

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT2805156

<b>SUBMISSION TYPE:</b>	CORRECTIVE ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	Corrective Assignment to correct the ASSIGNEE SHOULD STATE MALLINCKRODT INC. INSTEAD OF MALLINCKRODT LLC previously recorded on Reel 032504 Frame 0163. Assignor(s) hereby confirms the ASSIGNEE SHOULD STATE MALLINCKRODT INC. INSTEAD OF MALLINCKRODT LLC.
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
PETER X. WANG	06/30/2009
FRANK W. MOSER	05/26/2009
GARY L. CANTRELL	06/08/2009
TAO JIANG	06/01/2009
ROBERT E. HALVACHS	05/21/2009
CHRISTOPHER W. GROTE	05/21/2009
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	MALLINCKRDOT INC.
<b>Street Address:</b>	675 MCDONNELL BOULEVARD
<b>City:</b>	HAZELWOOD
<b>State/Country:</b>	MISSOURI
<b>Postal Code:</b>	63042
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Patent Number:	8148528
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(314)654-3156
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Phone:</b>	314-654-3016
<b>Email:</b>	tammy.ginn@mallinckrodt.com
<b>Correspondent Name:</b>	MALLINCKRODT LLC
<b>Address Line 1:</b>	675 MCDONNELL BOULEVARD
<b>Address Line 4:</b>	HAZELWOOD, MISSOURI 63042
<b>ATTORNEY DOCKET NUMBER:</b>	H-MP-00036 US
<b>NAME OF SUBMITTER:</b>	CRAIG D. SIMAN
<b>SIGNATURE:</b>	/Craig D. Siman, reg. no. 60137/

DATE SIGNED:	04/08/2014
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**Total Attachments: 29**

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Ginn, Tammy A (Torres)

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**From:** PTAS <ptas@uspto.gov>  
**Sent:** Tuesday, March 25, 2014 8:57 AM  
**To:** MKG - Patents  
**Subject:** Assignment Notice of Recordation (WUID: 502734447)  
**Attachments:** Notice.pdf; CoverSheet.tif

Please find attached the Notice of Recordation and the corresponding TIFF image of the first page of the coversheet submitted to the Assignment Recordation Branch.

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WUID: 502734447  
DOCKET NUMBER: H-MP-00036 US ASG PHARMA  
FIRST ASSIGNEE: MALLINCKRODT ~~LLC~~ Inc.  
SOURCE: PTAS  
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PLEASE NOTE: This is an unmonitored email address. In the event you need to contact the Assignment Recordation Branch, please email [assign@uspto.gov](mailto:assign@uspto.gov) or call (571) 272-3350.

The United States Patent and Trademark Office Mail Stop: Assignment Recordation Branch PO Box 1450 Alexandria, VA 22313

This message contains information that may be confidential and privileged. Unless you are the addressee (or authorized to receive mail for the addressee), you should not use, copy or disclose to anyone this message or any information contained in this message. If you have received this message in error, please advise the Assignment Recordation Branch by e-mail and delete this message. Thank you for your cooperation.

## PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT														
NATURE OF CONVEYANCE:	ASSIGNMENT														
CONVEYING PARTY DATA															
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<i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i>															
Correspondent Name:	MALLINCKRODT LLC														
Address Line 1:	675 MCDONNELL BOULEVARD														
Address Line 4:	HAZELWOOD, MISSOURI 63042														

ATTORNEY DOCKET NUMBER:	H-MP-00036 US ASG PHARMA
NAME OF SUBMITTER:	CRAIG D. SIMAN
Signature:	/Craig D.Siman, reg. no. 60137/
Date:	03/24/2014
<b>Total Attachments: 24</b> source=US Assignment#page1.tif source=US Assignment#page2.tif source=US Assignment#page3.tif source=US Assignment#page4.tif source=US Assignment#page5.tif source=US Assignment#page6.tif source=US Assignment#page7.tif source=US Assignment#page8.tif source=US Assignment#page9.tif source=US Assignment#page10.tif source=US Assignment#page11.tif source=US Assignment#page12.tif source=US Assignment#page13.tif source=US Assignment#page14.tif source=US Assignment#page15.tif source=US Assignment#page16.tif source=US Assignment#page17.tif source=US Assignment#page18.tif source=US Assignment#page19.tif source=US Assignment#page20.tif source=US Assignment#page21.tif source=US Assignment#page22.tif source=US Assignment#page23.tif source=US Assignment#page24.tif	
<b>RECEIPT INFORMATION</b>  EPAS ID: PAT2781053 Receipt Date: 03/24/2014	

