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Form <b>PTO-1595</b>	RECORDATION F	ENT OF COMMERCE Trademark Office			
(Rev. 10/02)	D ALLOWER ALLOW I	Trademark Office			
OMB No. 0651-0027 (exp. 6/30/2005		103053132			
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	To the Honorable Commissioner of Patent and Trademarks: Please record the attached documents or copy thereof.  1. Name of conveying party(ies):  2. Name and address of receiving party(ies):				
1. Name of conveying and Alex CIMPOIA	party(ics):	a. maine and address of receiving party(ics):			
Dan SIMION					
		Name: Shire BioChem Inc.			
		Street Address: 2250 Alfred-Nobel Blvd Suite 500			
Additional name(s) of conversi	ng party(ies) attached? 🔲 Yes 🗵 No	Ville Saint-Laurent			
3. Nature of Conveyan		City: Quebec State: Canada Zip:H4S 2C9			
☑ Assignment	☐ Merger				
Security Agreement	☐ Change of Name				
		No additional names(s) or address(es) attached 🔲 Yes 🖾 No			
Other					
Execution Date: July 13,	, 2005; July 20, 2005				
	. , =====				
4. Application number(s) or patent number(s):  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)  11/073,020					
<i>E</i>	Additional numbers attac	,			
5. Name and address of pa concerning document s	arty to whom correspondence should be mailed:	6. Total number of applications and patents involved: 1 7. Total fee (37CFR 3.41) \$40.00			
concerning document s		/. I total lee (5/CFR 5.41) \$40.00			
	VHITE, ZELANO				
& BRANIGAN, P.C. Address: Arlington Court Plaza I		Authorized to be charged to deposit account			
		8. DEPOSIT ACCOUNT NO. 13-3402			
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Arlington,		(Attach duplicate copies of this page if paying by deposit account)			
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9. 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.					
and correct and					
Brion P. Heaney		July 28, 2005			
Names of Person Signi	ing Signature	Date			
<b></b>					
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	Total number of pages including cover sheet, attachments, and documents 3				
Attorney Docket No. SH	HDD AC17				

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**PATENT REEL: 016819 FRAME: 0354** 

## ASSIGNMENT

ATTY, DOCKET NO. SHIRE-517

WHEREAS the below named inventor (if only one inventor is named below) or inventors (if plural inventors are named below) hereinafter referred to as the ASSIGNOR invented a certain improvement(s) relating to

PROCESS AND METHODS FOR THE PREPARATION OF OPTICALLY ACTIVE CIS-2-HYDORXYMETHYL-4-(CYTOSIN-1'YL)-1,3-OXATHIOLANE OR PHARMACEUTICALLY ACCEPTABLE SALTS THEREOF

and for wh	ich one or i	nore of the following apply:	
	U.S. Provi	sional Application Serial No.	was filed in the United States Patent and Trademark Office on
$\boxtimes$	A U.S. No	n-Provisional	
		application for Letters Patent to Application Serial No. 11/073,020 as International Application No.	be filed in the United States Patent and Trademark Office was executed on even date.  For Letters Patent was filed in the U.S. Patent and Trademark Office on March 7, 2005 was filed on , designating the United States.
	AND WHI	Shire Biochem 2250 Alfred-No	Inc. bbel Blvd, Suite 500 arent, Quebec, Canada H4S 2C9

hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and all application(s) listed above, including any and all earlier priority rights (U.S. and foreign), divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, reexaminations and extensions thereof.

NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application(s), including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all U.S. (including provisional) or foreign priority and/or convention rights or benefits accruing or to accrue with respect to the filing or securing of patents in the United States and/or any countries foreign thereto concerning said invention, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and application, including any and all earlier priority rights (U.S. and foreign), divisions and continuations thereof, any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, including the right to sue for damages occurring before the assignment, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.

AND ASSIGNOR hereby agrees to execute all papers that may be necessary to file applications in the United States and foreign countries for said invention and to assign the same to said ASSIGNEE, its assigns and its representatives and to execute any other papers that may be needed in connection with filing said applications and securing Letters Patents thereon.

