


Client Code: CALTE.020A

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To the Director, U.S. Patent and Trademark Office: Please record the attached original documents or copy thereof.

<p>1. Name of conveying party(ies): (List using letters or numbers for multiple parties)</p> <p>1. Robert Dirks 2. Niles A. Pierce</p> <p>Additional name(s) of conveying party(ies) attached?</p> <p>( ) Yes (X) No</p>	<p>2. Name and address of receiving party(ies):</p> <p><b>Name:</b> CALIFORNIA INSTITUTE OF TECHNOLOGY</p> <p><b>Internal Address:</b></p> <p><b>Street Address:</b> 1200 E. California Blvd.</p> <p><b>City:</b> Pasadena <b>State:</b> CA</p> <p><b>ZIP:</b> 91125</p> <p>Additional name(s) of receiving party(ies) attached?</p> <p>( ) Yes (X) No</p>
<p>3. Nature of conveyance:</p> <p>(X) Assignment ( ) Security Agreement ( ) Merger ( ) Change of Name ( ) Other:</p> <p><b>Execution Date:</b> (List as in section 1 if multiple signatures) (1) June 22, 2005; and (2) June 22, 2005</p>	<p>4. US or PCT Application number(s) or US Patent number(s):</p> <p>(X) Patent Application No.: 11/087,937 <b>Filing Date:</b> March 22, 2005</p> <p>Additional numbers attached?</p> <p>( ) Yes (X) No</p>
<p>5. Party to whom correspondence concerning document should be mailed:</p> <p><b>Customer No.</b> 20,995</p> <p><b>Address:</b> Knobbe, Martens, Olson &amp; Bear, LLP 2040 Main Street, 14<sup>th</sup> Floor Irvine, CA 92614</p> <p><b>Return Fax:</b> (949) 760-9502</p> <p><b>Attorney's Docket No.:</b> CALTE.020A</p>	<p>6. Total number of applications and patents involved: 1</p>
<p>7. Total fee (37 CFR 1.21(h)): \$40</p> <p>(X) Authorized to be charged to deposit account</p>	<p>8. Deposit account number: 11-1410</p> <p>Please charge this account for any additional fees which may be required, or credit any overpayment to this account.</p>
<p>9. Statement and signature.</p> <p>To the best of my knowledge and belief, the foregoing information is true and correct, and any attached copy is a true copy of the original document.</p> <p><u>Andrew N. Merickel</u> Name of Person Signing</p> <p><u>53,317</u> Registration No.</p> <p><u></u> Signature</p> <p><u>June 30 2005</u> Date</p> <p>Total number of pages including cover sheet, attachments and document: 3</p>	

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**PATENT**  
**REEL: 016455 FRAME: 0001**

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Application No.: 11/087,937  
Filing Date: March 22, 2005

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### ASSIGNMENT

WHEREAS, We, Robert Dirks, a U.S. citizen, residing at 183 N. Chester Avenue, Apt. #8, Pasadena, CA 91106, and Niles A. Pierce, a U.S. citizen, residing at 800 N. Michigan Avenue, Pasadena, CA 91104, have invented certain new and useful improvements in a HYBRIDIZATION CHAIN REACTION for which we have filed an application for Letters Patent in the United States, Application No. 11/087,937, Filed on March 22, 2005;


AND WHEREAS, CALIFORNIA INSTITUTE OF TECHNOLOGY (hereinafter "ASSIGNEE"), with its principal place of business at 1200 E. California Blvd., Pasadena, CA 91125, desires to acquire the entire right, title, and interest in and to the said improvements and the said Application:

NOW, THEREFORE, in return for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said inventors, do hereby acknowledge that we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, the entire right, title, and interest throughout the world in, to and under the said improvements, and the said application and all provisional applications relating thereto, and all divisions, renewals and continuations thereof, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions and applications for Letters Patent which may hereafter be filed for said improvements in any country or countries foreign to the United States, and all Letters Patent which may be granted for said improvements in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and we hereby authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said improvements to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE DO HEREBY sell, assign, transfer, and convey to ASSIGNEE, his successors, legal representatives, and assigns all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue for, collect, and retain damages for past infringements of the said Letters Patent before or after issuance.

AND WE HEREBY covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said improvements, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said improvements in all countries.

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 22<sup>nd</sup> day of June, 2005.

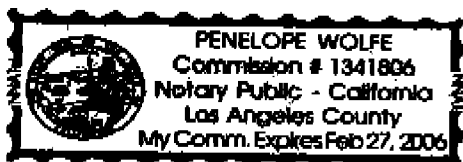
  
Robert Dirks

STATE OF California }  
COUNTY OF Los Angeles } ss.

On June 22, 2005, before me, Penelope Wolfe, Notary Public, personally appeared Robert Dirks ~~personally known to me (or~~ proved to me on the basis of satisfactory evidence) to be the person(~~s~~) whose name(~~s~~) ~~(is/are)~~ subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity(~~ies~~); and that by his signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

WITNESS my hand and official seal.

[SEAL]



  
Notary Signature

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Application No.: 11/087,937  
Filing Date: March 22, 2005

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IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 22 day of June, 2005

Niles A. Pierce  
Niles A. Pierce

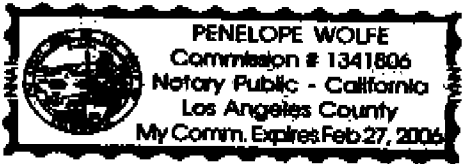
STATE OF California }  
COUNTY OF Los Angeles } ss.

On June 22, 2005, before me, Penelope Wolfe, Notary Public, personally appeared Niles A. Pierce ~~personally known to me (or~~ proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) ~~(is)~~ subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity(ies), and that by his signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

[SEAL]

Penelope Wolfe  
Notary Signature



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