## ASSIGNMENT

WHEREAS, we, Peter X. WANG, 1837 Kehrswood Drive, Clarkson Valley, in the state of Missouri, 63005, USA, and Frank W. MOSER, 3896 Petrified Forest Drive, Arnold, in the state of Missouri, 63010, USA, and Gary L. CANTRELL, 509 Lakewood Drive, Troy, in the state of Illinois, 62294, USA, and Tao JIANG, 10331 Beau Jardin Dr. Apt. 8, St. Louis, in the state of Missouri, 63146, USA, and Robert E. HALVACHS, 309 Fredericksburg Drive, Belleville, in the state of Illinois, 62223, USA, and Christopher W. GROTE, 1420 Gardenia Drive, Webster Groves, in the state of Missouri, 63119, USA have invented the subject matter described in US provisional patent application serial no. 61/056,079 entitled PROCESSES AND COMPOUNDS FOR THE PREPARATION OF NORMORPHINANS and filed in the United States Patent and Trademark Office on May 27, 2008 (hereafter, the "invention").

WHEREAS, Mallinckrodt Inc. of Hazelwood, Missouri, a corporation of the State of Delaware, is desirous of acquiring the entire right, title and interest of each of the above-named inventors in and to the invention and any and all patents to be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, we do hereby sell, assign and transfer unto Mallinckrodt Inc., its successors and assigns, our entire right, title and interest in and to the invention, as described in the aforesaid application, in any form or embodiment thereof, and in and to the aforesaid application; and in and to any applications filed in any foreign country based thereon, including the right to file the foreign applications under the provisions of the International Convention; also any improvements on the invention now or hereafter made by me during the period of my employment; also the entire right, title and interest in and to any and all patents or reissues or extensions thereof to be obtained in this or any foreign country upon the invention and any divisional, continuation, continuation-in-part or substitute applications which may be filed upon the invention or claim priority to the above-referenced patent application for the invention in this or any foreign country; and we hereby authorize and request the issuing authority to issue any and all patents on the application(s) to Mallinckrodt Inc., as assignee of our entire interest.

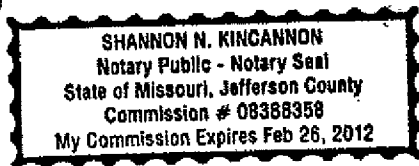
We further agree, without any payment by Mallinckrodt Inc. other than expenses incurred by the undersigned, to communicate to Mallinckrodt Inc., its representatives or agents, any fact relating to the invention, including evidence for interference purposes or for other legal proceedings, whenever requested; testify in any interference or other legal proceedings, whenever requested; and execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after  
my signature.

(L.S.) *Peter X. Wang*, Dated this 30 day of June, 2009.  
Peter X. WANG

ACKNOWLEDGEMENT

On this 30 day of June, 2009, before me personally appeared  
Peter X. WANG to me known to be the person described in and who executed the foregoing  
instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he  
executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and  
official seal the day and year last above written.  
(Seal)



*Shannon N. Kincannon*  
Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after  
my signature.

(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
Frank W. MOSER

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared  
Frank W. MOSER to me known to be the person described in and who executed the foregoing  
instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he  
executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and  
official seal the day and year last above written.  
(Seal)

\_\_\_\_\_  
Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after  
my signature.

(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
Gary L. CANTRELL

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared  
Gary L. CANTRELL to me known to be the person described in and who executed the foregoing  
instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he  
executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and  
official seal the day and year last above written.  
(Seal)

\_\_\_\_\_  
Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after  
my signature.

