred to as the assignee, its successors, assigns and nominees, our entire right, title and interest, including all priority rights under U.S. law and/or International conventions and treaties, in and to the "BLACK PHOSPHORUS OPTICAL MODULATORS FOR PHASE, AMPLITUDE AND POLARIZATION CONTROL"

invented by us, as described and/or claimed in United States Patent Application 62/783,407, filed on December 21, 2018, in the corresponding U.S. Patent Application. in the corresponding PCT Patent Application, and in any other related patent applications filed and/or to be filed not only for, to and in the United States of America its territories and possessions, but also for, to and in all other countries, including any and all divisions, reissues, continuations, continuations-in-part and extensions of said U.S. Provisional Application No. 62/783,407 and/or U.S. Patent Application. We hereby authorize and request Enrica Bruno or Alessandro Steinfl of the Firm Steinfl + Bruno to insert here in parentheses

the application numbers and filing dates of said U.S. Patent Application (U.S. Patent Application No. 16/723,108 Filing date December 20, 2019;) and said PCT Patent Application (PCT Application No. PCT/US2019/067901 Filing date December 20, 2019;) when known. We further authorize and request any officials whose duty it is to issue patents, to issue any patent on said "BLACK PHOSPHORUS OPTICAL MODULATORS FOR PHASE, POLARIZATION AMPLITUDE AND CONTROL" and/or improvements thereof or resulting therefrom to said assignee or its successors, assigns or nominees, and agree to testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, continuation-in-part and/or reissue applications, make all rightful oaths and/or declarations and generally do everything possible to aid said assignee, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in the United States of America and in all other countries.

Subscribed and executed at	Seattle, WA	USA
	City	Country
On <u>December 15, 2019</u>		
Date		
	Inventor Name: <u>Wil</u>	liam S. WHITNEY
	Inventor Signature_	William Whitney
Witnessed by:		
Witness Name:	Signature	
Witness Name:	Signature	

	Atti	omey Docket No. P2438-US	
Subscribed and executed at M On 12 14 19 Date	iouritain <u>View (CA</u> City	<u>05A</u> Country	
2040	Inventor Name: <u>Michelle</u>		
	Inventor Signature		
Witnessed by			
Witness Name:	Signature		
Witness Name:	Signature		
Subscribed and executed at	City	Country	
On Date			
Juie	Inventor Name: <u>Harry A_ATWATER</u>		
	Inventor Signature		
Witnessed by:			
Witness Name:	Signature		
Witness Name:	Signature		

PATENT REEL: 051350 FRAME: 0362

Subscribed and executed at			
	City	Country	
On			
On Date			
	Inventor Name: <u>Miche</u>	lle C. SHERROTT	
	Inventor Signature		
Witnessed by:			
Witness Name:	Signature		
Witness Name:	Signature		
Subscribed and executed at	Pasadena, California	, United States of America Country	
0n_127669118,2019 Date	City	Country	
L'ate	Inventor Name: Ham	(A. ATWATER)	
	Inventor Signature	A. ATWATER,	
Witnessed by:		U	
Witness Name:	Signature		
Witness Name:	Signature		