



**Registration of a Charge**

Company name: **MALLINCKRODT ENTERPRISES UK LIMITED**

Company number: **09090223**



X8KH6DGG

Received for Electronic Filing: **17/12/2019**

---

**Details of Charge**

Date of creation: **06/12/2019**

Charge code: **0909 0223 0004**

Persons entitled: **WILMINGTON SAVINGS FUND SOCIETY, FSB AS TRUSTEE AND AS COLLATERAL AGENT FOR THE SECURED PARTIES**

Brief description: **ALL RIGHT, TITLE AND INTEREST IN OR TO ANY AND ALL INTELLECTUAL PROPERTY OF EVERY KIND AND NATURE OF ANY PLEDGOR, WHETHER NOW OWNED OR HEREAFTER ACQUIRED BY ANY PLEDGOR, INCLUDING, INVENTIONS, DESIGNS, PATENTS, COPYRIGHTS, TRADEMARKS, PATENT LICENSES, COPYRIGHT LICENSES, TRADEMARK LICENSES, TRADE SECRETS, DOMAIN NAMES, CONFIDENTIAL OR PROPRIETARY TECHNICAL AND BUSINESS INFORMATION, KNOW-HOW, SHOW-HOW OR OTHER DATA OR INFORMATION AND ALL RELATED DOCUMENTATION. SEE INSTRUMENT FOR FURTHER DETAILS.**

**Contains fixed charge(s).**

**Contains negative pledge.**

---

**Authentication of Form**

This form was authorised by: **a person with an interest in the registration of the charge.**

---

## Authentication of Instrument

Certification statement: **I CERTIFY THAT SAVE FOR MATERIAL REDACTED PURSUANT TO S. 859G OF THE COMPANIES ACT 2006 THE ELECTRONIC COPY INSTRUMENT DELIVERED AS PART OF THIS APPLICATION FOR REGISTRATION IS A CORRECT COPY OF THE ORIGINAL INSTRUMENT.**

Certified by: **JAMES COSTI, SLAUGHTER AND MAY**



## **CERTIFICATE OF THE REGISTRATION OF A CHARGE**

Company number: 9090223

Charge code: 0909 0223 0004

The Registrar of Companies for England and Wales hereby certifies that a charge dated 6th December 2019 and created by MALLINCKRODT ENTERPRISES UK LIMITED was delivered pursuant to Chapter A1 Part 25 of the Companies Act 2006 on 17th December 2019 .

Given at Companies House, Cardiff on 18th December 2019

The above information was communicated by electronic means and authenticated by the Registrar of Companies under section 1115 of the Companies Act 2006



**Companies House**



THE OFFICIAL SEAL OF THE  
REGISTRAR OF COMPANIES

SECOND LIEN U.S. COLLATERAL AGREEMENT

dated and effective as of

December 6, 2019

among

Mallinckrodt International Finance S.A., and  
Mallinckrodt CB LLC,  
as Issuers,

each other Pledgor  
party hereto

and

Wilmington Savings Fund Society, FSB,  
as Second Lien Trustee and as Second Lien Collateral Agent

## TABLE OF CONTENTS

|                                                                                                    | <u>Page</u> |
|----------------------------------------------------------------------------------------------------|-------------|
| ARTICLE I                                                                                          |             |
| Definitions                                                                                        |             |
| SECTION 1.01. Second Lien Indenture .....                                                          | 1           |
| SECTION 1.02. Other Defined Terms .....                                                            | 2           |
| ARTICLE II                                                                                         |             |
| Pledge of Securities                                                                               |             |
| SECTION 2.01. Pledge .....                                                                         | 11          |
| SECTION 2.02. Delivery of the Pledged Collateral .....                                             | 13          |
| SECTION 2.03. Representations, Warranties and Covenants.....                                       | 14          |
| SECTION 2.04. Certification of Limited Liability Company and Limited<br>Partnership Interests..... | 16          |
| SECTION 2.05. Registration in Nominee Name; Denominations.....                                     | 16          |
| SECTION 2.06. Voting Rights; Dividends and Interest, Etc. ....                                     | 17          |
| SECTION 2.07. Unlimited Liability Corporations .....                                               | 19          |
| ARTICLE III                                                                                        |             |
| Security Interests in Other Personal Property                                                      |             |
| SECTION 3.01. Security Interest.....                                                               | 20          |
| SECTION 3.02. Representations and Warranties .....                                                 | 22          |
| SECTION 3.03. Covenants .....                                                                      | 25          |
| SECTION 3.04. Other Actions.....                                                                   | 27          |
| SECTION 3.05. Covenants Regarding Patent, Trademark and Copyright<br>Collateral.....               | 28          |
| ARTICLE IV                                                                                         |             |
| Remedies                                                                                           |             |
| SECTION 4.01. Remedies Upon Default.....                                                           | 30          |
| SECTION 4.02. Application of Proceeds.....                                                         | 32          |
| SECTION 4.03. Securities Act, Etc. ....                                                            | 33          |
| SECTION 4.04. Collection of Receivables Assets.....                                                | 34          |
| SECTION 4.05. Special Collateral Account .....                                                     | 34          |
| SECTION 4.06. Pledgors' Obligations Upon Event of Default.....                                     | 35          |

## ARTICLE V

### Miscellaneous

|               |                                                                           |    |
|---------------|---------------------------------------------------------------------------|----|
| SECTION 5.01. | Notices .....                                                             | 35 |
| SECTION 5.02. | Security Interest Absolute.....                                           | 35 |
| SECTION 5.03. | Limitation By Law.....                                                    | 36 |
| SECTION 5.04. | Binding Effect; Several Agreements .....                                  | 36 |
| SECTION 5.05. | Successors and Assigns .....                                              | 36 |
| SECTION 5.06. | Second Lien Collateral Agent's Fees and Expenses;<br>Indemnification..... | 36 |
| SECTION 5.07. | Second Lien Collateral Agent Appointed Attorney-in-Fact.....              | 37 |
| SECTION 5.08. | Governing Law .....                                                       | 38 |
| SECTION 5.09. | Waivers; Amendment .....                                                  | 38 |
| SECTION 5.10. | WAIVER OF JURY TRIAL .....                                                | 39 |
| SECTION 5.11. | Severability .....                                                        | 39 |
| SECTION 5.12. | Counterparts.....                                                         | 39 |
| SECTION 5.13. | Headings .....                                                            | 39 |
| SECTION 5.14. | Jurisdiction; Consent to Service of Process.....                          | 40 |
| SECTION 5.15. | Termination or Release.....                                               | 40 |
| SECTION 5.16. | Additional Pledgors .....                                                 | 42 |
| SECTION 5.17. | General Authority of the Second Lien Collateral Agent .....               | 42 |
| SECTION 5.18. | Subject to Intercreditor Agreements; Conflicts .....                      | 43 |
| SECTION 5.19. | Specified Other Second Lien Obligations .....                             | 43 |
| SECTION 5.20. | Person Serving as Second Lien Collateral Agent.....                       | 44 |
| SECTION 5.21. | Survival of Agreement.....                                                | 45 |
| SECTION 5.22. | Other Capacities.....                                                     | 45 |
| SECTION 5.23. | First Priority/Second Priority Intercreditor Agreement.....               | 46 |

### Schedules

|              |                             |
|--------------|-----------------------------|
| Schedule I   | Pledgors                    |
| Schedule II  | Pledged Stock; Pledged Debt |
| Schedule III | Intellectual Property       |
| Schedule IV  | Commercial Tort Claims      |

### Exhibits

|             |                                                                       |
|-------------|-----------------------------------------------------------------------|
| Exhibit I   | Form of Supplement to the Second Lien U.S. Collateral Agreement       |
| Exhibit II  | Form of Notice of Grant of Security Interest in Intellectual Property |
| Exhibit III | Form of Specified Other Second Lien Secured Party Consent             |

SECOND LIEN U.S. COLLATERAL AGREEMENT dated and effective as of December 6, 2019, (this “**Agreement**”), is among MALLINCKRODT INTERNATIONAL FINANCE S.A., a public limited liability company (*société anonyme*) incorporated under the laws of the Grand Duchy of Luxembourg (“**Luxembourg**”), having its registered office at 124 boulevard de la Pétrusse, L-2330 Luxembourg, and registered with the Luxembourg Trade and Companies Register (*R.C.S. Luxembourg*) under number B 172.865 (the “**Issuer**”), MALLINCKRODT CB LLC, a Delaware limited liability company (the “**US Co-Issuer**”, and together with the Issuer, the “**Issuers**”), each Guarantor listed on the signature pages hereof and each other Guarantor that becomes a party hereto after the date hereof (together with the Issuer and the US Co-Issuer, collectively, and as further described in Section 1.02, the “**Pledgors**”) and WILMINGTON SAVINGS FUND SOCIETY, FSB, as trustee (the “**Second Lien Trustee**”) and as collateral agent for the Secured Parties referred to herein (together with its successors and assigns in such capacity, the “**Second Lien Collateral Agent**”).

#### PRELIMINARY STATEMENT

Reference is made to the Indenture, dated as of December 6, 2019 (as amended, amended and restated, supplemented or otherwise modified from time to time, the “**Second Lien Indenture**”), among the Issuers, Mallinckrodt plc, a public limited company incorporated in Ireland with registered number 522227 (the “**Parent**”), the other Guarantors party thereto from time to time, the Second Lien Trustee and the Second Lien Collateral Agent, pursuant to which the Issuers have issued 10.000% Second Lien Senior Secured Notes due 2025 (the “**Second Lien Notes**”);

The execution and delivery of this Agreement by the Pledgors is required pursuant to the terms of the Second Lien Indenture. The Pledgors, as affiliates of the Issuers, will derive substantial benefits from the issuance of the Second Lien Notes pursuant to the Second Lien Indenture. The Pledgors are willing to execute and deliver this Agreement in order to induce the holders (as defined in the Second Lien Indenture) of the Second Lien Notes to acquire the Second Notes pursuant to the terms of the Second Lien Indenture. Therefore, to induce the holders of the Second Lien Notes to acquire the Second Lien Notes and to induce the holders of any Specified Other Second Lien Obligations to make extensions of credit under the applicable Specified Other Second Lien Agreements, as applicable, the parties hereto agree as follows:

#### ARTICLE I

##### *Definitions*

SECTION 1.01. **Second Lien Indenture.** (a) Capitalized terms used in this Agreement and not otherwise defined herein have the respective meanings assigned thereto in the Second Lien Indenture. All terms defined in the UCC (as defined herein) and not defined in this Agreement or the Second Lien Indenture have the meanings specified therein. The term “instrument” shall have the meaning specified in the UCC.



(b) The rules of construction specified in Section 1.03 of the Second Lien Indenture also apply to this Agreement.

SECTION 1.02. *Other Defined Terms.* As used in this Agreement, the following terms have the meanings specified below:

“*Account Debtor*” means any person who is or who may become obligated to any Pledgor under, with respect to or on account of an Account, Chattel Paper or General Intangibles.

“*Agreement*” has the meaning assigned to such term in the introductory paragraph of this agreement, as amended, restated, supplemented or otherwise modified from time to time.

“*Article 9 Collateral*” has the meaning assigned to such term in Section 3.01.

“*Authorized Representative*” means (a) the Second Lien Trustee with respect to Second Lien Notes Secured Obligations and (b) with respect to any Series of Specified Other Second Lien Obligations, the duly authorized representative of the Specified Other Second Lien Secured Parties of such Series designated as “Authorized Representative” for such Specified Other Second Lien Secured Parties in the Specified Other Second Lien Agreement for such Series (or, in the absence of such designation, the administrative agent or trustee appointed for such Series under such Specified Other Second Lien Agreement).

“*Collateral*” means Article 9 Collateral and Pledged Collateral. For the avoidance of doubt, the term Collateral does not include any Excluded Property or Excluded Securities. Notwithstanding anything herein to the contrary, to the extent that any portion of the Collateral is subject to a pledge, assignment or other Lien pursuant to a Second Lien Swiss Transaction Security Document, the terms of such Second Lien Swiss Transaction Security Document shall govern and control to the extent of any inconsistency with this Agreement.

“*Copyright License*” means any written agreement, now or hereafter in effect, granting any right to any Pledgor under any Copyright now or hereafter owned by any third party, and all rights of any Pledgor under any such agreement (including any such rights that such Pledgor has the right to license).

“*Copyrights*” means all of the following now directly owned or hereafter directly acquired by any Pledgor: (a) all copyright rights in any work subject to the copyright laws of the United States or any other country, whether as author, assignee, transferee or otherwise; (b) all registrations and applications for registration of any such Copyright in the United States or any other country, including registrations, supplemental registrations and pending applications for registration in the United States Copyright Office and the right to obtain all renewals thereof, including those listed on *Schedule III*; (c) all claims for, and rights to sue for, past or future infringements of any of the foregoing; and (d) all income, royalties, damages and payments now or hereafter due and payable with respect to any of the foregoing, including damages and payments for past or future infringement thereof.

*“Dispose”* or *“Disposed of”* shall mean to convey, sell, lease, sell and leaseback, assign, farm-out, transfer or otherwise dispose of any property, business or asset. The term *“Disposition”* shall have a correlative meaning to the foregoing.

*“Equity Interests”* of any person means any and all shares, interests, rights to purchase or otherwise acquire, warrants, options, participations or other equivalents of or interests in (however designated) equity or ownership of such person, including any preferred stock, any limited or general partnership interest and any limited liability company membership interest, and any securities or other rights or interests convertible into or exchangeable for any of the foregoing.

*“Event of Default”* means an “Event of Default” under and as defined in the Second Lien Indenture or, solely with respect to any Series of Specified Other Second Lien Obligations, any Specified Other Second Lien Agreement applicable thereto.

*“Excluded Property”* means, (A) with respect to all Secured Obligations, (i) any fee owned Real Property and leasehold interests in Real Property, (ii) motor vehicles and other assets subject to certificates of title to the extent that a security interest therein cannot be perfected by the filing of a financing statement under the UCC or its equivalent in any applicable jurisdiction, (iii) Letter-of-Credit Rights (except to the extent constituting a Supporting Obligation for other Collateral as to which the perfection of security interests in such other Collateral and the Supporting Obligation is accomplished solely by the filing of a financing statement under the UCC or its equivalent in any applicable jurisdiction) and Commercial Tort Claims, in each case with a value of less than \$5,000,000, (iv) Equity Interests of non-Wholly Owned Subsidiaries and joint ventures, to the extent prohibited under the organizational documents or joint venture documents of such non-Wholly Owned Subsidiaries or joint ventures, (v) leases, licenses, instruments and other agreements to the extent, and so long as, the pledge thereof as Collateral would violate the terms thereof, but only to the extent, and for so long as, such prohibition is not terminated or rendered unenforceable or otherwise deemed ineffective by the UCC, the Bankruptcy Code or any other Requirement of Law, (vi) other assets to the extent the pledge thereof is prohibited by applicable law, rule, regulation or contractual obligation, but only to the extent, and for so long as, such prohibition is not terminated or rendered unenforceable or otherwise deemed ineffective by the UCC, the Bankruptcy Code or any other Requirement of Law, or which could require governmental (including regulatory) consent, approval, license or authorization to be pledged (which such consent, approval, license or authorization has not been received), (vii) assets to the extent a security interest in such assets could reasonably be expected to result in a material adverse tax consequence as determined in good faith by the Issuer (with any such determination set forth in an Officers’ Certificate of the Issuer being definitive), (viii) those assets as to which the First Lien Collateral Agent shall reasonably determine that the costs or other adverse consequences of obtaining such security interest are excessive in relation to the value of the security to be afforded thereby (provided that (A) the Issuer has delivered to the Second Lien Collateral Agent an Officers’ Certificate describing such determination in reasonable detail and (B) such assets are simultaneously released from the Lien securing any other Second Priority Obligations and any First Priority Obligations), (ix) “intent-to-use” trademark applications, to the extent that the grant of a security

interest therein would impair the validity or enforceability of, or render void or voidable or result in the cancellation of the applicable grantor's right, title or interest therein or in any trademark issued as a result of such application under applicable federal law, (x) assets securing any Securitization Financing in compliance with clause (16) of the definition of the term "Permitted Lien" (as defined in the Second Lien Indenture), (xi) any property or assets (including, without limitation, any shares of stock of, or indebtedness issued by, any person), whether now owned or hereafter acquired, if securing any Second Priority Notes Obligations or, solely with respect to any Series of Specified Other Second Lien Obligations, such Specified Other Second Lien Obligations, by a mortgage, pledge, security interest, lien or encumbrance upon such property or assets would trigger a requirement to secure (x) the Existing 2013 Senior Notes, in accordance with the terms of the Existing 2013 Senior Notes Indenture as in effect on the Issue Date (and only for so long as any such Existing 2013 Senior Notes remain outstanding and the covenants therein with respect to liens remain in effect pursuant to the terms of the Existing 2013 Senior Notes Indenture) or (y) any Ludlow Notes, in accordance with the terms of the Ludlow Indenture as in effect on the Issue Date (and only for so long as any such Ludlow Notes remain outstanding and the covenants therein with respect to liens remain in effect pursuant to the terms of the Ludlow Indenture), (xii) such other assets of the Issuers and the Guarantors as may be mutually agreed by the Issuer and the First Lien Collateral Agent (provided that (I) the Issuer has delivered to the Second Lien Collateral Agent an Officers' Certificate describing such agreement in reasonable detail and (II) such assets are simultaneously released from the Lien securing any other Second Priority Obligations and any First Priority Obligations), (xiii) with respect to any Pledgor that is a Domestic Subsidiary, voting Equity Interests (and any other interests constituting "stock entitled to vote" within the meaning of Treasury Regulation Section 1.956-2(c)(2)) in excess of 65% of all such Equity Interests in (I) any Foreign Subsidiary or (II) any Domestic Subsidiary substantially all of the assets of which consist, directly or indirectly, of equity of one or more Foreign Subsidiaries and (xiv) any assets of any Person organized under the laws of Switzerland and (B) with respect to any Series of Specified Other Second Lien Obligations, any Specified Excluded Collateral.

***"Excluded Securities"*** means any of the following:

(a) any Equity Interests or Indebtedness with respect to which the First Lien Collateral Agent reasonably determines that the cost or other consequences of pledging such Equity Interests or Indebtedness under the Second Lien Collateral Documents are likely to be excessive in relation to the value to be afforded thereby (provided that (A) the Issuer has delivered to the Second Lien Collateral Agent an Officers' Certificate describing such determination in reasonable detail and (B) such assets are simultaneously released from the Lien securing any other Second Priority Obligations and any First Priority Obligations);

(b) any Equity Interests or Indebtedness to the extent, and for so long as, the pledge thereof would be prohibited by any Requirement of Law;

(c) any Equity Interests of any person that is not a Wholly Owned Subsidiary to the extent (A) that a pledge thereof to secure the Second Priority Notes Obligations or,

solely with respect to any Series of Specified Other Second Lien Obligations, such Specified Other Second Lien Obligations is prohibited by (i) any applicable organizational documents, joint venture agreement or shareholder agreement or (ii) any other contractual obligation with an unaffiliated third party not in violation of Section 4.05 of the Second Lien Indenture, but, in the case of this subclause (A)(ii), only to the extent, and for so long as, such prohibition is not terminated or rendered unenforceable or otherwise deemed ineffective by the UCC or any other Requirement of Law, (B) any organizational documents, joint venture agreement or shareholder agreement (or other contractual obligation referred to in subclause (A)(ii) above) prohibits such a pledge without the consent of any other party; *provided*, that this clause (B) shall not apply if (1) such other party is an Issuer, a Guarantor or a Wholly Owned Subsidiary or (2) consent has been obtained to consummate such pledge (it being understood that the foregoing shall not be deemed to obligate the Parent or any Restricted Subsidiary to obtain any such consent) and for so long as such organizational documents, joint venture agreement or shareholder agreement or replacement or renewal thereof is in effect, or (C) a pledge thereof to secure the Second Priority Notes Obligations or, solely with respect to any Series of Specified Other Second Lien Obligations, such Specified Other Second Lien Obligations would give any other party (other than an Issuer, a Guarantor or a Wholly Owned Subsidiary) to any organizational documents, joint venture agreement or shareholder agreement governing such Equity Interests (or other contractual obligation referred to in subclause (A)(ii) above) the right to terminate its obligations thereunder, but only to the extent, and for so long as, such right of termination is not terminated or rendered unenforceable or otherwise deemed ineffective by the UCC or any other Requirement of Law;

(d) any Equity Interests of any Unrestricted Subsidiary or any Securitization Subsidiary;

(e) any Equity Interests of any Subsidiary to the extent that the pledge of such Equity Interests could reasonably be expected to result in material adverse tax consequences to the Parent or any Subsidiary as determined in good faith by the Issuer (with any such determination set forth in an Officers' Certificate of the Issuer being definitive);

(f) [reserved;]

(g) any Margin Stock; and

(h) any Equity Interests constituting Excluded Property.

***“Federal Securities Laws”*** has the meaning assigned to such term in Section 4.03.

***“First Lien Collateral Agent”*** has the meaning assigned to such term in the First Priority/Second Priority Intercreditor Agreement;

***“First Priority/Second Priority Intercreditor Agreement”*** means that certain Second Lien Intercreditor Agreement dated as of the date of this Agreement, by and among, Deutsche Bank AG New York Branch, as First Lien Collateral Agent and as First Lien Credit Agreement Representative, Wilmington Savings Fund Society, FSB, as Second Lien Collateral Agent and as Initial Second Lien Document Representative, each other First Lien Representative Party thereto and each other Second Lien Representative party thereto, and acknowledged and agreed to by, Mallinckrodt plc, as the Parent, Mallinckrodt International Finance S.A., as the Lux Borrower, Mallinckrodt CB LLC, as the Co-Borrower and each of the other Obligors party thereto.

***“General Intangibles”*** means all “general intangibles” as defined in the UCC, including all choses in action and causes of action and all other intangible personal property of any Pledgor of every kind and nature (other than Accounts) now owned or hereafter acquired by any Pledgor, including corporate or other business records, indemnification claims, contract rights (including rights under leases, whether entered into as lessor or lessee, swap agreements and other agreements), Intellectual Property, goodwill, registrations, franchises, tax refund claims and any guarantee, claim, security interest or other security held by or granted to any Pledgor to secure payment by an Account Debtor of any of the Accounts.

***“Governmental Authority”*** means any federal, state, local or foreign court or governmental agency, authority, instrumentality or regulatory or legislative body.

***“Guarantor”*** means any Subsidiary set forth on *Schedule I* and any Subsidiary that becomes a party hereto pursuant to Section 5.16 (other than, with respect to any Series of Specified Other Second Lien Obligations only, any Subsidiary excluded pursuant to clause (ii) of the definition of Pledgor with respect to the applicable Series of Specified Other Second Lien Obligations).

***“Intellectual Property”*** means all intellectual property of every kind and nature of any Pledgor, whether now owned or hereafter acquired by any Pledgor, including, inventions, designs, Patents, Copyrights, Trademarks, Patent Licenses, Copyright Licenses, Trademark Licenses, trade secrets, domain names, confidential or proprietary technical and business information, know-how, show-how or other data or information and all related documentation.

***“Intellectual Property Collateral”*** has the meaning assigned to such term in Section 3.02.

***“Intercreditor Agreements”*** means (a) the First Priority/Second Priority Intercreditor Agreement, (b) a Permitted Second Lien Intercreditor Agreement (upon and during the effectiveness thereof) with respect to any Specified Other Second Lien Obligations and (c) any other intercreditor agreement (upon and during the effectiveness thereof) with respect to any other Indebtedness permitted under the Second Lien Indenture and any Specified Other Second Lien Agreement and that is entered into (including by the Second Lien Collateral Agent) in compliance with the Credit Agreement and any Specified Other Second Lien Agreement.

**“IP Agreements”** means all material Copyright Licenses, Patent Licenses and Trademark Licenses, including, without limitation, the agreements set forth on *Schedule III* hereto.

**“Issuer”** has the meaning assigned to such term in the introductory paragraph of this Agreement.

**“Issuers”** has the meaning assigned to such term in the introductory paragraph of this Agreement.

**“Luxembourg”** has the meaning assigned to such term in the introductory paragraph of this Agreement.

**“Material Adverse Effect”** means a material adverse effect on (a) the business, property, operations or financial condition of the Parent and its Restricted Subsidiaries, taken as a whole, or (b) the validity or enforceability of (i) any of the Second Lien Notes Documents or the rights and remedies of the Secured Parties thereunder or, (ii) solely with respect to any Series of Specified Other Second Lien Obligations, any Specified Other Second Lien Agreements applicable thereto or the rights and remedies of the Secured Parties thereunder.

**“Notices of Grant of Security Interest in Intellectual Property”** means the notices of grant of security interest substantially in the form attached hereto as *Exhibit II* or such other form as shall be reasonably acceptable to the Second Lien Collateral Agent.

**“Patent License”** means any written agreement, now or hereafter in effect, granting to any Pledgor any right to make, use or sell any invention covered by a Patent, now or hereafter owned by any third party (including any such rights that such Pledgor has the right to license).

**“Patents”** means all of the following now directly owned or hereafter directly acquired by any Pledgor: (a) all letters patent of the United States or the equivalent thereof in any other country or jurisdiction, including those listed on *Schedule III*, and all applications for letters patent of the United States or the equivalent thereof in any other country or jurisdiction, including those listed on *Schedule III*; (b) all provisionals, reissues, extensions, continuations, divisions, continuations-in-part, reexaminations or revisions thereof, and the inventions disclosed or claimed therein, including the right to make, use, import and/or sell the inventions disclosed or claimed therein; (c) all claims for, and rights to sue for, past or future infringements of any of the foregoing and (d) all income, royalties, damages and payments now or hereafter due and payable with respect to any of the foregoing, including damages and payments for past or future infringement thereof.

**“Permitted Second Lien Intercreditor Agreement”** means any intercreditor agreement (upon and during the effectiveness thereof) with respect to any other Indebtedness permitted under the Second Lien Indenture and any Specified Other Second Lien Agreement to be secured by a second priority Lien on all or any portion of the Collateral and that is entered

into (including by the Second Lien Collateral Agent) in compliance with the Second Lien Indenture and any Specified Other Second Lien Agreement.

**“Permitted Liens”** means “Permitted Liens” as defined in the Second Lien Indenture and, solely with respect to any Series of Specified Other Second Lien Obligations, Liens that are also permitted by any Specified Other Second Lien Agreement applicable thereto.

**“Pledged Collateral”** has the meaning assigned to such term in Section 2.01.

**“Pledged Debt”** has the meaning assigned to such term in Section 2.01.

**“Pledged Securities”** means any promissory notes, stock certificates or other certificated securities now or hereafter included in the Pledged Collateral, including all certificates, instruments or other documents representing or evidencing any Pledged Collateral.

**“Pledged Stock”** has the meaning assigned to such term in Section 2.01.

**“Pledgor”** means (i) with respect to the Second Lien Notes Secured Obligations, the Issuers and each other Guarantor set forth on *Schedule I* and any other Guarantor that becomes a party hereto pursuant to Section 5.16 and (ii) with respect to any Series of Specified Other Second Lien Obligations, each person described in the preceding clause (i), excluding any of the foregoing if such person or persons are not intended to provide collateral with respect to such Series pursuant to the terms of the Specified Other Second Lien Agreement governing such Series. Notwithstanding anything to the contrary set forth herein, any entity that ceases to be a Guarantor (as defined in the Second Lien Indenture) in accordance with the terms of Section 13.02 of the Second Lien Indenture shall automatically cease to be a Pledgor.

**“Proceeds”** means all proceeds of, and all other profits, products, rents or receipts, in whatever form, arising from the collection, sale, lease, exchange, assignment, licensing or other disposition of, or other realization upon, any Collateral, including all claims of the relevant Pledgor against third parties for loss of, damage to or destruction of, or for proceeds payable under, or unearned premiums with respect to, policies of insurance in respect of, any Collateral, and any condemnation or requisition payments with respect to any Collateral.

**“Real Property”** means, collectively, all right, title and interest (including any leasehold estate) in and to any and all parcels of or interests in real property owned in fee or leased by any Pledgor, whether by lease, license, or other means, together with, in each case, all easements, hereditaments and appurtenances relating thereto, all improvements and appurtenant fixtures and equipment, incidental to the ownership, lease or operation thereof.

**“Regulation S-X Excluded Collateral”** has the meaning assigned to such term in Section 2.01.

**“Rule 3-10”** has the meaning assigned to such term in Section 2.01.

**“Rule 3-16”** has the meaning assigned to such term in Section 2.01.

“**SEC**” has the meaning assigned to such term in Section 2.01.

“**Second Lien Collateral Agent**” has the meaning assigned to such term in the introductory paragraph to this Agreement.

“**Second Lien Indenture**” means has the meaning assigned to such term in the preliminary statement of this Agreement.

“**Second Lien Notes**” has the meaning assigned to such term in the preliminary statement of this Agreement.

“**Second Lien Notes Documents**” means the “Note Documents” as defined in the Second Lien Indenture, as such documents or instruments may be amended, restated, supplemented or otherwise modified from time to time.

“**Second Lien Notes Secured Obligations**” means the “Second Priority Notes Obligations” as defined in the Second Lien Indenture.

“**Second Lien Notes Secured Parties**” means the “Second Priority Notes Secured Parties” as defined in the Second Lien Indenture.

“**Second Lien Trustee**” has the meaning assigned to such term in the introductory paragraph of this Agreement.

“**Secured Obligations**” means, collectively, the Second Lien Notes Secured Obligations and any Specified Other Second Lien Obligations, or any of the foregoing. For the avoidance of doubt, the parties acknowledge and agree that the Secured Obligations of the Issuer hereunder shall be subject to Section 12.10 of the Second Lien Indenture.

“**Secured Parties**” means the persons holding any Secured Obligations and in any event including (i) all Second Lien Notes Secured Parties and (ii) all Specified Other Second Lien Secured Parties.

“**Security Documents**” means the “Second Lien Collateral Documents” as defined in the Second Lien Indenture and any analogous term in any Specified Other Second Lien Agreement (but, with respect to the Secured Obligations of any Series, the term Security Documents shall not include any document which by its terms is solely for the benefit of the holders of one or more other Series of Secured Obligations and not such Series of Secured Obligations).

“**Security Interest**” has the meaning assigned to such term in Section 3.01.

“**Series**” means (a) with respect to any Secured Parties, each of (i) the Second Lien Notes Secured Parties (in their capacities as such) and (ii) each group of Specified Other Second Lien Secured Parties that become beneficiaries of this Agreement and becomes subject to a Permitted Second Lien Intercreditor Agreement after the date hereof, which are to be



represented hereunder by a common Authorized Representative (in its capacity as such for such Specified Other Second Lien Secured Parties), each of which shall constitute a separate Series of Secured Parties for purposes of this Agreement and (b) with respect to any Secured Obligations, each of (i) the Second Lien Notes Secured Obligations and (ii) each group of Specified Other Second Lien Obligations incurred pursuant to any Specified Other Second Lien Agreement, which are to be represented hereunder by a common Authorized Representative (in its capacity as such for such Specified Other Second Lien Obligations), each of which shall constitute a separate Series of Secured Obligations for purposes of this Agreement.

***“Specified Excluded Collateral”*** means, solely with respect to any Series of Specified Other Second Lien Obligations, any asset (in addition to those specified in clause (A) of the definition of “Excluded Property”) that is not intended to be collateral with respect to such Series pursuant to the terms of the Specified Other Second Lien Agreement governing such Series (including the Regulation S-X Excluded Collateral to the extent applicable to such Series in accordance with the last paragraph of Section 2.01).

***“Specified Other Second Lien Agreement”*** means any credit agreement, indenture (other than the Second Lien Indenture) or other agreement, document or instrument pursuant to which any Pledgor has or will incur Specified Other Second Lien Obligations; *provided* that, in each case, the indebtedness thereunder has been designated as Specified Other Second Lien Obligations pursuant to and in accordance with Section 5.19 hereof.

***“Specified Other Second Lien Obligations”*** means (a) the due and punctual payment by any Pledgor of (i) the unpaid principal of and interest (including interest accruing during the pendency of any bankruptcy, insolvency, receivership or other similar proceeding) on indebtedness under any Specified Other Second Lien Agreement, when and as due, whether at maturity, by acceleration, upon one or more dates set for prepayment or otherwise, and (ii) all other monetary obligations of such Pledgor to any Specified Other Second Lien Secured Party under any Specified Other Second Lien Agreement, including obligations to pay fees, expense reimbursement obligations and indemnification obligations, whether primary, secondary, direct, contingent, fixed or otherwise (including monetary obligations incurred during the pendency of any bankruptcy, insolvency, receivership or other similar proceeding), (b) the due and punctual performance of all other obligations of such Pledgor under or pursuant to any Specified Other Second Lien Agreement, and (c) the due and punctual payment and performance of all the obligations of each other Pledgor under or pursuant to any Specified Other Second Lien Agreement. For the avoidance of doubt, no such obligations shall constitute “Specified Other Second Lien Obligations” unless so designated by the Issuer pursuant to and in accordance with Section 5.19 hereof.

