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f Patents and Trademarks. Please record the attached original documents or copy

101018157 1. Name of conveying party(ies):	2. Name and address of receiving party(ies):
Richard H. Griffey, Douglas L. Cole, Vasulinga T.	2. Name and address of receiving partyfies).
Ravikumar	Name: ISIS Pharmaceuticals, Inc.
Additional name(s) of conveying party(ies)	Street Address: 2292 Faraday Avenue
attached? () YES (X) NO	
3. Nature of Conveyance:	City: Carlsbad
(X) Assignment () Merger () Security Agreement	State California ZIP 92008
() Change of Name	State Camorna Zii 32000
() Other:	Additional name(s) & address attached? ()YES (X)NO
Execution Date(s): 3/26/99 and 3/29/99	
 Application number(s) or patent number(s): If this document is being filed together with a new app 	lication, the execution date of the application is:
A. Patent Application No.(s)	B. Patent No.(s)
09/249,528 filed 2/12/99	
}	
Additional numbers at	ttached? () YES (X) NO
5. Name and address of party to whom correspondence	6. Total number of applications and patents involved:
concerning documents should be mailed:	
Name: Michael P. Straher, Esq.	One (1)
Internal Address: WOODCOCK WASHBURN KURTZ	7. Total fee (37 CFR 3.41):\$40.00
MACKIEWICZ & NORRIS LLP	(X) Enclosed () Authorized to be charged to Deposit Account
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Street Address: WOODCOCK WASHBURN KURTZ MACKIEWICZ & NORRIS LLP	8. Please charge any deficiency or credit any
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Mar-24-99 11:37 From-WOODCOCK WASHBURN 33

T-233 P.09/13 F-031

DOCKET NO.: 1S1S-3378

PATENT

ASSIGNMENT

WHEREAS, We, Richard H. Griffey, of Vista, State of California, Douglas L. Cole of

San Diego, State of California, and Vasulinga T. Ravikumar of Carlsbad, State of California

have invented a certain invention entitled Method for the Synthesis of Nucleotide or

Oligonucleotide Phosphoramidites, for which we have made application for Letters Patent of the

United States, said application having been filed on February 12, 1999 and assigned Application

No. 09/249,528; and

WHEREAS, ISIS Pharmaceuticals, Inc. hereinafter referred to as the assignee, of 2292

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 or 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

ASSIGNMENT - PAGE 1 OF 5

PATENT

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Mar-24-99 11:37 From-WOODCOCK WASHBURN 33

T-233 P.10/13 F-031

DOCKET NO.: ISIS-3378

PATENT

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 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, ritle 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.

ASSIGNMENT - PAGE 2 OF 5

DOCKET NO.: ISIS-3378

PATENT

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

Dated: 3/20/99	. 1999	Ruly GR	
		RICHARD H. GRIFFEY	
State of California)) ss.		
County of San Diego	ý		

On this 26th day of March , 1999, before me, the undersigned, a Notary Public for the state, personally appeared RICHARD H. GRIFFEY personally known to me/proved to me on the basis of satisfactory evidence to be the person who subscribed the foregoing Assignment and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.

	CAROL A. COLLINS	7
ī A	Comm. # 1189498	Ü
	San Diego County My Comm. Expires July 8, 2002	-

WITNESS my hand and official seal.

Signature of Notary

ASSIGNMENT - PAGE 3 OF 5

DOCKET NO.: ISIS-3378

PATENT

Dated: ___

3-29

1999

DOUGLAS L. COLI

State of California

99

County of San Diego

On this 29th day of MARCH, 1999, before me, the undersigned, a Notary Public for the state, personally appeared **DOUGLAS L. COLE** personally known to me/proved to me on the basis of patisfactory evidence to be the person who subscribed the foregoing Assignment and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.



WITNESS my hand and official seal.

Signature of Notary

ASSIGNMENT - PAGE 4 OF 5

DOCKET NO.: ISIS-3378

Mar-24-99 11:39

PATENT

Dated 3/26/99, 1999

V. Rauh 3/26/99

State of California

SS.

County of San Diego

On this ______ day of _______, 1999, before me, the undersigned, a Notary Public for the state, personally appeared VASULINGAT. RAVIKUMAR personally known to me/proved to me on the basis of satisfactory evidence to be the person who subscribed the foregoing Assignment and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/ber signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.

CAROL A. COLLINS Comm. # 1189498 NOTARY PUBLIC - CALIFORNIA San Diego County My Comm. Expires July 8, 2002 WITNESS my hand and official seal.

ASSIGNMENT - PAGE 5 OF 5