

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT								
NATURE OF CONVEYANCE:	ASSIGNMENT								
CONVEYING PARTY DATA									
<table border="1"><thead><tr><th>Name</th><th>Execution Date</th></tr></thead><tbody><tr><td>Anthony S. Serianni</td><td>07/28/2011</td></tr><tr><td>John G. Duman</td><td>08/01/2011</td></tr><tr><td>Kent R. Walters</td><td>07/28/2011</td></tr></tbody></table>	Name	Execution Date	Anthony S. Serianni	07/28/2011	John G. Duman	08/01/2011	Kent R. Walters	07/28/2011	
Name	Execution Date								
Anthony S. Serianni	07/28/2011								
John G. Duman	08/01/2011								
Kent R. Walters	07/28/2011								
RECEIVING PARTY DATA									
Name:	University of Notre Dame du Lac								
Street Address:	940 Grace Hall								
City:	Notre Dame								
State/Country:	INDIANA								
Postal Code:	46556								
PROPERTY NUMBERS Total: 1									
<table border="1"><thead><tr><th>Property Type</th><th>Number</th></tr></thead><tbody><tr><td>Application Number:</td><td>13135065</td></tr></tbody></table>	Property Type	Number	Application Number:	13135065					
Property Type	Number								
Application Number:	13135065								
CORRESPONDENCE DATA									
Fax Number:	(763)587-7086								
Phone:	763-587-7076								
Email:	azwack@cliseip.com								
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>									
Correspondent Name:	Clise, Billion & Cyr, P.A.								
Address Line 1:	605 U.S. Highway 169								
Address Line 2:	Suite 300								
Address Line 4:	Plymouth, MINNESOTA 55441								
ATTORNEY DOCKET NUMBER:	5001-007								
NAME OF SUBMITTER:	Angela Zwack								
Total Attachments: 3 source=signedAssignments#page1.tif source=signedAssignments#page2.tif source=signedAssignments#page3.tif									

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PATENT
REEL: 027140 FRAME: 0950

ASSIGNMENT

WHEREAS, *JOHN G. DUMAN* whose office address appears below (hereinafter referred to as ASSIGNOR), is an employee of the University of Notre Dame du Lac, with an address at 940 Grace Hall, Notre Dame, Indiana, 46556 (hereinafter referred to as ASSIGNEE) and has certain obligations to disclose and assign patentable new inventions to ASSIGNEE; and

WHEREAS, ASSIGNOR has invented a new and useful invention entitled: "*Xylomanan Antifreeze Glycolipids*", Docket Number UND-10-017 (hereinafter referred to as the INVENTION) for which a United States Provisional Patent Application was filed *June 23, 2010*, and was assigned Patent Application S/N *61/398,276*; and for which a *United States Utility Patent Application* was filed *June 23, 2011*, and was assigned Patent Application S/N *13/135,065*; and

WHEREAS, ASSIGNEE is desirous of acquiring the entire right, title and interest in and to the INVENTION in the United States and throughout the world; and

WHEREAS, ASSIGNOR is willing to assign his entire right, title, and interest in and to the INVENTION to ASSIGNEE;

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, I, ASSIGNOR, by these presents do sell, assign and transfer unto said ASSIGNEE, the entire right, title and interest in and to said INVENTION and applications throughout the United States of America, including any and all United States Letters Patent granted on any division, continuation, continuation-in-part and reissue of said application; and the entire right, title and interest in and to said INVENTION throughout the world, including the right to apply for patents and inventor certificates in respect thereof and to claim priority pursuant to rights accorded ASSIGNOR under the terms of the Paris International Convention and all other available international conventions and treaties; and the entire right, title and interest in and to any and all patents, patents of addition, utility models, patents of importation, revalidation patents and inventor certificates which may be granted throughout the world in respect of said INVENTION.

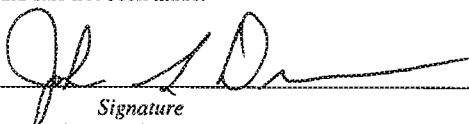
ALSO, ASSIGNOR hereby agrees to execute any documents that legally may be required in connection with the filing, prosecution and maintenance of said application or any other patent application(s) or inventor certificate(s) in the United States and in foreign countries for said INVENTION, including additional documents that may be required to affirm the rights of ASSIGNEE in and to said INVENTION, all without further consideration. ASSIGNOR also agrees, without further consideration and at ASSIGNEE's expense, to identify and communicate to ASSIGNEE at ASSIGNEE's request documents and information concerning the INVENTION that are within ASSIGNOR's possession or control, and to provide further assurances and testimony on behalf of ASSIGNEE that lawfully may be required of ASSIGNOR in respect of the prosecution, maintenance and defense of any patent application or patent encompassed within the terms of this instrument.