***“Specified Other Second Lien Secured Parties”*** means, collectively, the holders of Specified Other Second Lien Obligations and any Authorized Representative with respect thereto.

***“Specified Other Second Lien Secured Party Consent”*** means a consent substantially in the form of *Exhibit III* to this Agreement (or such other form as the Second Lien

Collateral Agent may agree) executed by the Authorized Representative of any holders of Specified Other Second Lien Obligations pursuant to Section 5.19.

**“Termination Date”** means any date on which there has occurred (A) payment in full of the principal of, accrued and unpaid interest and premium, if any, on the Second Lien Notes, (B) satisfaction and discharge of the Second Lien Indenture in accordance with its terms or (C) legal defeasance or covenant defeasance of the Second Lien Indenture under Article VIII thereof.

**“Trademark License”** means any written agreement, now or hereafter in effect, granting to any Pledgor any right to use any Trademark now or hereafter owned by any third party (including any such rights that such Pledgor has the right to license).

**“Trademarks”** means all of the following now directly owned or hereafter directly acquired by any Pledgor: (a) all trademarks, service marks, corporate names, company names, business names, fictitious business names, trade styles, trade dress, logos, other source or business identifiers, designs and general intangibles of like nature, now existing or hereafter adopted or acquired, all registrations thereof (if any), and all registration and recording applications filed in connection therewith, including registrations and registration applications in the United States Patent and Trademark Office or any similar offices in any State of the United States or any other country or any political subdivision thereof, and all renewals thereof, including those listed on *Schedule III*; (b) all goodwill associated with or symbolized by the foregoing; (c) all claims for, and rights to sue for, past or future infringements, dilutions or other violations of any of the foregoing and (d) all income, royalties, damages and payments now or hereafter due and payable with respect to any of the foregoing, including damages and payments for past or future infringement, dilutions or other violations thereof.

**“UCC”** means the Uniform Commercial Code as the same may from time to time be in effect in the State of New York.

**“ULC”** has the meaning assigned to such term in Section 2.07.

**“ULC Interests”** has the meaning assigned to such term in Section 2.07.

**“US Co-Issuer”** has the meaning assigned to such term in the introductory paragraph of this Agreement.

## ARTICLE II

### *Pledge of Securities*

SECTION 2.01. **Pledge.** As security for the payment or performance when due (whether at the stated maturity, by acceleration or otherwise), as the case may be, in full of its Secured Obligations, each Pledgor hereby assigns and pledges to the Second Lien Collateral Agent, its successors and permitted assigns, for the benefit of the Secured Parties, and hereby

grants to the Second Lien Collateral Agent, its successors and permitted assigns, for the benefit of the Secured Parties, a security interest in all of such Pledgor's right, title and interest in, to and under (whether now owned or hereafter acquired):

(a) all Equity Interests directly owned by it (including those listed on *Schedule II*) and any other Equity Interests obtained in the future by such Pledgor and any certificates representing all such Equity Interests (any such Equity Interests, the "**Pledged Stock**"); *provided* that the Pledged Stock shall not include any Excluded Securities or Excluded Property;

(b) (i) the debt obligations owed to such Pledgor listed opposite the name of such Pledgor on *Schedule II*, (ii) all other debt obligations existing on the Issue Date or in the future issued to such Pledgor, and (iii) the certificates, promissory notes and any other instruments, if any, evidencing such debt obligations (the property described in clauses (b)(i), (ii) and (iii) above, the "**Pledged Debt**"); *provided* that the Pledged Debt shall not include any Excluded Securities or Excluded Property;

(c) subject to Section 2.06, all payments of principal or interest, dividends, cash, instruments and other property from time to time received, receivable or otherwise distributed in respect of, in exchange for or upon the conversion of, and all other Proceeds received in respect of the Pledged Stock and the Pledged Debt;

(d) subject to Section 2.06, all rights and privileges of such Pledgor with respect to the Pledged Stock, Pledged Debt and other property referred to in clause (c) above; and

(e) all Proceeds of any of the foregoing (the Pledged Stock, Pledged Debt and other property referred to in this clause (e) and in clauses (c) through (d) above being collectively referred to as the "**Pledged Collateral**"); *provided* that the Pledged Collateral shall not include any Excluded Securities or Excluded Property.

TO HAVE AND TO HOLD the Pledged Collateral, together with all right, title, interest, powers, privileges and preferences pertaining or incidental thereto, unto the Second Lien Collateral Agent, its successors and permitted assigns, for the benefit of the Secured Parties, forever; subject, however, to the terms, covenants and conditions hereinafter set forth.

Notwithstanding anything else contained in this Agreement, to the extent this paragraph is expressly made applicable with respect to any Specified Other Second Lien Obligations pursuant to the terms of any Specified Other Second Lien Agreement, with respect to such Specified Other Second Lien Obligations, in the event that Rule 3-10 ("**Rule 3-10**") or Rule 3-16 ("**Rule 3-16**") of Regulation S-X under the Securities Act of 1933, as amended, as amended, modified or interpreted by the Securities Exchange Commission ("**SEC**"), would require (or is replaced with another rule or regulation, or any other law, rule or regulation is adopted, which would require) the filing with the SEC (or any other Governmental Authority) of separate financial statements of any Issuer or any Subsidiary of the Parent due to the fact that

such Person's Equity Interests or other securities secure such Specified Other Second Lien Obligations, then the Equity Interests or other securities of such Person (the "***Regulation S-X Excluded Collateral***") will automatically be deemed not to be part of the Collateral securing such Specified Other Second Lien Obligations, but only to the extent necessary to not be subject to such requirement and only for so long as required to not be subject to such requirement. In such event, this Agreement may be amended or modified, without the consent of any Secured Party, to the extent necessary to release the Lien on the Regulation S-X Excluded Collateral in favor of the Second Lien Collateral Agent with respect only to the relevant Specified Other Second Lien Obligations. In the event that Rule 3-10 or Rule 3-16 is amended, modified or interpreted by the SEC to permit (or is replaced with another rule or regulation, or any other law, rule or regulation is adopted, which would permit) any Regulation S-X Excluded Collateral to secure the Specified Other Second Lien Obligations in excess of the amount then pledged without the filing with the SEC (or any other Governmental Authority) of separate financial statements of such Person, then the Equity Interests of such Person will automatically be deemed to be a part of the Collateral for the relevant Specified Other Second Lien Obligations, but only to the extent permitted without the financial statement filing requirement described in the first sentence of this paragraph becoming applicable. For the avoidance of doubt and notwithstanding anything to the contrary in this Agreement, nothing in this paragraph shall limit the pledge of such Equity Interests and other securities from securing the applicable Pledgor's Secured Obligations (other than the Specified Other Second Lien Obligations) at all relevant times. To the extent any Proceeds of any collection or sale of Equity Interests deemed by this paragraph to no longer constitute part of the Collateral for the relevant Specified Other Second Lien Obligations are to be applied by the Second Lien Collateral Agent in accordance with Section 4.02 hereof, such Proceeds shall, notwithstanding the terms of Section 4.02 and any Permitted Second Lien Intercreditor Agreement (upon and during the effectiveness thereof), not be applied to the payment of such Specified Other Second Lien Obligations (and shall be applied as otherwise provided in Section 4.02, as if the respective Specified Other Second Lien Obligations had previously been paid in full in cash).

**SECTION 2.02. *Delivery of the Pledged Collateral.*** Subject in each case to the terms of the First Priority/Second Priority Intercreditor Agreement:

(a) Each Pledgor agrees promptly to deliver or cause to be delivered to the Second Lien Collateral Agent, for the benefit of the Secured Parties, any and all certificates or other instruments (if any) representing such Pledged Securities, to the extent such Pledged Securities are either (i) Pledged Stock or (ii) in the case of promissory notes or other instruments evidencing Pledged Debt, are required to be delivered pursuant to paragraph (b) of this Section 2.02.

(b) To the extent any Indebtedness for borrowed money constituting Pledged Collateral owed to any Pledgor (other than intercompany Indebtedness owed to such Pledgor by another Pledgor) is evidenced by a duly executed promissory note in an individual amount in excess of \$5,000,000, such Pledgor shall promptly cause such promissory note to be pledged and delivered to the Second Lien Collateral Agent, for the benefit of the Secured Parties, pursuant to the terms hereof (except to the extent that a pledge or delivery of such promissory note would

violate applicable law). To the extent any such promissory note is a demand note, each Pledgor party thereto agrees, if requested by the Second Lien Collateral Agent, to immediately demand payment thereunder upon the occurrence and during the continuance of an Event of Default specified under Section 6.01(a), (b), (f) or (g) of the Second Lien Indenture or any equivalent provision under any Specified Other Second Lien Agreement, unless such demand would not be commercially reasonable or would otherwise expose Pledgor to liability to the maker of such promissory note.

(c) Save as otherwise held by, or delivered to, the First Lien Collateral Agent, upon delivery to the Second Lien Collateral Agent, (i) any Pledged Securities required to be delivered pursuant to the foregoing paragraphs (a) and (b) of this Section 2.02 shall be accompanied by stock powers or allonges, as applicable, duly executed in blank or other instruments of transfer reasonably satisfactory to the Second Lien Collateral Agent, and by such other instruments and documents as the Second Lien Collateral Agent may reasonably request and (ii) all other property comprising part of the Pledged Collateral delivered pursuant to the terms of this Agreement shall be accompanied to the extent necessary to perfect the security interest in or allow realization on the Pledged Collateral by proper instruments of assignment duly executed by the applicable Pledgor and such other instruments or documents (including issuer acknowledgments in respect of uncertificated securities that are created pursuant to Section 2.04(b)) as the Second Lien Collateral Agent may reasonably request. Each delivery of Pledged Securities shall be accompanied by a schedule describing the securities, which schedule shall be deemed to be attached hereto as *Schedule II* (or a supplement to *Schedule II*, as applicable) and made a part hereof; *provided* that failure to attach any such schedule hereto shall not affect the validity of such pledge of such Pledged Securities. Each schedule so delivered shall supplement any prior schedules so delivered.

SECTION 2.03. ***Representations, Warranties and Covenants.*** The Pledgors, jointly and severally, represent, warrant and covenant to and with the Second Lien Collateral Agent, for the benefit of the Secured Parties, that:

(a) *Schedule II* correctly sets forth (or, with respect to any Pledged Stock issued by an issuer that is not a subsidiary of the Issuer, correctly sets forth, to the knowledge of the relevant Pledgor), as of the Issue Date, the percentage of the issued and outstanding units of the Equity Interests of the issuer thereof represented by the Pledged Stock and includes (i) all Equity Interests pledged hereunder and (ii) Pledged Debt (except in respect of intercompany current liabilities incurred in the ordinary course of business in connection with the cash management, tax and accounting operations of the Parent and its subsidiaries) pledged hereunder and in an individual principal amount in excess of \$5,000,000;

(b) the Pledged Stock and Pledged Debt (with respect to any Pledged Stock or Pledged Debt issued by an issuer that is not a subsidiary of the Issuer, to the knowledge of the relevant Pledgor), as of the Issue Date, (x) have been duly and validly authorized and issued by the issuers thereof and (y) (i) in the case of Pledged Stock, are fully paid and, with respect to Equity Interests constituting capital stock of a corporation,

nonassessable and (ii) in the case of Pledged Debt, are legal, valid and binding obligations of the issuers thereof, subject to the effects of bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, general equitable principles (whether considered in a proceeding at law or in equity) and any implied covenant of good faith and fair dealing;

(c) except for the security interests granted hereunder (and other security interests not prohibited by the Second Lien Notes Documents or any Specified Other Second Lien Agreement), each Pledgor (i) is and, subject to any transfers not in violation of the Second Lien Indenture or any Specified Other Second Lien Agreement, will continue to be the direct owner, beneficially and of record, of the Pledged Securities indicated on *Schedule II* (as may be supplemented from time to time pursuant to Section 2.02(c)) as owned by such Pledgor, (ii) holds the same free and clear of all Liens, other than Permitted Liens, (iii) will make no assignment, pledge, hypothecation or transfer of, or create or permit to exist any security interest in or other Lien on, the Pledged Collateral, other than pursuant to a transaction not prohibited by the Second Lien Indenture or any Specified Other Second Lien Agreement and other than Permitted Liens and (iv) subject to the rights of such Pledgor under the Second Lien Notes Documents and any Specified Other Second Lien Agreement to Dispose of Pledged Collateral, will use commercially reasonable efforts to defend its title or interest thereto or therein against any and all Liens (other than Permitted Liens), however arising, of all persons;

(d) other than as set forth in the Second Lien Indenture and any Specified Other Second Lien Agreement, and except for restrictions and limitations imposed by the Second Lien Notes Documents, any Specified Other Second Lien Agreements or securities laws generally or otherwise not prohibited by the Second Lien Indenture or any Specified Other Second Lien Agreement (or, in the case of shares of a ULC, any requirement that transfers of such shares be approved by the directors of the ULC), the Pledged Stock (other than partnership interests) is and will continue to be freely transferable and assignable, and none of the Pledged Stock is or will be subject to any option, right of first refusal, shareholders agreement, charter, by-law, memorandum of association or articles of association provisions or contractual restriction of any nature that might prohibit, impair, delay or otherwise affect the pledge of such Pledged Stock hereunder, the Disposition thereof pursuant hereto or the exercise by the Second Lien Collateral Agent of rights and remedies hereunder other than under applicable Requirements of Law;

(e) each Pledgor has the power and authority to pledge the Pledged Collateral pledged by it hereunder in the manner hereby done or contemplated;

(f) other than as set forth in the Second Lien Indenture, as of the Issue Date, no consent or approval of any Governmental Authority, any securities exchange or any other person was or is necessary to the validity of the pledge effected hereby other than such as have been obtained and are in full force and effect;

(g) by virtue of the execution and delivery by the respective Pledgors of this Agreement or any supplement hereto, when any Pledged Securities are delivered to the Second Lien Collateral Agent (or otherwise in accordance with the First Priority/Second Priority Intercreditor Agreement), for the benefit of the Secured Parties, in accordance with this Agreement (to the extent required hereunder) and a financing statement naming the Second Lien Collateral Agent as the secured party and covering such Pledged Securities is filed in the appropriate filing office, the Second Lien Collateral Agent will obtain, for the benefit of the Secured Parties, a legal, valid and perfected lien upon and security interest in such Pledged Securities under the UCC, subject only to (x) Permitted Liens and (y) any requirement under Luxembourg law, including the foreign *lex rei sitae* referred to under Luxembourg international private law, with respect to any Collateral which (1) under Luxembourg law, would be located or deemed located in Luxembourg or (2) would be granted by the Issuer, as security for the payment and performance of its Secured Obligations, to the extent such perfection is governed by the UCC; and

(h) each Pledgor that is an issuer of the Pledged Collateral confirms that it has received notice of the security interest granted hereunder and consents to such security interest and, subject to the terms of any applicable Intercreditor Agreement, agrees to transfer record ownership of the securities issued by it in connection with any request by the Second Lien Collateral Agent if an Event of Default has occurred and is continuing.

**SECTION 2.04. *Certification of Limited Liability Company and Limited Partnership Interests.***

(a) As of the Issue Date, except as set forth on *Schedule II*, the Equity Interests in limited liability companies and limited partnerships that are pledged by the Pledgors hereunder and do not have a certificate described on *Schedule II* do not constitute a security under Section 8-103 of the UCC or the corresponding code or statute of any other applicable jurisdiction.

(b) The Pledgors shall at no time elect to treat any interest in any limited liability company or limited partnership Controlled by a Pledgor and pledged hereunder as a “security” within the meaning of Article 8 of the UCC or issue any certificate representing such interest, unless promptly thereafter (and in any event within 30 days or such longer period as the Second Lien Collateral Agent may permit in its sole discretion) the applicable Pledgor provides notification to the Second Lien Collateral Agent of such election and delivers, as applicable, any such certificate to the Second Lien Collateral Agent pursuant to the terms hereof.

**SECTION 2.05. *Registration in Nominee Name; Denominations.*** Subject to any applicable Intercreditor Agreement, the Second Lien Collateral Agent, on behalf of the Secured Parties, shall have the right (in its sole and absolute discretion) to hold the Pledged Securities (other than Pledged Securities that are ULC Interests) in the name of the applicable Pledgor, endorsed or assigned in blank or in favor of the Second Lien Collateral Agent or, if an

Event of Default shall have occurred and be continuing, in its own name as pledgee or the name of its nominee (as pledgee or as sub-agent). If an Event of Default shall have occurred and be continuing, each Pledgor will promptly give to the Second Lien Collateral Agent copies of any notices or other communications received by it with respect to Pledged Securities registered in the name of such Pledgor. If an Event of Default shall have occurred and be continuing, the Second Lien Collateral Agent shall have the right to exchange the certificates representing Pledged Securities (other than Pledged Securities that are ULC Interests) held by it for certificates of smaller or larger denominations for any purpose consistent with this Agreement, subject to any applicable Intercreditor Agreement. Subject to any applicable Intercreditor Agreement, with respect to Pledged Securities that are ULC Interests, at any time at which an Event of Default has occurred and is continuing and subject to any applicable Intercreditor Agreement, the Second Lien Collateral Agent shall have the right to require the Pledgors to cause (or, if the issuer of such ULC Interests is not a Subsidiary of a Pledgor, to use commercially reasonable efforts to cause) the ULC Interests to be transferred and registered as the Second Lien Collateral Agent may direct and each applicable Pledgor covenants that, at the time of any such transfer, it will provide (or, if the issuer of such ULC Interests is not a Subsidiary of a Pledgor, use commercially reasonable efforts to provide) all required consents and approvals. Subject to any applicable Intercreditor Agreement, each Pledgor shall cause any Subsidiary that is not a party to this Agreement to comply with a request by the Second Lien Collateral Agent, pursuant to this Section 2.05, to exchange certificates representing Pledged Securities of such Subsidiary for certificates of smaller or larger denominations.

SECTION 2.06. *Voting Rights; Dividends and Interest, Etc.* Subject in each case to the terms of the First Priority/Second Priority Intercreditor Agreement:

(a) Unless and until an Event of Default shall have occurred and be continuing and the Second Lien Collateral Agent shall have given written notice to the relevant Pledgors of the Second Lien Collateral Agent's intention to exercise its rights hereunder:

(i) Each Pledgor shall be entitled to exercise any and all voting and/or other consensual rights and powers inuring to an owner of Pledged Collateral or any part thereof for any purpose not prohibited by the terms of this Agreement, the Second Lien Notes Documents or any Specified Other Second Lien Agreement; *provided* that, except as not prohibited by the Second Lien Indenture or any Specified Other Second Lien Agreement, such rights and powers shall not be exercised in any manner that would materially and adversely affect the rights and remedies of any of the Second Lien Collateral Agent or any other Secured Parties under this Agreement, any Second Lien Notes Document or any Specified Other Second Lien Agreement or the ability of the Secured Parties to exercise the same.

(ii) The Second Lien Collateral Agent shall promptly execute and deliver to each Pledgor, or cause to be executed and delivered to such Pledgor, all such proxies, powers of attorney and other instruments as such Pledgor may reasonably request for the purpose of enabling such Pledgor to exercise the voting



and/or consensual rights and powers it is entitled to exercise pursuant to subparagraph (i) above.

(iii) Each Pledgor shall be entitled to receive and retain any and all dividends, interest, principal and other distributions paid on or distributed in respect of the Pledged Collateral to the extent and only to the extent that such dividends, interest, principal and other distributions are not prohibited by, and otherwise paid or distributed in accordance with, the terms and conditions of the Second Lien Notes Documents, any Specified Other Second Lien Agreement and applicable laws; *provided that* (A) any noncash dividends, interest, principal or other distributions, payments or other consideration in respect thereof, including any rights to receive the same to the extent not so distributed or paid, that would constitute Pledged Securities, whether resulting from a subdivision, combination or reclassification of the outstanding Equity Interests of the issuer of any Pledged Securities, received in exchange for Pledged Securities or any part thereof, or in redemption thereof, as a result of any merger, consolidation, acquisition or other exchange of assets to which such issuer may be a party or otherwise or (B) any non-cash dividends and other distributions paid or payable in respect of any Pledged Securities that would constitute Pledged Securities, in connection with a partial or total liquidation or dissolution or in connection with a reduction of capital, capital surplus or paid in surplus, shall be and become part of the Pledged Collateral, and, if received by any Pledgor, shall not be commingled by such Pledgor with any of its other funds or property but shall be held separate and apart therefrom, shall be held in trust for the benefit of the Second Lien Collateral Agent, for the benefit of the Secured Parties, and shall be promptly delivered to the Second Lien Collateral Agent, for the benefit of the Secured Parties, in the same form as so received (endorsed in a manner reasonably satisfactory to the Second Lien Collateral Agent).

(b) Upon the occurrence and during the continuance of an Event of Default and after written notice by the Second Lien Collateral Agent to the relevant Pledgor or Pledgors of the Second Lien Collateral Agent's intention to exercise its rights hereunder, all rights of any Pledgor to receive dividends, interest, principal or other distributions with respect to Pledged Securities that are not ULC Interests that such Pledgor is authorized to receive pursuant to paragraph (a)(iii) of this Section 2.06 shall cease, and all such rights shall thereupon become vested, for the benefit of the Secured Parties, in the Second Lien Collateral Agent which shall have the sole and exclusive right and authority to receive and retain such dividends, interest, principal or other distributions. All dividends, interest, principal or other distributions received by any Pledgor contrary to the provisions of this Section 2.06 shall not be commingled by such Pledgor with any of its other funds or property but shall be held separate and apart therefrom, shall be held in trust for the benefit of the Second Lien Collateral Agent, for the benefit of the Secured Parties, and shall be forthwith delivered to the Second Lien Collateral Agent, for the benefit of the Secured Parties, in the same form as so received (endorsed in a manner reasonably satisfactory to the Second Lien Collateral Agent). Any

and all money and other property paid over to or received by the Second Lien Collateral Agent pursuant to the provisions of this paragraph (b) shall be retained by the Second Lien Collateral Agent in an account to be established by the Second Lien Collateral Agent upon receipt of such money or other property and shall be applied in accordance with the provisions of Section 4.02. After all Events of Default have been cured or waived and the Issuer has delivered to the Second Lien Collateral Agent a certificate of an Officer to that effect, the Second Lien Collateral Agent shall promptly repay to each Pledgor (without interest) all dividends, interest, principal or other distributions that such Pledgor would otherwise be permitted to retain pursuant to the terms of paragraph (a)(iii) of this Section 2.06 and that remain in such account. With respect to Pledged Securities that are ULC Interests, all rights of any Pledgor to receive dividends, interest, principal or other distributions that such Pledgor is authorized to receive pursuant to paragraph (a)(iii) of this Section 2.06 shall continue and not become vested or held in trust for or on behalf of the Second Lien Collateral Agent.

(c) Upon the occurrence and during the continuance of an Event of Default and after written notice by the Second Lien Collateral Agent to the Issuer of the Second Lien Collateral Agent's intention to exercise its rights hereunder, all rights of any Pledgor to exercise the voting and/or consensual rights and powers it is entitled to exercise pursuant to paragraph (a)(i) of this Section 2.06 with respect to Pledged Securities that are not ULC Interests, and the obligations of the Second Lien Collateral Agent under paragraph (a)(ii) of this Section 2.06, shall cease, and all such rights shall thereupon become vested in the Second Lien Collateral Agent, for the benefit of the Secured Parties, which shall have the sole and exclusive right and authority to exercise such voting and consensual rights and powers; *provided* that the Second Lien Collateral Agent shall have the right from time to time following and during the continuance of an Event of Default to permit the Pledgors to exercise such rights. After all Events of Default have been cured or waived and the Issuer has delivered to the Second Lien Collateral Agent a certificate of an Officer to that effect, each Pledgor shall have the right to exercise the voting and/or consensual rights and powers that such Pledgor would otherwise be entitled to exercise pursuant to the terms of paragraph (a)(i) above and the obligations of the Second Lien Collateral Agent under paragraph (a)(ii) shall be in effect. With respect to Pledged Securities that are ULC Interests, all rights of any Pledgor to exercise the voting and/or other consensual rights and powers that such Pledgor is authorized to exercise pursuant to paragraph (a)(i) of this Section 2.06 shall continue and all such rights shall not become vested in the Second Lien Collateral Agent or the Second Lien Collateral Agent for the benefit of the Secured Parties.

**SECTION 2.07. *Unlimited Liability Corporations.*** Notwithstanding the grant of security interest made by a Pledgor in favor of the Second Lien Collateral Agent, its successor and assigns, for the benefit of the Secured Parties, of all of its Pledged Securities, any Pledgor that controls any interest (for the purposes of this Article II, "*ULC Interests*") in any unlimited liability corporation (for the purposes of this Article II, a "*ULC*") pledged hereunder shall remain registered as the sole registered and beneficial owner of such ULC Interests and will remain as registered and beneficial owner until such time as, subject to the terms of the First

Priority/Second Priority Intercreditor Agreement, such ULC Interests are effectively transferred into the name of the Second Lien Collateral Agent or any other person on the books and records of such ULC. Nothing in this Agreement is intended to or shall constitute the Second Lien Collateral Agent or any person as a shareholder of any ULC until such time as notice is given to such ULC and further steps are taken thereunder so as to register the Second Lien Collateral Agent or any other person as the holder of the ULC Interests of such ULC. To the extent any provision hereof would have the effect of constituting the Second Lien Collateral Agent or any other person as a shareholder of a ULC prior to such time, such provision shall be severed therefrom and ineffective with respect to the ULC Interests of such ULC without otherwise invalidating or rendering unenforceable this Agreement or invalidating or rendering unenforceable such provision insofar as it relates to Pledged Stock which are not ULC Interests. Except upon the exercise of rights to sell or otherwise dispose of ULC Interests following the occurrence and during the continuance of an Event of Default hereunder, no Pledgor shall cause or permit, or enable any ULC in which it holds ULC Interests to cause or permit, the Second Lien Collateral Agent to: (a) be registered as shareholders of such ULC; (b) have any notation entered in its favor in the share register of such ULC; (c) be held out as a shareholder of such ULC; (d) receive, directly or indirectly, any dividends, property or other distributions from such ULC by reason of the Second Lien Collateral Agent holding a security interest in such ULC; or (e) act as a shareholder of such ULC, or exercise any rights of a shareholder of such ULC including the right to attend a meeting of, or to vote the shares of, such ULC.

### ARTICLE III

#### *Security Interests in Other Personal Property*

SECTION 3.01. ***Security Interest.*** (a) As security for the payment or performance when due (whether at the stated maturity, by acceleration or otherwise), as the case may be, in full of its Secured Obligations, each Pledgor hereby assigns and pledges to the Second Lien Collateral Agent, its successors and permitted assigns, for the benefit of the Secured Parties, and hereby grants to the Second Lien Collateral Agent, its successors and permitted assigns, for the benefit of the Secured Parties, a security interest (the “***Security Interest***”) in all right, title and interest in or to any and all of the following assets and properties now owned or at any time hereafter acquired by such Pledgor or in which such Pledgor now has or at any time in the future may acquire any right, title or interest (collectively, the “***Article 9 Collateral***”):

- (i) all Accounts;
- (ii) all Chattel Paper;
- (iii) all cash and Deposit Accounts;
- (iv) all Documents;
- (v) all Equipment;

- (vi) all Fixtures;
- (vii) all General Intangibles (including, without limitation, all Intellectual Property);
- (viii) all Instruments (other than Pledged Debt, which is governed by Article II);
- (ix) all Inventory and all other Goods not otherwise described above;
- (x) all Investment Property (other than the Pledged Collateral and Pledged Debt, which are governed by Article II);
- (xi) all Letters of Credit and Letter of Credit Rights;
- (xii) all Commercial Tort Claims individually in excess of \$5,000,000, as described on *Schedule IV* (as may be supplemented from time to time pursuant to Section 3.04);
- (xiii) all books and records, customer lists, credit files, programs, printouts and other computer materials and records pertaining to the Article 9 Collateral; and
- (xiv) to the extent not otherwise included, all Proceeds, Supporting Obligations and products of any and all of the foregoing and all collateral security and guarantees given by any person with respect to any of the foregoing.

Notwithstanding anything to the contrary in this Agreement, the other Second Lien Notes Documents or any Specified Other Second Lien Agreement, this Agreement shall not constitute a grant of a security interest in (and the Article 9 Collateral shall not include), and the other provisions of the Second Lien Notes Documents and any Specified Other Second Lien Agreement with respect to Collateral need not be satisfied with respect to, the Excluded Property or the Excluded Securities.

(b) Each Pledgor hereby irrevocably authorizes the Second Lien Collateral Agent at any time and from time to time to file in any relevant United States jurisdiction any initial financing statements (including fixture filings) with respect to the Article 9 Collateral or any part thereof and amendments thereto that contain the information required by Article 9 of the UCC of each applicable jurisdiction for the filing of any financing statement or amendment, including (i) whether such Pledgor is an organization, the type of organization and any organizational identification number issued to such Pledgor, (ii) in the case of a financing statement filed as a fixture filing, a sufficient description of the real property to which such Article 9 Collateral relates and (iii) a description of collateral that describes such property in any other manner as the Second Lien Collateral Agent may reasonably determine is necessary or advisable to ensure the perfection of the Security Interest in the Collateral granted under this Agreement, including describing such property as “all assets” or “all personal property”. Each

Pledgor agrees to provide such information to the Second Lien Collateral Agent promptly upon request.

The Second Lien Collateral Agent is further authorized to file with the United States Patent and Trademark Office or United States Copyright Office (or any successor office) such documents as may be reasonably necessary or advisable for the purpose of perfecting, confirming, continuing, enforcing or protecting the Security Interest granted by each Pledgor in such Pledgor's Patents, Trademarks and Copyrights, without the signature of such Pledgor, and naming such Pledgor or the Pledgors as debtors and the Second Lien Collateral Agent as secured party.

(c) The Security Interest is granted as security only and shall not subject the Second Lien Collateral Agent or any other Secured Party to, or in any way alter or modify, any obligation or liability of any Pledgor with respect to or arising out of the Article 9 Collateral.

(d) Notwithstanding anything to the contrary in this Agreement, in no event shall (A) any control agreements or control, lockbox or similar agreements or arrangements be required with respect to any Deposit Accounts, Securities Accounts, Commodities Accounts or any other assets (other than the delivery of Pledged Securities to the Second Lien Collateral Agent to the extent required by Article II), (B) any landlord, mortgagee and bailee waivers be required or (C) notices be sent to account debtors or other contractual third parties, except, subject to the terms of the First Priority/Second Priority Intercreditor Agreement, in connection with a permitted exercise of remedies under this Agreement, any other Second Lien Notes Document or any Specified Other Second Lien Agreement.

**SECTION 3.02. *Representations and Warranties.*** The Pledgors jointly and severally represent and warrant to the Second Lien Collateral Agent, for the benefit of the Secured Parties, that:

(a) Each Pledgor has good and valid rights in and title to the Article 9 Collateral with respect to which it has purported to grant the Security Interest hereunder, except where the failure to have such rights and title would not reasonably be expected to have individually or in the aggregate, a Material Adverse Effect, and has full power and authority to grant to the Second Lien Collateral Agent the Security Interest in such Article 9 Collateral pursuant hereto, and to execute, deliver and perform its obligations in accordance with the terms of this Agreement (or any supplement hereto, as applicable), without the consent or approval of any other person as of the Issue Date other than any consent or approval that has been obtained and is in full force and effect or has otherwise been disclosed herein or in the Second Lien Indenture, any Specified Other Second Lien Agreement or any offering circular related thereto.

(b) Except as provided in Section 4.18 of the Second Lien Indenture or in the definition of "Collateral and Guarantee Requirement" contained therein, the UCC financing statements or other appropriate filings, recordings or registrations containing a description of the Article 9 Collateral that have been prepared for filing in each governmental, municipal or other office specified on *Schedule I* constitute all the filings, recordings and registrations (other than

filings required to be made in the United States Patent and Trademark Office and the United States Copyright Office in order to perfect the Security Interest in Article 9 Collateral consisting of United States Patents, United States registered Trademarks and United States registered Copyrights) that are necessary as of the Issue Date to publish notice of and protect the validity of and to establish a legal, valid and perfected security interest in favor of the Second Lien Collateral Agent (for the benefit of the Secured Parties) in respect of all Article 9 Collateral in which the Security Interest may be perfected by filing, recording or registration in the United States (or any political subdivision thereof), and no further or subsequent filing, refiling, recording, rerecording, registration or reregistration is necessary in any such jurisdiction, except as provided under applicable law with respect to the filing of continuation statements or amendments. Except as provided in Section 4.18 of the Second Lien Indenture, each Pledgor represents and warrants that the Notices of Grant of Security Interest in Intellectual Property executed by the applicable Pledgors containing descriptions of all Article 9 Collateral that consists of United States federally issued Patents (and Patents for which United States federal registration applications are pending), United States federally registered Trademarks (and Trademarks for which United States federal registration applications are pending) and United States federally registered Copyrights (and Copyrights for which United States federal registration applications are pending) have been delivered to the Second Lien Collateral Agent for recording with the United States Patent and Trademark Office and the United States Copyright Office pursuant to 35 U.S.C. § 261, 15 U.S.C. § 1060 or 17 U.S.C. § 205 and the regulations thereunder, as applicable, and reasonably requested by the Second Lien Collateral Agent, to protect the validity of and to establish a legal, valid and perfected security interest (or, in the case of Patents and Trademarks, notice thereof) in favor of the Second Lien Collateral Agent, for the benefit of the Secured Parties, in respect of all Article 9 Collateral consisting of such Intellectual Property described in such Notices of Grant of Security Interest in Intellectual Property as of the Issue Date in which a security interest may be perfected by recording with the United States Patent and Trademark Office and the United States Copyright Office, and no further or subsequent filing, refiling, recording, rerecording, registration or reregistration is necessary (other than such actions as are necessary to perfect the Security Interest with respect to any Article 9 Collateral consisting of United States federally issued, registered or pending Patents, Trademarks and Copyrights acquired or developed after the Issue Date).

