To the Honorable Commissic 102202725	August 15, 2002 Attorney Docket No. 5051-543
Please record the attached original uncumerus or copy thereof.	
1. Name of conveying party(ies):	2. Name and address of receiving party(ies):
Jonathan S. Lindsey Masahiko Taniguchi Doyoung Ra Guoning Mo Thiagarajan Balasubramanian 8-21-02	North Carolina State University 2401 Research Drive Campus Box 8210 Raleigh, North Carolina 27695-8210
Additional name(s) of conveying party(ies) attached? Yes X No	
3. Nature of conveyance:	
X_ Assignment Merger Security Agreement Change of Name Other Execution Date: July 1,8,17,18,August 5, 2002	Additional name(s) & address(es) attached? Yes X No
4. Application Serial No. 10/140,654 Patent No.	AMMINIMA HABINGS & ANGLOSSESS MALESTON. 100 At 170
If this document is being filed together with a new application, the is: Additional numbers attached? Yes X No	
5. Name and address of party to whom correspondence	6. Total number of applications and patents involved: _l
Customer Number 20792 Kenneth D. Sibley Myers Bigel Sibley & Sajovec	7. Total fee (37 CFR 3.41) \$40.00 X Enclosed Authorized to be charged to deposit account
Post Office Box 37428 Raleigh, North Carolina 27627	8. Deposit account number: 50-0220
DO NOT USE THIS SPACE	
9. Statement and signature To the best of my knowledge and belief, the foregoing information of the original document.	111
Kenneth D. Sibley, Reg. 31,665 Name of Person Signing Signature Total nu	August 15, 2002_ Date umber of pages including cover sheet, attachments and document:
,	

08/22/2002 CCHAU1 00000155 10140654 02 KC:581

PATENT **REEL: 13213 FRAME: 0402**

ASSIGNMENT

THIS ASSIGNMENT, made by us, Jonathan S. Lindsey, a citizen of the United States of America, residing at 3931 Napa Valley Drive, Raleigh, North Carolina 27612; Masahiko Taniguchi, a citizen of Japan, residing at 2300 Avent Ferry Road, Apt. J-4, Raleigh, North Carolina 27606; Doyoung Ra, a citizen of Korea, residing at Hanul ATP 110-1706, Shinsung-dong, Yousung-ku, Taejon (305-707), Korea; Guoning Mo, a citizen of China, residing at 155 Antibes Drive, Suite 1414, Toronto, Ontario M2R 3G7, Canada; and Thiagarajan Balasubramanian, a citizen of India, residing at 1610-F Amber Ridge Lane, Raleigh, North Carolina 27607;

WITNESSETH: That,

WHEREAS, we are the joint inventors of certain new and useful improvements in **REFINED ROUTES TO CHLORIN BUILDING BLOCKS** for which an application for United States Letters Patent has been filed in the United States Patent and Trademark Office on May 8, 2002, under Serial No. 10/140,654, and

WHEREAS, North Carolina State University, a constituent institution of The University of North Carolina and an educational institution chartered under the laws of the State of North Carolina having a principal office at Campus Box 8210, City of Raleigh, County of Wake, State of North Carolina 27695-8210, hereinafter referred to as assignee, is desirous of acquiring the entire right, title and interest in and to said invention as described in said application, and in and to any and all Letters Patent which shall be granted therefor in the United States of America and all foreign countries;

NOW, THEREFORE, To Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we have sold and by these presents do hereby sell, assign, transfer, and convey unto the said assignee, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any and all continuations, continuations-in-part, or divisions thereof, and in and to any and all Letters Patent of the United States of America and all foreign countries or reissues thereof which may be granted therefor or thereon, for the full end of the term for which said Letters Patent may be granted, together with the right to claim the priority of said application in all foreign countries in accordance with the International Convention, the same to be held and enjoyed by said assignee, its successors and assigns, as

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PATENT REEL: 13213 FRAME: 0403 fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

We hereby request that said Letters Patent be issued in accordance with this assignment.

We further covenant and agree that, at the time of the execution and delivery of these presents, we possess full title to the invention and application above-mentioned, and that we have the unencumbered right and authority to make this assignment.

We further covenant and agree to bind our heirs, legal representatives, and assigns promptly to communicate to said assignee or its representatives any facts known to us relating to said invention, to testify in any interference or legal proceedings involving said invention, to execute any additional papers which may be requested to confirm the right of the assignee, its representatives, successors, or assigns to secure patent or similar protection for the said invention in all countries and to vest in the assignee complete title to the said invention and Letters Patent, without further compensation, but at the expense of said assignee, its successors, assigns, and other legal representatives.

IN WITNESS WHEREOF, we have hereunto set my hand and seal on this ________ day of _________, 2002.

onathan S. Lindsey

STATE OF NORTH CAROLINA)	
COUNTY OF	Wake	_)	ss:

Before me personally appeared **Jonathan S. Lindsey**, to me known to be the person described in and who executed the foregoing instrument, and he acknowledged to me that he executed the same for the purposes therein stated, this <u>/sh</u> day of ________, 2002.

Notary Public

SEAL

My Commission Expires: 4/14/2007

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IN WITNESS WHEREOF, we have hereunto set my hand and seal on this 8th day of July , 2002. Masahiko Taniguchi (SEAL)
STATE OF NORTH CAROLINA)
COUNTY OF Wake ss:
Before me personally appeared Masahiko Taniguchi, to me known to be the person
described in and who executed the foregoing instrument, and he acknowledged to me that he
executed the same for the purposes therein stated, this 8^{4} day of $July$,
2002.
SEAL PUBLIC Pamarah Delace Notary Public My Commission expires: 3-76-2007

IN WITNESS WHEREOF, we have hered of, 2002.	unto set my hand and	l seal on this <u>17th</u> day
Doyoung Ra	(S	EAL)
STATE OF Lee unchicles COUNTY OF POLY ss:		
Before me personally appeared Doyoung	Ra, to me known to	be the person described
in and who executed the foregoing instrument, an	nd he acknowledged t	to me that he executed
the same for the purposes therein stated, this	day of	. 2002.
	Notary Public	
SEAL		

My Commission Expires:

IN WITNESS WHEREOF, we have her	reunto set my hand an	d seal on this <u>5th</u> day
of Angust, 2002. Guoning Mo	Me (SEAL)
STATE OF <u>Chargethen</u> COUNTY OF SHUR ON GOOD (SS:		
Before me personally appeared Guonin	Ig Mo , to me known to	o be the person described
in and who executed the foregoing instrument,	and he acknowledged	to me that he executed
the same for the purposes therein stated, this	day of	, 2002.
	Notary Public	
SEAL		

My Commission Expires:

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IN WITNESS WHEREOF, we have hereunto set my hand and seal on this 18th day
of July , 2002.
Thiagarajan Balasubramanian
STATE OF NORTH CAROLINA) COUNTY OF Durham) ss:
Before me personally appeared Thiagarajan Balasubramanian, to me known to be
the person described in and who executed the foregoing instrument, and he acknowledged to
me that he executed the same for the purposes therein stated, this 18th day of
Suly, 2002. Ougened a Hunter Notary Public
SEAL

RECORDED: 08/21/2002