ASSIGNOR also agrees, without further consideration and at ASSIGNEE's expense, to transfer the right to sue for past infringement to ASSIGNEE and at ASSIGNEE's request documents and information concerning the enforcement of the right to sue within ASSIGNOR's possession or control, and to provide further assurances and testimony on behalf of ASSIGNEE that lawfully may be required of ASSIGNOR in respect of the right to sue of any patent encompassed within the terms of this instrument.

ASSIGNOR's obligations under this instrument shall extend to ASSIGNOR's heirs, executors, administrators and other legal representatives.

ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent referred to above to ASSIGNEE of the entire right, title and interest in and to the same, for ASSIGNEE's sole use and behalf; and for the use and behalf of ASSIGNEE's legal representatives and successors, to the full end of the term for which such Letters Patent may be granted, as fully and entirely as the same would have been held by ASSIGNOR had this assignment and sale not been made.

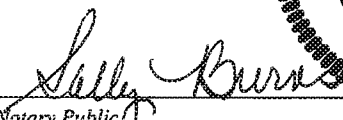
John G. Duman
143 Galvin Life Sciences
Notre Dame, IN 46556



Signature
8/1/2011

Date

Before me personally appeared said *John G. Duman* and acknowledges the instrument and deed this *1st* day of *August*, 2011.



Notary Public



ASSIGNMENT

WHEREAS, **KENT R. WALTERS** whose office address appears below (hereinafter referred to as ASSIGNOR), was an employee of the University of Notre Dame du Lac, with an address at 940 Grace Hall, Notre Dame, Indiana, 46556 (hereinafter referred to as ASSIGNEE) and has certain obligations to disclose and assign patentable new inventions to ASSIGNEE; and

WHEREAS, ASSIGNOR has invented a new and useful invention entitled: "**Xylomanan Antifreeze Glycolipids**", Docket Number UND-10-017 (hereinafter referred to as the INVENTION) for which a United States Provisional Patent Application was filed **June 23, 2010**, and was assigned Patent Application S/N **61/398,276**; and for which a **United States Utility** Patent Application was filed **June 23, 2011**, and was assigned Patent Application S/N **13/135,065**; and

WHEREAS, ASSIGNEE is desirous of acquiring the entire right, title and interest in and to the INVENTION in the United States and throughout the world; and

WHEREAS, ASSIGNOR is willing to assign his entire right, title, and interest in and to the INVENTION to ASSIGNEE;

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, I, ASSIGNOR, by these presents do sell, assign and transfer unto said ASSIGNEE, the entire right, title and interest in and to said INVENTION and applications throughout the United States of America, including any and all United States Letters Patent granted on any division, continuation, continuation-in-part and reissue of said application; and the entire right, title and interest in and to said INVENTION throughout the world, including the right to apply for patents and inventor certificates in respect thereof and to claim priority pursuant to rights accorded ASSIGNOR under the terms of the Paris International Convention and all other available international conventions and treaties; and the entire right, title and interest in and to any and all patents, patents of addition, utility models, patents of importation, revalidation patents and inventor certificates which may be granted throughout the world in respect of said INVENTION.


ALSO, ASSIGNOR hereby agrees to execute any documents that legally may be required in connection with the filing, prosecution and maintenance of said application or any other patent application(s) or inventor certificate(s) in the United States and in foreign countries for said INVENTION, including additional documents that may be required to affirm the rights of ASSIGNEE in and to said INVENTION, all without further consideration. ASSIGNOR also agrees, without further consideration and at ASSIGNEE's expense, to identify and communicate to ASSIGNEE at ASSIGNEE's request documents and information concerning the INVENTION that are within ASSIGNOR's possession or control, and to provide further assurances and testimony on behalf of ASSIGNEE that lawfully may be required of ASSIGNOR in respect of the prosecution, maintenance and defense of any patent application or patent encompassed within the terms of this instrument.

ASSIGNOR also agrees, without further consideration and at ASSIGNEE's expense, to transfer the right to sue for past infringement to ASSIGNEE and at ASSIGNEE's request documents and information concerning the enforcement of the right to sue within ASSIGNOR's possession or control, and to provide further assurances and testimony on behalf of ASSIGNEE that lawfully may be required of ASSIGNOR in respect of the right to sue of any patent encompassed within the terms of this instrument.