(c) The Security Interest constitutes (i) a legal and valid security interest in all the Article 9 Collateral securing the payment and performance of the Secured Obligations, as applicable, (ii) subject to the filings described in Section 3.02(b), as of the Issue Date a perfected security interest in all Article 9 Collateral in which a security interest may be perfected by filing, recording or registering a financing statement or analogous document in the United States (or any political subdivision thereof) pursuant to the UCC or other applicable law in such jurisdictions and (iii) a security interest that shall be perfected in all Article 9 Collateral in which a security interest may be perfected upon the receipt and recording of the Notices of Grant of Security Interest in Intellectual Property with the United States Patent and Trademark Office and the United States Copyright Office, as applicable, upon the making of such filings with such offices. The Security Interest is and shall be prior to any other Lien on any of the Article 9 Collateral other than Permitted Liens.

(d) The Article 9 Collateral is owned by the Pledgors free and clear of any Lien, other than Permitted Liens. None of the Pledgors has filed or consented to the filing of (i) any financing statement or analogous document under the UCC or any other applicable laws covering any Article 9 Collateral, (ii) any assignment in which any Pledgor assigns any Article 9 Collateral or any security agreement or similar instrument covering any Article 9 Collateral with the United States Patent and Trademark Office or the United States Copyright Office for the benefit of a third party or (iii) any assignment in which any Pledgor assigns any Article 9 Collateral or any security agreement or similar instrument covering any Article 9 Collateral with any foreign governmental, municipal or other office, which financing statement or analogous document, assignment, security agreement or similar instrument is still in effect, except, in each case, for Permitted Liens.

(e) No Pledgor holds any Commercial Tort Claim individually reasonably estimated to exceed \$5,000,000 as of the Issue Date except as indicated on *Schedule IV*.

(f) As to itself and its Article 9 Collateral consisting of Intellectual Property (the “*Intellectual Property Collateral*”), to each Pledgor’s knowledge:

(i) The Intellectual Property Collateral set forth on *Schedule III* includes a true and complete list of all of the issued and applied for United States federal Patents, registered and applied for United States federal Trademarks and material United States federal registered Copyrights owned by such Pledgor as of the date hereof.

(ii) The Intellectual Property Collateral is subsisting and has not been adjudged invalid or unenforceable in whole or in part and, to the best of such Pledgor’s knowledge, is valid and enforceable, except as would not reasonably be expected to have a Material Adverse Effect. Such Pledgor is not aware of any current uses of any item of Intellectual Property Collateral that would be expected to lead to such item becoming invalid or unenforceable, except as would not reasonably be expected to have a Material Adverse Effect.

(iii) Except as would not reasonably be expected to have a Material Adverse Effect, (A) such Pledgor has made or performed all commercially reasonable acts, including without limitation filings, recordings and payment of all required fees and taxes, required to maintain and protect its interest in each and every item of Intellectual Property Collateral in full force and effect in the United States, and (B) such Pledgor has used proper statutory notice in connection with its use of each Patent, Trademark and Copyright in the Intellectual Property Collateral.

(iv) With respect to each IP Agreement, the absence, termination or violation of which would reasonably be expected to have a Material Adverse Effect: (A) such Pledgor has not received any notice of termination or cancellation under such IP Agreement; (B) such Pledgor has not received a notice

of a breach or default under such IP Agreement, which breach or default has not been cured or waived; and (C) such Pledgor is not in breach or default thereof in any material respect, and no event has occurred that, with notice or lapse of time or both, would constitute such a breach or default or permit termination, modification or acceleration under such IP Agreement.

(v) Except as would not reasonably be expected to have a Material Adverse Effect, no Intellectual Property Collateral is subject to any outstanding consent, settlement, decree, order, injunction, judgment or ruling restricting the use of any Intellectual Property Collateral or that would impair the validity or enforceability of such Intellectual Property Collateral.

SECTION 3.03. **Covenants.** (a) Each Pledgor agrees promptly to notify the Second Lien Collateral Agent of any change in (i) its corporate or organization name, (ii) its identity or type of organization, (iii) its organizational identification number or (iv) its jurisdiction of organization. Each Pledgor agrees not to effect or permit any change referred to in the first sentence of this paragraph (a) unless all filings have been made, or will have been made within any applicable statutory period, under the UCC that are required in order for the Second Lien Collateral Agent to continue at all times following such change to have a valid, legal and perfected security interest in all the Article 9 Collateral in which a security interest may be perfected by such filing, for the benefit of the Secured Parties.

(b) Subject to any rights of such Pledgor to Dispose of Collateral provided for in the Second Lien Notes Documents and each Specified Other Second Lien Agreement, each Pledgor shall, at its own expense, use commercially reasonable efforts to defend title to the Article 9 Collateral against all persons and to defend the Security Interest of the Second Lien Collateral Agent, for the benefit of the Secured Parties, in the Article 9 Collateral and the priority thereof against any Lien that is not a Permitted Lien.

(c) Each Pledgor agrees, at its own expense, to execute, acknowledge, deliver and cause to be duly filed all such further instruments and documents and take all such actions as the Second Lien Collateral Agent may from time to time reasonably request to better assure, preserve, protect, defend and perfect the Security Interest and the rights and remedies created hereby, including the payment of any fees and taxes together with any interest and penalties, if any, required in connection with the execution and delivery of this Agreement and the granting of the Security Interest (except Luxembourg registration duties (*droits d'enregistrement*) payable due to a registration, submission or filing by the Second Lien Trustee, Second Lien Collateral Agent or a holder of Second Lien Notes of this Security Agreement except if such registration, submission or filing is required to maintain, establish, enforce or preserve the rights of the Second Lien Trustee, Second Lien Collateral Agent or such holder of Second Lien Notes under this Security Agreement) and the filing of any financing statements (including fixture filings) or other documents in connection herewith or therewith, all in accordance with the terms hereof and the terms of the Second Lien Indenture and subject to the Agreed Guarantee and Security Principles (to the extent applicable). Without limiting the generality of the foregoing, each Pledgor hereby authorizes the Second Lien Collateral Agent, with prompt notice thereof to the



Pledgors, to supplement this Agreement by supplementing *Schedule III* or adding additional schedules hereto to specifically identify any asset or item that may constitute a material issued or applied for United States federal Patent, material registered or applied for United States Trademark or material registered United States federal Copyright; *provided* that any Pledgor shall have the right, exercisable within 90 days after the Issuer has been notified by the Second Lien Collateral Agent of the specific identification of such Article 9 Collateral (or such later date as the Second Lien Collateral Agent may agree in its sole discretion), to advise the Second Lien Collateral Agent in writing of any inaccuracy of the representations and warranties made by such Pledgor hereunder with respect to such Article 9 Collateral. Each Pledgor agrees that it will use its commercially reasonable efforts to take such action as shall be necessary in order that all representations and warranties hereunder shall be true and correct with respect to such Article 9 Collateral within 45 days after the date it has been notified by the Second Lien Collateral Agent of the specific identification of such Article 9 Collateral (or such later date as the Second Lien Collateral Agent may agree in its sole discretion).

(d) After the occurrence and during the continuance of an Event of Default and subject to the terms of the First Priority/Second Priority Intercreditor Agreement, each Pledgor will permit any representatives designated by the Second Lien Collateral Agent, at reasonable times upon reasonable prior notice, (i) to inspect the Article 9 Collateral (including to verify under reasonable procedures the validity, amount, quality, quantity, value, condition and status of, or any other matter relating to, the Article 9 Collateral), and including, in the case of Accounts or Article 9 Collateral in the possession of any third person, by contacting Account Debtors or the third person possessing such Article 9 Collateral for the purpose of making such a verification, (ii) to examine and make copies of the records of such Pledgor relating to the Article 9 Collateral and (iii) to discuss the Article 9 Collateral and related records of such Pledgor with, and to be advised as to the same by, such Pledgor's officers and employees.

(e) The Second Lien Collateral Agent may discharge past due taxes, assessments, charges, fees, Liens, security interests or other encumbrances at any time levied or placed on the Article 9 Collateral and not a Permitted Lien, and may pay for the maintenance and preservation of the Article 9 Collateral to the extent any Pledgor fails to do so as required by the Second Lien Indenture, this Agreement or any Specified Other Second Lien Agreement, and each Pledgor jointly and severally agrees to reimburse the Second Lien Collateral Agent on demand for any reasonable and documented payment made or any reasonable and documented out-of-pocket expense incurred by the Second Lien Collateral Agent pursuant to the foregoing authorization; *provided, however*, that nothing in this Section 3.03(e) shall be interpreted as excusing any Pledgor from the performance of, or imposing any obligation on the Second Lien Collateral Agent or any Secured Party to cure or perform, any covenants or other promises of any Pledgor with respect to taxes, assessments, charges, fees, Liens, security interests or other encumbrances and maintenance as set forth herein, in the other Second Lien Notes Documents or any Specified Other Second Lien Agreement.

(f) Each Pledgor (rather than the Second Lien Collateral Agent or any Secured Party) shall remain liable for the observance and performance of all the conditions and obligations to be observed and performed by it under each contract, agreement or instrument

relating to the Article 9 Collateral and each Pledgor jointly and severally agrees to indemnify and hold harmless the Second Lien Collateral Agent and the Secured Parties from and against any and all liability for such performance.

(g) None of the Pledgors shall make or permit to be made an assignment, pledge or hypothecation of the Article 9 Collateral owned by it or in which it has an interest or shall grant any other Lien in respect of the Article 9 Collateral owned by it or in which it has an interest, except as not prohibited by the Second Lien Indenture or any Specified Other Second Lien Agreement. None of the Pledgors shall make or permit to be made any transfer of the Article 9 Collateral owned by it or in which it has an interest, except as not prohibited by the Second Lien Indenture, any Specified Other Second Lien Agreement, the First Priority/Second Priority Intercreditor Agreement or any other Intercreditor Agreement.

(h) Subject to the terms of the First Priority/Second Priority Intercreditor Agreement, each Pledgor irrevocably makes, constitutes and appoints the Second Lien Collateral Agent (and all officers, employees or agents designated by the Second Lien Collateral Agent) as such Pledgor's true and lawful agent (and attorney-in-fact) for the purpose, during the continuance of an Event of Default of making, settling and adjusting claims in respect of Article 9 Collateral under policies of insurance, endorsing the name of such Pledgor on any check, draft, instrument or other item of payment for the proceeds of such policies of insurance and for making all determinations and decisions with respect thereto. In the event that any Pledgor at any time or times shall fail to obtain or maintain any of the policies of insurance required by the Second Lien Notes Documents or any Specified Other Second Lien Agreement or to pay any premium in whole or part relating thereto, the Second Lien Collateral Agent may, without waiving or releasing any obligation or liability of the Pledgors hereunder or any Event of Default, in its sole discretion, subject to the terms of the First Priority/Second Priority Intercreditor Agreement, obtain and maintain such policies of insurance and pay such premium and take any other actions with respect thereto as the Second Lien Collateral Agent reasonably deems advisable. All sums disbursed by the Second Lien Collateral Agent in connection with this Section 3.03(h), including reasonable and documented attorneys' fees, court costs, expenses and other charges relating thereto, shall be payable, upon demand, by the Pledgors to the Second Lien Collateral Agent and shall be additional Secured Obligations secured hereby.

(i) Each Pledgor shall keep and maintain, in all material respects, complete, accurate and proper books and records with respect to the Article 9 Collateral owned by such Pledgor, and, after the occurrence and during the continuance of an Event of Default, furnish to the Second Lien Collateral Agent, such reports relating to the Article 9 Collateral as the Second Lien Collateral Agent shall from time to time reasonably request.

**SECTION 3.04. *Other Actions.*** In order to further ensure the attachment, perfection and priority of, and the ability of the Second Lien Collateral Agent to enforce, for the benefit of the Secured Parties, the Security Interest in the Article 9 Collateral, each Pledgor agrees, in each case at such Pledgor's own expense, to take the following actions with respect to the following Article 9 Collateral, in each case subject to the terms of the First Priority/Second Priority Intercreditor Agreement:

(a) *Instruments and Tangible Chattel Paper.* If any Pledgor shall at any time own or acquire any Instruments (other than debt obligations which constitute Pledged Debt and checks received and processed in the ordinary course of business) or Tangible Chattel Paper, in each case evidencing an individual amount in excess of \$5,000,000, such Pledgor shall promptly (and in any event within 50 days of its acquisition or such longer period as the Second Lien Collateral Agent may permit in its sole discretion) endorse, assign and deliver the same to the Second Lien Collateral Agent, accompanied by such instruments of transfer or assignment duly executed in blank as the Second Lien Collateral Agent may from time to time reasonably request.

(b) *Commercial Tort Claims.* If any Pledgor shall at any time hold or acquire a Commercial Tort Claim in an amount reasonably estimated to exceed \$5,000,000, such Pledgor shall promptly notify the Second Lien Collateral Agent thereof in a writing signed by such Pledgor, including a summary description of such claim, and deliver to the Second Lien Collateral Agent in writing a supplement to *Schedule IV* including such description.

(c) *Letter-of-Credit Rights.* Each Pledgor will, upon the Second Lien Collateral Agent's request, use commercially reasonable efforts to cause each issuer of a letter of credit in an amount in excess of \$5,000,000, to consent to the assignment of proceeds of the letter of credit in order to give the Second Lien Collateral Agent control of the letter-of-credit rights to such letter of credit.

**SECTION 3.05. *Covenants Regarding Patent, Trademark and Copyright Collateral.*** Except as not prohibited by the Second Lien Indenture or any Specified Other Second Lien Agreement:

(a) Each Pledgor agrees that it will not knowingly do any act or omit to do any act (and will exercise commercially reasonable efforts to prevent its licensees from doing any act or omitting to do any act) whereby any Patent that is material to the normal conduct of such Pledgor's business may become prematurely invalidated, abandoned, lapsed or dedicated to the public.

(b) Each Pledgor will, and will use its commercially reasonable efforts to cause its licensees or its sublicensees to, for each material Trademark necessary to the normal conduct of such Pledgor's business, (i) maintain such Trademark in full force free from any adjudication of abandonment or invalidity for non-use and (ii) maintain the quality of products and services offered under such Trademark in a manner consistent with the operation of such Pledgor's business.

(c) Each Pledgor shall notify the Second Lien Collateral Agent promptly if it knows that any United States federally issued or applied for Patent, United States federally registered or applied for Trademark or United States federally registered Copyright material to the normal conduct of such Pledgor's business may imminently become abandoned, lapsed or dedicated to the public, or of any materially adverse determination or development, excluding office actions and similar determinations or developments in the United States Patent and Trademark Office, United States Copyright Office, any court or any similar office of any

country, regarding such Pledgor's ownership of any such material Patent, Trademark or Copyright or its right to register or to maintain the same.

(d) Each Pledgor, either by itself or through any agent, employee, licensee or designee, shall (i) inform the Second Lien Collateral Agent on an annual basis (within 95 days after the end of each fiscal year of the Parent) of each application for, or registration or issuance of, any Patent or Trademark with the United States Patent and Trademark Office and each registration of any Copyright with the United States Copyright Office filed by or on behalf of, or issued to, or acquired by, any Pledgor during the preceding 12-month period and (ii) upon the reasonable request of the Second Lien Collateral Agent, execute and deliver any and all agreements, instruments, documents and papers necessary, or as reasonably requested by the Second Lien Collateral Agent, to evidence the Second Lien Collateral Agent's Security Interest in such Patent, Trademark or Copyright and the perfection thereof, *provided* that any such Patent, Trademark or Copyright created or acquired after the Issue Date shall automatically become subject to the Security Interest and constitute Collateral to the extent such would have constituted Collateral if owned at Issue Date without further action by any party.

(e) Each Pledgor shall exercise its reasonable business judgment consistent with its past practice in any proceeding before the United States Patent and Trademark Office or the United States Copyright Office with respect to maintaining and pursuing each application relating to any Patent, Trademark and/or Copyright (and obtaining the relevant grant or registration) material to the normal conduct of such Pledgor's business and to maintain (i) each United States federally issued Patent that is material to the normal conduct of such Pledgor's business and (ii) the registrations of each United States federally registered Trademark and each United States federally registered Copyright, in each case that is material to the normal conduct of such Pledgor's business, including, when applicable and necessary in such Pledgor's reasonable business judgment, timely filings of applications for renewal, affidavits of use, affidavits of incontestability and payment of maintenance fees, and, if any Pledgor believes necessary in its reasonable business judgment, to initiate opposition, interference and cancellation proceedings against third parties.

(f) In the event that any Pledgor knows or has reason to know that any Article 9 Collateral consisting of a Patent, Trademark or Copyright material to the normal conduct of its business has been materially infringed, misappropriated or diluted by a third party, such Pledgor shall promptly notify the Second Lien Collateral Agent and shall, if such Pledgor deems it necessary in its reasonable business judgment, promptly sue and recover any and all damages, and take such other actions as are reasonably appropriate under the circumstances.

(g) Upon and during the continuance of an Event of Default, at the request of the Second Lien Collateral Agent, each Pledgor shall use commercially reasonable efforts to obtain all requisite consents or approvals from each licensor under each Copyright License, Patent License or Trademark License to effect the assignment of all such Pledgor's right, title and interest thereunder to (in the Second Lien Collateral Agent's sole discretion) the designee of the Second Lien Collateral Agent or the Second Lien Collateral Agent; *provided, however*, that

nothing contained in this Section 3.05(g) should be construed as an obligation of any Pledgor to incur any costs or expenses in connection with obtaining such approval.

## ARTICLE IV

### *Remedies*

SECTION 4.01. ***Remedies Upon Default.*** In accordance with, and to the extent consistent with, the terms of any applicable Intercreditor Agreement, the Second Lien Collateral Agent may take any action specified in this Section 4.01. Upon the occurrence and during the continuance of an Event of Default, each Pledgor agrees to deliver each item of Collateral to the Second Lien Collateral Agent on demand subject to the terms of the First Priority/Second Priority Intercreditor Agreement. Subject to the terms of the First Priority/Second Priority Intercreditor Agreement, it is agreed that the Second Lien Collateral Agent shall have the right to take any of or all the following actions at the same or different times upon the occurrence and during the continuance of an Event of Default: (a) those rights and remedies provided in this Agreement, the Second Lien Indenture or any other Second Lien Notes Document or Specified Other Second Lien Agreement (as applicable), (b) with respect to any Article 9 Collateral consisting of Intellectual Property, on demand, to cause the Security Interest to become an assignment, transfer and conveyance of any of or all such Article 9 Collateral by the applicable Pledgors to the Second Lien Collateral Agent or to license or sublicense (subject to any such licensee's obligation to maintain the quality of the goods and/or services provided under any Trademark consistent with the quality of such goods and/or services provided by the Pledgors immediately prior to the Event of Default), whether general, special or otherwise, and whether on an exclusive or a nonexclusive basis, any such Article 9 Collateral throughout the world on such terms and conditions and in such manner as the Second Lien Collateral Agent shall determine (other than in violation of any then-existing licensing or trademark co-existence arrangements to the extent that waivers thereunder cannot be obtained with the use of commercially reasonable efforts, which each Pledgor hereby agrees to use) and (c) with or without legal process and with or without prior notice or demand for performance, to take possession of the Article 9 Collateral and without liability for trespass to the applicable Pledgor to enter any premises where the Article 9 Collateral or any records relating to the Article 9 Collateral may be located for the purpose of taking possession of or removing the Article 9 Collateral and, generally, to exercise any and all rights afforded to a secured party under the UCC or other applicable law (including, without limitation, any law governing the exercise of a bank's right of setoff or bankers' lien) or in equity. The Second Lien Collateral Agent agrees and covenants not to exercise any of the rights or remedies set forth in the preceding sentence unless and until the occurrence and during the continuance of an Event of Default and subject to the terms of the First Priority/Second Priority Intercreditor Agreement. Without limiting the generality of the foregoing, each Pledgor agrees that the Second Lien Collateral Agent shall have the right, subject to the mandatory requirements of applicable law and subject to the terms of the First Priority/Second Priority Intercreditor Agreement, to sell or otherwise Dispose of all or any part of the Collateral at a public or private sale or at any broker's board or on any securities exchange, for cash, upon credit or for future delivery, as the Second Lien Collateral Agent shall deem appropriate. The Second Lien Collateral Agent shall be authorized in connection with any

sale of a security (if it deems it advisable to do so) pursuant to the foregoing to restrict the prospective bidders or purchasers to persons who represent and agree that they are purchasing such security for their own account, for investment, and not with a view to the distribution or sale thereof. Upon consummation of any such Disposition of Collateral pursuant to this Section 4.01 the Second Lien Collateral Agent shall have the right to assign, transfer and deliver to the purchaser or purchasers thereof the Collateral so sold (other than in violation of any then-existing licensing or trademark co-existence arrangements to the extent that waivers thereunder cannot be obtained with the use of commercially reasonable efforts, which each Pledgor hereby agrees to use). Each such purchaser at any such Disposition shall hold the property sold absolutely, free from any claim or right on the part of any Pledgor, and each Pledgor hereby waives and releases (to the extent permitted by law) all rights of redemption, stay, valuation and appraisal that such Pledgor now has or may at any time in the future have under any rule of law or statute now existing or hereafter enacted.

The Second Lien Collateral Agent shall give the applicable Pledgors 10 Business Days' written notice (which each Pledgor agrees is reasonable notice within the meaning of Section 9-611 of the UCC or its equivalent in other jurisdictions) of the Second Lien Collateral Agent's intention to make any sale of Collateral. Such notice, in the case of a public sale, shall state the time and place for such sale and, in the case of a sale at a broker's board or on a securities exchange, shall state the board or exchange at which such sale is to be made and the day on which the Collateral, or portion thereof, will first be offered for sale at such board or exchange. Any such public sale shall be held at such time or times within ordinary business hours and at such place or places as the Second Lien Collateral Agent may fix and state in the notice (if any) of such sale, and each Pledgor agrees that the internet shall constitute a "place" for purposes of Section 9-610(b) of the UCC. At any such sale, the Collateral, or the portion thereof, to be sold may be sold in one lot as an entirety or in separate parcels, as the Second Lien Collateral Agent may (in its sole and absolute discretion) determine subject to the terms of the First Priority/Second Priority Intercreditor Agreement. The Second Lien Collateral Agent shall not be obligated to make any sale of any Collateral if it shall determine not to do so, regardless of the fact that notice of sale of such Collateral shall have been given. The Second Lien Collateral Agent may, without notice or publication, adjourn any public or private sale or cause the same to be adjourned from time to time by announcement at the time and place fixed for sale, and such sale may, without further notice, be made at the time and place to which the same was so adjourned. In the case of any sale of all or any part of the Collateral made on credit or for future delivery, the Collateral so sold may be retained by the Second Lien Collateral Agent, subject to the terms of the First Priority/Second Priority Intercreditor Agreement, until the sale price is paid by the purchaser or purchasers thereof, but the Second Lien Collateral Agent shall not incur any liability in the event that any such purchaser or purchasers shall fail to take up and pay for the Collateral so sold and, in the case of any such failure, such Collateral may be sold again upon notice given in accordance with provisions above. At any public (or, to the extent permitted by law, private) sale made pursuant to this Section 4.01, subject to the terms of the First Priority/Second Priority Intercreditor Agreement, any Secured Party may bid for or purchase for cash, free (to the extent permitted by law) from any right of redemption, stay, valuation or appraisal on the part of any Pledgor (all such rights being also hereby waived and released to the

extent permitted by law), the Collateral or any part thereof offered for sale and such Secured Party may, upon compliance with the terms of sale, hold, retain and Dispose of such property in accordance with Section 4.02 without further accountability to any Pledgor therefor. For purposes hereof, a written agreement to purchase the Collateral or any portion thereof shall be treated as a sale thereof; the Second Lien Collateral Agent shall be free to carry out such sale pursuant to such agreement and no Pledgor shall be entitled to the return of the Collateral or any portion thereof subject thereto, notwithstanding the fact that after the Second Lien Collateral Agent shall have entered into such an agreement all Events of Default shall have been remedied and the Secured Obligations paid in full. As an alternative to exercising the power of sale herein conferred upon it, the Second Lien Collateral Agent may, subject to the terms of the First Priority/Second Priority Intercreditor Agreement, proceed by a suit or suits at law or in equity to foreclose this Agreement and to sell the Collateral or any portion thereof pursuant to a judgment or decree of a court or courts having competent jurisdiction or pursuant to a proceeding by a court-appointed receiver. Any sale pursuant to the provisions of this Section 4.01 shall be deemed to conform to the commercially reasonable standards as provided in Section 9-610(b) of the UCC or its equivalent in other jurisdictions.

**SECTION 4.02. *Application of Proceeds.*** The Second Lien Collateral Agent shall, subject to any applicable Intercreditor Agreement, promptly apply the proceeds, moneys or balances of any collection or sale of Collateral realized through the exercise by the Second Lien Collateral Agent of its remedies hereunder, as well as any Collateral consisting of cash at any time when remedies are being exercised hereunder, as follows:

FIRST, to the payment of all costs and expenses incurred by the Second Lien Collateral Agent in connection with such collection or sale or otherwise in connection with any Second Lien Notes Document, any Specified Other Second Lien Agreement or any of the Secured Obligations secured by such Collateral, including without limitation all court costs and the fees and expenses of its agents and legal counsel, the repayment of all advances made by the Second Lien Collateral Agent under any Second Lien Notes Document or any Specified Other Second Lien Agreement on behalf of any Pledgor, any other costs or expenses incurred in connection with the exercise of any right or remedy hereunder or under any other Second Lien Notes Document or any Specified Other Second Lien Agreement, and all other fees, indemnities and other amounts, in each case owing or reimbursable to the Second Lien Collateral Agent under any Second Lien Notes Document or any Specified Other Second Lien Agreement in its capacity as such;

SECOND, to the payment in full of the Secured Obligations secured by such Collateral, the amounts so applied to be distributed between the Second Lien Secured Parties and any Specified Other Second Lien Secured Parties *pro rata* based on the respective amounts of such Secured Obligations owed to them on the date of any such distribution (or in accordance with such other method of distribution as may be set forth in any applicable Intercreditor Agreement), with (x) the portion thereof distributed to the Second Lien Secured Parties to be further distributed in accordance with the order of priority set forth in Section 6.10 of the Second Lien Indenture and (y) the portion thereof distributed to the Secured Parties of any other Series to be further distributed in

accordance with the applicable provisions of the Specified Other Second Lien Agreements governing such Series; and

THIRD, to the Pledgors, their successors or assigns, or as a court of competent jurisdiction may otherwise direct;

*provided* that in no event shall the proceeds of any collection or sale of any Specified Excluded Collateral be applied to the relevant Series of Secured Obligations.

Subject to the terms of the First Priority/Second Priority Intercreditor Agreement, the Second Lien Collateral Agent shall have absolute discretion as to the time of application of any such proceeds, moneys or balances in accordance with this Agreement. Upon the request of the Second Lien Collateral Agent prior to any distribution under this Section 4.02, each Authorized Representative shall provide to the Second Lien Collateral Agent certificates, in form and substance reasonably satisfactory to the Second Lien Collateral Agent, setting forth the respective amounts referred to in this Section 4.02 that each applicable Secured Party or its Authorized Representative believes it is entitled to receive, and the Second Lien Collateral Agent shall be fully entitled to rely on such certificates. Upon any sale of Collateral by the Second Lien Collateral Agent (including pursuant to a power of sale granted by statute or under a judicial proceeding), the receipt of the purchase money by the Second Lien Collateral Agent or of the officer making the sale shall be a sufficient discharge to the purchaser or purchasers of the Collateral so sold and such purchaser or purchasers shall not be obligated to see to the application of any part of the purchase money paid over to the Second Lien Collateral Agent or such officer or be answerable in any way for the misapplication thereof.

SECTION 4.03. *Securities Act, Etc.* In view of the position of the Pledgors in relation to the Pledged Collateral, or because of other current or future circumstances, a question may arise under the Securities Act of 1933, as amended, or any similar federal statute hereafter enacted analogous in purpose or effect (such Act and any such similar statute as from time to time in effect being called the “*Federal Securities Laws*”) with respect to any Disposition of the Pledged Collateral permitted hereunder. Each Pledgor understands that compliance with the Federal Securities Laws might very strictly limit the course of conduct of the Second Lien Collateral Agent if the Second Lien Collateral Agent were to attempt to Dispose of all or any part of the Pledged Collateral, and might also limit the extent to which or the manner in which any subsequent transferee of any Pledged Collateral could Dispose of the same. Similarly, there may be other legal restrictions or limitations affecting the Second Lien Collateral Agent in any attempt to Dispose of all or part of the Pledged Collateral under applicable Blue Sky or other state securities laws or similar laws analogous in purpose or effect. Each Pledgor acknowledges and agrees that in light of such restrictions and limitations, the Second Lien Collateral Agent, subject to the terms of any applicable Intercreditor Agreement, in its sole and absolute discretion, (a) may proceed to make such a sale whether or not a registration statement for the purpose of registering such Pledged Collateral or part thereof shall have been filed under the Federal Securities Laws or, to the extent applicable, Blue Sky or other state securities laws and (b) may approach and negotiate with a single potential purchaser to effect such sale. Each Pledgor acknowledges and agrees that any such sale might result in prices and other terms less favorable



to the seller than if such sale were a public sale without such restrictions. In the event of any such sale, the Second Lien Collateral Agent shall incur no responsibility or liability for selling all or any part of the Pledged Collateral at a price that the Second Lien Collateral Agent, subject to the terms of any applicable Intercreditor Agreement, in its sole and absolute discretion, may in good faith deem reasonable under the circumstances, notwithstanding the possibility that a substantially higher price might have been realized if the sale were deferred until after registration as aforesaid or if more than a single purchaser were approached. The provisions of this Section 4.03 will apply notwithstanding the existence of a public or private market upon which the quotations or sales prices may exceed substantially the price at which the Second Lien Collateral Agent sells.

**SECTION 4.04. *Collection of Receivables Assets.*** Subject to any Intercreditor Agreement, the Second Lien Collateral Agent may at any time after the occurrence and during the continuance of an Event of Default, by giving each Pledgor written notice, elect to require that the any Accounts of any Pledgor be paid directly to the Second Lien Collateral Agent for the benefit of the Secured Parties. In such event, each such Pledgor shall, and shall permit the Second Lien Collateral Agent to, promptly notify the account debtors or obligors under the Accounts owned by such Pledgor of the Second Lien Collateral Agent's interest therein and direct such account debtors or obligors to make payment of all amounts then or thereafter due under such Accounts directly to the Second Lien Collateral Agent. Upon receipt of any such notice from the Second Lien Collateral Agent, each Pledgor shall, so long as an Event of Default is continuing, thereafter hold in trust for the Second Lien Collateral Agent, on behalf of the Secured Parties, all amounts and proceeds received by it with respect to the Accounts and other Collateral and promptly deliver to the Second Lien Collateral Agent all such amounts and proceeds in the same form as so received, whether by cash, check, draft or otherwise, with any necessary endorsements. The Second Lien Collateral Agent shall hold and apply funds so received as provided by the terms of Sections 4.02 and 4.05 hereof.

**SECTION 4.05. *Special Collateral Account.*** Subject to any Intercreditor Agreement, the Second Lien Collateral Agent may, at any time after the occurrence and during the continuation of an Event of Default, require all cash proceeds of the Collateral to be deposited in a special non-interest bearing cash collateral account with the Second Lien Collateral Agent promptly after receipt thereof by a Pledgor and held in such cash collateral account as security for its Secured Obligations. No Pledgor shall have any control whatsoever over such cash collateral account; *provided* that the Second Lien Collateral Agent shall release all funds in such cash collateral account (less any amounts that have been applied in accordance with the immediately following sentence) to the applicable Pledgor immediately upon the cure or waiver of the applicable Event of Default. Subject to any Intercreditor Agreement, the Second Lien Collateral Agent may (and shall, at the direction of the holders of a majority in principal amount of outstanding Second Lien Notes and/or such proportion of the Specified Other Second Lien Secured Parties as may be required under any applicable Specified Other Second Lien Agreements), from time to time, apply the collected balances in said cash collateral account to the payment of the Secured Obligations then due in accordance with the terms of Section 4.02 hereof and the terms of any applicable Intercreditor Agreement.

