APP 0 8 2007	
FORM PTO-1595 (Rev. 6/93) (Rev. 6/93) (Rev. 6/93) (Rev. 6/93)	U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office ET
Attorney's Docket No. 021238-409	
To the Honorable Commissioner of Pa. 1020	55404 unusued original documents or copy thereof.
1. Name of conveying party(ies):  4-8-02  2. Name and address of receiving party(ies):	
UT-Battelle, LLC	Name: Philip Morris Incorporated
Additional name(s) of conveying party(ies) attached? [] Yes [X] No	Address: 120 Park Avenue
3. Nature of conveyance:	New York, New York 10017
[X] Assignment [ ] Merger [ ] Security Agreement [ ] Change of Name	
Other:	
Execution Date: 3/20/02	Additional name(s) & address(es) attached? [ ] Yes [X] No
<ul> <li>4. Application number(s) or patent number(s):</li> <li>If this document is being filed together with a new application, the</li> <li>A. Patent Application No.(s)</li> </ul>	B. Patent No.(s)
Additional numbers attached? [ ] Yes [X] No	
<ol><li>Name and address of party to whom correspondence concerning document should be mailed:</li></ol>	6. Total number of applications and patents involved: ONE
Name: Peter K. Skiff	7. Total fee (37 CFR § 3.41): \$_40.00
Address: Burns, Doane, Swecker & Mathis, L.L.P.	[ ] Enclosed
P.O. Box 1404	[X] Authorized to be charged to deposit account, if necessary
Alexandria, Virginia 22313-1404	8. Deposit account number:
	_02-4800
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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.	
Peter K. Skiff Name of Person Signing	Signature April 8, 2002 Date
	Total number of pages including cover sheet, attachments, and document: 3
Mail documents to be recorded with required cover sheet information to:	

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PATENT REEL: 012777 FRAME: 0184

BDSM 021238-409 Attorney Docket Nos.

## ASSIGNMENT (SOLE)

WHEREAS, <u>UT-Battelle, LLC.</u>, a limited liability company of the State of Tennessee and having an office and place of business at <u>111 Union Valley Road</u>, <u>MS 6498</u>, <u>Oak Ridge</u>, <u>Tennessee 37831-6498</u> (hereinafter referred to as "the Assignor"), is the owner of inventor Tuan Vo-Dinh's entire right, title and interest in and to application for United States Letters Patent Application No. <u>10/022,239</u>, filed <u>December 20, 2001</u>, in the names of Tuan Vo-Dinh and Mohammad R. Hajaligol for <u>MONITORING OF VAPOR PHASE POLYCYCLIC AROMATIC HYDROCARBONS</u> and of the invention therein described; and

WHEREAS, PHILIP MORRIS INCORPORATED, a corporation duly organized under and pursuant to the laws of the State of Virginia and having an office and place of business at 120 Park Avenue, New York, New York 10017, is desirous of acquiring the entire right, title, and interest in and to the inventions for the United States and the application for Letters Patent of the United States, and in and to any United States Letters Patent or Patents, to be obtained therefor and thereon; and

WHEREAS, PHILIP MORRIS PRODUCTS INC., a corporation organized and existing under the laws of the State of Virginia and having an office and place of business at 3601 Commerce Road, Richmond, Virginia 23234, is desirous of acquiring the entire right, title, and interest in and to the inventions for countries foreign to the United States, and in and to any foreign patent applications, and in and to any foreign Letters Patent or Patents to be obtained therefor and thereon; and

NOW, THEREFORE, be it known that for and in consideration of the sum of One Dollar (\$1.00) to each of us paid and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged:

## ASSIGNMENT OF UNITED STATES PATENT RIGHTS

We do hereby sell, assign and transfer unto PHILIP MORRIS INCORPORATED, its successors, assigns and legal representatives, all right, title, and interest in and to the inventions, for the United States, and in and to the United States patent application, including any continuations and divisions thereof, and any substitute applications therefor and any United States patents which may issue thereon and any reissues and extensions of the same; and we hereby authorize and request the Commissioner of Patents to grant and issue any and all patents on the inventions in the United States to PHILIP MORRIS INCORPORATED as the assignee thereof.

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## ASSIGNMENT OF FOREIGN PATENT RIGHTS

Further in view of the consideration hereinabove referred to, we do hereby sell, assign, and transfer unto PHILIP MORRIS PRODUCTS INC., its successors, assigns and legal representatives, all right, title and interest in and to the inventions for all countries foreign to the United States, including the right to claim priority under the International Convention based on the United States patent application, and in and to any foreign patent application, including renewals, revivals, continuations and divisions thereof, and any substitute applications therefor, and any foreign patents which may issue thereon, and any reissues and extensions of the same; and we hereby authorize and request competent authorities to grant and issue any and all patents on the inventions in any foreign country to PHILIP MORRIS PRODUCTS INC. as the assignee thereof.

We further agree to execute upon request of the assignee PHILIP MORRIS INCORPORATED such additional documents, if any, as are necessary and proper to secure patent protection on the inventions in the United States, and to execute upon request of assignee PHILIP MORRIS PRODUCTS INC. such additional documents, if any, as are necessary and proper to secure patent protection on the inventions in countries foreign to the United States, and to otherwise give full effect to and perfect the rights of the assignee PHILIP MORRIS INCORPORATED in the United States and of assignee PHILIP MORRIS PRODUCTS INC. in countries foreign to the United States.

AND for the same consideration, the Assignors hereby covenant and agree to and with the assignees, their successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions and any and all applications for Letters Patent abovementioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the assignees, their successors, legal representatives, and assigns, that the Assignors will, whenever counsel of the assignees, or counsel of their successors, legal representatives, and assigns, shall advise that any proceeding in connection with the inventions or any and all applications for Letters Patent, or any proceeding in connection with Letters Patent for the inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation, or continuation-in-part of any application for Letters Patent, or any reissue or extension of any Letters Patent to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent for the inventions, without charge to the assignees, their successors, legal representatives, and assigns, but at the cost and expense of the assignees, their successors, legal representatives, and assigns;

IN TESTIMONY THEREOF, Assignor hereunto signed my name on the date hereinafter

Indicated:

Date 3-24-42 Name of Assignor

George L. Craig
General Patent Counsel for UT-Battelle, LLC

STATE OF TRANSSIDE )

CITY OF CAR (2006)

On this 20 day of MA (2014)

above-named individual, and acknowledged the above to be his signature and that he signed, sealed and delivered the above instrument as his voluntary act and deed, and for the uses and purposes therein set forth.

My Commission Expires:

My Commission Expires:

NOTARY PUBLIC

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RECORDED: 04/08/2002

PATENT REEL: 012777 FRAME: 0186