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06-28-1999

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ocuments or copy

To The Honorable Commissioner of Patents and Trademarks thereof.

1. Name of conveying party(ies):David J. Ecker, Oscar Acevedo, Normand Hebert, Peter W. Davis, Jacqueline R. Wyatt and John S. Kiely

Additional name(s) of conveying party(ies) attached? () YES (X) NO

3. Nature of Conveyance:

(X) Assignment () Merger

() Security Agreement

() Change of Name

(X) Other: Cross-reference of Assignment recorded in Parent application, Serial No. 08/309,925 at Reel 7314

Frame 0365

Execution Date(s): October 10, 1994

2. Name and address of receiving party(ies):

Name: ISIS Pharmaceuticals

Street Address: 2292 Faraday Ave.

City: Carlsbad

State California

ZIP 92008

Additional name(s) & address attached? ()YES (X)NO

4. Application number(s) or patent number(s) 09/313,403 \[
If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s)

B. Patent No.(s)

Additional numbers attached? () YES (X) NO

5. Name and address of party to whom correspondence concerning documents should be mailed:

Name: Paul K. Legaard

Internal Address: WOODCOCK WASHBURN KURTZ

MACKIEWICZ & NORRIS LLP One Liberty Place - 46th Floor

Philadelphia, Pennsylvania 19103-7301

Street Address: WOODCOCK WASHBURN KURTZ

MACKIEWICZ & NORRIS LLP One Liberty Place - 46th Floor

1650 Market Street

Philadelphia, Pennsylvania 19103-7301

6. Total number of applications and patents involved: One

7. Total fee (37 CFR 3.41):.....\$40.00 (X) Enclosed

() Authorized to be charged to Deposit Account Number 23-3050

8. Please charge any deficiency or credit any overpayment to Deposit Account Number 23-3050

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Statement and signature.

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.

Paul K. Legaard 38,534

Name of Person Signing/Reg. No.

Signature

June 21, 1999

Date

Total number of pages including cover sheet, attachments, and document: 6

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks
Box Assignments
Washington, D.C. 20231

PATENT REEL: 010047 FRAME: 0326

(Pending Application; Serial No. Known)

DOCKET NO.: ISIS-1243

ASSIGNMENT

WHEREAS, we David J. Ecker, Oscar Acevedo, Normand Hebert, Peter W. Davis, Jacqueline R. Wyatt, and John S. Kiely, hereinafter referred to as the assignors, residing respectively at 1041 Saxony Rd. Leucadia, CA 92024, 12117 Brickellia San Diego, CA 92129, 1861 Montgomery Ave. Cardiff, CA 92007, 2202 Highland Dr. Carlsbad CA 92008, 2202 Highland Dr. Carlsbad, CA 92008, and 4230 Corte Facil San Diego, CA 92130 are the joint inventors of certain inventions or improvements for which we have made application for Letters Patent to the United States, identified as Serial No. 08/309,925, filed September 21, 1994, entitled Novel Chemical Reaction Apparatus and Methods; and

WHEREAS, ISIS Pharmaceuticals, Inc. hereinafter referred to as the assignee, of 2280 Faraday Avenue, Carlsbad CA, a corporation of Delaware, is desirous of acquiring the entire right, title and interest in and to the said inventions or improvements and in and to the said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in any and all countries:

NOW, THEREFORE, for and in consideration of the sum of One Dollar (\$1.00) to each of us in hand paid by said assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said assignors, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over to said assignee, the entire right, title and interest in and to said inventions or improvements and said application and any and all continuations, divisions and renewals of and substitutes for said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in the United States and any and all other countries, and any reissue or reissues or extension cr extensions of said Letters Patent, and assign to and authorize said assignee, to file in our names applications for Letters Patent in all countries, the same to be held and enjoyed by said assignee, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by us had this assignment, sale and transfer not been made.

AND we hereby covenant that we have full right to convey the entire interest herein assigned, and that we have not executed and will not execute any agreement in conflict herewith, and we

> PATENT REEL: 010047 FRAME: 0327

further covenant and agree that we will each time request is made and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said inventions or improvements, said application and said Letters Patent to said assignee, its successors, assigns, nominees, or legal representatives, and each of us agrees to communicate to said assignee or to its nominee all known facts respecting said inventions or improvements, said application and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers to execute all disclaimers and divisional, continuing, reissue and foreign applications, to make all rightful oaths, and generally to do everything possible to aid said assignee, its successors, assigns, nominees and legal representatives to obtain and enforce for its or their own benefit proper patent protection for said inventions or improvements in any and all countries.

AND we hereby authorize and request the Commissioner of Patents and Trademarks 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 to said assignee, as assignee of the entire right, title and interest, any and all Letters Patent for said inventions or improvements, including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

IN WITNESS WHEREOF, we have hereunto set our hands and seals.

Davil J. Ehr	(L.S.)
Carry to person	(L.S.)
Normand Sebert	_(L.S.)
_ PWDavs	_(L.S.)
Jagneline Relyatt	_(L.S.)
John Skilly	_(L.S.)

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[WHERE ALL INVENTORS SIGN BEFORE THE SAME NOTARY:]
CALIFORNIA:
COUNTY OF SANDIES:
on this 10th day of October, 1994, before me personally came the above named David T. Ecker Oscar Acevedo, Norman
known and known to me to be the same individuals who executed the foregoing assignment, and who acknowledged to me that execution of the same was of that person's own free will for the use and purposes therein set forth.
CAROL A. COLLINS Comm. # 1018918 E Notary Public Notary Public
Notary Public San Dingo County My Comm. Expires July 8, 1998
[WHERE INVENTORS SIGN BEFORE SEPARATE NOTARIES:] SS COUNTY OF
me personally known and known to me to be the same individual who executed the foregoing assignment, and who acknowledged to me that execution of the same was of that person's own free will for the use and purposes therein set forth.
Notary Public
COUNTY OF: ss
On this day of, 19, before me
personally came the above named to me personally known and known to me to be the same individual who

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PATENT

REEL: 010047 FRAME: 0329

executed the foregoing assignment, and who acknowledged to me that execution of the same was of that person's own free will for the use and purposes therein set forth.

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COUNTY OF:	
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RECORDED: 06/24/1999

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PATENT REEL: 010047 FRAME: 0330