SECTION 4.06. *Pledgors' Obligations Upon Event of Default.* Upon the request of the Second Lien Collateral Agent after the occurrence and during the continuance of an Event of Default, each Pledgor will, subject to the terms of the First Priority/Second Priority Intercreditor Agreement:

(a) *Assembly of Collateral.* Assemble and make available to the Second Lien Collateral Agent the Collateral at a place or places specified by the Second Lien Collateral Agent that is reasonably convenient to the Second Lien Collateral Agent and such Pledgor.

(b) *Secured Party Access.* Permit the Second Lien Collateral Agent, by the Second Lien Collateral Agent's representatives and agents, to enter, occupy and use any premises owned or, to the extent lawful and permitted, leased by any of the Pledgors where all or any part of the Collateral is located, subject to the terms of the First Priority/Second Priority Intercreditor Agreement, to take possession of all or any part of the Collateral, to remove all or any part of the Collateral, and to conduct sales of the Collateral, without any obligation to pay the Grantor for such use and occupancy; *provided* that the Second Lien Collateral Agent shall provide the applicable Pledgor with notice thereof prior to such occupancy or use.

## ARTICLE V

### *Miscellaneous*

SECTION 5.01. *Notices.* All communications and notices hereunder shall (except as otherwise expressly permitted herein) be in writing and given as provided in Section 14.01 of the Second Lien Indenture. All communications and notices to any holders of obligations under any Specified Other Second Lien Agreement shall be addressed to the Authorized Representative of such holders at its address set forth in the Specified Other Second Lien Secured Party Consent, as such address may be changed by written notice to the Second Lien Collateral Agent.

SECTION 5.02. *Security Interest Absolute.* To the extent permitted by law, all rights of the Second Lien Collateral Agent hereunder, the Security Interest in the Article 9 Collateral, the security interest in the Pledged Collateral and all obligations of each Pledgor hereunder shall be absolute and unconditional irrespective of (a) any lack of validity or enforceability of any Second Lien Notes Document, any Specified Other Second Lien Agreement, any other agreement with respect to any of the Secured Obligations or any other agreement or instrument relating to any of the foregoing, (b) any change in the time, manner or place of payment of, or in any other term of, all or any of the Secured Obligations, or any other amendment or waiver of or any consent to any departure from any Second Lien Notes Document, any Specified Other Second Lien Agreement, any Intercreditor Agreement, or any other agreement or instrument, (c) any exchange, release or non-perfection of any Lien on other collateral, or any release or amendment or waiver of or consent under or departure from any guarantee, securing or guaranteeing all or any of the Secured Obligations or (d) any other circumstance that might otherwise constitute a defense available to, or a discharge of, any Pledgor in respect of the Secured Obligations or this Agreement (other than a defense of

payment or performance of the Secured Obligations (other than contingent indemnification and reimbursement obligations for which no claim has been made)).

SECTION 5.03. ***Limitation By Law.*** All rights, remedies and powers provided in this Agreement may be exercised only to the extent that the exercise thereof does not violate any applicable provision of law, and all the provisions of this Agreement are intended to be subject to all applicable mandatory provisions of law that may be controlling and to be limited to the extent necessary so that they shall not render this Agreement invalid, unenforceable, in whole or in part, or not entitled to be recorded, registered or filed under the provisions of any applicable law.

SECTION 5.04. ***Binding Effect; Several Agreements.*** This Agreement shall become effective as to any party to this Agreement when a counterpart hereof executed on behalf of such party shall have been delivered to the Second Lien Collateral Agent and a counterpart hereof shall have been executed on behalf of the Second Lien Collateral Agent, and thereafter shall be binding upon such party and the Second Lien Collateral Agent and their respective permitted successors and assigns, and shall inure to the benefit of such party, the Second Lien Collateral Agent and the other Secured Parties and their respective permitted successors and assigns, except that no party shall have the right to assign or transfer its rights or obligations hereunder or any interest herein or in the Collateral (and any such assignment or transfer shall be void) except as permitted under this Agreement, the Second Lien Indenture or any Specified Other Second Lien Agreement. This Agreement shall be construed as a separate agreement with respect to each party and may be amended, modified, supplemented, waived or released in accordance with Section 5.09 or 5.15, as applicable.

SECTION 5.05. ***Successors and Assigns.*** Whenever in this Agreement any of the parties hereto is referred to, such reference shall be deemed to include the permitted successors and assigns of such party and all covenants, promises and agreements by or on behalf of any Pledgor or the Second Lien Collateral Agent that are contained in this Agreement shall bind and inure to the benefit of their respective permitted successors and assigns, *provided* that no Pledgor may assign, transfer or delegate any of its rights or obligations under this Agreement except as permitted by Section 5.04.

SECTION 5.06. ***Second Lien Collateral Agent's Fees and Expenses; Indemnification.***

(a) The parties hereto agree that the Second Lien Collateral Agent shall be entitled to reimbursement of its expenses incurred hereunder by the Pledgors, and the Second Lien Collateral Agent and other Indemnitees shall be indemnified by the Pledgors, in each case of this clause (a), *mutatis mutandis*, as provided in Sections 7.07 and 13.08 of the Second Lien Indenture and any equivalent provision of any Specified Other Second Lien Agreement.

(b) Any such amounts payable as provided hereunder shall be additional Secured Obligations secured hereby and by the other Security Documents. The provisions of this Section 5.06 shall remain operative and in full force and effect regardless of the resignation

of the Second Lien Collateral Agent, the termination of this Agreement, any other Second Lien Notes Document or any Specified Other Second Lien Agreement, the consummation of the transactions contemplated hereby, the repayment of any of the Secured Obligations, the invalidity or unenforceability of any term or provision of this Agreement, any other Second Lien Notes Document or any Specified Other Second Lien Agreement, or any investigation made by or on behalf of the Second Lien Collateral Agent or any other Secured Party.

**SECTION 5.07. *Second Lien Collateral Agent Appointed Attorney-in-Fact.***

Subject to the Intercreditor Agreements, each Pledgor hereby appoints the Second Lien Collateral Agent as the attorney-in-fact of such Pledgor for the purpose of carrying out the provisions of this Agreement and taking any action and executing any instrument that the Second Lien Collateral Agent may deem necessary or advisable to accomplish the purposes hereof, in each case upon the occurrence and during the continuance of an Event of Default, which appointment is irrevocable and coupled with an interest. Without limiting the generality of the foregoing, subject to applicable Requirements of Law and any Intercreditor Agreements, the Second Lien Collateral Agent shall have the right, upon the occurrence and during the continuance of an Event of Default and reasonable notice by the Second Lien Collateral Agent to the Issuer of its intent to exercise such rights, with full power of substitution either in the Second Lien Collateral Agent's name or in the name of such Pledgor, (a) to receive, endorse, assign or deliver any and all notes, acceptances, checks, drafts, money orders or other evidences of payment relating to the Collateral or any part thereof; (b) to demand, collect, receive payment of, give receipt for and give discharges and releases of all or any of the Collateral; (c) to ask for, demand, sue for, collect, receive and give acquittance for any and all moneys due or to become due under and by virtue of any Collateral; (d) to sign the name of any Pledgor on any invoice or bill of lading relating to any of the Collateral; (e) to send verifications of Accounts to any Account Debtor; (f) to commence and prosecute any and all suits, actions or proceedings at law or in equity in any court of competent jurisdiction to collect or otherwise, realize on all or any of the Collateral or to enforce any rights in respect of any Collateral; (g) to settle, compromise, compound, adjust or defend any actions, suits or proceedings relating to all or any of the Collateral; (h) to notify, or to require any Pledgor to notify, Account Debtors to make payment directly to the Second Lien Collateral Agent as contemplated by Section 4.04; and (i) to use, sell, assign, transfer, pledge, make any agreement with respect to or otherwise deal with all or any of the Collateral, and to do all other acts and things necessary to carry out the purposes of this Agreement, as fully and completely as though the Second Lien Collateral Agent were the absolute owner of the Collateral for all purposes; *provided* that nothing herein contained shall be construed as requiring or obligating the Second Lien Collateral Agent to make any commitment or to make any inquiry as to the nature or sufficiency of any payment received by the Second Lien Collateral Agent, or to present or file any claim or notice, or to take any action with respect to the Collateral or any part thereof or the moneys due or to become due in respect thereof or any property covered thereby. Notwithstanding anything in this Section 5.07 to the contrary, the Second Lien Collateral Agent agrees that it will not exercise any rights under the power of attorney provided for in this Section 5.07 unless an Event of Default shall have occurred and be continuing and subject to the terms of the First Priority/Second Priority Intercreditor Agreement. The Second Lien Collateral Agent and the other Secured Parties shall be accountable only for

amounts actually received as a result of the exercise of the powers granted to them herein, and neither they nor their officers, directors, employees or agents shall be responsible to any Pledgor for any act or failure to act hereunder, except for their own or their Related Parties' gross negligence or willful misconduct, as determined by a court of competent jurisdiction in a final and non-appealable judgment. For the avoidance of doubt, Section 13.08 of the Second Lien Indenture (or the equivalent provision of any Specified Other Second Lien Agreement) shall apply to the Second Lien Collateral Agent as agent for the Secured Parties hereunder.

**SECTION 5.08. *Governing Law.* THIS AGREEMENT AND ANY CLAIMS, CONTROVERSY, DISPUTE OR CAUSES OF ACTION (WHETHER IN CONTRACT OR TORT OR OTHERWISE) BASED UPON, ARISING OUT OF OR RELATING TO THIS AGREEMENT SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAWS OF THE STATE OF NEW YORK.**

**SECTION 5.09. *Waivers; Amendment.*** (a) No failure or delay by the Second Lien Collateral Agent or any other Secured Party in exercising any right, power or remedy hereunder or under any other Second Lien Notes Document or any Specified Other Second Lien Agreement shall operate as a waiver thereof, nor shall any single or partial exercise of any such right, power or remedy, or any abandonment or discontinuance of steps to enforce such a right, power or remedy, preclude any other or further exercise thereof or the exercise of any other right, power or remedy. The rights, powers and remedies of the Second Lien Collateral Agent and the other Secured Parties hereunder and under the other Second Lien Notes Documents and any Specified Other Second Lien Agreements are cumulative and are not exclusive of any rights, powers or remedies that they would otherwise have. No waiver of any provision of this Agreement or consent to any departure by any Pledgor therefrom shall in any event be effective unless the same shall be permitted by paragraph (b) of this Section 5.09, and then such waiver or consent shall be effective only in the specific instance and for the purpose for which given. Without limiting the generality of the foregoing, the incurrence of any Second Lien Notes Secured Obligations or the incurrence of any Specified Other First Lien Obligation shall not be construed as a waiver of any Default or Event of Default, regardless of whether the Second Lien Collateral Agent or any other Secured Party may have had notice or knowledge of such Default or Event of Default at the time. No notice or demand on any Pledgor in any case shall entitle any Pledgor to any other or further notice or demand in similar or other circumstances.

(b) Neither this Agreement nor any provision hereof may be waived, amended or modified except pursuant to an agreement or agreements in writing entered into by the Second Lien Collateral Agent and the Pledgor or Pledgors with respect to which such waiver, amendment or modification is to apply, subject to (i) any consent required in accordance with Section 9.02 of the Second Lien Indenture, and (ii) the consent of each other Authorized Representative if and to the extent required by (and in accordance with) the applicable Specified Other Second Lien Agreement, and except as otherwise provided in any applicable Intercreditor Agreement.

(c) Notwithstanding anything to the contrary contained herein, the Second Lien Collateral Agent may (in its sole discretion) grant extensions of time or waivers of the

requirement for the creation or perfection of security interests in particular assets or the taking of any other action contemplated by this Agreement, the other Second Lien Notes Documents or any Specified Other Second Lien Agreement (including extensions beyond the Issue Date for the perfection of security interests in the assets of the Pledgors on such date) where it reasonably determines, in consultation with the Issuer, that creation or perfection or the taking of such actions cannot be accomplished without undue effort or expense by the time or times at which it would otherwise be required by this Agreement, the other Second Lien Notes Documents or any Specified Other Second Lien Agreement.

SECTION 5.10. **WAIVER OF JURY TRIAL.** EACH PARTY HERETO HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT, ANY OTHER SECOND LIEN NOTES DOCUMENT OR ANY SPECIFIED OTHER SECOND LIEN AGREEMENT (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY). EACH PARTY HERETO (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (B) ACKNOWLEDGES THAT IT AND THE OTHER PARTIES HERETO HAVE BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 5.10.

SECTION 5.11. **Severability.** In the event any one or more of the provisions contained in this Agreement or any other Second Lien Notes Document or any Specified Other Second Lien Agreement should be held invalid, illegal or unenforceable in any respect in any jurisdiction, the validity, legality and enforceability of the remaining provisions contained herein and therein shall not in any way be affected or impaired thereby as to such jurisdiction, and the invalidity of a particular provision in a particular jurisdiction shall not invalidate such provision in any other jurisdiction. The parties shall endeavor in good-faith negotiations to replace the invalid, illegal or unenforceable provisions with valid provisions the economic effect of which comes as close as possible to that of the invalid, illegal or unenforceable provisions.

SECTION 5.12. **Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall constitute an original but all of which when taken together shall constitute but one contract, and shall become effective as provided in Section 5.04. Delivery of an executed counterpart to this Agreement by facsimile or other electronic transmission shall be as effective as delivery of a manually signed original.

SECTION 5.13. **Headings.** Article and Section headings and the Table of Contents used herein are for convenience of reference only, are not part of this Agreement and are not to affect the construction of, or to be taken into consideration in interpreting, this Agreement.

**SECTION 5.14. *Jurisdiction; Consent to Service of Process.***

(a) Each Pledgor hereby irrevocably and unconditionally agrees that it will not commence any action, litigation or proceeding of any kind or description, whether in law or equity, whether in contract or in tort or otherwise, against any other party to this Agreement or any Affiliate thereof, in any way relating to this Agreement, any other Second Lien Notes Document or any Specified Other Second Lien Agreement or the transactions relating hereto or thereto, in any forum other than the courts of the State of New York sitting in New York County, Borough of Manhattan, and of the United States District Court of the Southern District of New York, sitting in New York County, Borough of Manhattan, and any appellate court from any thereof, and each of the parties hereto irrevocably and unconditionally submits to the jurisdiction of such courts and agrees that all claims in respect of any such action, litigation or proceeding may be heard and determined in such New York State court or, to the fullest extent permitted by applicable law, in such federal court. Each of the parties hereto agrees that a final judgment in any such action, litigation or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. Nothing in this Agreement, any other Second Lien Notes Document or any Specified Other Second Lien Agreement shall affect any right that the Second Lien Collateral Agent or any other Secured Party may otherwise have to bring any action or proceeding relating to this Agreement, any other Second Lien Notes Document or any Specified Other Second Lien Agreement against any Pledgor or its properties in the courts of any jurisdiction.

(b) Each party to this Agreement hereby irrevocably and unconditionally waives, to the fullest extent it may legally and effectively do so, any objection which it may now or hereafter have to the laying of venue of any suit, action or proceeding arising out of or relating to this Agreement, any other Second Lien Notes Document or any Specified Other Second Lien Agreement in any court referred to in paragraph (a) of this Section 5.14. Each of the parties hereto hereby irrevocably waives, to the fullest extent permitted by law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

(c) Each party to this Agreement irrevocably consents to service of process in the manner provided for notices in Section 5.01. Nothing in this Agreement, any other Second Lien Notes Document or any Specified Other Second Lien Agreement will affect the right of any party to this Agreement, any other Second Lien Notes Document or any Specified Other Second Lien Agreement to serve process in any other manner permitted by law.

**SECTION 5.15. *Termination or Release.*** In each case subject to the terms of the First Priority/Second Priority Intercreditor Agreement:

(a) This Agreement and the pledges made by the Pledgors herein and all other security interests granted by the Pledgors hereby shall automatically terminate and be released upon the occurrence of the Termination Date and, if any Specified Other Second Lien Obligations are outstanding on the Termination Date, the date when any Specified Other Second Lien Obligations (other than contingent or unliquidated obligations or liabilities not then due and any other obligations that, by the terms of any applicable Specified Other Second Lien Agreements, are not required to be paid in full in cash prior to termination and release of the

Collateral) have been paid in full in cash and the Secured Parties have no further commitment to extend credit under any Specified Other Second Lien Agreement.

(b) Solely with respect to the Second Lien Notes Secured Obligations, (i) a Pledgor shall automatically be released from its obligations hereunder if such Pledgor is released from its obligations from its Guarantee in accordance with Section 13.02(a)(ii)(b) of the Second Lien Indenture and/or (ii) the Security Interest in any portion of the Collateral shall be automatically released upon the occurrence of any of the circumstances set forth in Section 13.02(a) of the Second Lien Indenture (other than Section 13.02(a)(ii)(b) thereof) with respect to such portion of the Collateral, in the case of each of preceding clauses (i) and (ii), in accordance with the requirements of such Section (or clause thereof, as applicable), and all rights to the applicable Collateral shall revert to any applicable Pledgor.

(c) Solely with respect to any Specified Other Second Lien Obligations, a Pledgor shall automatically be released from its obligations hereunder and/or the Security Interest in any Collateral shall in each case be automatically released upon the occurrence of any of the circumstances set forth in any section governing release of collateral in the applicable Specified Other Second Lien Agreement in accordance with the requirements of any such section, and all rights (but only to the extent granted to holders of Specified Other Second Lien Obligations) to the Collateral shall revert to any applicable Pledgor.

(d) The Security Interest in any portion of the Collateral shall be automatically released upon such portion of the Collateral becoming Excluded Property, Excluded Securities or, solely with respect to the applicable Series of Specified Other Second Lien Obligations, Specified Excluded Collateral.

(e) In connection with any termination or release pursuant to this Section 5.15, the Second Lien Collateral Agent shall execute and deliver to any Pledgor all documents that such Pledgor shall reasonably request to evidence such termination or release (including UCC termination statements), and will duly assign and transfer to such Pledgor, any of such Collateral that is in the possession of the Second Lien Collateral Agent and has not theretofore been sold or otherwise applied or released pursuant to this Agreement; *provided* that the Second Lien Collateral Agent shall not be required to execute any such document on terms which, in the Second Lien Collateral Agent's reasonable opinion, would expose the Second Lien Collateral Agent to liability or create any obligation or entail any consequence other than the release of such termination or release without representation or warranty. Any execution and delivery of documents pursuant to this Section 5.15 shall be made without recourse to or warranty by the Second Lien Collateral Agent. In connection with any release pursuant to this Section 5.15, the applicable Pledgor shall be permitted to take any action in connection therewith consistent with such release including, without limitation, the filing of UCC termination statements with respect to the released portion of the Collateral. Upon the receipt of any necessary or proper instruments of termination, satisfaction or release prepared by the Issuer, the Second Lien Collateral Agent shall execute, deliver or acknowledge such instruments or releases to evidence the release of any Collateral permitted to be released pursuant to this Agreement; *provided* that the Second Lien Collateral Agent shall not be required to execute, deliver or acknowledge any such document on



terms which, in the Second Lien Collateral Agent's reasonable opinion, would expose the Second Lien Collateral Agent to liability or create any obligation or entail any consequence other than the release of such termination or release without representation or warranty. The Pledgors agree to pay all reasonable and documented out-of-pocket expenses incurred by the Second Lien Collateral Agent (and its representatives and counsel) in connection with the execution and delivery of such release documents or instruments.

**SECTION 5.16. *Additional Pledgors.*** Upon execution and delivery by any Subsidiary that is required or permitted to become a party hereto by Section 4.18 of the Second Lien Indenture or the Collateral and Guarantee Requirement of the Second Lien Indenture or, so long as such Subsidiary is a Guarantor, by any Specified Other Second Lien Agreement, of an instrument substantially in the form of *Exhibit I* hereto (or another instrument reasonably satisfactory to the Second Lien Collateral Agent and the Issuer), such subsidiary shall become a Pledgor hereunder with the same force and effect as if originally named as a Pledgor herein. The execution and delivery of any such instrument shall not require the consent of any other party to this Agreement. The rights and obligations of each party to this Agreement shall remain in full force and effect notwithstanding the addition of any new party to this Agreement.

**SECTION 5.17. *General Authority of the Second Lien Collateral Agent.***

(a) By acceptance of the benefits of this Agreement and any other Security Documents, each Secured Party (whether or not a signatory hereto) shall be deemed irrevocably (i) to consent to the appointment of the Second Lien Collateral Agent as its agent hereunder and under such other Security Documents, (ii) to confirm that the Second Lien Collateral Agent shall have the authority to act as the exclusive agent of such Secured Party for the enforcement of any provision of this Agreement and such other Security Documents against any Pledgor, the exercise of remedies hereunder or thereunder and the giving or withholding of any consent or approval hereunder thereunder relating to any Collateral or any Pledgor's obligations with respect thereto, (iii) to agree that it shall not take any action to enforce any provisions of this Agreement or any other Security Document against any Pledgor, to exercise any remedy hereunder or thereunder or to give any consents or approvals hereunder or thereunder except as expressly provided in this Agreement or any other Security Document or any applicable Intercreditor Agreement and (iv) to agree to be bound by the terms of this Agreement and any other Security Documents and any applicable Intercreditor Agreement then in effect.

(b) Each Pledgor acknowledges that the rights and responsibilities of the Second Lien Collateral Agent under this Agreement with respect to any action taken by the Second Lien Collateral Agent or the exercise or non-exercise by the Second Lien Collateral Agent of any option, voting right, request, judgment or other right or remedy provided for herein or resulting or arising out of this Agreement shall, as between the Second Lien Collateral Agent and the Secured Parties, be governed by Article XIII of the Second Lien Indenture, any Permitted Second Lien Intercreditor Agreement and such other agreements with respect thereto as may exist from time to time among them, but, as between the Second Lien Collateral Agent and the Pledgors, the Second Lien Collateral Agent shall be conclusively presumed to be acting as agent for the applicable Secured Parties with full and valid authority so to act or refrain from

acting, and no Pledgor shall be under any obligation, or entitlement, to make any inquiry respecting such authority.

(c) It is expressly understood and agreed that the obligations of the Second Lien Collateral Agent as holder of the Collateral and interests therein and with respect to the disposition thereof, and otherwise under this Agreement, are only those expressly set forth in this Agreement and Article XIII of the Second Lien Indenture. The Second Lien Collateral Agent shall act hereunder on the terms and conditions set forth herein and in Article XIII of the Second Lien Indenture.

**SECTION 5.18. *Subject to Intercreditor Agreements; Conflicts.*** Notwithstanding anything herein to the contrary, (i) the Liens and security interests granted to the Second Lien Collateral Agent for the benefit of the Secured Parties pursuant to this Agreement and (ii) the exercise of any right or remedy by the Second Lien Collateral Agent hereunder or the application of proceeds (including insurance and condemnation proceeds) of any Collateral, in each case, are subject to the limitations and provisions of any applicable Intercreditor Agreement (including, without limitation, the First Priority/Second Priority Intercreditor Agreement) to the extent provided therein. In the event of any conflict between the terms of such applicable Intercreditor Agreement (including, without limitation, the First Priority/Second Priority Intercreditor Agreement) and the terms of this Agreement, the terms of such applicable Intercreditor Agreement shall govern (including, without limitation, the First Priority/Second Priority Intercreditor Agreement).

**SECTION 5.19. *Specified Other Second Lien Obligations.*** On or after the Issue Date and so long as permitted under the Second Lien Indenture and any Specified Other Second Lien Agreement then in effect, the Issuer may, but shall not be required to, from time to time designate obligations in respect of indebtedness permitted to be secured pursuant to the Second Lien Indenture to be secured (except with respect to any applicable Specified Excluded Collateral) on a *pari passu* basis with the then-outstanding Secured Obligations as “Specified Other Second Lien Obligations” hereunder by (a) delivering to the Second Lien Collateral Agent and each Authorized Representative a certificate of the Issuer (i) identifying the obligations so designated and the initial aggregate principal amount or face amount thereof, (ii) stating that such obligations are designated as Specified Other Second Lien Obligations for purposes hereof, (iii) representing that the Liens securing such obligations are permitted pursuant to (x) the Second Lien Indenture and (y) any Specified Other Second Lien Agreement then in effect, and (iv) specifying the name and address of the Authorized Representative for such obligations, (b) delivering to the Second Lien Collateral Agent and each Authorized Representative an Specified Other Second Lien Secured Party Consent executed by the Authorized Representative for such obligations and the Issuer and (c) if no Permitted Second Lien Intercreditor Agreement is then in effect, executing and delivering a Permitted Second Lien Intercreditor Agreement (or, to the extent a Permitted Second Lien Intercreditor Agreement is then in effect, a joinder thereto to the extent required thereby), in form and substance reasonably satisfactory to the Second Lien Collateral Agent. Upon the satisfaction of all conditions set forth in the preceding sentence, (x) the Second Lien Collateral Agent shall act as collateral agent (on the terms and conditions set forth herein and in Article XIII of the Second Lien Indenture) under and subject to the terms of

the Security Documents for the benefit of all Secured Parties, including without limitation, any Secured Parties that hold any such Specified Other Second Lien Obligations (except with respect to any applicable Specified Excluded Collateral), and shall execute and deliver the acknowledgement at the end of the Specified Other Second Lien Secured Party Consent, (y) each Authorized Representative agrees to the appointment, and acceptance of the appointment, of the Second Lien Collateral Agent as Second Lien Collateral Agent (on the terms and conditions set forth herein and in Article XIII of the Second Lien Indenture) for the holders of such Specified Other Second Lien Obligations as set forth in each Specified Other Second Lien Secured Party Consent and agrees, on behalf of itself and each Secured Party it represents, to be bound by this Agreement and the applicable Intercreditor Agreements and (z) such Specified Other Second Lien Obligations shall automatically be deemed to be second priority obligations, for purposes of each Intercreditor Agreement that exists prior to the effectiveness of the designation of such Specified Other Second Lien Obligations hereunder. The rights and obligations of each party to this Agreement shall remain in full force and effect notwithstanding the addition of any new Secured Obligations to this Agreement.

SECTION 5.20. *Person Serving as Second Lien Collateral Agent.* On the Issue Date, the Second Lien Collateral Agent hereunder is Wilmington Savings Fund Society, FSB. Written notice of resignation by Wilmington Savings Fund Society, FSB as the Second Lien Collateral Agent under (and as defined in) the Second Lien Indenture and the First Priority/Second Priority Intercreditor Agreement pursuant to the Second Lien Indenture and the First Priority/Second Priority Intercreditor Agreement shall also constitute notice of resignation as the Second Lien Collateral Agent under this Agreement. Upon the acceptance of any appointment as the Second Lien Collateral Agent under (and as defined in) the Second Lien Indenture and the First Priority/Second Priority Intercreditor Agreement by a successor, that successor shall thereupon succeed to and become vested with all the rights, powers, privileges and duties of the retiring Second Lien Collateral Agent pursuant hereto. Immediately upon the occurrence of the Termination Date, if any other Series of Secured Obligations is then outstanding, the Authorized Representative of such Series (or, if more than one such Series is outstanding, the applicable Authorized Representative determined pursuant to the terms of (and as defined in) the applicable Intercreditor Agreement) shall be deemed the Second Lien Collateral Agent for all purposes under this Agreement. The Second Lien Collateral Agent immediately prior to any change in Second Lien Collateral Agent pursuant to this Section 5.20 (the “*Prior Second Lien Collateral Agent*”) shall be deemed to have assigned all of its rights, powers and duties hereunder to the successor Second Lien Collateral Agent determined in accordance with this Section 5.20 (the “*Successor Second Lien Collateral Agent*”) and the Successor Second Lien Collateral Agent shall be deemed to have accepted, assumed and succeeded to such rights, powers and duties. The Prior Second Lien Collateral Agent shall cooperate with the Pledgors and such Successor Second Lien Collateral Agent to ensure that all actions are taken that are necessary or reasonably requested by the Successor Second Lien Collateral Agent to vest in such Successor Second Lien Collateral Agent the rights granted to the Prior Second Lien Collateral Agent hereunder with respect to the Collateral, including (a) the filing of amended financing statements in the appropriate filing offices, (b) to the extent that the Prior Second Lien Collateral Agent holds, or a third party holds on its behalf, physical

possession of or “control” (as defined in the New York UCC or the Uniform Commercial Code of any other applicable jurisdiction) (or any similar concept under foreign law) over Collateral pursuant to this Agreement or any other Security Document, the delivery to the Successor Second Lien Collateral Agent of the Collateral in its possession or control together with any necessary endorsements to the extent required by this Agreement, and (c) the execution and delivery of any further documents, financing statements or agreements and the taking of all such further action that may be required under any applicable law, or that the Successor Second Lien Collateral Agent may reasonably request, all without recourse to, or representation or warranty by, the Second Lien Collateral Agent, and at the sole cost and expense of the Pledgors. In addition, the Second Lien Collateral Agent hereunder shall at all times be the same person that is the “Second Lien Collateral Agent” (or similar term or designation) under any Permitted Second Lien Intercreditor Agreement. Written notice of resignation by the “Second Lien Collateral Agent” (or similar term or designation) pursuant to any Permitted Second Lien Intercreditor Agreement shall also constitute notice of resignation as the Second Lien Collateral Agent under this Agreement. Upon the acceptance of any appointment as the “Second Lien Collateral Agent” (or similar term or designation) under any Permitted Second Lien Intercreditor Agreement by a successor “Second Lien Collateral Agent” (or similar term or designation), the successor “Second Lien Collateral Agent” (or similar term or designation) shall thereupon succeed to and become vested with all the rights, powers, privileges and duties of the retiring Second Lien Collateral Agent pursuant to this Agreement.

**SECTION 5.21. *Survival of Agreement.*** All covenants, agreements, representations and warranties made by the Pledgors in the Second Lien Notes Documents, any Specified Other Second Lien Agreement and in the certificates or other instruments delivered in connection with or pursuant to this Agreement, any other Second Lien Notes Document or any Specified Other Second Lien Agreement shall be considered to have been relied upon by the Secured Parties and shall survive the execution and delivery of the Second Lien Notes Documents and any Specified Other Second Lien Agreement and the issuance of the Second Lien Notes under the Second Lien Notes Documents and any extensions of credit under any Specified Other Second Lien Agreement, regardless of any investigation made by or on behalf of any Secured Party or any other person and notwithstanding that any Secured Party or any other person may have had notice or knowledge of any Default or incorrect representation or warranty at the time any Second Lien Notes Document or any Specified Other Second Lien Agreement is executed and delivered or any Second Lien Notes are issued under the Second Lien Notes Documents or any credit is extended under any Specified Other Second Lien Agreement, and shall continue in full force and effect until the Termination Date and, if any Specified Other Second Lien Obligations are outstanding on the Termination Date, the date when any Specified Other Second Lien Obligations (other than contingent or unliquidated obligations or liabilities not then due and any other obligations that, by the terms of any applicable Specified Other Second Lien Agreements, are not required to be paid in full in cash prior to termination and release of the Collateral) have been paid in full in cash and the Secured Parties have no further commitment to extend credit under any Specified Other Second Lien Agreement.

**SECTION 5.22. *Other Capacities.*** No Secured Party that obtains the benefit of this Agreement shall have any right to notice of any action or to consent to, direct or object to,


any action hereunder or otherwise in respect of the Collateral (including, without limitation, the release or impairment of any Collateral) other than in its capacity as a holder of the Second Lien Notes or the Second Lien Trustee, or similar capacities under any Specified Other Second Lien Agreement, as applicable, and, in any such case, only to the extent expressly provided in the Second Lien Notes Documents and any Specified Other Second Lien Agreement, including without limitation Article XIII of the Second Lien Indenture. Each Secured Party not a party to the Second Lien Indenture or any Specified Other Second Lien Agreement that obtains the benefit of this Agreement shall be deemed to have acknowledged and accepted the appointment of the Second Lien Trustee pursuant to the terms of the Second Lien Indenture, including, without limitation, under Article XIII of the Second Lien Indenture, and the appointment of the Authorized Representative pursuant to the terms of any Specified Other Second Lien Agreement.

**SECTION 5.23. *First Priority/Second Priority Intercreditor Agreement.*** Notwithstanding anything herein to the contrary, the lien and security interest granted to the Second Lien Collateral Agent pursuant to this Agreement and the exercise of any right or remedy by the Second Lien Collateral Agent hereunder are subject to the provisions of the First Priority/Second Priority Intercreditor Agreement. In the event of any conflict between the terms of the First Priority/Second Priority Intercreditor Agreement and this Agreement, the terms of the First Priority/Second Priority Intercreditor Agreement shall govern and control. Notwithstanding anything to the contrary, before the Discharge of First Lien Obligations (as defined in the First Priority/Second Priority Intercreditor Agreement), (i) any requirement in this Agreement to endorse, assign or deliver Collateral and any certificates, instruments or agreements in relation thereto to the Second Lien Collateral Agent shall be deemed satisfied by endorsement, assignment or delivery of such Collateral and such certificates, instruments or agreements in relation thereto to the First Lien Collateral Agent (as bailee for the Second Lien Collateral Agent) as provided in the First Priority/Second Priority Intercreditor Agreement, (ii) any endorsement, assignment or delivery to the First Lien Collateral Agent shall be deemed an endorsement, assignment or delivery to the Second Lien Collateral Agent for all purposes hereunder, and (iii) the requirements of this Agreement to perfect by control the Second Lien Collateral Agent's security interest in any Collateral shall be deemed satisfied by the First Lien Collateral Agent's obtaining control of such Collateral.