(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
Tao JIANG

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared  
Tao JIANG to me known to be the person described in and who executed the foregoing instrument,  
and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the  
same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the  
day and year last above written.  
(Seal)

\_\_\_\_\_  
Notary Public



IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after  
my signature.

(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
**Robert E. HALVACHS**

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared  
**Robert E. HALVACHS** to me known to be the person described in and who executed the foregoing  
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official seal the day and year last above written.  
(Seal)

\_\_\_\_\_  
Notary Public

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my signature.

(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
**Christopher W. GROTE**

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared  
**Christopher W. GROTE** to me known to be the person described in and who executed the  
foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge  
that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand  
and official seal the day and year last above written.  
(Seal)

\_\_\_\_\_  
Notary Public

## ASSIGNMENT

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WHEREAS, Mallinckrodt Inc. of Hazelwood, Missouri, a corporation of the State of Delaware, is desirous of acquiring the entire right, title and interest of each of the above-named inventors in and to the invention and any and all patents to be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, we do hereby sell, assign and transfer unto Mallinckrodt Inc., its successors and assigns, our entire right, title and interest in and to the invention, as described in the aforesaid application, in any form or embodiment thereof, and in and to the aforesaid application; and in and to any applications filed in any foreign country based thereon, including the right to file the foreign applications under the provisions of the International Convention; also any improvements on the invention now or hereafter made by me during the period of my employment; also the entire right, title and interest in and to any and all patents or reissues or extensions thereof to be obtained in this or any foreign country upon the invention and any divisional, continuation, continuation-in-part or substitute applications which may be filed upon the invention or claim priority to the above-referenced patent application for the invention in this or any foreign country; and we hereby authorize and request the issuing authority to issue any and all patents on the application(s) to Mallinckrodt Inc., as assignee of our entire interest.

We further agree, without any payment by Mallinckrodt Inc. other than expenses incurred by the undersigned, to communicate to Mallinckrodt Inc., its representatives or agents, any fact relating to the invention, including evidence for interference purposes or for other legal proceedings, whenever requested; testify in any interference or other legal proceedings, whenever requested; and execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after my signature.

(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
Peter X. WANG

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared Peter X. WANG to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the day and year last above written.  
(Seal)

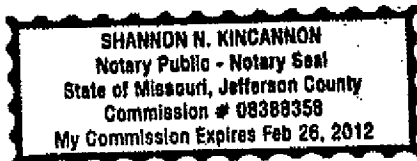
\_\_\_\_\_  
Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after my signature.

(L.S.) Frank W Moser, Dated this 26<sup>th</sup> day of May, 2009.  
Frank W. MOSER

ACKNOWLEDGEMENT

On this 26<sup>th</sup> day of May, 2009, before me personally appeared Frank W. MOSER to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the day and year last above written.  
(Seal)



Shannon N. Kincannon  
Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after my signature.

(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
Gary L. CANTRELL

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared Gary L. CANTRELL to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the day and year last above written.  
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\_\_\_\_\_  
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(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
Tao JIANG

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared Tao JIANG to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the day and year last above written.  
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(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
**Robert E. HALVACHS**

ACKNOWLEDGEMENT

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**Robert E. HALVACHS** to me known to be the person described in and who executed the foregoing  
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**Christopher W. GROTE**

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(L.S.) Gary L. Cantrell, Dated this 8th day of June, 2009.  
Gary L. CANTRELL

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Shannon N. Kincannon  
Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after  
my signature.

(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
Tao JIANG

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared  
Tao JIANG to me known to be the person described in and who executed the foregoing instrument,  
and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the  
same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the  
day and year last above written.  
(Seal)

\_\_\_\_\_  
Notary Public



IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after my signature.

(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
**Robert E. HALVACHS**

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared **Robert E. HALVACHS** to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the day and year last above written.  
(Seal)

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Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after my signature.

