## PATENT ASSIGNMENT

## Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

## **CONVEYING PARTY DATA**

Name	Execution Date
Peter X. Wang	03/20/2007
Gary L. Cantrell	03/09/2007
Robert E. Halvachs	03/12/2007
Kevin R. Roesch	03/20/2007
Henry J. Buehler	03/28/2007
Joseph P. Haar Jr.	03/20/2007

## **RECEIVING PARTY DATA**

Name:	Mallinckrodt Inc.
Street Address:	675 McDonnell Boulevard
City:	Hazelwood
State/Country:	MISSOURI
Postal Code:	63042

### PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	12529723

## **CORRESPONDENCE DATA**

(314)654-3156 Fax Number:

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 314-654-8955

Email: tammy.ginn@covidien.com

Correspondent Name: Mallinckrodt Inc.

675 McDonnell Boulevard

Address Line 4: HAZELWOOD, MISSOURI 63042

ATTORNEY DOCKET NUMBER:	H-MP-00034 US ASG PHARMA
NAME OF SUBMITTER:	Craig D. Siman

**REEL: 023186 FRAME: 0887** 

Address Line 1:

PATENT

## **Total Attachments: 24** source=H-MP-00034US\_Assignment#page1.tif source=H-MP-00034US\_Assignment#page2.tif source=H-MP-00034US\_Assignment#page3.tif source=H-MP-00034US\_Assignment#page4.tif source=H-MP-00034US\_Assignment#page5.tif source=H-MP-00034US Assignment#page6.tif source=H-MP-00034US\_Assignment#page7.tif source=H-MP-00034US\_Assignment#page8.tif source=H-MP-00034US Assignment#page9.tif source=H-MP-00034US\_Assignment#page10.tif source=H-MP-00034US\_Assignment#page11.tif source=H-MP-00034US\_Assignment#page12.tif source=H-MP-00034US Assignment#page13.tif source=H-MP-00034US\_Assignment#page14.tif source=H-MP-00034US\_Assignment#page15.tif source=H-MP-00034US\_Assignment#page16.tif source=H-MP-00034US Assignment#page17.tif source=H-MP-00034US\_Assignment#page18.tif source=H-MP-00034US\_Assignment#page19.tif source=H-MP-00034US\_Assignment#page20.tif source=H-MP-00034US\_Assignment#page21.tif source=H-MP-00034US\_Assignment#page22.tif source=H-MP-00034US\_Assignment#page23.tif source=H-MP-00034US\_Assignment#page24.tif

PATENT REEL: 023186 FRAME: 0888

WHEREAS, we, Peter X. WANG, 1708 Edoth Ridge Court, Chesterfield, in the state of Missouri, 62017, USA, and Gary L. CANTRELL, 509 Lakewood Drive, Troy, in the state of Illinois, 62294, USA, and Robert E. HALVACHS, 309 Fredericksburg Drive, Belleville, in the state of Illinois, 62223, USA, and Kevin R. ROESCH, 208 Lamplight Court, O'Fallon, in the state of Illinois, 62269, USA, and Henry J. BUEHLER, 6916 Lake Park Circle, St. Louis, in the state of Missouri, 63123, USA, and Joseph P. HAAR, Jr., 593 Chancellor Drive, Edwardsville, in the state of Illinois, 62025, USA have invented a new and improved IMPROVED PROCESS FOR THE

# PREPARATION OF QUATERNARY N-ALKYL MORPHINAN ALKALOID SALTS

identified as Case No. H-MP-00034.P1 US, and described in US provisional patent application no. 60/893,163 as filed in the United States Patent and Trademark Office on March 6, 2007.

WHEREAS, Mallinckrodt Inc. of St. Louis, Missouri, a corporation of the State of Delaware, is desirous of acquiring the entire right, title and interest in and to said invention or inventions and any and all patents to be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, we do hereby sell, assign and transfer unto said Mallinckrodt Inc., its successors and assigns, the entire right, title and interest in and to said invention or inventions, 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 said foreign applications under the provisions of the International Convention; also any improvements on said invention or inventions 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 said invention, inventions, or improvements and any divisional, continuation, continuation-in-part or substitute applications which may be filed upon said invention, inventions, or improvements in this or any foreign country; and I hereby authorize and request the issuing authority to issue any and all patents on said application or applications to said Mallinckrodt Inc., as assignee of the entire interest.