[Signature Pages Follow]

IN WITNESS WHEREOF, the parties have duly executed this Agreement as of the day and year first above written


MALLINCKRODT INTERNATIONAL FINANCE S.A.,  
as a Pledgor

By:   
Name: John Einwalter  
Title: Director

MALLINCKRODT CB LLC, as a Pledgor

By:   
Name: John Einwalter  
Title: Vice President & Treasurer

MALLINCKRODT US HOLDINGS INC.  
MALLINCKRODT US POOL LLC  
MNK 2011 INC.  
LUDLOW CORPORATION  
MALLINCKRODT BRAND PHARMACEUTICALS, INC.  
MALLINCKRODT VETERINARY, INC.  
MALLINCKRODT US HOLDINGS LLC  
IMC EXPLORATION COMPANY  
MEH, INC.  
MALLINCKRODT ENTERPRISES HOLDINGS, INC.  
MALLINCKRODT ENTERPRISES LLC  
MALLINCKRODT LLC  
MALLINCKRODT ARD FINANCE LLC  
MALLINCKRODT ARD LLC  
MALLINCKRODT HOSPITAL PRODUCTS INC.  
MALLINCKRODT ARD HOLDINGS INC.  
MALLINCKRODT APAP LLC  
MHP FINANCE LLC  
MALLINCKRODT CRITICAL CARE FINANCE LLC  
MALLINCKRODT MANUFACTURING LLC  
INO THERAPEUTICS LLC  
THERAKOS, INC.  
STRATATECH CORPORATION  
SPECGX LLC  
INFACARE PHARMACEUTICAL CORPORATION  
MCCH INC.  
MAK LLC  
OCERA THERAPEUTICS, INC.  
SUCAMPO PHARMACEUTICALS, INC.  
SUCAMPO PHARMA AMERICAS LLC  
VTESSE INC.  
PETTEN HOLDINGS INC.  
MALLINCKRODT EQUINOX FINANCE INC.  
each as a Pledgor

By:   
Name: John Einwalter  
Title: Vice President & Treasurer

MUSHI UK HOLDINGS LIMITED  
MALLINCKRODT ENTERPRISES UK  
LIMITED  
MALLINCKRODT ARD HOLDINGS  
LIMITED

each as a Pledgor

By: 

Name: Stephanie Miller

Title: Director



MALLINCKRODT ARD IP LIMITED  
MALLINCKRODT HOSPITAL PRODUCTS  
IP LIMITED  
MALLINCKRODT PHARMA IP TRADING  
DESIGNATED ACTIVITY COMPANY

MALLINCKRODT IP UNLIMITED  
COMPANY,  
each as a Pledgor

By:   
Name: Alasdair Fenlon  
Title: Director

WILMINGTON SAVINGS FUND SOCIETY, FSB,  
as Second Lien Collateral Agent

By: \_\_\_\_\_

Name: HALEY A. HARRIS  
Title: TRUST OFFICER

By: \_\_\_\_\_

Name: Geoffrey J. Lewis  
Title: Vice President

Schedule I to the  
Second Lien U.S. Collateral Agreement

**Guarantors and Filing Offices**

| <b><u>Guarantor</u></b>                                    | <b><u>Filing Office</u></b>                                        |
|------------------------------------------------------------|--------------------------------------------------------------------|
| Mallinckrodt IP Unlimited Company                          | Office of the Recorder of Deeds for the District of Columbia       |
| Mallinckrodt Pharma IP Trading Designated Activity Company | Office of the Recorder of Deeds for the District of Columbia       |
| Mallinckrodt Hospital Products IP Limited                  | Office of the Recorder of Deeds for the District of Columbia       |
| Mallinckrodt ARD IP Limited                                | Office of the Recorder of Deeds for the District of Columbia       |
| Mallinckrodt ARD Holdings Limited                          | Office of the Recorder of Deeds for the District of Columbia       |
| MUSHI UK Holdings Limited                                  | Office of the Recorder of Deeds for the District of Columbia       |
| Mallinckrodt Enterprises UK Limited                        | Office of the Recorder of Deeds for the District of Columbia       |
| Mallinckrodt US Holdings Inc.                              | Nevada Secretary of State                                          |
| Mallinckrodt US Pool LLC                                   | Nevada Secretary of State                                          |
| MNK 2011 Inc.                                              | Office of the Secretary of State of the State of Delaware          |
| Ludlow Corporation                                         | Secretary of the Commonwealth of the Commonwealth of Massachusetts |
| Mallinckrodt Brand Pharmaceuticals, Inc.                   | Office of the Secretary of State of the State of Delaware          |

|                                         |                                                           |
|-----------------------------------------|-----------------------------------------------------------|
| Mallinckrodt Veterinary, Inc.           | Office of the Secretary of State of the State of Delaware |
| Mallinckrodt US Holdings LLC            | Office of the Secretary of State of the State of Delaware |
| IMC Exploration Company                 | State Department of Assessments and Taxation of Maryland  |
| MEH, Inc.                               | Nevada Secretary of State                                 |
| Mallinckrodt Enterprises Holdings, Inc. | Secretary of State of the State of California             |
| Mallinckrodt Enterprises LLC            | Office of the Secretary of State of the State of Delaware |
| Mallinckrodt LLC                        | Office of the Secretary of State of the State of Delaware |
| Mallinckrodt ARD Finance LLC            | Office of the Secretary of State of the State of Delaware |
| Mallinckrodt ARD LLC                    | Secretary of State of the State of California             |
| Mallinckrodt Hospital Products Inc.     | Office of the Secretary of State of the State of Delaware |
| Mallinckrodt ARD Holdings Inc.          | Office of the Secretary of State of the State of Delaware |
| Mallinckrodt APAP LLC                   | Office of the Secretary of State of the State of Delaware |
| MHP Finance LLC                         | Office of the Secretary of State of the State of Delaware |
| Mallinckrodt Critical Care Finance LLC  | Office of the Secretary of State of the State of Delaware |
| Mallinckrodt Manufacturing LLC          | Office of the Secretary of State of the State of          |

|                                     |                                                           |
|-------------------------------------|-----------------------------------------------------------|
|                                     | Delaware                                                  |
| INO Therapeutics LLC                | Office of the Secretary of State of the State of Delaware |
| Therakos, Inc.                      | Office of the Secretary of State of the State of Florida  |
| Stratatech Corporation              | Office of the Secretary of State of the State of Delaware |
| SpecGX LLC                          | Office of the Secretary of State of the State of Delaware |
| Infacare Pharmaceutical Corporation | Office of the Secretary of State of the State of Delaware |
| MCCH Inc.                           | Office of the Secretary of State of the State of Delaware |
| MAK LLC                             | Office of the Secretary of State of the State of Delaware |
| Ocera Therapeutics, Inc.            | Office of the Secretary of State of the State of Delaware |
| Sucampo Pharmaceuticals, Inc.       | Office of the Secretary of State of the State of Delaware |
| Sucampo Pharma Americas LLC         | Office of the Secretary of State of the State of Delaware |
| Vtesse Inc.                         | Office of the Secretary of State of the State of Delaware |
| Petten Holdings Inc.                | Office of the Secretary of State of the State of Delaware |
| Mallinckrodt Equinox Finance Inc.   | Office of the Secretary of State of the State of Delaware |

| <b><u>Issuer</u></b>                    | <b><u>Filing Office</u></b>                                     |
|-----------------------------------------|-----------------------------------------------------------------|
| Mallinckrodt International Finance S.A. | Office of the Recorder of Deeds for the District<br>of Columbia |
| Mallinckrodt CB LLC                     | Office of the Secretary of State of the State of<br>Delaware    |

Schedule II to the  
Second Lien U.S. Collateral Agreement

**Pledged Stock; Pledged Debt**

**A. Pledged Stock**

|    | <b>Issuer</b>                           | <b>Jurisdiction of Organization</b> | <b>Record Owner</b>                     | <b>Certificate No.</b> | <b>Number (Percentage) of Equity Interest Owned</b>                     | <b>Percent Pledged<sup>1</sup></b>  |
|----|-----------------------------------------|-------------------------------------|-----------------------------------------|------------------------|-------------------------------------------------------------------------|-------------------------------------|
| 1. | Mallinckrodt CB LLC                     | Delaware                            | Mallinckrodt International Finance S.A. | Uncertificated         | 100%                                                                    | 100%                                |
| 2. | Mallinckrodt Holdings GmbH              | Switzerland                         | Mallinckrodt International Finance S.A. | 1                      | 100%                                                                    | 100%                                |
| 3. | Mallinckrodt Enterprises Holdings, Inc. | California                          | MEH, Inc.                               | 1A                     | 100 (100%)                                                              | 100%                                |
| 4. | Mallinckrodt Enterprises LLC            | Delaware                            | Mallinckrodt Equinox Finance Inc.       | Uncertificated         | 332.50 Preferred Interests (66.37%)                                     | Preferred: 66.37%                   |
|    |                                         |                                     | Ludlow Corporation                      | Uncertificated         | 9.86 Common Interests (0.99%)                                           | Common: 0.99%                       |
|    |                                         |                                     | Mallinckrodt ARD Finance LLC            | Uncertificated         | 990.14 Common Interests (99.01%)<br>166.25 Preferred Interests (33.33%) | Common: 99.01%<br>Preferred: 33.33% |
| 5. | Mallinckrodt LLC                        | Delaware                            | Mallinckrodt Enterprises LLC            | Uncertificated         | 100%                                                                    | 0%                                  |

<sup>1</sup> The percent pledged may not account for certain potential exclusions as a result of certain of such Equity Interests potentially constituting Excluded Securities or Excluded Property.

|    |                                            |               |                                          |                         |              |      |
|----|--------------------------------------------|---------------|------------------------------------------|-------------------------|--------------|------|
| 6. | ST Shared Services LLC                     | Delaware      | Mallinckrodt Enterprises LLC             | Uncertificated          | 100%         | 100% |
| 7. | Mallinckrodt Hospital Products Inc.        | Delaware      | MCCH Inc.                                | 2                       | 100%         | 100% |
| 8. | Petten Holdings Inc.                       | Delaware      | Mallinckrodt US Holdings Inc.            | 1                       | 1,000 (100%) | 100% |
| 9. | Mallinckrodt Medical Holdings (UK) Limited | UK            | Mallinckrodt US Holdings Inc.            | 11                      | 2,012 (100%) | 65%  |
| 10 | Dritte CORSA Verwaltungsgesellschaft GmbH  | Germany       | Mallinckrodt US Holdings Inc.            | Uncertificated          | 100%         | 65%  |
| 11 | Carnforth Limited                          | Bermuda       | Mallinckrodt US Holdings Inc.            | Un-numbered Certificate | 240 (100%)   | 65%  |
| 12 | IMC Exploration Company                    | Maryland      | Mallinckrodt US Holdings Inc.            | 1A                      | 13 (100%)    | 100% |
| 13 | Mallinckrodt US Holdings LLC               | Delaware      | Mallinckrodt US Holdings Inc.            | Uncertificated          | 100%         | 100% |
| 14 | Mallinckrodt US Pool LLC                   | Nevada        | Mallinckrodt US Holdings Inc.            | Uncertificated          | 100%         | 100% |
| 15 | MNK 2011 Inc.                              | Delaware      | Mallinckrodt Brand Pharmaceuticals, Inc. | 1A                      | 200 (100%)   | 100% |
| 16 | Mallinckrodt Brand Pharmaceuticals, Inc.   | Delaware      | Mallinckrodt US Holdings Inc.            | 1A                      | 100 (100%)   | 100% |
| 17 | Mallinckrodt Veterinary, Inc.              | Delaware      | Mallinckrodt US Holdings Inc.            | 1A                      | 2,000 (100%) | 100% |
| 18 | Ludlow Corporation                         | Massachusetts | MNK 2011 Inc.                            | 1A                      | 5,100 (100%) | 100% |



|    |                                                    |                      |                                                                           |                       |                      |      |
|----|----------------------------------------------------|----------------------|---------------------------------------------------------------------------|-----------------------|----------------------|------|
| 19 | Acthar IP<br>Unlimited<br>Company                  | Ireland              | Mallinckrodt<br>Pharma IP<br>Trading<br>Designated<br>Activity<br>Company | 3 – 13 and 15 –<br>18 | 213 (100%)           | 100% |
| 20 | Mallinckrodt IP<br>Unlimited<br>Company            | Ireland              | Mallinckrodt<br>Pharma IP<br>Trading<br>Designated<br>Activity<br>Company | 13 – 19               | 205 (100%)           | 100% |
| 21 | Mallinckrodt<br>Lux IP S.à r.l.                    | Luxembourg           | Mallinckrodt<br>International<br>Finance S.A.                             | Uncertificated        | 200 (100%)           | 100% |
| 22 | Mallinckrodt<br>Securitization<br>S.à r.l.         | Luxembourg           | Mallinckrodt<br>International<br>Finance S.A.                             | Uncertificated        | 202 (100%)           | 0%   |
| 23 | MUSHI UK<br>Holdings<br>Limited                    | England and<br>Wales | Mallinckrodt<br>ARD Holdings<br>Limited                                   | 3, 4, 5, 6            | 21,710,269<br>(100%) | 100% |
| 24 | Mallinckrodt<br>Pharmaceuticals<br>Ireland Limited | Ireland              | Mallinckrodt<br>International<br>Finance S.A.                             | 2                     | 1 (100%)             | 100% |
| 25 | Mallinckrodt US<br>Holdings Inc.                   | Nevada               | MEH, Inc.                                                                 | 50                    | 25,970.04<br>(100%)  | 100% |
| 26 | Mallinckrodt<br>Enterprises UK<br>Limited          | England and<br>Wales | MUSHI UK<br>Holdings Limited                                              | 6, 7, 8               | 21,690,269<br>(100%) | 100% |
| 27 | MEH, Inc.                                          | Nevada               | Mallinckrodt<br>Enterprises UK<br>Limited                                 | 8, 9                  | 102 (100%)           | 100% |
| 28 | Mallinckrodt<br>APAP LLC                           | Delaware             | SpecGx LLC                                                                | Uncertificated        | 100%                 | 0%   |
| 29 | Mallinckrodt<br>ARD Holdings<br>Limited            | England and<br>Wales | Mallinckrodt<br>International<br>Finance S.A.                             | 5, 6, 7, 8, 9, 10     | 21,710,272<br>(100%) | 100% |

|    |                                      |                      |                                               |                |            |      |
|----|--------------------------------------|----------------------|-----------------------------------------------|----------------|------------|------|
| 30 | Mallinckrodt<br>ARD Holdings<br>Inc. | Delaware             | Therakos Inc.                                 | 7              | 200 (100%) | 100% |
| 31 | Mallinckrodt<br>ARD LLC              | California           | Mallinckrodt<br>ARD Holdings<br>Inc.          | Uncertificated | 100%       | 100% |
| 32 | Mallinckrodt<br>ARD Finance<br>LLC   | Delaware             | Mallinckrodt<br>Enterprises<br>Holdings, Inc. | Uncertificated | 100%       | 100% |
| 33 | Questcor<br>International<br>Limited | Ireland              | Mallinckrodt<br>ARD LLC                       | 1              | 1 (100%)   | 65%  |
| 34 | INO<br>Therapeutics<br>LLC           | Delaware             | Therakos Inc.                                 | 3              | 100%       | 100% |
| 35 | Ikaria Australia<br>Pty Ltd.         | Australia            | Mallinckrodt<br>Hospital<br>Products Inc.     | 6, 7           | 100%       | 65%  |
| 36 | Ikaria Canada<br>Inc.                | Canada               | Mallinckrodt<br>Hospital<br>Products Inc.     | 3, 4           | 100%       | 65%  |
| 37 | Therakos, Inc.                       | Florida              | Mallinckrodt<br>Hospital<br>Products Inc.     | 1              | 100%       | 100% |
| 38 | Therakos (UK)<br>Ltd.                | England and<br>Wales | Therakos, Inc.                                | 4, 5, 6, 7, 8  | 100%       | 65%  |
| 39 | Therakos<br>(France) SAS             | France               | Therakos, Inc.                                | Uncertificated | 100%       | 65%  |
| 40 | Therakos<br>(Germany)<br>GmbH        | Germany              | Therakos, Inc.                                | Uncertificated | 100%       | 65%  |
| 41 | Therakos (Italia)<br>S.r.l.          | Italy                | Therakos, Inc.                                | Uncertificated | 100%       | 65%  |
| 42 | Therakos<br>(Belgium) SPRL           | Belgium              | Therakos, Inc.                                | Uncertificated | 100%       | 65%  |

|    |                                                                           |            |                                               |                |                   |        |
|----|---------------------------------------------------------------------------|------------|-----------------------------------------------|----------------|-------------------|--------|
| 43 | Therakos<br>(Canada)<br>Company                                           | Canada     | Therakos, Inc.                                | 5              | 100%              | 65%    |
| 44 | Mallinckrodt<br>Pharma IP<br>Trading<br>Designated<br>Activity<br>Company | Ireland    | Mallinckrodt<br>International<br>Finance S.A. | 1 – 29         | 100,127<br>(100%) | 100%   |
| 45 | Mallinckrodt<br>Hospital<br>Products IP<br>Limited                        | Ireland    | Mallinckrodt IP<br>Unlimited<br>Company       | 1              | 100 (100%)        | 100%   |
| 46 | Mallinckrodt<br>International<br>Holdings S.à r.l.                        | Luxembourg | Mallinckrodt<br>International<br>Finance S.A. | Uncertificated | 20,000 (100%)     | 100%   |
| 47 | Mallinckrodt UK<br>Finance LLP                                            | UK         | Mallinckrodt<br>International<br>Finance S.A. | Uncertificated | 99.99%            | 99.99% |
| 48 | MHP Finance.<br>LLC                                                       | Delaware   | Mallinckrodt<br>ARD Holdings<br>Inc.          | Uncertificated | 100%              | 100%   |
| 49 | Mallinckrodt<br>Manufacturing<br>LLC                                      | Delaware   | Mallinckrodt<br>Hospital<br>Products Inc.     | Uncertificated | 100%              | 100%   |
| 50 | Mallinckrodt<br>Critical Care<br>Finance LLC                              | Delaware   | Mallinckrodt<br>ARD Holdings<br>Inc.          | Uncertificated | 100%              | 100%   |
| 51 | Stratatech<br>Corporation                                                 | Delaware   | Mallinckrodt<br>Hospital<br>Products Inc.     | 135            | 1 (100%)          | 100%   |
| 52 | SpecGx LLC                                                                | Delaware   | Mallinckrodt<br>LLC                           | Uncertificated | 100%              | 100%   |
| 53 | SpecGx<br>Holdings LLC                                                    | New York   | Mallinckrodt<br>LLC                           | Uncertificated | 100%              | 100%   |
| 54 | Infacare<br>Pharmaceutical<br>Corporation                                 | Delaware   | Therakos, Inc.                                | 3              | 1,000 (100%)      | 100%   |

|    |                                     |                |                                                            |                |                |      |
|----|-------------------------------------|----------------|------------------------------------------------------------|----------------|----------------|------|
| 55 | MCCH Inc.                           | Delaware       | Ludlow Corporation                                         | 2              | 100%           | 100% |
| 56 | MAK LLC                             | Delaware       | MEH, Inc.                                                  | Uncertificated | 1,000 (100%)   | 100% |
| 57 | Ocera Therapeutics, Inc.            | Delaware       | MAK LLC                                                    | 1              | 1,000 (100%)   | 100% |
| 58 | Sucampo Pharmaceuticals, Inc.       | Delaware       | MEH, Inc.                                                  | 1              | 100 (100%)     | 100% |
| 59 | Sucampo Pharma Americas LLC         | Delaware       | Sucampo Pharmaceuticals, Inc.                              | Uncertificated | 100%           | 100% |
| 60 | Vtesse Inc.                         | Delaware       | Sucampo Pharmaceuticals, Inc.                              | C-1            | 100%           | 100% |
| 61 | Sucampo LLC                         | Delaware       | Sucampo Pharma Americas LLC                                | Uncertificated | 100%           | 65%  |
| 62 | Profibrix B.V.                      | Netherlands    | Mallinckrodt Pharma IP Trading Designated Activity Company | Uncertificated | 100%           | 100% |
| 63 | Mallinckrodt Canada Cooperatie U.A. | Netherlands    | Mallinckrodt International Finance S.A.                    | Uncertificated | 0.1%           | 0.1% |
| 64 | Mallinckrodt Petten Holdings B.V.   | Netherlands    | Petten Holdings Inc.                                       | Uncertificated | 18,000 (100%)  | 100% |
| 65 | Mallinckrodt Equinox Limited        | United Kingdom | Mallinckrodt Equinox Finance Inc.                          | 6              | 1 (100%)       | 65%  |
| 66 | Mallinckrodt Group S.à r.l.         | Luxembourg     | Mallinckrodt International Finance S.A.                    | Uncertificated | 350,008 (100%) | 100% |

## B. Pledged Debt

| <b>Borrower</b>                        | <b>Lender</b>                                              | <b>Type</b>     | <b>Current All-in rate</b> | <b>Currency</b> | <b>Current Balance</b> |
|----------------------------------------|------------------------------------------------------------|-----------------|----------------------------|-----------------|------------------------|
| Mallinckrodt UK Ltd                    | Mallinckrodt Pharmaceuticals Limited                       | Promissory Note | 7.65%                      | USD             | 1,097,383,069.98       |
| Sucampo Pharma, LLC                    | Sucampo Pharmaceuticals, Inc.                              | Loan            | 2.61%                      | USD             | 161,524,065.00         |
| Mallinckrodt plc                       | Mallinckrodt UK Ltd                                        | Promissory Note | 5.10%                      | USD             | 106,218,835.10         |
| Mallinckrodt IP Unlimited Company      | Mallinckrodt Pharma IP Trading Designated Activity Company | Promissory Note | 4.97%                      | USD             | 5,350,630.98           |
| Mallinckrodt Petten Holdings B.V.      | Mallinckrodt US Pool LLC                                   | Promissory Note | 2.76%                      | USD             | 631,546,550.00         |
| Mallinckrodt Petten Holdings B.V.      | Mallinckrodt US Pool LLC                                   | Note            | 2.76%                      | USD             | 195,201,603.00         |
| Mallinckrodt Securitization S.à r.l.   | Mallinckrodt Critical Care Finance LLC                     | Promissory Note | 2.13%                      | USD             | 130,000,000.00         |
| MEH, Inc.                              | MHP Finance LLC                                            | Loan            | 8.62%                      | USD             | 206,219,199.03         |
| MEH, Inc.                              | Mallinckrodt Critical Care Finance LLC                     | Loan            | 8.62%                      | USD             | 259,812,878.36         |
| Mallinckrodt Enterprise Holdings, Inc. | Mallinckrodt Enterprises LLC                               | Promissory Note | 7.73%                      | USD             | 400,000,000.00         |
| Mallinckrodt Enterprise Holdings, Inc. | Mallinckrodt Enterprises LLC                               | Promissory Note | 8.52%                      | USD             | 33,967,922.60          |
| Mallinckrodt Enterprise Holdings, Inc. | Mallinckrodt Enterprises LLC                               | Promissory Note | 7.00%                      | USD             | 1,350,000,000.00       |

Schedule III to the  
Second Lien U.S. Collateral Agreement

**Intellectual Property**

**A. U.S. Federally Issued or Applied for Patents.**

| <b>Invention Title</b>                                                                                                  | <b>Appl. No.</b> | <b>Filing Date</b> | <b>Patent No.</b> | <b>Issue Date</b> | <b>Expiration</b> | <b>Owner</b>                   |
|-------------------------------------------------------------------------------------------------------------------------|------------------|--------------------|-------------------|-------------------|-------------------|--------------------------------|
| METHODS FOR REDUCING THE RISK OF AN ADVERSE DRUG INTERACTION IN A PATIENT SUFFERING FROM INSOMNIA                       | 12/132575        | 6/3/2008           | 7608616           | 10/27/2009        | 6/3/2028          | MALLINCKRODT<br>ARD IP LIMITED |
| ACTH FOR TREATMENT OF AMYOTROPHIC LATERAL SCLEROSIS                                                                     | 15/967641        | 5/1/2018           |                   |                   |                   | MALLINCKRODT<br>ARD IP LIMITED |
| ACTH PROPHYLACTIC TREATMENT OF RENAL DISORDERS                                                                          | 13/281175        | 10/25/2011         | 8796416           | 8/5/2014          | 10/25/2031        | MALLINCKRODT<br>ARD IP LIMITED |
| ACTH PROPHYLACTIC TREATMENT OF RENAL DISORDERS                                                                          | 14/313903        | 6/24/2014          | 9550822           | 1/24/2017         | 10/25/2031        | MALLINCKRODT<br>ARD IP LIMITED |
| ACTH PROPHYLACTIC TREATMENT OF RENAL DISORDERS                                                                          | 15/383969        | 12/19/2016         | 10286041          | 5/14/2019         | 10/25/2031        | MALLINCKRODT<br>ARD IP LIMITED |
| ACTH PROPHYLACTIC TREATMENT OF RENAL DISORDERS                                                                          | 16/369690        | 3/29/2019          |                   |                   |                   | MALLINCKRODT<br>ARD IP LIMITED |
| ACTH FOR TREATMENT OF ACUTE RESPIRATORY DISTRESS SYNDROME                                                               | 14/214449        | 3/14/2014          | 10232018          | 3/19/2019         | 6/8/2034          | MALLINCKRODT<br>ARD IP LIMITED |
| ACTH FOR TREATMENT OF ACUTE RESPIRATORY DISTRESS SYNDROME                                                               | 16/251363        | 1/18/2019          |                   |                   |                   | MALLINCKRODT<br>ARD IP LIMITED |
| REPOSITORY CORTICOTROPIN INJECTION (RCI) INDUCES A T CELL CYTOKINE PROFILE LEADING TO AN INCREASE IN REGULATORY T CELLS | 62/794369        | 1/18/2019          |                   |                   | 1/18/2020         | MALLINCKRODT<br>ARD IP LIMITED |
| REPOSITORY CORTICOTROPIN INJECTION ENHANCED REMYELINATION AFTER CUPRIZONE-INDUCED DEMYELINATION                         | 62/789016        | 1/7/2019           |                   |                   | 1/7/2020          | MALLINCKRODT<br>ARD IP LIMITED |

|                                                                                                                                                                                              |           |            |          |            |            |                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|------------|------------|----------------------------------------------------|
| REPOSITORY<br>CORTICOTROPIN INJECTION<br>ENHANCED REMYELINATION<br>AFTER CUPRIZONE-INDUCED<br>DEMYELINATION                                                                                  | 62/852097 | 5/23/2019  |          |            | 5/23/2020  | MALLINCKRODT<br>ARD IP LIMITED                     |
| STUDY TO ASSESS THE<br>EFFICACY AND SAFETY OF<br>REPOSITORY<br>CORTICOTROPIN INJECTION<br>IN PATIENTS WITH<br>SYSTEMIC LUPUS<br>ERYTHEMATOSUS DESPITE<br>MODERATE-DOSE<br>CORTICOSTEROID USE | 62/857677 | 6/5/2019   |          |            | 6/5/2020   | MALLINCKRODT<br>ARD IP LIMITED                     |
| PREDICTIVE DIAGNOSIS OF<br>INFANTILE SPASMS                                                                                                                                                  | 62/873080 | 7/11/2019  |          |            | 7/11/2020  | MALLINCKRODT<br>ARD IP LIMITED                     |
| PREDICTIVE DIAGNOSIS OF<br>INFANTILE SPASMS                                                                                                                                                  | 62/873084 | 7/11/2019  |          |            | 7/11/2020  | MALLINCKRODT<br>ARD IP LIMITED                     |
| USE AND MONITORING OF<br>INHALED NITRIC OXIDE<br>WITH LEFT VENTRICULAR<br>ASSIST DEVICES                                                                                                     | 16/077276 | 8/10/2018  |          |            |            | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| USE AND MONITORING OF<br>INHALED NITRIC OXIDE<br>WITH LEFT VENTRICULAR<br>ASSIST DEVICES                                                                                                     | 15/418837 | 1/30/2017  | 10398820 | 9/3/2019   | 4/29/2037  | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| COMPENSATING FOR<br>DISRUPTIONS IN<br>BREATHING GAS FLOW<br>MEASUREMENT                                                                                                                      | 15/420689 | 1/31/2017  | 10478584 | 11/19/2019 | 10/31/2037 | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| COMPENSATING FOR<br>DISRUPTIONS IN<br>BREATHING GAS FLOW<br>MEASUREMENT                                                                                                                      | 16/598786 | 10/10/2019 |          |            |            | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| MRI COMPATIBLE<br>THERAPEUTIC GAS<br>INJECTOR MODULE                                                                                                                                         | 29/544067 | 10/30/2015 | D776278  | 1/10/2017  | 1/10/2032  | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| MRI COMPATIBLE<br>THERAPEUTIC GAS<br>INJECTOR MODULE                                                                                                                                         | 29/578294 | 9/20/2016  | D797935  | 9/19/2017  | 10/30/2035 | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| MRI COMPATIBLE<br>THERAPEUTIC GAS<br>INJECTOR MODULE                                                                                                                                         | 29/614133 | 8/16/2017  | D823472  | 7/17/2018  | 10/30/2035 | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |

|                                                                                                                                                                               |           |            |          |            |            |                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|------------|------------|-------------------------------------------|
| MRI COMPATIBLE THERAPEUTIC GAS DELIVERY CART                                                                                                                                  | 29/544072 | 10/30/2015 | D776279  | 1/10/2017  | 1/10/2032  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| MRI COMPATIBLE THERAPEUTIC GAS DELIVERY CART                                                                                                                                  | 29/578295 | 9/20/2016  | D807510  | 1/9/2018   | 10/30/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| APPARATUS AND METHOD FOR DETECTING LIQUID LEVEL IN A CLEAR OR PARTIALLY CLEAR CONTAINER                                                                                       | 15/460334 | 3/16/2017  |          |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| APPARATUS AND METHOD FOR FILTERING LIQUID PARTICLES FROM INSPIRATORY GAS FLOW OF A PATIENT BREATHING CIRCUIT AFFILIATED WITH A VENTILATOR AND/OR NITRIC OXIDE DELIVERY SYSTEM | 15/446110 | 3/1/2017   |          |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| APPARATUS AND METHOD FOR HUMIDITY CONDITIONING SAMPLE GAS OF A PATIENT BREATHING CIRCUIT AFFILIATED WITH A VENTILATOR AND/OR NITRIC OXIDE DELIVERY SYSTEM                     | 15/459060 | 3/15/2017  | 10485945 | 11/26/2019 | 3/2/2038   | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| APPARATUS AND METHOD FOR HUMIDITY CONDITIONING SAMPLE GAS OF A PATIENT BREATHING CIRCUIT AFFILIATED WITH A VENTILATOR AND/OR NITRIC OXIDE DELIVERY SYSTEM                     | 16/665353 | 10/28/2019 |          |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| GASEOUS NITRIC OXIDE (gNO) USED IN ORGAN PERFUSION SYSTEM TO MITIGATE ISCHEMIA REPERFUSION INJURY (IRI)                                                                       | 16/112297 | 8/24/2018  |          |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |



|                                                                                                                                                                     |           |           |          |            |            |                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|----------|------------|------------|-------------------------------------------|
| A SELF-CONTAINED GAS SENSOR MODULE FOR USE WITH A THERAPEUTIC GAS DELIVERY SYSTEM                                                                                   | 62/774687 | 12/3/2018 |          |            | 12/3/2019  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHODS TO INCREASE FUNCTIONAL CAPACITY AND QUALITY OF LIFE IN BRONCHIECTASIS PATIENTS WITH NONTUBERCULOUS MYCOBACTERIA                                             | 62/849064 | 5/16/2019 |          |            | 5/16/2020  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Method and Apparatus for the Administration of CO                                                                                                                   | 10/520270 | 8/5/2005  | 7574246  | 8/11/2009  | 8/5/2025   | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Method and Apparatus for the Administration of CO                                                                                                                   | 12/502991 | 7/14/2009 | 7945301  | 5/17/2011  | 6/27/2023  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Method and Apparatus for the Manufacture of High Purity Carbon Monoxide                                                                                             | 13/038539 | 3/2/2011  | 8703089  | 4/22/2014  | 10/14/2031 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Method and Apparatus for the Manufacture of High Purity Carbon Monoxide                                                                                             | 14/193323 | 2/28/2014 | 9567226  | 2/14/2017  | 8/27/2031  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Method and Apparatus for the Manufacture of High Purity Carbon Monoxide                                                                                             | 15/430677 | 2/13/2017 | 10486126 | 11/26/2019 | 4/9/2031   | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Carbon Monoxide Improves Outcomes in Tissue and Organ Transplants and Suppresses Apoptosis                                                                          | 10/177930 | 6/21/2002 | 7238469  | 7/3/2007   | 6/21/2022  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Dosing Regimens and Methods of Treatment Using Carbon Monoxide                                                                                                      | 13/106437 | 5/12/2011 | 8778413  | 7/15/2014  | 10/27/2031 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Treating Term and Near-Term Neonates Having Hypoxic Respiratory Failure Associated with Clinical or Echocardiographic Evidence of Pulmonary Hypertension | 12/821020 | 6/22/2010 | 8282966  | 10/9/2012  | 6/30/2029  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |

