

## PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT5089072

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT		
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT		
<b>CONVEYING PARTY DATA</b>			
	<b>Name</b>	<b>Execution Date</b>	
	RALPH E. DEWEY	12/21/2006	
	STEVEN W. BOWEN	12/21/2006	
<b>RECEIVING PARTY DATA</b>			
<b>Name:</b>	NORTH CAROLINA STATE UNIVERSITY		
<b>Street Address:</b>	920 MAIN CAMPUS DRIVE		
<b>Internal Address:</b>	VENTURE II BUILDING, SUITE 400		
<b>City:</b>	RALEIGH		
<b>State/Country:</b>	NORTH CAROLINA		
<b>Postal Code:</b>	27606		
<b>PROPERTY NUMBERS Total: 1</b>			
	<b>Property Type</b>	<b>Number</b>	
	<b>Application Number:</b>	15883931	
<b>CORRESPONDENCE DATA</b>			
<b>Fax Number:</b>	(919)862-2260		
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>			
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<b>Email:</b>	Laura.Tremont@alston.com		
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<b>ATTORNEY DOCKET NUMBER:</b>	035051/509587		
<b>NAME OF SUBMITTER:</b>	JASON A. KEITH		
<b>SIGNATURE:</b>	/jason a. keith/		
<b>DATE SIGNED:</b>	08/08/2018		
<b>Total Attachments: 3</b>			
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## ASSIGNMENT

THIS ASSIGNMENT made by us, Ralph E. Dewey and Steven W. Bowen, citizens of United States of America, residing at 2403 Colony Woods Drive, Apex, NC 27523 US and 2405H Still Forest Place, Raleigh, NC 27607 US, respectively;

WITNESSETH: That,

WHEREAS, we are inventors of certain new and useful improvements in ALTERATION OF TOBACCO ALKALOID CONTENT THROUGH MODIFICATION OF SPECIFIC CYTOCHROME P450 GENES, for which an application for United States Letters Patent has been filed in the United States Patent and Trademark Office on October 13, 2006, under Application No. 11/580,765; and

WHEREAS, **NORTH CAROLINA STATE UNIVERSITY**, an educational institution organized and existing under the laws of the State of North Carolina, USA, and having a principal office at 920 Main Campus Drive, Venture II Building, Suite 400, Raleigh, NC 27606, USA, hereinafter referred to as assignee, is desirous of acquiring our entire right, title, and interest in and to said invention as described in said application, and in and to any and all Letters Patent which shall be granted therefore in the United States of America and all foreign countries;

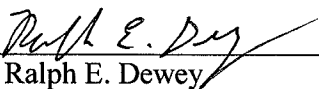
NOW, THEREFORE, To Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we have sold and by these presents do hereby sell, assign, transfer and convey unto the said assignee, its successors and assigns, our entire right, title, and interest in and to the said invention and application, and in and to any and all continuations, continuations-in-part, or divisions thereof, and in and to any and all Letters Patent of the United States of America and all foreign countries or reissues, reexaminations, or extensions thereof which may be granted therefore or thereon, for the full end of the term for which said Letters Patent may be granted, together with the right to claim the priority of said application in all foreign countries in accordance with the International Convention, the same to be held and enjoyed by said assignee, its successors and assigns, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not be made.

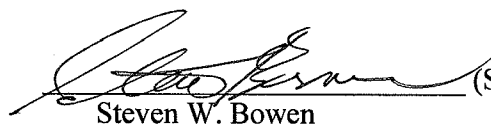
We hereby request that said Letters Patent be issued in accordance with this assignment.

We further covenant and agree that, at the time of the execution and delivery of these presents, we possess partial title to the invention and application above-mentioned, and that we have the unencumbered right and authority to make this assignment.

We further covenant and agree to bind our heirs, legal representatives and assigns, promptly to communicate to said assignee or its representatives any facts known to us relating to said invention, to testify in any interference or legal proceedings involving said invention, to execute any additional papers which may be requested to confirm the right of the assignee, its representatives, successors or assigns to secure patent or similar protection for the said invention in all countries and to vest in the assignee complete title to the said invention and Letters Patent, without further compensation, but at the expense of said assignee, its successors, assigns and other legal representatives.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this 21<sup>st</sup> day of December, 2006.

 (SEAL)  
Ralph E. Dewey

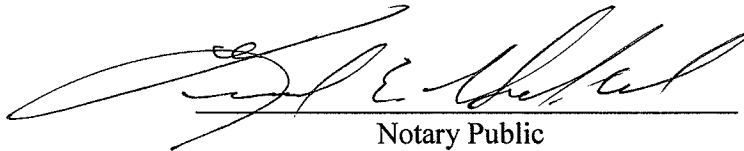
 (SEAL)  
Steven W. Bowen

STATE OF North Carolina )  
COUNTY OF Wake )

I, Kenneth E. Holland, a Notary Public for said County and State, do hereby certify that Ralph E. Dewey personally appeared before me this day acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 21<sup>st</sup> day of December, 2006.

(Official Seal)

  
Notary Public

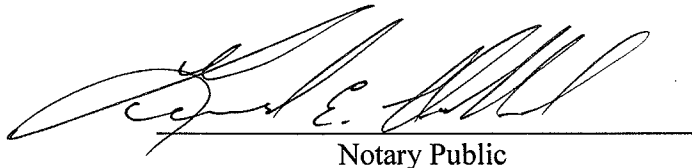
My commission expires: December, 21 2009

STATE OF North Carolina )  
COUNTY OF Wake )

I, Kenneth E. Holland, a Notary Public for said County and State, do hereby certify that Steven W. Bowen personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 21<sup>st</sup> day of December, 2006.

(Official Seal)

  
Notary Public

My commission expires: December, 21 2009