AND ASSIGNOR authorizes and requests the Commissioner of Patents and Trademarks to issue a Letters Patent on said application, and on any and all divisions and continuations thereof, to ASSIGNEE, its assigns and legal representatives, in accordance herewith.

The undersigned hereby grant(s) the law firm of Millen, White, Zelano & Branigan, P.C. the power to insert on this assignment information which may be necessary or desirable in order for the United States Patent and Trademark Office to property record this document.

## IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR

201 FULL NAME OF SOLE OR FIRST NAMED INVENTOR  Alex CIMPOIA	WENEOR'S SIGNATURE	JULY 13 7 2005
Dan SIMION (Ioana R. Simion, Executrix of the Estate of Dan Simion)	(NVENTOR'S SIGNATURE	DATE
203 FULL NAME OF THIRD JOINT INVENTOR	inventor's signature	DATE
204 FULL NAME OF FOURTH JOINT INVENTOR	inventor's signature	DATE
205 FULL NAME OF FIFTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
206 FULL NAME OF SIXTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
207 FULL NAME OF SEVENTH JOINT INVENTOR	(NVENTOR'S SIGNATURE	DATE
20% FULL NAME OF EIGHTH JOINT INVENTOR	!NVENTOR'S SIGNATURE	DATE

PATENT REEL: 016819 FRAME: 0355

## **ASSIGNMENT**

ATTY, DOCKET NO. SHIRE-517

WHEREAS the below named inventor (if only one inventor is named below) or inventors (if plural inventors are named below) hereinafter referred to as the ASSIGNOR invented a certain improvement(s) relating to

PROCESS AND METHODS FOR THE PREPARATION OF OPTICALLY ACTIVE CIS-2-HYDORXYMETHYL-4-(CYTOSIN-1-YL)-1,3-0XATHIOLANE OR PHARMACEUTICALLY ACCEPTABLE SALTS THEREOF

and for wh	nich one or	more of the following apply:	
	U.S. Provi	sional Application Serial No.	was filed in the United States Patent and Trademark Office on .
$\boxtimes$	A U.S. Non-Provisional		
application for Letters Patent to be filed in the United States Patent and Trademark Office was executed on even Application Serial No. for Letters Patent was filed in the U.S. Patent and Trademark Office on as International Application No. was filed on , designating the United States.  AND WHEREAS		etters Patent was filed in the U.S. Patent and Trademark Office on	
		EREAS	

hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and all application(s) listed above, including any and all earlier priority rights (U.S. and foreign), divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, reexaminations and extensions thereof.

NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application(s), including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all U.S. (including provisional) or foreign priority and/or convention rights or benefits accruing or to accrue with respect to the filing or securing of patents in the United States and/or any countries foreign thereto concerning said invention, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and application, including any and all earlier priority rights (U.S. and foreign), divisions and continuations thereof, any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations thereof, including the right to sue for damages occurring before the assignment, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.

AND ASSIGNOR hereby agrees to execute all papers that may be necessary to file applications in the United States and foreign countries for said invention and to assign the same to said ASSIGNEE, its assigns and legal representatives and to execute any other papers that may be needed in connection with filing said applications and securing Letters Patents thereon.

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## IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR

201 FULL NAME OF SOLE OR FIRST NAMED INVENTOR	INVENTOR'S SIGNATURE	
	MASHIORS SIGNATORS	DATE
Alex CIMPOIA		
202 FULL NAME OF SECOND JOINT INVENTOR	inventor's signature	DATE
Dan SIMION (Ioana R. Simion, Executrix of the	12/000	
Estate of Dan Simion)	In run	20.07-2005
203 FULL NAME OF THIRD JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
204 FULL NAME OF FOURTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
		<u> </u>
205 FULL NAME OF FIFTH JOINT INVENTOR	INVENTOR'S SIGNATURE	
		DATÉ
206 FULL NAME OF SIXTH JOINT INVENTOR	INVENTOR'S SIGNATURE	
	IMPENTORS SIGNATURE	DATE
207 FULL NAME OF SEVENTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
208 FULL NAME OF HIGHTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
		DATE

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PATENT REEL: 016819 FRAME: 0356

**RECORDED: 07/28/2005**