I further agree, without any payment by Mallinckrodt Inc. other than expenses incurred by the undersigned, to communicate to said Mallinckrodt Inc., its representatives or agents, any fact relating to said inventions, inventions or improvements, 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
(L.S.) (L.S.) Peter X. WANG , Dated this 20 day of May C., 2007.
ACKNOWLEDGEMENT
On this 20th day of, 2007, 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. MAXWELL Notary Public - Notary Seal State of Missouri, Jefferson County Commission # 03388358 My Commission Expires Jun 5, 2007
IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after my signature.
(L.S.), Dated this day of, 2007.
ACKNOWLEDGEMENT
On this day of, 2007, 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 ser	t my hand and	seal on the date se	et after
my signature.			
(L.S.), Do	ated this	_ day of	, 2007.
<u>ACKNOWLEDGEM</u>	ENT		
On this day of	scribed in and ping instrumen	who executed the t, and acknowled	foregoing ge that he
No	otary Public	v.	
IN TESTIMONY WHEREOF, I have hereunto se my signature.	at my hand and	seal on the date s	et after
(L.S.), D	Pated this	_ day of	, 2007.
<u>ACKNOWLEDGEM</u>	<u>IENT</u>		
On this day of	cribed in and oing instrumer	who executed the it, and acknowled	foregoing lge that he
· <u>N</u>	lotary Public		

IN TESTIMONY WHEREOF, I	I have hereunto set my	hand an	d seal on the da	ate set after
my signature.				
(L.S.) Henry J. BUEHLER	, Dated	this	day of	, 2007.
<u>ACI</u>	KNOWLEDGEMEN'	<u>r</u>		
On this day of	ne the person describ- ecuted the foregoing ed. In testimony who	ed in and instrume	nt, and ackno	the foregoing wledge that he
	Notar	y Public		
IN TESTIMONY WHEREOF, I	I have hereunto set m	y hand ar	nd seal on the d	ate set after
Joseph P. HAAR, Jr.	, Dated	l this	day of	, 2007.
<u>AC</u>	KNOWLEDGEMEN	$\underline{\mathrm{T}}$		
On this day of	be the person describ secuted the foregoing sed. In testimony wh	ed in and instrum	d who execute ent, and ackno	d the foregoing wledge that he
	- Notar	y Public		

WHEREAS, we, Peter X. WANG, 1708 Eldon Ridge Court, Chesterfield, in the state of Missouri, 63017, USA, and Gary L. CANTRELL, 509 Lakewood Drive, Troy, in the state of Illinois, 62294, USA, and Robert E. HALVACHS, 309 Fredericksburg Drive, Belleville, in the state of Illinois, 62223, USA, and Kevin R. ROESCH, 208 Lamplight Court, O'Fallon, in the state of Illinois, 62269, USA, and Henry J. BUEHLER, 6916 Lake Park Circle, St. Louis, in the state of Missouri, 63123, USA, and Joseph P. HAAR, Jr., 593 Chancellor Drive, Edwardsville, in the state of Illinois, 62025, USA have invented a new and improved IMPROVED PROCESS FOR THE PREPARATION OF QUATERNARY N-ALKYL MORPHINAN ALKALOID SALTS identified as Case No. H-MP-00034.P1 US, and described in US provisional patent application no. 60/893,163 as filed in the United States Patent and Trademark Office on March 6, 2007.