|                                                                                                                                                                     |           |            |         |            |           |                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------------|-----------|-------------------------------------------|
| Methods of Treating Term and Near-Term Neonates Having Hypoxic Respiratory Failure Associated with Clinical or Echocardiographic Evidence of Pulmonary Hypertension | 12/821041 | 6/22/2010  | 8293284 | 10/23/2012 | 6/30/2029 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Treating Term and Near-Term Neonates Having Hypoxic Respiratory Failure Associated with Clinical or Echocardiographic Evidence of Pulmonary Hypertension | 13/651660 | 10/15/2012 | 8431163 | 4/30/2013  | 6/30/2029 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Treating Term and Near-Term Neonates Having Hypoxic Respiratory Failure Associated with Clinical or Echocardiographic Evidence of Pulmonary Hypertension | 13/683417 | 11/21/2012 | 8795741 | 8/5/2014   | 6/30/2029 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Treating Term and Near-Term Neonates Having Hypoxic Respiratory Failure Associated with Clinical or Echocardiographic Evidence of Pulmonary Hypertension | 13/683236 | 11/21/2012 | 8846112 | 9/30/2014  | 6/30/2029 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Treating Term and Near-Term Neonates Having Hypoxic Respiratory Failure Associated with Clinical or Echocardiographic Evidence of Pulmonary Hypertension | 13/683444 | 11/21/2012 |         |            |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Treating Term and Near-Term Neonates Having Hypoxic Respiratory Failure Associated with Clinical or Echocardiographic Evidence of Pulmonary Hypertension | 16/378361 | 4/8/2019   |         |            |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Method and Apparatus for Generating Nitric Oxide for Medical Use                                                                                                    | 11/355670 | 2/16/2006  | 8790715 | 7/29/2014  | 2/16/2026 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |

|                                                                  |           |            |          |            |           |                                           |
|------------------------------------------------------------------|-----------|------------|----------|------------|-----------|-------------------------------------------|
| Method and Apparatus for Generating Nitric Oxide for Medical Use | 14/307664 | 6/18/2014  | 9278111  | 3/8/2016   | 2/16/2026 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Method and Apparatus for Generating Nitric Oxide for Medical Use | 15/008048 | 1/27/2016  |          |            |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Valve with Smart Handle                                          | 10/416870 | 5/15/2003  | 7114510  | 10/3/2006  | 7/10/2022 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Gas Delivery Device And System                                   | 13/509873 | 6/11/2012  | 8573209  | 11/5/2013  | 1/6/2031  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Gas Delivery Device And System                                   | 13/493493 | 6/11/2012  | 8291904  | 10/23/2012 | 1/6/2031  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Gas Delivery Device And System                                   | 14/065962 | 10/29/2013 | 9265911  | 2/23/2016  | 1/6/2031  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Gas Delivery Device And System                                   | 14/065975 | 10/29/2013 | 8776795  | 7/15/2014  | 1/6/2031  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Gas Delivery Device And System                                   | 14/065951 | 10/29/2013 | 8776794  | 7/15/2014  | 1/6/2031  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Gas Delivery Device And System                                   | 14/328150 | 7/10/2014  | 9408993  | 8/9/2016   | 1/6/2031  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Gas Delivery Device And System                                   | 14/629742 | 2/24/2015  | 9295802  | 3/29/2016  | 1/6/2031  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Gas Delivery Device And System                                   | 15/001020 | 1/19/2016  | 10272225 | 4/30/2019  | 1/6/2031  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Gas Delivery Device And System                                   | 15/204176 | 7/7/2016   |          |            |           | MALLINCKRODT HOSPITAL PRODUCTS IP         |

|                                                                                              |           |            |          |           |           |                                           |
|----------------------------------------------------------------------------------------------|-----------|------------|----------|-----------|-----------|-------------------------------------------|
|                                                                                              |           |            |          |           |           | LIMITED                                   |
| Gas Delivery Device And System                                                               | 13/677483 | 11/15/2012 | 8573210  | 11/5/2013 | 1/6/2031  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Apparatus and Method for Monitoring Nitric Oxide Delivery                                    | 13/671057 | 11/7/2012  | 9770570  | 9/26/2017 | 5/3/2036  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Apparatus and Method for Monitoring Nitric Oxide Delivery                                    | 16/537955 | 8/12/2019  |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Apparatus and Method for Monitoring Nitric Oxide Delivery                                    | 15/683290 | 8/22/2017  |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Apparatus and Method for Monitoring Nitric Oxide Delivery                                    | 13/800287 | 3/13/2013  | 10426913 | 10/1/2019 | 12/6/2032 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Administering Nitric Oxide to Arterial or Arterialized Blood                      | 14/402786 | 11/21/2014 | 10052426 | 8/21/2018 | 6/23/2033 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Gas Delivery Device and System for Use in Magnetic Resonance Imaging                         | 14/657548 | 3/13/2015  | 10188822 | 1/29/2019 | 4/28/2037 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Gas Delivery Device and System for Use in Magnetic Resonance Imaging                         | 16/217998 | 12/12/2018 |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Device and Methods for Monitoring Oxygenation During Treatment with Delivery of Nitric Oxide | 16/365263 | 3/26/2019  |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| THERAPEUTIC GAS DELIVERY DEVICE WITH PULSED AND CONTINUOUS FLOW CONTROL                      | 14/211919 | 3/14/2014  | 9616193  | 4/11/2017 | 6/3/2035  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| THERAPEUTIC GAS DELIVERY DEVICE WITH PULSED AND CONTINUOUS FLOW CONTROL                      | 14/218067 | 3/18/2014  | 10342948 | 7/9/2019  | 3/17/2036 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |

|                                                                               |           |            |          |           |           |                                           |
|-------------------------------------------------------------------------------|-----------|------------|----------|-----------|-----------|-------------------------------------------|
| THERAPEUTIC GAS DELIVERY DEVICE WITH PULSED AND CONTINUOUS FLOW CONTROL       | 15/483138 | 4/10/2017  | 10328231 | 6/25/2019 | 6/2/2034  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| THERAPEUTIC GAS DELIVERY DEVICE WITH PULSED AND CONTINUOUS FLOW CONTROL       | 16/504881 | 7/8/2019   |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Enhanced Performance Verification For Therapeutic Gas Delivery                | 14/709308 | 5/11/2015  |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems And Methods For Delivery Of Therapeutic Gas                           | 14/709316 | 5/11/2015  |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems And Methods For Intelligent Gas Source Management                     | 14/709298 | 5/11/2015  | 10201674 | 2/12/2019 | 5/25/2037 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems And Methods For Intelligent Gas Source Management                     | 16/217969 | 12/12/2018 |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Method of Identifying and Treating Premature Infants at Risk for BPD          | 15/320635 | 12/20/2016 |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Reducing the Risk of Mortality Associated with a Medical Treatment | 14/313767 | 6/24/2014  |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Reducing the Risk of Mortality Associated with a Medical Treatment | 14/325993 | 7/8/2014   |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Reducing the Risk of Mortality Associated with a Medical Treatment | 15/854643 | 12/29/2017 |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Therapeutic Gas Delivery Device                                               | 29/467025 | 9/13/2013  | D730525  | 5/26/2015 | 5/26/2029 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Therapeutic Gas Delivery Device                                               | 29/467028 | 9/13/2013  | D729937  | 5/19/2015 | 5/19/2029 | MALLINCKRODT HOSPITAL PRODUCTS IP         |

|                                                                                                                           |           |            |          |           |           |                                           |
|---------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-----------|-----------|-------------------------------------------|
|                                                                                                                           |           |            |          |           |           | LIMITED                                   |
| Clinical Decision Support System and Methods                                                                              | 14/026807 | 9/13/2013  |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Clinical Decision Support System and Methods                                                                              | 16/677435 | 11/7/2019  |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Administration and Monitoring of Nitric Oxide In Ex Vivo Fluids                                                           | 14/095621 | 12/3/2013  | 9629358  | 4/25/2017 | 5/21/2034 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Administration and Monitoring of Nitric Oxide In Ex Vivo Fluids                                                           | 15/493578 | 4/21/2017  |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Administration and Monitoring of Nitric Oxide In Ex Vivo Fluids                                                           | 15/066672 | 3/10/2016  |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Using Inhaled Nitric Oxide Gas for Treatment of Acute Respiratory Distress Syndrome in Children                | 14/593085 | 1/9/2015   | 9381212  | 7/5/2016  | 1/9/2035  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Using Inhaled Nitric Oxide Gas for Treatment of Acute Respiratory Distress Syndrome in Children                | 15/170130 | 6/1/2016   | 10201564 | 2/12/2019 | 1/9/2035  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Using Inhaled Nitric Oxide Gas for Treatment of Acute Respiratory Distress Syndrome in Children                | 16/217981 | 12/12/2018 | 10391120 | 8/27/2019 | 1/9/2035  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Compensating Long Term Sensitivity Drift of Electromechanical Gas Sensors Exposed to Nitric Oxide | 14/626409 | 2/19/2015  | 9279794  | 3/8/2016  | 2/19/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |

|                                                                                                                           |           |           |          |           |           |                                           |
|---------------------------------------------------------------------------------------------------------------------------|-----------|-----------|----------|-----------|-----------|-------------------------------------------|
| Systems and Methods for Compensating Long Term Sensitivity Drift of Electromechanical Gas Sensors Exposed to Nitric Oxide | 15/010999 | 1/29/2016 |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Compensating Long Term Sensitivity Drift of Electromechanical Gas Sensors Exposed to Nitric Oxide | 15/256053 | 9/2/2016  | 10166352 | 1/1/2019  | 2/19/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Compensating Long Term Sensitivity Drift of Electromechanical Gas Sensors Exposed to Nitric Oxide | 15/277253 | 9/27/2016 | 9981097  | 5/29/2018 | 2/19/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Compensating Long Term Sensitivity Drift of Electromechanical Gas Sensors Exposed to Nitric Oxide | 15/281176 | 9/30/2016 | 9974910  | 5/22/2018 | 2/19/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Compensating Long Term Sensitivity Drift of Electromechanical Gas Sensors Exposed to Nitric Oxide | 15/284611 | 10/4/2016 | 10220170 | 3/5/2019  | 2/19/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Compensating Long Term Sensitivity Drift of Electromechanical Gas Sensors Exposed to Nitric Oxide | 15/341142 | 11/2/2016 | 9956364  | 5/1/2018  | 2/19/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Compensating Long Term Sensitivity Drift of Electromechanical Gas Sensors Exposed to Nitric Oxide | 15/341262 | 11/2/2016 | 10195380 | 2/5/2019  | 2/19/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Compensating Long Term Sensitivity Drift of Electromechanical Gas Sensors Exposed to Nitric       | 15/341584 | 11/2/2016 | 9919118  | 3/20/2018 | 2/19/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |

|                                                                                                                                                                                                                            |           |           |          |           |           |                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|----------|-----------|-----------|-------------------------------------------|
| Oxide                                                                                                                                                                                                                      |           |           |          |           |           |                                           |
| Systems and Methods for Compensating Long Term Sensitivity Drift of Electromechanical Gas Sensors Exposed to Nitric Oxide                                                                                                  | 15/343314 | 11/4/2016 | 10046125 | 8/14/2018 | 2/19/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Delivery of Therapeutic Gas to Patients in Need Thereof Using Enhanced Breathing Circuit Gas (BCG) Flow Measurement                                                                                | 14/672447 | 3/30/2015 | 10226592 | 3/12/2019 | 3/30/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Delivery of Therapeutic Gas to Patients in Need Thereof Using Enhanced Breathing Circuit Gas (BCG) Flow Measurement                                                                                | 14/674327 | 3/31/2015 | 10232138 | 3/19/2019 | 3/30/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Delivery of Therapeutic Gas to Patients in Need Thereof Using Enhanced Breathing Circuit Gas (BCG) Flow Measurement                                                                                | 16/253834 | 1/22/2019 |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Delivery of Therapeutic Gas to Patients in Need Thereof Using Enhanced Breathing Circuit Gas (BCG) Flow Measurement                                                                                | 16/253871 | 1/22/2019 |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Delivery of Therapeutic Gas to Patients, in Need Thereof, Receiving Breathing Gas From a Ventilator That Varies at Least Pressure and/or Flow Using Enhanced Therapeutic Gas (No) Flow Measurement | 14/700594 | 4/30/2015 | 10071213 | 9/11/2018 | 4/30/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |



|                                                                                                                                                                                                                            |           |           |          |           |           |                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|----------|-----------|-----------|-------------------------------------------|
| Systems and Methods for Delivery of Therapeutic Gas to Patients, in Need Thereof, Receiving Breathing Gas From a Ventilator That Varies at Least Pressure and/or Flow Using Enhanced Therapeutic Gas (No) Flow Measurement | 16/058402 | 8/8/2018  |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Methods for Indicating Lifetime of an NO2-to-NO Reactor Cartridge Used to Deliver NO for Inhalation Therapy to a Patient                                                                                        | 14/712419 | 5/14/2015 |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| NO2 to NO Reactor Cartridge with Improved Cartridge Structure and/or that May Be Used with Constant and/or Variable Flow Ventilators                                                                                       | 14/750429 | 6/25/2015 |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Manufacturing and Safety of an NO2-to-NO Reactor Cartridge Used to Deliver NO for Inhalation Therapy to a Patient                                                                                  | 14/744298 | 6/19/2015 | 10384031 | 8/20/2019 | 2/13/2038 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Manufacturing and Safety of an NO2-to-NO Reactor Cartridge Used to Deliver NO for Inhalation Therapy to a Patient                                                                                  | 16/502828 | 7/3/2019  |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Device and Method for Diffusing High Concentration NO with Inhalation Therapy Gas                                                                                                                                          | 15/281512 | 9/30/2016 |          |           |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Devices and Methods for Engaging Indexed Valve and Pressure Canister Assembly with Collar and for Linear Actuation by Plunger Assembly into Fluid Communication with Device for Regulating Drug Delivery                   | 13/260505 | 9/26/2011 | 8757148  | 6/24/2014 | 1/23/2030 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |

|                                                                                                                                                                                                          |           |            |         |           |            |                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|-----------|------------|-------------------------------------------|
| Devices and Methods for Engaging Indexed Valve and Pressure Canister Assembly with Collar and for Linear Actuation by Plunger Assembly into Fluid Communication with Device for Regulating Drug Delivery | 14/301692 | 6/11/2014  | 9895199 | 2/20/2018 | 1/23/2030  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Devices and Methods for Engaging Indexed Valve and Pressure Canister Assembly with Collar and for Linear Actuation by Plunger Assembly into Fluid Communication with Device for Regulating Drug Delivery | 15/899063 | 2/19/2018  |         |           |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Method of Administering a Pharmaceutical Gas to a Patient                                                                                                                                     | 11/231554 | 9/21/2005  | 7523752 | 4/28/2009 | 9/21/2025  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Method of Administering a Pharmaceutical Gas to a Patient                                                                                                                                     | 12/430220 | 4/27/2009  | 8091549 | 1/10/2012 | 3/19/2026  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Method of Administering a Pharmaceutical Gas to a Patient                                                                                                                                     | 15/167048 | 5/27/2016  |         |           |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Method of Administering a Pharmaceutical Gas to a Patient                                                                                                                                     | 16/156453 | 10/10/2018 |         |           |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Method of Administering a Pharmaceutical Gas to a Patient                                                                                                                                     | 13/287663 | 11/2/2011  | 8517015 | 8/27/2013 | 9/21/2025  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Method of Administering a Pharmaceutical Gas to a Patient                                                                                                                                     | 13/284433 | 10/28/2011 | 8397721 | 3/19/2013 | 9/21/2025  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Method of Administering a Pharmaceutical Gas to a Patient                                                                                                                                     | 13/536272 | 6/28/2012  | 8408206 | 4/2/2013  | 9/21/2025  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Method of Administering a Pharmaceutical Gas to a Patient                                                                                                                                     | 13/778596 | 2/27/2013  | 9351994 | 5/31/2016 | 12/10/2026 | MALLINCKRODT HOSPITAL PRODUCTS IP         |

|                                                                        |           |            |          |            |           |                                           |
|------------------------------------------------------------------------|-----------|------------|----------|------------|-----------|-------------------------------------------|
| Patient                                                                |           |            |          |            |           | LIMITED                                   |
| System and Method of Administering a Pharmaceutical Gas to a Patient   | 13/942049 | 7/15/2013  | 8720440  | 5/13/2014  | 9/21/2025 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Method of Administering a Pharmaceutical Gas to a Patient   | 13/942115 | 7/15/2013  | 8607792  | 12/17/2013 | 9/21/2025 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Method of Administering a Pharmaceutical Gas to a Patient   | 13/942136 | 7/15/2013  | 8616204  | 12/31/2013 | 9/21/2025 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Method of Administering a Pharmaceutical Gas to a Patient   | 14/551186 | 11/24/2014 | 10099029 | 10/16/2018 | 9/21/2025 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| System and Method of Administering a Pharmaceutical Gas to a Patient   | 13/331807 | 12/20/2011 | 8893717  | 11/25/2014 | 2/17/2033 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Methods of Administering High Concentrations of Nitric Oxide           | 13/827240 | 3/14/2013  |          |            |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Breathing Apparatus Detection and Purging                              | 13/440046 | 4/5/2012   | 8944051  | 2/3/2015   | 4/5/2032  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Breathing Apparatus Detection and Purging                              | 14/394433 | 4/3/2013   | 9108016  | 8/18/2015  | 4/5/2032  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Breathing Apparatus Detection and Purging                              | 14/827523 | 8/17/2015  | 9550040  | 1/24/2017  | 4/5/2032  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Breathing Apparatus Detection and Purging                              | 15/412342 | 1/23/2017  |          |            |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Cannula for Minimizing Dilution of Dosing During Nitric Oxide Delivery | 14/096548 | 12/4/2013  | 9795756  | 10/24/2017 | 2/24/2036 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |

|                                                                                                                                  |           |            |          |            |            |                                           |
|----------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|------------|------------|-------------------------------------------|
| Cannula for Minimizing Dilution of Dosing During Nitric Oxide Delivery                                                           | 14/096910 | 12/4/2013  | 9032959  | 5/19/2015  |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Cannula for Minimizing Dilution of Dosing During Nitric Oxide Delivery                                                           | 14/706449 | 5/7/2015   | 10130783 | 11/20/2018 | 11/12/2035 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Cannula for Minimizing Dilution of Dosing During Nitric Oxide Delivery                                                           | 15/790300 | 10/23/2017 |          |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Cannula for Minimizing Dilution of Dosing During Nitric Oxide Delivery                                                           | 14/096629 | 12/4/2013  | 8770199  | 7/8/2014   | 12/4/2033  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Cannula for Minimizing Dilution of Dosing During Nitric Oxide Delivery                                                           | 14/312003 | 6/23/2014  | 9550039  | 1/27/2017  | 8/12/2034  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Cannula for Minimizing Dilution of Dosing During Nitric Oxide Delivery                                                           | 15/412348 | 1/23/2017  |          |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Therapeutic Gas Delivery Device                                                                                                  | 29/455842 | 5/24/2013  | D701963  | 4/1/2014   | 4/1/2028   | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Therapeutic Gas Delivery Device                                                                                                  | 29/464499 | 8/16/2013  | D729936  | 5/19/2015  | 5/19/2029  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Systems and Methods for Providing a Pulse of a Therapeutic Gas With a Desired Flow Profile to Maximize Therapeutic Effectiveness | 14/886556 | 10/19/2015 |          |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| DYE-AZIDE COMPOSITIONS FOR DUAL PHOTOTHERAPY                                                                                     | 11/931683 | 10/31/2007 | 8658433  | 2/25/2014  | 8/2/2023   | SPECGX LLC                                |
| COMPOUNDS HAVING A CYCLIC PORTION THAT INCLUDES AN N-N BOND AND USES THEREOF                                                     | 13/319771 | 11/10/2011 | 9186349  | 11/17/2015 | 6/5/2030   | SPECGX LLC                                |

|                                                                                                   |           |            |         |            |           |                                           |
|---------------------------------------------------------------------------------------------------|-----------|------------|---------|------------|-----------|-------------------------------------------|
| ADJUNCT THERAPEUTICS FOR THE INHIBITION OF TUMORIGENESIS IN TYPE II MEDIATED PHOTODYNAMIC THERAPY | 13/383243 | 1/10/2012  | 8829020 | 9/9/2014   | 7/16/2030 | SPECGX LLC                                |
| ADJUNCT THERAPEUTICS FOR THE INHIBITION OF TUMORIGENESIS IN TYPE II MEDIATED PHOTODYNAMIC THERAPY | 14/316415 | 6/26/2014  | 9518062 | 12/13/2016 | 7/16/2030 | SPECGX LLC                                |
| ADJUNCT THERAPEUTICS FOR THE INHIBITION OF TUMORIGENESIS IN TYPE II MEDIATED PHOTODYNAMIC THERAPY | 14/316443 | 6/26/2014  | 9527858 | 12/27/2016 | 7/16/2030 | SPECGX LLC                                |
| PREPARATION OF METAL MESOPORPHYRIN HALIDE COMPOUNDS                                               | 10/453815 | 6/3/2003   | 6818763 | 11/16/2004 | 6/3/2023  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| PREPARATION OF METAL MESOPORPHYRIN HALIDE COMPOUNDS                                               | 11/957317 | 12/14/2007 | 7777028 | 8/17/2010  | 6/3/2023  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| PREPARATION OF METAL MESOPORPHYRIN HALIDE COMPOUNDS                                               | 12/833873 | 7/9/2010   | 8178664 | 5/15/2012  | 6/3/2023  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| PREPARATION OF METAL MESOPORPHYRIN HALIDE COMPOUNDS                                               | 10/812156 | 3/29/2004  | 7375216 | 5/20/2008  | 6/3/2023  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| HIGH-PURITY LARGE-SCALE PREPARATION OF STANNSOPORFIN                                              | 11/867559 | 10/4/2007  | 7960371 | 6/14/2011  | 4/6/2029  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| HIGH-PURITY LARGE-SCALE PREPARATION OF STANNSOPORFIN                                              | 12/968651 | 12/15/2010 | 8530458 | 9/10/2013  | 10/4/2027 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| HIGH-PURITY LARGE-SCALE PREPARATION OF STANNSOPORFIN                                              | 14/019513 | 9/5/2013   | 8835416 | 9/16/2014  | 10/4/2027 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| HIGH-PURITY LARGE-SCALE PREPARATION OF STANNSOPORFIN                                              | 14/460080 | 8/14/2014  | 9107927 | 8/18/2015  | 10/4/2027 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |

|                                                            |           |            |          |            |           |                                           |
|------------------------------------------------------------|-----------|------------|----------|------------|-----------|-------------------------------------------|
| HIGH-PURITY LARGE-SCALE PREPARATION OF STANNSOPORFIN       | 14/793921 | 7/8/2015   | 9517239  | 12/13/2016 | 10/4/2027 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| HIGH-PURITY LARGE-SCALE PREPARATION OF STANNSOPORFIN       | 15/343967 | 11/4/2016  | 9902745  | 2/27/2018  | 10/4/2027 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| HIGH-PURITY LARGE-SCALE PREPARATION OF STANNSOPORFIN       | 16/298603 | 3/11/2019  |          |            |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| HIGH-PURITY LARGE-SCALE PREPARATION OF STANNSOPORFIN       | 15/867900 | 1/11/2018  | 10273255 | 4/30/2019  | 10/4/2027 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHODS FOR SYNTHESIZING METAL MESOPORPHYRINS              | 13/435868 | 3/30/2012  | 8735574  | 5/27/2014  | 3/30/2032 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHODS FOR SYNTHESIZING METAL MESOPORPHYRINS              | 16/125190 | 9/7/2018   |          |            |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHODS FOR SYNTHESIZING METAL MESOPORPHYRINS              | 14/253710 | 4/15/2014  | 9181285  | 11/10/2015 | 3/30/2032 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHODS FOR SYNTHESIZING METAL MESOPORPHYRINS              | 14/875141 | 10/5/2015  | 9688705  | 6/27/2017  | 3/30/2032 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHODS FOR SYNTHESIZING METAL MESOPORPHYRINS              | 15/603654 | 5/24/2017  |          |            |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHODS FOR TREATING HYPERBILIRUBINEMIA WITH STANNSOPORFIN | 13/691677 | 11/30/2012 |          |            |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHODS FOR TREATING HYPERBILIRUBINEMIA WITH STANNSOPORFIN | 16/505295 | 7/8/2019   |          |            |           | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |

|                                                                                                           |           |           |          |           |            |                                           |
|-----------------------------------------------------------------------------------------------------------|-----------|-----------|----------|-----------|------------|-------------------------------------------|
| METHODS FOR TREATING HYPERBILIRUBINEMIA WITH STANNSOPORFIN AND PHOTOTHERAPY                               | 16/300362 | 11/9/2018 |          |           |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| COMPOSITIONS COMPRISING ORNITHINE AND PHENYLACETATE OR PHENYLBUTYRATE FOR TREATING HEPATIC ENCEPHALOPATHY | 11/720268 | 10/3/2007 | 8389576  | 3/5/2013  | 12/8/2025  | OCERA THERAPEUTICS, INC.                  |
| COMPOSITIONS COMPRISING ORNITHINE AND PHENYLACETATE OR PHENYLBUTYRATE FOR TREATING HEPATIC ENCEPHALOPATHY | 13/495966 | 6/13/2012 | 9566257  | 2/14/2017 | 11/28/2025 | OCERA THERAPEUTICS, INC.                  |
| COMPOSITIONS COMPRISING ORNITHINE AND PHENYLACETATE OR PHENYLBUTYRATE FOR TREATING HEPATIC ENCEPHALOPATHY | 15/430233 | 2/10/2017 |          |           |            | OCERA THERAPEUTICS, INC.                  |
| L-ORNITHINE PHENYL ACETATE AND METHODS OF MAKING THEREOF                                                  | 12/753763 | 4/2/2010  | 8173706  | 5/8/2012  | 1/1/2031   | OCERA THERAPEUTICS, INC.                  |
| L-ORNITHINE PHENYL ACETATE AND METHODS OF MAKING THEREOF                                                  | 16/037655 | 7/17/2018 |          |           |            | OCERA THERAPEUTICS, INC.                  |
| L-ORNITHINE PHENYL ACETATE AND METHODS OF MAKING THEREOF                                                  | 13/436642 | 3/30/2012 | 8492439  | 7/23/2013 | 4/2/2030   | OCERA THERAPEUTICS, INC.                  |
| L-ORNITHINE PHENYL ACETATE AND METHODS OF MAKING THEREOF                                                  | 13/937107 | 7/8/2013  | 8785498  | 7/22/2014 | 4/2/2030   | OCERA THERAPEUTICS, INC.                  |
| L-ORNITHINE PHENYL ACETATE AND METHODS OF MAKING THEREOF                                                  | 14/299940 | 6/9/2014  | 9034925  | 5/19/2015 | 4/2/2030   | OCERA THERAPEUTICS, INC.                  |
| L-ORNITHINE PHENYL ACETATE AND METHODS OF MAKING THEREOF                                                  | 14/715481 | 5/18/2015 | 9604909  | 3/28/2017 | 4/2/2030   | OCERA THERAPEUTICS, INC.                  |
| L-ORNITHINE PHENYL ACETATE AND METHODS OF MAKING THEREOF                                                  | 15/469359 | 3/24/2017 | 10173964 | 1/8/2019  | 4/2/2030   | OCERA THERAPEUTICS, INC.                  |

|                                                                                                                                       |           |            |          |           |            |                          |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-----------|------------|--------------------------|
| TREATMENT OF PORTAL HYPERTENSION AND RESTORATION OF LIVER FUNCTION USING L-ORNITHINE PHENYLACETATE                                    | 15/817847 | 11/20/2017 |          |           |            | OCERA THERAPEUTICS, INC. |
| METHODS OF MAKING L-ORNITHINE PHENYL ACETATE                                                                                          | 13/878146 | 4/5/2013   | 8946473  | 2/3/2015  | 1/18/2032  | OCERA THERAPEUTICS, INC. |
| METHODS OF MAKING L-ORNITHINE PHENYL ACETATE                                                                                          | 14/601591 | 1/21/2015  | 9260379  | 2/16/2016 | 10/5/2031  | OCERA THERAPEUTICS, INC. |
| TREATMENT OF DISEASES ASSOCIATED WITH HEPATIC STELLATE CELL ACTIVATION USING AMMONIA-LOWERING THERAPIES                               | 15/527999 | 5/18/2017  | 10039735 | 8/7/2018  | 11/23/2035 | OCERA THERAPEUTICS, INC. |
| TREATMENT OF DISEASES ASSOCIATED WITH HEPATIC STELLATE CELL ACTIVATION USING AMMONIA-LOWERING THERAPIES                               | 16/026403 | 7/3/2018   |          |           |            | OCERA THERAPEUTICS, INC. |
| TREATMENT AND PREVENTION OF MUSCLE LOSS USING L-ORNITHINE IN COMBINATION WITH AT LEAST ONE OF PHENYLACETATE AND PHENYLBUTYRATE        | 15/750009 | 2/2/2018   |          |           |            | OCERA THERAPEUTICS, INC. |
| TREATMENT AND PREVENTION OF NEURONAL CELL LOSS USING L-ORNITHINE IN COMBINATION WITH AT LEAST ONE OF PHENYLACETATE AND PHENYLBUTYRATE | 15/751442 | 2/8/2018   |          |           |            | OCERA THERAPEUTICS, INC. |
| PROCESSES OF MAKING L-ORNITHINE PHENYLACETATE                                                                                         | 16/611193 | 11/5/2019  |          |           |            | OCERA THERAPEUTICS, INC. |
| FORMULATIONS OF L-ORNITHINE PHENYLACETATE                                                                                             | 15/349910 | 11/11/2016 |          |           |            | OCERA THERAPEUTICS, INC. |
| METHODS OF ASSESSING HEPATIC ENCEPHALOPATHY (HEST)                                                                                    | 62/845569 | 5/9/2019   |          |           | 5/9/2020   | OCERA THERAPEUTICS, INC. |
| FORMULATIONS OF L-ORNITHINE PHENYLACETATE                                                                                             | 15/133087 | 4/19/2016  |          |           |            | OCERA THERAPEUTICS,      |



|                                                                                                            |           |            |          |            |            |                                           |
|------------------------------------------------------------------------------------------------------------|-----------|------------|----------|------------|------------|-------------------------------------------|
|                                                                                                            |           |            |          |            |            | INC.                                      |
| DOSAGES OF L-ORNITHINE PHENYLACETATE FOR TREATING HYPERAMMONEMIA                                           | 62/916159 | 10/16/2019 |          |            | 10/16/2020 | OCERA THERAPEUTICS, INC.                  |
| REDUCED DOSE INTRAVENOUS ACETAMINOPHEN                                                                     | 12/270796 | 11/13/2008 | 9399012  | 7/26/2016  | 9/11/2031  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| REDUCED DOSE INTRAVENOUS ACETAMINOPHEN                                                                     | 15/184056 | 6/16/2016  | 9610265  | 4/4/2017   | 11/13/2028 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| REDUCED DOSE INTRAVENOUS ACETAMINOPHEN                                                                     | 15/436285 | 2/17/2017  | 9987238  | 6/5/2018   | 11/13/2028 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| REDUCED DOSE INTRAVENOUS ACETAMINOPHEN                                                                     | 15/979154 | 5/14/2018  | 10383834 | 8/20/2019  | 11/13/2028 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| ABUSE DETERRENT IMMEDIATE RELEASE FORMULATIONS CONTAINING GLUCOMANNAN                                      | 14/788908 | 7/1/2015   |          |            |            | SPECGX LLC                                |
| ABUSE DETERRENT IMMEDIATE RELEASE FORMULATIONS CONTAINING GLUCOMANNAN                                      | 16/002199 | 6/7/2018   |          |            |            | SPECGX LLC                                |
| Methylphenidate HCl Oral Solution                                                                          | 10/554133 | 10/20/2005 | 7691880  | 4/6/2010   | 10/7/2024  | SPECGX LLC                                |
| Improved Stearate Composition and Method                                                                   | 10/558591 | 11/29/2005 | 7456306  | 11/25/2008 | 6/15/2025  | SPECGX LLC                                |
| Improved Stearate Composition and Method                                                                   | 11/154849 | 6/16/2005  | 7385068  | 6/10/2008  | 3/17/2025  | SPECGX LLC                                |
| COMPOSITION AND PROCESS FOR A SPHEROIDS OR GRANULES WITH TWO PULSE (IMMEDIATE AND DELAYED) RELEASE PROFILE | 11/909270 | 9/21/2007  | 9713592  | 7/25/2017  | 5/1/2031   | SPECGX LLC                                |
| METHYLPHENIDATE HCL TABLET FORMULATIONS PROVIDING ZERO-ORDER                                               | 16/529323 | 8/1/2019   |          |            |            | SPECGX LLC                                |