(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
**Christopher W. GROTE**

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared **Christopher W. GROTE** to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the day and year last above written.  
(Seal)

\_\_\_\_\_  
Notary Public

## ASSIGNMENT

WHEREAS, we, Peter X. WANG, 1837 Kehrswood Drive, Clarkson Valley, in the state of Missouri, 63005, USA, and Frank W. MOSER, 3896 Petrified Forest Drive, Arnold, in the state of Missouri, 63010, USA, and Gary L. CANTRELL, 509 Lakewood Drive, Troy, in the state of Illinois, 62294, USA, and Tao JIANG, 10331 Beau Jardin Dr. Apt. 8, St. Louis, in the state of Missouri, 63146, USA, and Robert E. HALVACHS, 309 Fredericksburg Drive, Belleville, in the state of Illinois, 62223, USA, and Christopher W. GROTE, 1420 Gardenia Drive, Webster Groves, in the state of Missouri, 63119, USA have invented the subject matter described in US provisional patent application serial no. 61/056,079 entitled PROCESSES AND COMPOUNDS FOR THE PREPARATION OF NORMORPHINANS and filed in the United States Patent and Trademark Office on May 27, 2008 (hereafter, the "invention").

WHEREAS, Mallinckrodt Inc. of Hazelwood, Missouri, a corporation of the State of Delaware, is desirous of acquiring the entire right, title and interest of each of the above-named inventors in and to the invention and any and all patents to be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, we do hereby sell, assign and transfer unto Mallinckrodt Inc., its successors and assigns, our entire right, title and interest in and to the invention, as described in the aforesaid application, in any form or embodiment thereof, and in and to the aforesaid application; and in and to any applications filed in any foreign country based thereon, including the right to file the foreign applications under the provisions of the International Convention; also any improvements on the invention now or hereafter made by me during the period of my employment; also the entire right, title and interest in and to any and all patents or reissues or extensions thereof to be obtained in this or any foreign country upon the invention and any divisional, continuation, continuation-in-part or substitute applications which may be filed upon the invention or claim priority to the above-referenced patent application for the invention in this or any foreign country; and we hereby authorize and request the issuing authority to issue any and all patents on the application(s) to Mallinckrodt Inc., as assignee of our entire interest.

We further agree, without any payment by Mallinckrodt Inc. other than expenses incurred by the undersigned, to communicate to Mallinckrodt Inc., its representatives or agents, any fact relating to the invention, including evidence for interference purposes or for other legal proceedings, whenever requested; testify in any interference or other legal proceedings, whenever requested; and execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after my signature.

(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
**Peter X. WANG**

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared **Peter X. WANG** to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the day and year last above written.  
 (Seal)

\_\_\_\_\_  
 Notary Public

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(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
**Frank W. MOSER**

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared **Frank W. MOSER** to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the day and year last above written.  
 (Seal)

\_\_\_\_\_  
 Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after  
my signature.

(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
Gary L. CANTRELL

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared  
Gary L. CANTRELL to me known to be the person described in and who executed the foregoing  
instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he  
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official seal the day and year last above written.  
(Seal)

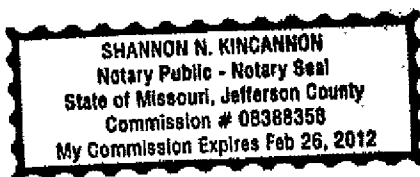
\_\_\_\_\_  
Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after  
my signature.

(L.S.) Tao JIANG, Dated this 15<sup>th</sup> day of June, 2009.

ACKNOWLEDGEMENT

On this 15<sup>th</sup> day of June, 2009, before me personally appeared  
Tao JIANG to me known to be the person described in and who executed the foregoing instrument,  
and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the  
same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the  
day and year last above written.  
(Seal)



Shannon N. Kincannon  
Notary Public

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(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
**Robert E. HALVACHS**

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared **Robert E. HALVACHS** to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the day and year last above written.  
(Seal)

\_\_\_\_\_  
Notary Public

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(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
**Christopher W. GROTE**

ACKNOWLEDGEMENT

On this \_\_\_\_\_ day of \_\_\_\_\_, 2009, before me personally appeared **Christopher W. GROTE** to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the day and year last above written.  
(Seal)