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IN TESTIMONY WHEREOF	F, I have hereunto set my	y hand an	id seal on the dat	te set after
my signature.				
(L.S.) Peter X. WANG	, Dated	l this	day of	, 2007.
<u>A</u>	.CKNOWLEDGEMEN	T		
On this day of Peter X. WANG to me known to be instrument, and acknowledge that he executed the same as his free act and official seal the day and year last above (Seal)	e the person described executed the foregoing deed. In testimony who	d in and instrume	who executed ent, and acknov	the foregoing vledge that he
	Notar	y Public		
IN TESTIMONY WHEREON my signature.  (L.S.)  Gary L. CANTREL				
E	ACKNOWLEDGEMEN	<u>IT</u>		
On this <b>Que</b> day of <b>Mo Gary L. CANTRELL</b> to me known instrument, and acknowledge that he executed the same as his free act and official seal the day and year last above (Seal)	to be the person describe executed the foregoing deed. In testimony who	bed in an g instrum	id who executed ient, and acknow	wledge that he
SHANNON N. MAXWELL Notary Public - Notary Seal State of Missouri, Jefferson Cour Commission # 03386358 My Commission Expires Jun 8, 20	niy	ry Public	on Ma	vuu OO

IN TESTIMONY WHEREOF, I hav	e hereunto set my hand an	d seal on the dat	e set after
my signature.			
(L.S.)Robert E. HALVACHS	, Dated this	day of	, 2007.
ACKNO	DWLEDGEMENT		
On this day of	the person described in an ed the foregoing instrume In testimony whereof I ha	d who executed ent, and acknow	the foregoing ledge that he
	Notary Public		
IN TESTIMONY WHEREOF, I hav	ve hereunto set my hand ar	id seal on the da	te set after
(L.S.) Kevin R. ROESCH	, Dated this	day of	, 2007.
ACKNO	OWLEDGEMENT		
On this day of	e person described in and ted the foregoing instrum In testimony whereof I ha	l who executed ent, and acknow	the foregoing ledge that he
	Notary Public		

IN TESTIMONY WHEREOF, I have	e hereunto set my hand and seal on the date set after
my signature.	
(L.S.) Henry J. BUEHLER	, Dated this day of, 2007.
ACKNO	<u>DWLEDGEMENT</u>
Henry J. BUEHLER to me known to be the instrument, and acknowledge that he execut	, 2007, before me personally appeared ne person described in and who executed the foregoing ted the foregoing instrument, and acknowledge that he In testimony whereof I have hereunto set my hand and en.
	Notary Public
IN TESTIMONY WHEREOF, I have my signature.	ve hereunto set my hand and seal on the date set after
(L.S.) Joseph P. HAAR, Jr.	, Dated this day of, 2007.
Joseph I. HAZM, OI.	
<u>ACKN</u>	OWLEDGEMENT
Joseph P. HAAR, Jr. to me known to be t instrument, and acknowledge that he execu	, 2007, before me personally appeared he person described in and who executed the foregoing ted the foregoing instrument, and acknowledge that he In testimony whereof I have hereunto set my hand and en.
•	Notary Public

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my signature.		
(L.S.) Peter X. WANG	, Dated this day of	, 2007.
ACk	KNOWLEDGEMENT	,
instrument, and acknowledge that he exe	, 2007, before me persona the person described in and who executed the cutted the foregoing instrument, and acknowled. In testimony whereof I have hereunto set oritten.	eage that he
	Notary Public	
my signature.	I have hereunto set my hand and seal on the date	
(L.S.)Gary L. CANTRELL	, Dated this day of	, 2007.
AC	KNOWLEDGEMENT	
Gary L. CANTRELL to me known to instrument and acknowledge that he ex	, 2007, before me personate the person described in and who executed executed the foregoing instrument, and acknown ed. In testimony whereof I have hereunto set written.	the foregoing ledge that he
	Notary Public	

IN TESTIMONY WHEREOF, I have	nereunto set my hand and sear on the date set after
my signature.	
(L.S.) Later Halvachs	, Dated this <u>12</u> day of <u> march</u> , 2007.
ACKNOV	VLEDGEMENT
Robert E. HALVACHS to me known to be the instrument, and acknowledge that he executed	, 2007, before me personally appeared e person described in and who executed the foregoing the foregoing instrument, and acknowledge that he a testimony whereof I have hereunto set my hand and
SHANNON N. MAXWELL Notary Public - Notary Seal State of Missouri, Jefferson County Commission # 03386355 My Commission Expires Jun 5, 2007	Shannor Mayure () Notary Public
IN TESTIMONY WHEREOF, I have	hereunto set my hand and seal on the date set after
my signature.	
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(L.S.)	, Dated this day of, 2007.
Kevin R. ROESCH	
ACKNO	WLEDGEMENT
instrument, and acknowledge that he executed	, 2007, before me personally appeared person described in and who executed the foregoing d the foregoing instrument, and acknowledge that he in testimony whereof I have hereunto set my hand and it.
	N. G Doller
	Notary Public