|                                                                                                                                                    |           |            |         |           |           |            |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|-----------|-----------|------------|
| DRUG RELEASE                                                                                                                                       |           |            |         |           |           |            |
| TAMPER-RESISTANT IMMEDIATE RELEASE FORMULATIONS                                                                                                    | 13/865286 | 4/18/2013  | 9993422 | 6/12/2018 | 4/18/2033 | SPECGX LLC |
| TAMPER-RESISTANT IMMEDIATE RELEASE FORMULATIONS                                                                                                    | 15/714137 | 9/25/2017  |         |           |           | SPECGX LLC |
| TAMPER-RESISTANT IMMEDIATE RELEASE FORMULATIONS                                                                                                    | 16/002190 | 6/7/2018   |         |           |           | SPECGX LLC |
| TAMPER-RESISTANT IMMEDIATE RELEASE FORMULATIONS                                                                                                    | 15/977415 | 5/11/2018  |         |           |           | SPECGX LLC |
| GLUCOMANNAN CONTAINING PHARMACEUTICAL COMPOSITIONS WITH EXTENDED RELEASE AND ABUSE DETERRENT PROPERTIES                                            | 15/417541 | 1/27/2017  |         |           |           | SPECGX LLC |
| TAMPER RESISTANT FORMULATIONS FOR ORAL SOLID EXTENDED RELEASE DOSAGE FORMS                                                                         | 15/464865 | 3/21/2017  |         |           |           | SPECGX LLC |
| DELAYED SUSTAINED RELEASE PHARMACEUTICAL PREPARATION                                                                                               | 16/002285 | 6/7/2018   |         |           |           | SPECGX LLC |
| A SIMPLIFIED PROCEDURE FOR THE INDUSTRIAL SCALE MANUFACTURE OF LISDEXAMPHETAMINE DIMESYLATE (1) USING A "ONE-POT" PROCEDURE FROM AMPHETAMINE SALTS | 16/201645 | 11/27/2018 |         |           |           | SPECGX LLC |
| ONE STEP MILLING PROCESS FOR PREPARING MICRONIZED PALIPERIDONE ESTERS                                                                              | 16/219253 | 12/13/2018 |         |           |           | SPECGX LLC |
| TAMPER-RESISTANT IMMEDIATE RELEASE CAPSULE DOSAGE FORM CONTAINING ORGANIC ACID                                                                     | 16/574699 | 9/18/2019  |         |           |           | SPECGX LLC |
| MICROWAVE MELT                                                                                                                                     | 13/015490 | 1/27/2011  | 8490795 | 7/23/2013 | 2/21/2031 | SPECGX LLC |

|                                                                                                                                                  |           |            |         |            |            |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------------|------------|------------|
| PACKAGING                                                                                                                                        |           |            |         |            |            |            |
| MICROWAVE MELT PACKAGING                                                                                                                         | 13/925680 | 6/24/2013  | 9005098 | 4/14/2015  | 1/27/2031  | SPECGX LLC |
| PACKAGING SOLUTIONS FOR TRANSDERMAL PATCH DISPOSAL                                                                                               | 13/014876 | 1/27/2011  | 8925727 | 1/6/2015   | 4/12/2033  | SPECGX LLC |
| CHILDPROOF STORAGE CONTAINER FOR TRANSDERMAL PATCHES                                                                                             | 13/014896 | 1/27/2011  | 8910456 | 12/16/2014 | 9/21/2033  | SPECGX LLC |
| LIQUID ADHESIVE ENCAPSULATION OF PILLS                                                                                                           | 13/015480 | 1/27/2011  | 9046403 | 6/2/2015   | 1/27/2031  | SPECGX LLC |
| TIME BASED DIAL INDICATOR IN PILL CAP                                                                                                            | 13/015223 | 1/27/2011  | 8842501 | 9/23/2014  | 1/27/2031  | SPECGX LLC |
| PERMANENT LOCKING MEDICATION BOTTLE                                                                                                              | 14/488048 | 9/16/2014  | 9414989 | 8/16/2016  | 9/7/2031   | SPECGX LLC |
| PEN-STYLE PILL DISPENSER                                                                                                                         | 13/103234 | 5/9/2011   | 9016516 | 4/28/2015  | 7/4/2031   | SPECGX LLC |
| MICROWAVE MELT FOR BLISTER CARDS                                                                                                                 | 14/336357 | 7/21/2014  |         |            |            | SPECGX LLC |
| ADHESIVE SECURING BLISTER PACKAGING                                                                                                              | 13/103247 | 5/9/2011   | 8342331 | 1/1/2013   | 5/9/2031   | SPECGX LLC |
| ADHESIVE SECURING BLISTER PACKAGING                                                                                                              | 13/691766 | 12/1/2012  | 8627957 | 1/14/2014  | 5/9/2031   | SPECGX LLC |
| ADHESIVE SECURING BLISTER PACKAGING                                                                                                              | 14/092559 | 11/27/2013 | 9120607 | 9/1/2015   | 5/9/2031   | SPECGX LLC |
| ADHESIVE SECURING BLISTER PACKAGING                                                                                                              | 14/716269 | 5/19/2015  | 9579252 | 2/28/2017  | 5/9/2031   | SPECGX LLC |
| MECHANICALLY SECURING BLISTER PACKAGING                                                                                                          | 13/215864 | 8/23/2011  | 8991606 | 3/31/2015  | 11/11/2031 | SPECGX LLC |
| PROCESS FOR THE PREPARATION OF QUATERNARY N-ALKYL MORPHINAN ALKALOID SALTS                                                                       | 10/530446 | 4/5/2005   | 7285665 | 10/23/2007 | 4/21/2024  | SPECGX LLC |
| PREPARATION OF CODEINE FROM MORPHINE                                                                                                             | 10/274702 | 10/21/2002 | 6579985 | 6/17/2003  | 10/21/2022 | SPECGX LLC |
| Synthesis of 1-[(6-chloro-3,4-dihydroxy-phenyl)methyl]-3,4,5,6,7,8-hexahydro-6-oxo-2(1H)-isoquinolinecarboxaldehyde (Cl-OH-12) and its analogues | 11/718263 | 4/30/2007  | 7834184 | 11/16/2010 | 2/1/2028   | SPECGX LLC |

|                                                                                                                                                  |           |            |         |            |            |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------------|------------|------------|
| Synthesis of 1-[(6-chloro-3,4-dihydroxy-phenyl)methyl]-3,4,5,6,7,8-hexahydro-6-oxo-2(1H)-isoquinolinecarboxaldehyde (CI-OH-12) and its analogues | 11/741910 | 4/30/2007  | 7511060 | 3/31/2009  | 6/2/2026   | SPECGX LLC |
| Synthesis of 1-[(6-chloro-3,4-dihydroxy-phenyl)methyl]-3,4,5,6,7,8-hexahydro-6-oxo-2(1H)-isoquinolinecarboxaldehyde (CI-OH-12) and its analogues | 11/741932 | 4/30/2007  | 7622586 | 11/24/2009 | 5/22/2026  | SPECGX LLC |
| A CONVENIENT AND EFFECTIVE WAY TO CONVERT (MINOR AMOUNT OF) ALPHA,BETA-UNSATURATED KETONE TO SATURATED KETONE IN THE FINISHING DRUG SUBSTANCE    | 11/915606 | 11/27/2007 | 8871779 | 10/28/2014 | 11/22/2029 | SPECGX LLC |
| A CONVENIENT AND EFFECTIVE WAY TO CONVERT (MINOR AMOUNT OF) ALPHA,BETA-UNSATURATED KETONE TO SATURATED KETONE IN THE FINISHING DRUG SUBSTANCE    | 13/294546 | 11/11/2011 | 8748611 | 6/10/2014  | 10/1/2027  | SPECGX LLC |
| A CONVENIENT AND EFFECTIVE WAY TO CONVERT (MINOR AMOUNT OF) ALPHA,BETA-UNSATURATED KETONE TO SATURATED KETONE IN THE FINISHING DRUG SUBSTANCE    | 15/710990 | 9/21/2017  |         |            |            | SPECGX LLC |
| A NEW SYNTHETIC ROUTE TO 14-HYDROXYL OPIATES THROUGH 1-HALO-THEBAINE OR ANALOGS                                                                  | 11/917180 | 12/11/2007 | 8067597 | 11/29/2011 | 3/3/2029   | SPECGX LLC |
| IMPROVED PROCESS FOR THE PREPARATION OF 3,4-DIHYDROISOQUINOLINES                                                                                 | 12/518434 | 6/10/2009  | 8445682 | 5/21/2013  | 9/10/2029  | SPECGX LLC |
| IMPROVED PROCESS FOR THE PREPARATION OF 3,4-DIHYDROISOQUINOLINES                                                                                 | 12/481993 | 6/10/2009  | 8461384 | 6/11/2013  | 11/13/2030 | SPECGX LLC |

|                                                                                                                     |           |            |         |           |            |            |
|---------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|-----------|------------|------------|
| IMPROVED PROCESS FOR THE PREPARATION OF 3,4-DIHYDROISOQUINOLINES                                                    | 12/482014 | 6/10/2009  | 8232400 | 7/31/2012 | 8/26/2030  | SPECGX LLC |
| THE USE OF ORIPAVINE AS A STARTING MATERIAL FOR BUPRENORPHINE                                                       | 12/159025 | 6/24/2008  | 8993764 | 3/31/2015 | 2/22/2030  | SPECGX LLC |
| IMPROVED PROCESS FOR THE PREPARATION OF 5-[1,2,3,4,5,8-HEXAHYDRO-6-METHOXY-1-ISOQUINOLINYL]METHYL]-2-METHOXY-PHENOL | 12/518430 | 6/10/2009  | 8242277 | 8/14/2012 | 2/22/2029  | SPECGX LLC |
| IMPROVED PROCESS FOR THE PREPARATION OF 5-[1,2,3,4,5,8-HEXAHYDRO-6-METHOXY-1-ISOQUINOLINYL]METHYL]-2-METHOXY-PHENOL | 12/482036 | 6/10/2009  | 8227611 | 7/24/2012 | 4/4/2029   | SPECGX LLC |
| NEW 3-OXY PRODRUGS OF HYDROMORPHONE                                                                                 | 12/833025 | 7/9/2010   | 8623888 | 1/7/2014  | 10/29/2031 | SPECGX LLC |
| PROCESS IMPROVEMENT FOR THE SYNTHESIS NALTREXONE METHOBROMIDE                                                       | 12/529723 | 11/22/2010 | 8669366 | 3/11/2014 | 10/10/2028 | SPECGX LLC |
| PROCESS IMPROVEMENT FOR THE SYNTHESIS NALTREXONE METHOBROMIDE                                                       | 12/553144 | 9/3/2009   | 9040726 | 5/26/2015 | 1/7/2030   | SPECGX LLC |
| PROCESS IMPROVEMENT FOR THE SYNTHESIS NALTREXONE METHOBROMIDE                                                       | 14/569309 | 12/12/2014 | 9415044 | 8/16/2016 | 3/6/2028   | SPECGX LLC |
| NEW TOTAL SYNTHETIC ROUTE TO NOROXYMORPHONE AND DERIVATIVES                                                         | 12/469951 | 5/21/2009  | 8148528 | 4/3/2012  | 4/20/2030  | SPECGX LLC |
| IMPROVEMENTS IN THE PREPARATION OF KEY INTERMEDIATES IN THE TOTAL SYNTHESIS OF OPIATES                              | 12/441397 | 3/16/2009  | 8115002 | 2/14/2012 | 11/14/2028 | SPECGX LLC |
| SYNTHESIS OF SUBSTITUTED BERBINES                                                                                   | 12/552457 | 9/2/2009   | 9458109 | 10/4/2016 | 2/21/2032  | SPECGX LLC |
| SYNTHESIS OF SUBSTITUTED BERBINES                                                                                   | 15/235312 | 8/12/2016  | 9856251 | 1/2/2018  | 9/2/2029   | SPECGX LLC |

|                                                                                                                                                 |           |            |         |            |            |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------------|------------|------------|
| IMPROVED PREPARATION OF OXYMORPHONE FROM ORIPAVINE                                                                                              | 12/532410 | 9/22/2009  | 8217175 | 7/10/2012  | 5/29/2029  | SPECGX LLC |
| CONVENIENT OPERATIONS ON THE PRODUCTION OF OXYMORPHONE AND OXYCODONE                                                                            | 12/595519 | 10/12/2009 | 8309727 | 11/13/2012 | 7/29/2029  | SPECGX LLC |
| BUPRENORPHINE STEP 3 YIELD INCREASED BY RECYCLING ALKALOIDS IN THE FILTRATE FROM A PREVIOUS BATCH                                               | 12/586856 | 9/29/2009  | 8232398 | 7/31/2012  | 1/1/2031   | SPECGX LLC |
| IMPROVED PROCESS FOR THE PREPARATION OF 6ALPHA-HYDROXY-N-ALKYLATED OPTIATES IN ONE POT                                                          | 12/444421 | 4/6/2009   | 7985858 | 7/26/2011  | 5/9/2029   | SPECGX LLC |
| IMPROVED PROCESS FOR THE PREPARATION OF 6ALPHA-HYDROXY-N-ALKYLATED OPTIATES IN ONE POT                                                          | 12/630171 | 12/3/2009  | 8273888 | 9/25/2012  | 4/26/2030  | SPECGX LLC |
| IMPROVED PROCESS FOR THE PREPARATION OF 6ALPHA-HYDROXY-N-ALKYLATED OPTIATES IN ONE POT                                                          | 12/630192 | 12/3/2009  | 8524904 | 9/3/2013   | 12/4/2029  | SPECGX LLC |
| N-DEMETHYLATION OF ORIPAVINE AND THEBAINE                                                                                                       | 12/316821 | 12/17/2008 | 7671204 | 3/2/2010   | 12/17/2028 | SPECGX LLC |
| O-DEMETHYLATION OF 3-METHOXYMORPHINAN DERIVATIVES TO 3-HYDROXYMORPHINAN DERIVATIVES, INCLUDING O-DEMETHYLATION OF OXYCODONE TO FORM OXYMORPHONE | 12/372788 | 2/18/2009  | 7999105 | 8/16/2011  | 4/19/2030  | SPECGX LLC |
| CRYSTALLINE FORMS OF NALTREXONE HYDROCHLORIDE                                                                                                   | 12/595543 | 10/12/2009 | 8399475 | 3/19/2013  | 11/27/2029 | SPECGX LLC |
| PREPARATION OF N-ALKYLATED OPIATES BY REDUCTIVE AMINATION USING ASYMMETRIC HYDROGEN TRANSFER                                                    | 12/668900 | 1/13/2010  | 8729266 | 5/20/2014  | 8/13/2029  | SPECGX LLC |
| CRYSTALLINE FORMS OF NALTREXONE                                                                                                                 | 12/668218 | 1/8/2010   | 8383649 | 2/26/2013  | 10/11/2029 | SPECGX LLC |

|                                                                                                                    |           |            |         |            |            |            |
|--------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------------|------------|------------|
| METHOBROMIDE                                                                                                       |           |            |         |            |            |            |
| IMPROVED HYDROGENATION PROCESS FOR SYNTHETIC PREPARATION OF BUPRENORPHINE                                          | 12/586874 | 9/29/2009  | 8273887 | 9/25/2012  | 12/24/2030 | SPECGX LLC |
| A NEW SYNTHETIC ROUTE ON MAKING (+)-BUPRENORPHINE FROM (+)-NORHYDROMORPHONE                                        | 12/316861 | 12/17/2008 | 8017777 | 9/13/2011  | 6/7/2030   | SPECGX LLC |
| PRODUCTION OF THE UNNATURAL OPIATES FROM SINOMENINE                                                                | 12/316862 | 12/17/2008 | 8252808 | 8/28/2012  | 12/12/2030 | SPECGX LLC |
| SYNTHESIS OF THE POTENTIALLY BIOLOGICALLY ACTIVE ALKALOIDS DERIVED FROM SINOMENINE                                 | 12/316846 | 12/17/2008 | 8461337 | 6/11/2013  | 12/2/2030  | SPECGX LLC |
| SYNTHESIS OF THE POTENTIALLY BIOLOGICALLY ACTIVE ALKALOIDS DERIVED FROM SINOMENINE                                 | 13/352668 | 1/18/2012  | 8614224 | 12/24/2013 | 12/17/2028 | SPECGX LLC |
| A NEW SYNTHETIC ROUTE ON MAKING (+)-NALTREXONE FROM 7-METHOXYHYDROCODONE                                           | 12/316974 | 12/17/2008 | 8067596 | 11/29/2011 | 3/31/2030  | SPECGX LLC |
| PRODUCTION OF PURE NOROXYMORPHONE SALTS FROM CRUDE OXYMORPHONE WITHOUT THE ISOLATION OF ANY INTERMEDIATE COMPOUNDS | 12/316887 | 12/17/2008 | 8101757 | 1/24/2012  | 7/26/2030  | SPECGX LLC |
| PROCESS FOR REDUCTION OF 6-KETO-OPIATES AND-MORPHANANS TO THE CORRESPONDING 6-BETA-HYDROXY-EPIMERS                 | 12/485200 | 6/16/2009  | 8168790 | 5/1/2012   | 7/23/2030  | SPECGX LLC |
| PURIFICATION OF CRUDE NOSCAPINE                                                                                    | 12/586850 | 9/29/2009  | 8394814 | 3/12/2013  | 9/18/2031  | SPECGX LLC |
| NEW METHODOLOGY FOR THE FORMATION OF 5 AND 6 MEMBERED RINGS                                                        | 12/558646 | 9/14/2009  | 8252928 | 8/28/2012  | 11/26/2030 | SPECGX LLC |

|                                                                                                                                                   |           |           |         |            |            |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|---------|------------|------------|------------|
| PROCESS FOR REDUCTIVE AMINATION OF KETONORMORPHINANS BY CATALYTIC HYDROGEN TRANSFER                                                               | 12/586844 | 9/29/2009 | 8269006 | 9/18/2012  | 12/19/2030 | SPECGX LLC |
| AN EFFICIENT AND OPERATIONALLY CONVENIENT SYNTHESIS OF TERTIARY AMINES BY DIRECT N-ALKYLATION OF SECONDARY AMINES OF ALKALOIDS WITH ALKYL HALIDES | 12/586843 | 9/29/2009 | 8080661 | 12/20/2011 | 8/24/2030  | SPECGX LLC |
| PREPARATION OF BERBERINES                                                                                                                         | 12/586834 | 9/29/2009 | 8163912 | 4/24/2012  | 12/18/2030 | SPECGX LLC |
| AN IMPROVED SYNTHESIS OF BUPRENORPHINE                                                                                                            | 12/586854 | 9/29/2009 | 8293906 | 10/23/2012 | 1/11/2031  | SPECGX LLC |
| AN IMPROVED METHOD FOR CONTROL OF THE BETA-EPIMER IMPURITY FORMED IN THE DIELS ALDER REACTION OF THEBAINE OR ORIPAVINE WITH METYL VINYL KETONE    | 12/586841 | 9/29/2009 | 8232396 | 7/31/2012  | 12/18/2030 | SPECGX LLC |
| 3-O-METHYL NORBUPRENORPHINE AS STARTING MATERIAL TO PRODUCE NORBUPRENORPHINE                                                                      | 12/586842 | 9/29/2009 | 8227608 | 7/24/2012  | 12/18/2030 | SPECGX LLC |
| METHOD FOR THE PREPARATION OF NOVEL NEW (+) MORPHINANIUM OXIDES                                                                                   | 12/710383 | 2/23/2010 | 8563727 | 10/22/2013 | 9/9/2031   | SPECGX LLC |
| PROCESSES FOR THE PREPARATION OF NEW MIRROR IMAGE ENANTIOMERS OF MORPHINANIUM QUATERNARY SALTS                                                    | 12/710379 | 2/23/2010 | 8436174 | 5/7/2013   | 3/21/2031  | SPECGX LLC |
| IMPROVED THEBAINE TO BUPRENORPHINE PROCESS                                                                                                        | 12/586855 | 9/29/2009 | 8232397 | 7/31/2012  | 1/1/2031   | SPECGX LLC |
| ESTERIFICATION OF THREO-ACID(RITALINIC ACID) USING ORTHOESTERS AS WATER SCAVENGERS                                                                | 12/652894 | 1/6/2010  | 8283472 | 10/9/2012  | 6/23/2031  | SPECGX LLC |



|                                                                                            |           |           |         |            |            |            |
|--------------------------------------------------------------------------------------------|-----------|-----------|---------|------------|------------|------------|
| CATALYTIC ISOMERIZATION OF AN ALLYL ALCOHOL TO A SATURATED KETONE                          | 12/757064 | 4/9/2010  | 8293907 | 10/23/2012 | 12/10/2030 | SPECGX LLC |
| New mirror image enantiomers of functionalized 6-hydroxy or 6-amino-morphinans             | 12/710390 | 2/23/2010 | 8563724 | 10/22/2013 | 9/29/2031  | SPECGX LLC |
| New mirror image enantiomers of functionalized 6-hydroxy or 6-amino-morphinans             | 14/045009 | 10/3/2013 | 8946419 | 2/3/2015   | 2/23/2030  | SPECGX LLC |
| IMPROVED PROCESS FOR THE REDUCTIVE ALKYLATION OF NORMORPHINANS                             | 12/706909 | 2/17/2010 | 8431701 | 4/30/2013  | 3/20/2031  | SPECGX LLC |
| PREPARATION OF 6 ALPHA-AMINO MORPHINANS BY CATALYTIC HYDROGEN TRANSFER                     | 12/797642 | 6/10/2010 | 8519133 | 8/27/2013  | 4/8/2031   | SPECGX LLC |
| NEW BENZYLIC OXIDATION METHOD FOR THE PREPARATION OF 10-KETO AND 10-HYDROXY ALKALOIDS      | 12/876284 | 9/7/2010  | 8314237 | 11/20/2012 | 4/1/2031   | SPECGX LLC |
| NEW PURIFICATION PROCESS FOR BUPRENORPHINE USING PREPARATIVE REVERSED PHASE CHROMATOGRAPHY | 12/818230 | 6/18/2010 | 8492547 | 7/23/2013  | 5/11/2031  | SPECGX LLC |
| PREPARATION OF 6ALPHA-AMINO NORMORPHINANS BY CATALYTIC HYDROGEN TRANSFER                   | 12/797640 | 6/10/2010 | 8471023 | 6/25/2013  | 4/23/2031  | SPECGX LLC |
| ONE-POT PREPARATION OF HEXAHYDROISOQUINOLINES FROM AMIDES                                  | 12/889484 | 9/24/2010 | 8431705 | 4/30/2013  | 4/14/2031  | SPECGX LLC |
| ONE-POT PREPARATION OF HEXAHYDROISOQUINOLINES FROM AMIDES                                  | 13/749805 | 1/25/2013 | 8921561 | 12/30/2014 | 10/4/2030  | SPECGX LLC |
| ONE-POT PREPARATION OF HEXAHYDROISOQUINOLINES FROM DIHYDROISOQUINOLINE                     | 12/889502 | 9/24/2010 | 8415474 | 4/9/2013   | 4/13/2031  | SPECGX LLC |
| CATALYTIC ISOMERIZATION OF MORPHINE DERIVATIVES TO HYDROMORPHONE                           | 12/757098 | 4/9/2010  | 9040705 | 5/26/2015  | 11/26/2031 | SPECGX LLC |

|                                                                                                                                                                           |           |           |         |            |           |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|---------|------------|-----------|------------|
| DERIVATIVES                                                                                                                                                               |           |           |         |            |           |            |
| AN IMPROVED METHOD FOR THE PREPARATION OF HYDROCODONE FROM THEBAINE WITH REDUCED IMPURITY AND COLOR FORMATION                                                             | 12/885851 | 9/20/2010 | 8399671 | 3/19/2013  | 5/11/2031 | SPECGX LLC |
| A PROCESS FOR ISOMERIZING ALLYLIC ALCOHOLS TO CARBONYL COMPOUNDS                                                                                                          | 12/886621 | 9/21/2010 | 8383815 | 2/26/2013  | 5/11/2031 | SPECGX LLC |
| IMPROVED PROCESS, WITH INDUSTRIAL APPLICABILITY FOR THE PREPARATION OF ICH COMPLIANT SUFENTANIL BASE AND RELATED COMPOUNDS WITHOUT THE NEED FOR INDUSTRIAL CHROMATOGRAPHY | 13/233227 | 9/15/2011 | 8946433 | 2/3/2015   | 4/22/2032 | SPECGX LLC |
| PRODUCTION OF OPIOID DRUGS BY TRANSITION METAL OR METAL COMPLEX CATALYZED REACTIONS AND IN SITU REMOVAL OF THE METAL BY METAL SCAVENGERS                                  | 13/093892 | 4/26/2011 | 8563725 | 10/22/2013 | 2/13/2032 | SPECGX LLC |
| A TANDEM PROCESSES FOR PREPARING N-ALKYL MORPHINANS                                                                                                                       | 13/196921 | 8/3/2011  | 8703949 | 4/22/2014  | 2/14/2032 | SPECGX LLC |
| N-DEMETHYLATION OF OPIATES CONTAINING A KETONE FUNCTIONAL GROUP                                                                                                           | 13/196929 | 8/3/2011  | 8624030 | 1/7/2014   | 4/25/2032 | SPECGX LLC |
| REDUCTIVE ALKYLATION OF DIHYDROSINOMENINE AND AMINES USING HYDROGEN TRANSFER                                                                                              | 13/491676 | 6/8/2012  | 9296699 | 3/29/2016  | 4/8/2031  | SPECGX LLC |
| PRODUCTION OF KEY (+) ALKALOIDS FROM DIHYDROSINOMENINE WITHOUT THE ISOLATION OF INTERMEDIATE PRODUCTS                                                                     | 13/606370 | 9/7/2012  | 8624031 | 1/7/2014   | 9/7/2032  | SPECGX LLC |

|                                                                                                   |           |            |          |            |            |            |
|---------------------------------------------------------------------------------------------------|-----------|------------|----------|------------|------------|------------|
| ONE POT FORMATION OF 6-BETA-NALOXOL FROM NOROXYMORPHONE                                           | 13/762431 | 2/8/2013   | 9012468  | 4/21/2015  | 2/8/2033   | SPECGX LLC |
| COMPOSITIONS AND METHODS FOR PREPARING TAMPER RESISTANT PLATFORMS FOR EXTENDED SOLID DOSAGE FORMS | 13/939357 | 7/11/2013  | 9730885  | 8/15/2017  | 8/4/2034   | SPECGX LLC |
| COMPOSITIONS AND METHODS FOR PREPARING TAMPER RESISTANT PLATFORMS FOR EXTENDED SOLID DOSAGE FORMS | 15/420386 | 1/31/2017  | 10485753 | 11/26/2019 | 7/11/2033  | SPECGX LLC |
| COMPOSITIONS AND METHODS FOR PREPARING TAMPER RESISTANT PLATFORMS FOR EXTENDED SOLID DOSAGE FORMS | 16/600874 | 10/14/2019 |          |            |            | SPECGX LLC |
| CATALYZED HYDROLYSIS OF NOR-MORPHINAN CARBAMATES                                                  | 14/546617 | 11/18/2014 | 9127009  | 9/8/2015   | 11/18/2034 | SPECGX LLC |
| A CONVENIENT OPERATION ON THE PRODUCTION OF 6 $\alpha$ -OXYCODOL FROM THEBAINE IN ONE-POT         | 14/533522 | 11/5/2014  | 9193737  | 11/24/2015 | 11/5/2034  | SPECGX LLC |
| SYNTHESIS OF SUBSTITUTED BERBINES                                                                 | 14/504906 | 10/2/2014  | 9181237  | 11/10/2015 | 10/2/2034  | SPECGX LLC |
| A CONVENIENT PREPARATION OF N-ALKYL MORPHINAN-6-OLS-FROM MORPHINAN -6-ONES                        | 14/529368 | 10/31/2014 | 9499556  | 11/22/2016 | 10/31/2034 | SPECGX LLC |
| PROCESSES FOR THE LARGE SCALE MANUFACTURE OF SUFENTANIL CITRATE AND SUFENTANIL BASE               | 15/164483 | 5/25/2016  | 10227335 | 3/12/2019  | 5/25/2036  | SPECGX LLC |
| PROCESSES FOR THE LARGE SCALE MANUFACTURE OF SUFENTANIL CITRATE AND SUFENTANIL BASE               | 16/254074 | 1/22/2019  |          |            |            | SPECGX LLC |
| SUSPICIOUS ORDER MONITORING PROGRAM                                                               | 14/192971 | 2/28/2014  | 10089678 | 10/2/2018  | 8/3/2034   | SPECGX LLC |
| IMPROVED PROCESS FOR THE PREPARATION OF RADIOIODINATED 3-FLUOROPROPYL-NOR-BETA-CIT                | 14/496376 | 9/25/2014  | 9339565  | 5/17/2016  | 9/25/2034  | SPECGX LLC |

|                                                                                                                 |           |            |          |            |           |                                       |
|-----------------------------------------------------------------------------------------------------------------|-----------|------------|----------|------------|-----------|---------------------------------------|
| ABUSE DETERRENT TABLETS FOR IMMEDIATE RELEASE WITH FUNCTIONAL BISECT                                            | 14/211307 | 3/14/2014  | 9301918  | 4/5/2016   | 3/14/2034 | SPECGX LLC                            |
| TR PAN COATER APPARATUS AND METHOD                                                                              | 15/568587 | 10/23/2017 | 10441508 | 10/15/2019 | 4/24/2035 | SPECGX LLC                            |
| TR PAN COATER APPARATUS AND METHOD                                                                              | 16/549151 | 8/23/2019  |          |            |           | SPECGX LLC                            |
| SPRAY DRIED FORMULATIONS FOR THE MODIFICATION OF DRUG DISSOLUTION                                               | 14/722541 | 5/27/2015  |          |            |           | SPECGX LLC                            |
| OXIDATIVE DEAROMATIZATION OF BERBINES                                                                           | 14/736752 | 6/11/2015  | 9593111  | 3/14/2017  | 6/11/2035 | SPECGX LLC                            |
| THREE STEP PROCESS FOR TAPENTADOL HYDROCHLORIDE                                                                 | 15/202670 | 7/6/2016   | 9914695  | 3/13/2018  | 7/10/2035 | SPECGX LLC                            |
| AN IMPROVED PROCESS OF PREPARING TAPENTADOL                                                                     | 14/796069 | 7/10/2015  | 9556108  | 1/31/2017  | 7/10/2035 | SPECGX LLC                            |
| A NEW CLEAVAGE REAGENT FOR THE RELEASE OF FULLY PROTECTED PEPTIDES SYNTHESIZED ON 2-CHLOROTRITYL CHLORIDE RESIN | 12/298917 | 10/29/2008 | 8022181  | 9/20/2011  | 6/19/2028 | SPECGX LLC                            |
| DEVELOPMENT OF A NEW SOLID SUPPORT AND ITS USE FOR THE NOVEL AND EFFICIENT SYNTHESIS OF PEPTIDES BY FMOC METHOD | 12/264948 | 11/5/2008  | 7714063  | 5/11/2010  | 11/5/2028 | SPECGX LLC                            |
| SYNTHESIS OF 2, 4-DIMETHYLBENZHYDRYL (DMBH) RESIN AS A NEW SOLID SUPPORT FOR FMOC-CHEMISTRY                     | 12/773324 | 5/4/2010   | 8742028  | 6/3/2014   | 7/5/2032  | SPECGX LLC                            |
| POWDER FORMULATION COMPRISING THROMBIN AND FIBRINOGEN                                                           | 14/773212 | 9/4/2015   |          |            |           | MALLINCKRODT PHARMA IP TRADING D.A.C. |
| POWDER FORMULATION COMPRISING THROMBIN AND FIBRINOGEN                                                           | 16/408678 | 5/10/2019  |          |            |           | MALLINCKRODT PHARMA IP TRADING D.A.C. |
| DRY POWDER FIBRIN SEALANT                                                                                       | 13/322754 | 11/28/2011 | 9119897  | 9/1/2015   | 5/28/2030 | MALLINCKRODT PHARMA IP TRADING D.A.C. |