ASSIGNOR's obligations under this instrument shall extend to ASSIGNOR's heirs, executors, administrators and other legal representatives.

ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent referred to above to ASSIGNEE of the entire right, title and interest in and to the same, for ASSIGNEE's sole use and behalf; and for the use and behalf of ASSIGNEE's legal representatives and successors, to the full end of the term for which such Letters Patent may be granted, as fully and entirely as the same would have been held by ASSIGNOR had this assignment and sale not been made.

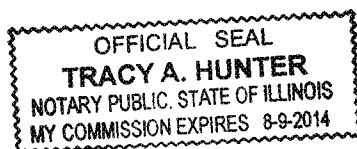
Kent R. Walters
320 Morrill Hall, M/C 118
University of Illinois at Urbana-Champaign
Urbana, IL 61801

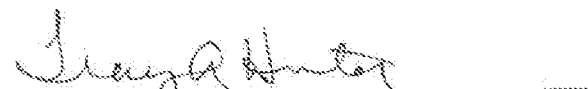

Signature

7-28-2011
Date

(Notarization preferred but not required)

Before me personally appeared said Kent R. Walters and acknowledges this instrument to be his (her) free act and deed this 28th day of July, 2011.




Notary Public

ASSIGNMENT

WHEREAS, **ANTHONY S. SERIANNI** whose office address appears below (hereinafter referred to as ASSIGNOR), is an employee of the University of Notre Dame du Lac, with an address at 940 Grace Hall, Notre Dame, Indiana, 46556 (hereinafter referred to as ASSIGNEE) and has certain obligations to disclose and assign patentable new inventions to ASSIGNEE; and

WHEREAS, ASSIGNOR has invented a new and useful invention entitled: "**Xylomanan Antifreeze Glycolipids**", Docket Number UND-10-017 (hereinafter referred to as the INVENTION) for which a United States Provisional Patent Application was filed **June 23, 2010**, and was assigned Patent Application S/N **61/398,276**; and for which a **United States Utility** Patent Application was filed **June 23, 2011**, and was assigned Patent Application S/N **13/135,065**; and

WHEREAS, ASSIGNEE is desirous of acquiring the entire right, title and interest in and to the INVENTION in the United States and throughout the world; and

WHEREAS, ASSIGNOR is willing to assign his entire right, title, and interest in and to the INVENTION to ASSIGNEE;

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, I, ASSIGNOR, by these presents do sell, assign and transfer unto said ASSIGNEE, the entire right, title and interest in and to said INVENTION and applications throughout the United States of America, including any and all United States Letters Patent granted on any division, continuation, continuation-in-part and reissue of said application; and the entire right, title and interest in and to said INVENTION throughout the world, including the right to apply for patents and inventor certificates in respect thereof and to claim priority pursuant to rights accorded ASSIGNOR under the terms of the Paris International Convention and all other available international conventions and treaties; and the entire right, title and interest in and to any and all patents, patents of addition, utility models, patents of importation, revalidation patents and inventor certificates which may be granted throughout the world in respect of said INVENTION.

ALSO, ASSIGNOR hereby agrees to execute any documents that legally may be required in connection with the filing, prosecution and maintenance of said application or any other patent application(s) or inventor certificate(s) in the United States and in foreign countries for said INVENTION, including additional documents that may be required to affirm the rights of ASSIGNEE in and to said INVENTION, all without further consideration. ASSIGNOR also agrees, without further consideration and at ASSIGNEE's expense, to identify and communicate to ASSIGNEE at ASSIGNEE's request documents and information concerning the INVENTION that are within ASSIGNOR's possession or control, and to provide further assurances and testimony on behalf of ASSIGNEE that lawfully may be required of ASSIGNOR in respect of the prosecution, maintenance and defense of any patent application or patent encompassed within the terms of this instrument.

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ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent referred to above to ASSIGNEE of the entire right, title and interest in and to the same, for ASSIGNEE's sole use and behalf; and for the use and behalf of ASSIGNEE's legal representatives and successors, to the full end of the term for which such Letters Patent may be granted, as fully and entirely as the same would have been held by ASSIGNOR had this assignment and sale not been made.

Anthony S. Serianni
428 Stepan Chemistry Building
Notre Dame, IN 46556

Anthony S. Serianni
Signature

July 20, 2011
Date

Before me personally appeared said Anthony Serianni and acknowledges this instrument and deed this 28th day of July 2011.

Sally A. Burns
Notary Public