IN TESTIMONY WHEREOF, I ha	ve hereunto set my hand and seal on the date set after
my signature.	
e.	
(L.S.)	, Dated this day of, 2007.
Henry J. BUEHLER	
<u>ACKN</u>	OWLEDGEMENT
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	Notary Public
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(T e)	Dated this day of 2007
Joseph P. HAAR, Jr.	, Dated this day of, 2007.
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my signature.		
(L.S.) Peter X. WANG	, Dated this	day of, <b>2007</b> .
AC	KNOWLEDGEMENT	
On this day of	the person described in and water the foregoing instrument and in testimony whereof I have	t, and acknowledge that he
	Notary Public	
my signature.	I have hereunto set my hand and	
(L.S.)Gary L. CANTRELL	, Dated this	day of, <b>2007.</b>
AC	KNOWLEDGEMENT	
On this day of Gary L. CANTRELL to me known to instrument, and acknowledge that he executed the same as his free act and do official seal the day and year last above v (Seal)	be the person described in and eccuted the foregoing instrument eed. In testimony whereof I hav	who executed the foregoing t, and acknowledge that he
	Notary Public	

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 day of, 2007.
ACKNOWLEDGE	MENT
On this day of	lescribed in and who executed the foregoing going instrument, and acknowledge that he
	Notary Public
IN TESTIMONY WHEREOF, I have hereunto my signature.	set my hand and seal on the date set after
(L.S.) Kevin R. ROESCH	Dated this 30 day of March, 2007.
<u>ACKNOWLEDGE</u>	MENT
On this ZONE day of March Kevin R. ROESCH to me known to be the person de instrument, and acknowledge that he executed the fore executed the same as his free act and deed. In testimor official seal the day and year last above written. (Seal)	scribed in and who executed the foregoing going instrument, and acknowledge that he
SHANNON N. MAXWEII	Sharran M. Maxwell Notary Public

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my signature.			
(L.S.) Henry J. BUEHLER	, Dated this	day of	, 2007.
ACKNOWLED	GEMENT		
On this day of	foregoing instrume	nt, and acknowle	age that he
	Notary Public		
IN TESTIMONY WHEREOF, I have hereumy signature.			
Joseph P. HAAR, Jr.	, Dated this	day of	, 2007.
<u>ACKNOWLEI</u>	DGEMENT		
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(L.S.) Gary L. CANTRELL	, Dated this day of, 2007.
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. T	Notary Public
IN TESTIMONY WHEREOF, I have hereunto s my signature.	
(L.S.), I  Kevin R. ROESCH	Dated this day of, 2007.
On this day of	MENT , 2007, before me personally appeared scribed in and who executed the foregoing going instrument, and acknowledge that he
	Notary Public

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my signature.	
(L.S.) Henry J. BUEHLER	, Dated this 28 th day of March 2007.
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WENDY C. SLABY My Commission Expires July 7, 2009 Jefferson County Commission #05739147	Wordy C. Alaly Wordy C. Haly Notary Public
IN TESTIMONY WHEREOF, I have h	ereunto set my hand and seal on the date set after
my signature.	
	•
(L.S.)	, Dated this day of, 2007.
Joseph P. HAAR, Jr.	
<u>ACKNOW</u>	LEDGEMENT
instrument, and acknowledge that he executed	, 2007, before me personally appeared person described in and who executed the foregoing the foregoing instrument, and acknowledge that he testimony whereof I have hereunto set my hand and
	N. A P. d. l.
	Notary Public