\_\_\_\_\_  
Notary Public

11

ASSIGNMENT

WHEREAS, we, Peter X. WANG, 1837 Kehrswood Drive, Clarkson Valley, in the state of Missouri, 63005, USA, and Frank W. MOSER, 3896 Petrified Forest Drive, Arnold, in the state of Missouri, 63010, USA, and Gary L. CANTRELL, 509 Lakewood Drive, Troy, in the state of Illinois, 62294, USA, and Tao JIANG, 10331 Beau Jardin Dr. Apt. 8, St. Louis, in the state of Missouri, 63146, USA, and Robert E. HALVACHS, 309 Fredericksburg Drive, Belleville, in the state of Illinois, 62223, USA, and Christopher W. GROTE, 1420 Gardenia Drive, Webster Groves, in the state of Missouri, 63119, USA have invented the subject matter described in US provisional patent application serial no. 61/056,079 entitled PROCESSES AND COMPOUNDS FOR THE PREPARATION OF NORMORPHINANS and filed in the United States Patent and Trademark Office on May 27, 2008 (hereafter, the "invention").

WHEREAS, Mallinckrodt Inc. of Hazelwood, Missouri, a corporation of the State of Delaware, is desirous of acquiring the entire right, title and interest of each of the above-named inventors in and to the invention and any and all patents to be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, we do hereby sell, assign and transfer unto Mallinckrodt Inc., its successors and assigns, our entire right, title and interest in and to the invention, as described in the aforesaid application, in any form or embodiment thereof, and in and to the aforesaid application; and in and to any applications filed in any foreign country based thereon, including the right to file the foreign applications under the provisions of the International Convention; also any improvements on the invention now or hereafter made by me during the period of my employment; also the entire right, title and interest in and to any and all patents or reissues or extensions thereof to be obtained in this or any foreign country upon the invention and any divisional, continuation, continuation-in-part or substitute applications which may be filed upon the invention or claim priority to the above-referenced patent application for the invention in this or any foreign country; and we hereby authorize and request the issuing authority to issue any and all patents on the application(s) to Mallinckrodt Inc., as assignee of our entire interest.

We further agree, without any payment by Mallinckrodt Inc. other than expenses incurred by the undersigned, to communicate to Mallinckrodt Inc., its representatives or agents, any fact relating to the invention, including evidence for interference purposes or for other legal proceedings, whenever requested; testify in any interference or other legal proceedings, whenever requested; and execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective.

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**Peter X. WANG**

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**Frank W. MOSER**

ACKNOWLEDGEMENT

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**Frank W. MOSER** to me known to be the person described in and who executed the foregoing  
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Gary L. CANTRELL

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Gary L. CANTRELL to me known to be the person described in and who executed the foregoing  
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Tao JIANG

ACKNOWLEDGEMENT

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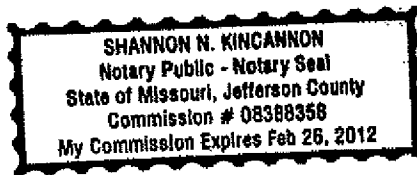


IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after my signature.

(L.S.) Robert E. Halvachs, Dated this 21 day of MAY, 2009.  
Robert E. HALVACHS

ACKNOWLEDGEMENT

On this 21st day of May, 2009, before me personally appeared Robert E. HALVACHS to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the day and year last above written.  
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Shannon N. Kincannon  
Notary Public

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Christopher W. GROTE

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**Peter X. WANG**

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**Frank W. MOSER**

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Gary L. CANTRELL

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Tao JIANG

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(Seal)

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Notary Public

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(L.S.) \_\_\_\_\_, Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2009.  
Robert E. HALVACHS

ACKNOWLEDGEMENT

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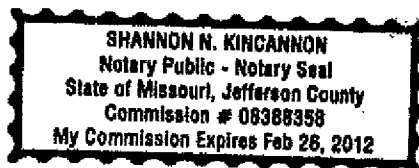
\_\_\_\_\_  
Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after my signature.

(L.S.) Christopher W. Grote, Dated this 21 day of May, 2009.  
Christopher W. GROTE

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On this 21st day of May, 2009, before me personally appeared Christopher W. GROTE to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed. In testimony whereof I have hereunto set my hand and official seal the day and year last above written.  
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Shannon N. Kincannon  
Notary Public