WHEREAS, we, Peter X. WANG, 1708 Eldon Ridge Court, Chesterfield, in the state of Missouri, 63017, USA, and Gary L. CANTRELL, 509 Lakewood Drive, Troy, in the state of Illinois, 62294, USA, and Robert E. HALVACHS, 309 Fredericksburg Drive, Belleville, in the state of Illinois, 62223, USA, and Kevin R. ROESCH, 208 Lamplight Court, O'Fallon, in the state of Illinois, 62269, USA, and Henry J. BUEHLER, 6916 Lake Park Circle, St. Louis, in the state of Missouri, 63123, USA, and Joseph P. HAAR, Jr., 593 Chancellor Drive, Edwardsville, in the state of Illinois, 62025, USA have invented a new and improved IMPROVED PROCESS FOR THE PREPARATION OF QUATERNARY N-ALKYL MORPHINAN ALKALOID SALTS identified as Case No. H-MP-00034.P1 US, and described in US provisional patent application no. 60/893,163 as filed in the United States Patent and Trademark Office on March 6, 2007.

WHEREAS, Mallinckrodt Inc. of St. Louis, Missouri, a corporation of the State of Delaware, is desirous of acquiring the entire right, title and interest in and to said invention or inventions and any and all patents to be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, we do hereby sell, assign and transfer unto said Mallinckrodt Inc., its successors and assigns, the entire right, title and interest in and to said invention or inventions, 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 said foreign applications under the provisions of the International Convention; also any improvements on said invention or inventions now or hereafter made by mc 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 said invention, inventions, or improvements and any divisional, continuation, continuation-in-part or substitute applications which may be filed upon said invention, inventions, or improvements in this or any foreign country; and I hereby authorize and request the issuing authority to issue any and all patents on said application or applications to said Mallinckrodt Inc., as assignee of the entire interest.

I further agree, without any payment by Mallinckrodt Inc. other than expenses incurred by the undersigned, to communicate to said Mallinckrodt Inc., its representatives or agents, any fact relating to said inventions, inventions or improvements, 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 ha	and and seal on the date set after
my signature.	
(L.S.), Dated this	ais day of, <b>2007</b> .
ACKNOWLEDGEMENT	
On this day of, 200  Peter X. WANG to me known to be the person described in instrument, and acknowledge that he executed the foregoing insexecuted the same as his free act and deed. In testimony where official seal the day and year last above written.  (Seal)	istrument, and acknowledge that he
Notary P	Public
IN TESTIMONY WHEREOF, I have hereunto set my hamy signature.	
(L.S.), Dated th	his, 2007.
ACKNOWLEDGEMENT	
On this	d in and who executed the foregoing instrument, and acknowledge that he
Notary I	Public

IN TESTIMONY WHEREOF, I	have hereunto set my hand as	nd seal on the date	e set after
my signature.			
(L.S.)	, Dated this	day of	, 2007.
ACK	KNOWLEDGEMENT		
On this day of	ecuted the foregoing instrumed. In testimony whereof I h	ient, and acknow	ledge that be
	Notary Public		
IN TESTIMONY WHEREOF, I my signature.	have hereunto set my hand a	and seal on the da	te set after
(L.S.)Kevin R. ROESCH	, Dated this	day of	, 2007.
<u>AC</u>	KNOWLEDGEMENT		
On this day of Kevin R. ROESCH to me known to be instrument, and acknowledge that he exexecuted the same as his free act and de official seal the day and year last above we (Seal)	e the person described in ar ecuted the foregoing instrur ed. In testimony whereof I	nd who executed nent, and acknov	the foregoing vledge that he
	Notary Public	c	

	IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after
	my signature.
	(L.S.), Dated this day of, 2007.  Henry J. BUEHLER
	ACKNOWLEDGEMENT
•	On this day of, 2007, before me personally appeared Henry J. BUEHLER 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
	Notary I done
	IN TESTIMONY WHEREOF, I have hereunto set my hand and seal on the date set after
	(L.S.) Joseph P. Haar J. Dated this 3 day of March, 2007.
	<u>ACKNOWLEDGEMENT</u>
	On this Quiday of, 2007, before me personally appeared Joseph P. HAAR, Jr. 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. MAXWELL Notary Public - Notary Seal State of Missouri, Jefferson County Commission # 03385358 My Commission Expires Jun 5, 2007

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PATENT REEL: 023186 FRAME: 0912