|                                                                             |           |            |          |            |            |                                                |
|-----------------------------------------------------------------------------|-----------|------------|----------|------------|------------|------------------------------------------------|
| TREATMENT OF TISSUE ADHESION                                                | 13/321954 | 11/22/2011 | 9089584  | 7/28/2015  | 5/28/2030  | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| POWDER DELIVERY DEVICE                                                      | 13/139781 | 12/15/2009 | 9205240  | 12/8/2015  | 12/15/2029 | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| POWDER DELIVERY DEVICE                                                      | 13/995267 | 6/18/2013  | 10010705 | 7/3/2018   | 12/2/2034  | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| POWDER DELIVERY DEVICE                                                      | 15/987188 | 5/23/2018  |          |            |            | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| MEDICAL INSTRUMENTS                                                         | 29/339045 | 6/23/2009  | D628692  | 12/7/2010  | 12/7/2024  | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| MEDICAL INSTRUMENT                                                          | 29/394931 | 6/23/2011  | D683851  | 6/4/2013   | 6/4/2027   | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| BIODEGRADABLE EXTRAVASCULAR STENT                                           | 15/400628 | 1/6/2017   | 10456505 | 10/29/2019 | 2/5/2030   | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| DRY POWDER FIBRIN SEALANT                                                   | 13/520632 | 8/29/2012  | 8846105  | 9/30/2014  | 1/7/2031   | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| FIBRINOGEN PREPARATIONS ENRICHED IN FIBRINOGEN WITH AN EXTENDED ALPHA CHAIN | 14/877354 | 10/7/2015  | 9694054  | 7/4/2017   | 1/7/2031   | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| FIBRINOGEN PREPARATIONS ENRICHED IN FIBRINOGEN WITH AN EXTENDED ALPHA CHAIN | 15/614157 | 6/5/2017   | 10004787 | 6/26/2018  | 1/7/2031   | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| FORMULATIONS FOR WOUND THERAPY                                              | 14/131012 | 2/27/2014  | 9717821  | 8/1/2017   | 1/14/2033  | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| FORMULATIONS FOR WOUND THERAPY                                              | 15/633017 | 6/26/2017  |          |            |            | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| RECOMBINANT FIBRINOGEN                                                      | 15/331942 | 10/24/2016 |          |            |            | MALLINCKRODT PHARMA IP TRADING D.A.C.          |
| DRY POWDER FIBRIN SEALANT                                                   | 12/636718 | 12/12/2009 | 9827205  | 11/28/2017 | 12/12/2029 | MALLINCKRODT PHARMA IP TRADING D.A.C./QUADRANT |
| SKIN SUBSTITUTES WITH IMPROVED BARRIER                                      | 10/087346 | 3/1/2002   | 6974697  | 12/13/2005 | 3/1/2022   | STRATATECH CORPORATION                         |

|                                                                                   |           |           |         |           |           |                        |
|-----------------------------------------------------------------------------------|-----------|-----------|---------|-----------|-----------|------------------------|
| FUNCTION                                                                          |           |           |         |           |           |                        |
| SKIN SUBSTITUTES WITH IMPROVED BARRIER FUNCTION                                   | 10/087641 | 3/1/2002  | 6846675 | 1/25/2005 | 3/1/2022  | STRATATECH CORPORATION |
| SKIN SUBSTITUTES WITH IMPROVED BARRIER FUNCTION                                   | 11/235814 | 9/27/2005 | 7407805 | 8/5/2008  | 3/1/2022  | STRATATECH CORPORATION |
| SKIN SUBSTITUTES WITH IMPROVED BARRIER FUNCTION                                   | 12/174319 | 7/16/2008 | 7955790 | 6/7/2011  | 3/1/2022  | STRATATECH CORPORATION |
| SKIN SUBSTITUTES WITH IMPROVED BARRIER FUNCTION                                   | 11/006014 | 12/7/2004 | 7541188 | 6/2/2009  | 3/1/2022  | STRATATECH CORPORATION |
| SKIN SUBSTITUTES FOR IRRITANCY TESTING                                            | 10/087388 | 3/1/2002  | 7501238 | 3/10/2009 | 3/1/2022  | STRATATECH CORPORATION |
| KERATINOCYTES EXPRESSING EXOGENOUS ANGIOGENIC GROWTH FACTORS                      | 10/425784 | 4/29/2003 | 7498167 | 3/3/2009  | 4/29/2023 | STRATATECH CORPORATION |
| KERATINOCYTES EXPRESSING EXOGENOUS ANGIOGENIC GROWTH FACTORS                      | 12/392221 | 2/25/2009 | 7915042 | 3/29/2011 | 4/29/2023 | STRATATECH CORPORATION |
| KERATINOCYTES EXPRESSING EXOGENOUS ANGIOGENIC GROWTH FACTORS                      | 12/886976 | 9/21/2010 | 7988959 | 8/2/2011  | 4/29/2023 | STRATATECH CORPORATION |
| KERATINOCYTES EXPRESSING EXOGENOUS ANGIOGENIC GROWTH FACTORS                      | 13/195614 | 8/1/2011  | 8808685 | 8/19/2014 | 4/29/2023 | STRATATECH CORPORATION |
| KERATINOCYTES EXPRESSING EXOGENOUS ANGIOGENIC GROWTH FACTORS                      | 10/848646 | 5/19/2004 | 7807148 | 10/5/2010 | 4/29/2023 | STRATATECH CORPORATION |
| SPECIES SPECIFIC DNA DETECTION                                                    | 10/633141 | 8/1/2003  | 7462448 | 12/9/2008 | 8/1/2023  | STRATATECH CORPORATION |
| SPECIES SPECIFIC DNA DETECTION                                                    | 12/329151 | 12/5/2008 | 7888496 | 2/15/2011 | 8/1/2023  | STRATATECH CORPORATION |
| HUMAN SKIN EQUIVALENTS ENGINEERED TO EXPRESS EXOGENOUS ANTIMICROBIAL POLYPEPTIDES | 10/909119 | 7/30/2004 | 7674291 | 3/9/2010  | 7/30/2024 | STRATATECH CORPORATION |

|                                                                                                 |           |           |         |            |           |                           |
|-------------------------------------------------------------------------------------------------|-----------|-----------|---------|------------|-----------|---------------------------|
| HUMAN SKIN EQUIVALENTS<br>ENGINEERED TO EXPRESS<br>EXOGENOUS<br>ANTIMICROBIAL<br>POLYPEPTIDES   | 12/690160 | 1/20/2010 | 8092531 | 1/10/2012  | 7/30/2024 | STRATATECH<br>CORPORATION |
| HUMAN SKIN EQUIVALENTS<br>ENGINEERED TO EXPRESS<br>EXOGENOUS<br>ANTIMICROBIAL<br>POLYPEPTIDES   | 14/335534 | 7/18/2014 | 9526748 | 12/27/2016 | 9/1/2024  | STRATATECH<br>CORPORATION |
| HUMAN SKIN EQUIVALENTS<br>ENGINEERED TO EXPRESS<br>EXOGENOUS<br>ANTIMICROBIAL<br>POLYPEPTIDES   | 13/343314 | 1/4/2012  | 8790636 | 7/29/2014  | 7/30/2024 | STRATATECH<br>CORPORATION |
| HUMAN SKIN EQUIVALENTS<br>ENGINEERED TO EXPRESS<br>EXOGENOUS<br>ANTIMICROBIAL<br>POLYPEPTIDES   | 16/036619 | 7/16/2018 |         |            |           | STRATATECH<br>CORPORATION |
| HUMAN SKIN EQUIVALENTS<br>ENGINEERED TO EXPRESS<br>EXOGENOUS<br>ANTIMICROBIAL<br>POLYPEPTIDES   | 11/297916 | 12/9/2005 | 9216202 | 12/22/2015 | 7/30/2024 | STRATATECH<br>CORPORATION |
| HUMAN SKIN EQUIVALENTS<br>EXPRESSING EXOGENOUS<br>POLYPEPTIDES                                  | 11/365357 | 3/1/2006  | 9163076 | 10/20/2015 | 3/1/2026  | STRATATECH<br>CORPORATION |
| SKIN SUBSTITUTES WITH<br>IMPROVED PURITY                                                        | 11/375950 | 3/15/2006 | 9295543 | 3/29/2016  | 3/15/2026 | STRATATECH<br>CORPORATION |
| COLD STORAGE OF<br>ORGANOTYPICALLY<br>CULTURED SKIN<br>EQUIVALENTS FOR CLINICAL<br>APPLICATIONS | 12/612284 | 11/4/2009 | 8580314 | 11/12/2013 | 11/4/2029 | STRATATECH<br>CORPORATION |
| COLD STORAGE OF<br>ORGANOTYPICALLY<br>CULTURED SKIN<br>EQUIVALENTS FOR CLINICAL<br>APPLICATIONS | 14/220320 | 3/20/2014 | 8992997 | 3/31/2015  | 11/4/2029 | STRATATECH<br>CORPORATION |
| COLD STORAGE OF<br>ORGANOTYPICALLY<br>CULTURED SKIN<br>EQUIVALENTS FOR CLINICAL<br>APPLICATIONS | 14/669095 | 3/25/2015 | 9526811 | 12/27/2016 | 11/4/2029 | STRATATECH<br>CORPORATION |

|                                                                                                                                |           |            |          |           |            |                                           |
|--------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-----------|------------|-------------------------------------------|
| COLD STORAGE OF ORGANOTYPICALLY CULTURED SKIN EQUIVALENTS FOR CLINICAL APPLICATIONS                                            | 15/375755 | 12/12/2016 |          |           |            | STRATATECH CORPORATION                    |
| COLD STORAGE OF ORGANOTYPICALLY CULTURED SKIN EQUIVALENTS FOR CLINICAL APPLICATIONS                                            | 15/377323 | 12/13/2016 | 9867904  | 1/16/2018 | 11/4/2029  | STRATATECH CORPORATION                    |
| COLD STORAGE OF ORGANOTYPICALLY CULTURED SKIN EQUIVALENTS FOR CLINICAL APPLICATIONS                                            | 14/054445 | 10/15/2013 | 8685463  | 4/1/2014  | 11/4/2029  | STRATATECH CORPORATION                    |
| HUMAN SKIN SUBSTITUTES EXPRESSING IL-12                                                                                        | 16/150048 | 10/2/2018  |          |           |            | STRATATECH CORPORATION                    |
| CRYOPRESERVATION OF VIABLE HUMAN SKIN SUBSTITUTES                                                                              | 14/208439 | 3/13/2014  | 10091983 | 10/9/2018 | 3/13/2034  | STRATATECH CORPORATION                    |
| CRYOPRESERVATION OF VIABLE HUMAN SKIN SUBSTITUTES                                                                              | 16/122598 | 9/5/2018   |          |           |            | STRATATECH CORPORATION                    |
| TISSUE CONTAINER SYSTEMS                                                                                                       | 16/481405 | 7/26/2019  |          |           |            | STRATATECH CORPORATION                    |
| METHODS FOR TREATING ACUTE WOUNDS AND IMPROVING OUTCOMES IN SUBJECTS LESS THAN 18 YEARS OF AGE OR GREATER THAN 65 YEARS OF AGE | 62/907308 | 9/27/2019  |          |           | 9/27/2020  | STRATATECH CORPORATION                    |
| METHODS FOR TREATING ACUTE WOUNDS AND IMPROVING OUTCOMES                                                                       | 62/910887 | 10/4/2019  |          |           | 10/4/2020  | STRATATECH CORPORATION                    |
| TERLIPRESSIN TREATMENT IN PATIENTS WITH LOW MEAN ARTERIAL PRESSURE                                                             | 62/928152 | 10/30/2019 |          |           | 10/30/2020 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Method of Treating Patients With Hepatorenal Syndrome Type 1                                                                   | 14/920392 | 10/22/2015 | 10335452 | 7/2/2019  | 4/5/2037   | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| Method of Treating Patients With Hepatorenal Syndrome Type 1                                                                   | 16/411944 | 5/14/2019  |          |           |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |



|                                                                                          |           |            |         |            |            |                                           |
|------------------------------------------------------------------------------------------|-----------|------------|---------|------------|------------|-------------------------------------------|
| Method of Treating Patients With Hepatorenal Syndrome Type 1                             | 16/669151 | 10/30/2019 |         |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| LOW EXTRACORPOREAL VOLUME TREATMENT SYSTEM                                               | 09/556832 | 4/21/2000  | 6793643 | 9/21/2004  | 4/21/2020  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHOD AND APPARATUS FOR THE CONTINUOUS SEPARATAION OF BIOLOGICAL FLUIDS INTO COMPONENTS | 10/375629 | 2/27/2003  | 7186230 | 3/6/2007   | 9/1/2024   | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHOD AND APPARATUS FOR THE CONTINUOUS SEPARATAION OF BIOLOGICAL FLUIDS INTO COMPONENTS | 12/795308 | 6/7/2010   | 9238097 | 1/19/2016  | 7/3/2024   | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHOD AND APPARATUS FOR THE CONTINUOUS SEPARATAION OF BIOLOGICAL FLUIDS INTO COMPONENTS | 15/491835 | 4/19/2017  |         |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHOD AND APPARATUS FOR THE CONTINUOUS SEPARATAION OF BIOLOGICAL FLUIDS INTO COMPONENTS | 11/613021 | 12/1/2006  | 7850634 | 12/14/2010 | 1/13/2025  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHOD AND APPARATUS FOR THE CONTINUOUS SEPARATAION OF BIOLOGICAL FLUIDS INTO COMPONENTS | 11/406988 | 4/19/2006  | 7914477 | 3/29/2011  | 2/16/2026  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHOD AND APPARATUS FOR THE CONTINUOUS SEPARATAION OF BIOLOGICAL FLUIDS INTO COMPONENTS | 11/407271 | 4/19/2006  | 7503889 | 3/17/2009  | 6/11/2024  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHOD AND APPARATUS FOR THE CONTINUOUS SEPARATAION OF BIOLOGICAL FLUIDS INTO COMPONENTS | 10/654742 | 9/3/2003   | 7211037 | 5/1/2007   | 3/1/2024   | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHOD AND APPARATUS FOR THE CONTINUOUS SEPARATAION OF BIOLOGICAL FLUIDS INTO            | 10/654803 | 9/3/2003   | 7479123 | 1/20/2009  | 11/27/2025 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |

|                                                                                                |           |            |          |            |            |                                           |
|------------------------------------------------------------------------------------------------|-----------|------------|----------|------------|------------|-------------------------------------------|
| COMPONENTS                                                                                     |           |            |          |            |            |                                           |
| CONTROL SYSTEM FOR DRIVING FLUIDS THROUGH AN EXTRACORPOREAL BLOOD CIRCUIT                      | 11/444721 | 6/1/2006   | 7465285  | 12/16/2008 | 6/1/2026   | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHOD AND APPARATUS FOR COLLECTING A BLOOD COMPONENT AND PERFORMING A PHOTOPHERESIS TREATMENT | 11/304092 | 12/15/2005 | 7476209  | 1/13/2009  | 12/15/2025 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| PHOTOTHERAPY COMPOSITIONS AND METHODS                                                          | 11/311714 | 12/19/2005 | 8057785  | 11/15/2011 | 11/22/2027 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| PHOTOTHERAPY COMPOSITIONS AND METHODS                                                          | 13/243103 | 9/23/2011  | 8481008  | 7/9/2013   | 12/19/2025 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| USE OF APOPTOTIC CELLS EX VIVO TO GENERATE REGULATORY T CELLS                                  | 16/165679 | 10/19/2018 |          |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| USE OF APOPTOTIC CELLS EX VIVO TO GENERATE REGULATORY T CELLS                                  | 14/863274 | 9/23/2015  | 10138464 | 11/27/2018 | 5/27/2027  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| USE OF APOPTOTIC CELLS EX VIVO TO GENERATE REGULATORY T CELLS                                  | 11/579319 | 7/14/2008  | 9169461  | 10/27/2015 | 11/2/2026  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| PROCESSING BLOOD                                                                               | 16/171096 | 10/25/2018 |          |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| PROCESSING BLOOD                                                                               | 16/171089 | 10/25/2018 |          |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| PROCESSING BLOOD                                                                               | 15/974881 | 5/9/2018   |          |            |            | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |

|                                                                                                                                            |           |            |          |           |          |                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-----------|----------|-------------------------------------------------|
| METHOD FOR EX-VIVO EXPANSION OF REGULATORY T CELLS WITH ENHANCED SUPPRESSIVE FUNCTION FOR CLINICAL APPLICATION IN IMMUNE MEDIATED DISEASES | 15/981332 | 5/16/2018  |          |           |          | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED       |
| SUPPORT FOR CENTRIFUGE TUBING                                                                                                              | 15/570996 | 10/31/2017 |          |           |          | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED       |
| CENTRIFUGE SYSTEM AND METHOD FOR COMPONENT TRACKING                                                                                        | 15/261968 | 9/11/2016  | 10434239 | 10/8/2019 | 4/9/2037 | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED       |
| CENTRIFUGE SYSTEM AND METHOD FOR COMPONENT TRACKING                                                                                        | 16/537103 | 8/9/2019   |          |           |          | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED       |
| DEVICES, METHODS AND SYSTEMS FOR PRIMING, SEPARATING, AND COLLECTING BLOOD COMPONENTS                                                      | 15/737163 | 12/15/2017 |          |           |          | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED       |
| (+)-MORPHINAN COMPOUNDS AS SMALL MOLECULE ANTAGONISTS OF TOLL-LIKE RECEPTOR 9                                                              | 15/255979 | 9/2/2016   |          |           |          | MALLINCKRODT ENTERPRISES LLC (not yet recorded) |
| (+)-MORPHINAN COMPOUNDS AS SMALL MOLECULE ANTAGONISTS OF TOLL-LIKE RECEPTOR 9                                                              | 12/975407 | 12/22/2010 | 9562014  | 2/7/2017  | 5/9/2029 | MALLINCKRODT ENTERPRISES LLC (not yet recorded) |
| (+)-MORPHINAN COMPOUNDS AS SMALL MOLECULE ANTAGONISTS OF TOLL-LIKE RECEPTOR 9                                                              | 14/814580 | 7/31/2015  | 10363251 | 7/30/2019 | 5/9/2029 | MALLINCKRODT ENTERPRISES LLC (not yet recorded) |
| HYDROXYPROPYL BETA-CYCLODEXTRIN COMPOSITIONS AND METHODS                                                                                   | 15/288876 | 10/7/2016  | 9675634  | 6/13/2017 | 6/9/2036 | VTESSE INC.                                     |
| HYDROXYPROPYL BETA-CYCLODEXTRIN COMPOSITIONS AND METHODS                                                                                   | 15/499831 | 4/27/2017  | 10258641 | 4/16/2019 | 6/9/2036 | VTESSE INC.                                     |
| HYDROXYPROPYL BETA-CYCLODEXTRIN COMPOSITIONS AND                                                                                           | 16/134028 | 9/18/2018  | 10300086 | 5/28/2019 | 6/9/2036 | VTESSE INC.                                     |

|                                                                                                                        |           |           |         |            |            |                                           |
|------------------------------------------------------------------------------------------------------------------------|-----------|-----------|---------|------------|------------|-------------------------------------------|
| METHODS                                                                                                                |           |           |         |            |            |                                           |
| HYDROXYPROPYL BETA-CYCLODEXTRIN COMPOSITIONS AND METHODS                                                               | 16/372899 | 4/2/2019  |         |            |            | VTESSE INC.                               |
| HYDROXYPROPYL BETA-CYCLODEXTRIN COMPOSITIONS AND METHODS                                                               | 16/430664 | 6/4/2019  |         |            |            | VTESSE INC.                               |
| GAS DELIVERY SYSTEM                                                                                                    | 62/823297 | 3/25/2019 |         |            | 3/25/2020  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| METHODS AND COMPOSITIONS FOR IMPROVING THE CHEMICAL STABILITY OF ACTIVE PHARMACEUTICAL INGREDIENTS (API) IN EXTENDED-R | 13/166770 | 6/22/2011 | 8597681 | 12/3/2013  | 12/21/2030 | Mallinckrodt LLC                          |
| METHODS AND COMPOSITIONS FOR IMPROVING THE CHEMICAL STABILITY OF ACTIVE PHARMACEUTICAL INGREDIENTS (API) IN EXTENDED-R | 13/995810 | 6/19/2013 | 9198861 | 12/1/2015  | 6/30/2031  | Mallinckrodt LLC                          |
| COMBINATION PAIN PRODUCT WITH RAPID UPSTROKE AND EXTENDED RELEASE                                                      | 14/627879 | 2/20/2015 | 9468636 | 10/18/2016 | 8/24/2032  | Mallinckrodt LLC                          |
| COMBINATION PAIN PRODUCT WITH RAPID UPSTROKE AND EXTENDED RELEASE                                                      | 14/659819 | 3/17/2015 | 9629837 | 4/25/2017  | 5/16/2032  | Mallinckrodt LLC                          |
| OPIOID AIDED GASTRO-RETENTION FOR OPTIMAL PERFORMANCE OF EXTENDED RELEASE (ER) FORMULATION WITH THE CONVENIENCE OF ADM | 14/301658 | 6/11/2014 | 9433582 | 9/6/2016   | 5/16/2032  | Mallinckrodt LLC                          |
| COMBINATION COMPOSITION COMPRISING HYDROCODONE AND ACETAMINOPHEN FOR                                                   | 14/479129 | 9/5/2014  | 9539328 | 1/10/2017  | 5/16/2032  | Mallinckrodt LLC                          |

|                                                                                                                   |            |              |          |           |            |                          |
|-------------------------------------------------------------------------------------------------------------------|------------|--------------|----------|-----------|------------|--------------------------|
| RAPID ONSET AND EXTENDED DURATION OF ANALGESIA                                                                    |            |              |          |           |            |                          |
| COMBINATIONAL LIPOSOME COMPOSITIONS FOR CANCER THERAPY                                                            | 13/664457  | 10/31/2012   | 9370489  | 6/21/2016 | 10/31/2032 | Mallinckrodt LLC         |
| COMBINATIONAL LIPOSOME COMPOSITIONS FOR CANCER THERAPY                                                            | 15/162072  | 5/23/2016    | 9717686  | 8/1/2017  | 10/31/2032 | Mallinckrodt LLC         |
| COMBINATIONAL LIPOSOME COMPOSITIONS FOR CANCER THERAPY                                                            | 15/663472  | 7/28/2017    | 10213385 | 2/26/2019 | 10/31/2032 | Mallinckrodt LLC         |
| LIPOSOME COMPOSITIONS CONTAINING CISPLATIN FOR CANCER THERAPY                                                     | 14/208297  | 3/13/2014    | 10039716 | 8/7/2018  | 1/1/2036   | Mallinckrodt LLC         |
| LIPOSOME COMPOSITIONS CONTAINING CISPLATIN FOR CANCER THERAPY                                                     | 16/030/575 | 7/9/2018     | 10383823 | 8/20/2019 | 3/13/2034  | Mallinckrodt LLC         |
| Methods of Using Macrocytic Agonists of the Ghrelin Receptor For Treatment of Gastrointestinal Motility Disorders | 11/774,185 | Jul 6, 2007  | 8088733  | 1/3/12    |            | Ocera Therapeutics, Inc. |
| Macrocytic Antagonists of the Motilin Receptor for Treatment of Gastrointestinal Dysmotility Disorders            | 12/440,802 | Dec 22, 2009 | 9133235  | 9/15/15   |            | Ocera Therapeutics, Inc. |
| Macrocytic Ghrelin Receptor Modulators and Methods of Using the Same                                              | 12/028,611 | Feb 8, 2008  | 9371297  | 6/21/16   |            | Ocera Therapeutics, Inc. |
| Macrocytic Ghrelin Receptor Modulators and Methods of Using the Same                                              | 15/178,303 | Jun 9, 2016  | 9949949  | 4/24/18   |            | Ocera Therapeutics, Inc. |
| Macrocytic Ghrelin Receptor Modulators and Methods of Using the Same                                              | 15/938,038 | Mar 28, 2018 | 10258602 | 4/16/19   |            | Ocera Therapeutics, Inc. |

**B. U.S. Federally Registered Copyrights.**

| <b><u>Title</u></b>                                        | <b><u>Type of Work</u></b>     | <b><u>Creation Year</u></b> | <b><u>Registration No.</u></b> | <b><u>Registration Date</u></b> |
|------------------------------------------------------------|--------------------------------|-----------------------------|--------------------------------|---------------------------------|
| INOb Blender – Operation and Maintenance Manual, Rev – 01. | Book                           | 2006                        | TX0007543160                   | March 16, 2012                  |
| INOmax DS 1 2 2                                            | Print material (computer file) | 2007                        | TX0007534179                   | February 24, 2012               |
| INOmax DS – Operation Manual, Rev – 01.                    | Book                           | 2007                        | TX0007541780                   | March 16, 2012                  |
| INOmax DS – Operation Manual, Rev – 02.                    | Book                           | 2008                        | TX0007535586                   | March 16, 2012                  |
| INOmax DS 1.3.8                                            | Print material (computer file) | 2009                        | TX0007534181                   | February 24, 2012               |
| INOmax DS – Operation Manual, Rev – 03.                    | Book                           | 2009                        | TX0007543146                   | March 16, 2012                  |
| INOmax DS – Operation Manual, Rev – 04.                    | Book                           | 2010                        | TX0007541782                   | March 16, 2012                  |
| INOmax DSIR – Operation Manual, Rev – 03.                  | Book                           | 2010                        | TX0007531698                   | March 5, 2012                   |
| INOmax DSIR – 2.0.4                                        | Computer code                  | 2011                        | TX0007534306                   | February 24, 2012               |
| Sucampo Corporate Profile video                            |                                |                             | PAu003701666                   | March 18, 2011                  |
| Sucampo Disease State animation                            |                                |                             | PAu003620548                   | March 18, 2011                  |

**C. U.S. Federally Registered or Applied for Trademarks.**

| Trademark                                               | Country | Appl. No.  | Filing Date | Reg. No. | Reg. Date  | Status     | Owner                                              |
|---------------------------------------------------------|---------|------------|-------------|----------|------------|------------|----------------------------------------------------|
| ACTHAR                                                  | US      | 78/649502  | 6/13/2005   | 3093264  | 5/16/2006  | Registered | MALLINCKRODT<br>ARD IP LIMITED                     |
| ACTHAR GEL                                              | US      | 75/445831  | 3/6/1998    | 2255322  | 6/22/1999  | Registered | MALLINCKRODT<br>ARD IP LIMITED                     |
| ANAFRANIL                                               | US      | 77/305293  | 10/16/2007  | 3507492  | 9/30/2008  | Registered | SPECGX LLC                                         |
| BEYLUVI                                                 | US      | 87/293697  | 1/9/2017    |          |            | Published  | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| BONAYBI                                                 | US      | 87/293850  | 1/9/2017    |          |            | Published  | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| BYTIMSO                                                 | US      | 88/420787  | 5/8/2019    |          |            | Published  | VTESSE INC.                                        |
| CAYRESO                                                 | US      | 87/293837  | 1/9/2017    |          |            | Published  | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| CELLEX                                                  | US      | 77/489274  | 6/3/2008    | 4026448  | 9/13/2011  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| CEREMPLI                                                | US      | 88/392285  | 4/18/2019   |          |            | Pending    | VTESSE INC.                                        |
| COLOR TEAL -<br>HORIZONTAL STRIP                        | US      | 86/283,394 | 5/16/2014   | 4674634  | 1/20/2015  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| COLOR TEAL -<br>CURVED STRIP                            | US      | 85/915,748 | 4/26/2013   | 4570773  | 7/22/2014  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| COLOR TEAL -<br>CURVED STRIP<br>(updated)               | US      | 86/637344  | 5/21/2015   | 4841528  | 10/27/2015 | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| COLOR TEAL - TOP<br>OF TANK AND<br>BOTTOM WAVY<br>STRIP | US      | 85/915,731 | 4/26/2013   | 4536015  | 5/27/2014  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| COLOR TEAL - TOP<br>OF TANK AND TOP &<br>BOTTOM WAVY    | US      | 86/283,412 | 5/16/2014   | 4674635  | 1/20/2015  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP            |

|                                   |    |            |            |         |            |            |                                           |
|-----------------------------------|----|------------|------------|---------|------------|------------|-------------------------------------------|
| STRIP                             |    |            |            |         |            |            | LIMITED                                   |
| COLOR TEAL - TOP PROTECTOR/HANDLE | US | 86/283,424 | 5/16/2014  | 4706982 | 3/24/2015  | Registered | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| DCI                               | US | 73/835291  | 11/1/1989  | 1599185 | 6/5/1990   | Registered | SPECGX LLC                                |
| DSIR                              | US | 85/070,932 | 6/24/2010  | 4003732 | 7/26/2011  | Registered | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| EVOLVE                            | US | 88/199202  | 11/19/2018 |         |            | Pending    | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| EVOLVE logo (black & white)       | US | 88/234038  | 12/18/2018 |         |            | Pending    | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| EVOLVE logo (color)               | US | 88/234057  | 12/18/2018 |         |            | Pending    | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| EXALGO                            | US | 87/542359  | 7/25/2017  | 5406796 | 2/20/2018  | Registered | SPECGX LLC                                |
| EXPRESSGRAFT                      | US | 88/712868  | 12/3/2019  |         |            | Pending    | STRATATECH CORPORATION                    |
| FLEXTRANET                        | US | 86/062,864 | 9/12/2013  | 4536715 |            | Registered | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| FLOWMOR                           | US | 76/386540  | 3/21/2002  | 2672085 | 1/7/2003   | Registered | SPECGX LLC                                |
| FLOWMOR (STYLIZED)                | US | 75/197784  | 11/13/1996 | 2234829 | 3/23/1999  | Registered | SPECGX LLC                                |
| H.P. ACTHAR GEL                   | US | 88/017262  | 6/27/2018  | 5695589 | 3/12/2019  | Registered | MALLINCKRODT ARD IP LIMITED               |
| INOBlender                        | US | 79/026,694 | 4/4/2006   | 3242739 | 5/15/2007  | Registered | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| INOCAL                            | US | 75/124,073 | 6/24/1996  | 2109970 | 10/28/1997 | Registered | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED |
| INOCAL CADDY                      | US | 85/791,544 | 11/30/2012 | 4389699 | 8/20/2013  | Registered | MALLINCKRODT HOSPITAL PRODUCTS IP         |



|                                 |    |           |            |         |            |            |                                                                                                                                                                        |
|---------------------------------|----|-----------|------------|---------|------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 |    |           |            |         |            |            | LIMITED                                                                                                                                                                |
| INOMAX                          | US | 75/342495 | 8/18/1997  | 2185947 | 9/1/1998   | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED                                                                                                                     |
| INOMAX                          | US | 79/026770 | 4/4/2006   | 3280185 | 8/14/2007  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED                                                                                                                     |
| INOMAX DSIR                     | US | 85/071349 | 6/25/2010  | 4003735 | 7/26/2011  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED                                                                                                                     |
| INOMAX TOTAL<br>CARE            | US | 85/737439 | 9/25/2012  | 4389579 | 8/20/2013  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED                                                                                                                     |
| INOPULSE                        | US | 85/031549 | 5/6/2010   | 3893703 | 12/21/2010 | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED                                                                                                                     |
| INOTHERAPY                      | US | 75/751044 | 6/24/1999  | 2678500 | 1/21/2003  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED                                                                                                                     |
| INOVENT                         | US | 75/124072 | 6/24/1996  | 2100392 | 9/23/1997  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED                                                                                                                     |
| LONSPYRA                        | US | 88/167820 | 10/24/2018 |         |            | Published  | VTESSE INC.                                                                                                                                                            |
| LUNG LOGO (Know<br>Sarcoidosis) | US | 87/082377 | 6/23/2016  | 5129069 | 1/24/2017  | Registered | MALLINCKRODT<br>ARD IP LIMITED                                                                                                                                         |
| M in box - stylized             | US | 75/669100 | 3/26/1999  | 2332279 | 3/21/2000  | Registered | MALLINCKRODT LLC                                                                                                                                                       |
| MALLINCKRODT                    | US | 72/296373 | 4/24/1968  | 884412  | 1/20/1970  | Registered | MALLINCKRODT<br>BRAND<br>PHARMACEUTICALS,<br>INC. (assignment to<br>Mallinckrodt<br>Enterprises LLC not<br>yet recorded;<br>subsequent<br>assignment will be<br>needed |

|                                                |    |           |           |         |            |            |                                                                                                                                              |
|------------------------------------------------|----|-----------|-----------|---------|------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| MALLINCKRODT                                   | US | 73/525945 | 3/8/1985  | 1410012 | 9/23/1986  | Registered | MALLINCKRODT BRAND PHARMACEUTICALS, INC. (assignment to Mallinckrodt Enterprises LLC not yet recorded; subsequent assignment will be needed) |
| MALLINCKRODT w/ CUBE logo                      | US | 87/097127 | 7/8/2016  |         |            | Pending    | MALLINCKRODT BRAND PHARMACEUTICALS, INC. (assignment to Mallinckrodt Enterprises LLC not yet recorded; subsequent assignment will be needed) |
| MALLINCKRODT w/ CUBE logo                      | US | 85/646924 | 6/8/2012  | 5036705 | 9/6/2016   | Registered | MALLINCKRODT BRAND PHARMACEUTICALS, INC. (assignment to Mallinckrodt Enterprises LLC not yet recorded; subsequent assignment will be needed) |
| MALLINCKRODT w/ CUBE logo In Color (Version 2) | US | 85/845125 | 2/8/2013  | 4641807 | 11/18/2014 | Registered | MALLINCKRODT BRAND PHARMACEUTICALS, INC. (assignment to Mallinckrodt Enterprises LLC not yet recorded; subsequent assignment will be needed) |
| METHADOSE                                      | US | 72/409510 | 12/6/1971 | 958455  | 5/8/1973   | Registered | SPECGX LLC                                                                                                                                   |
| METHYLIN                                       | US | 75/551811 | 9/11/1998 | 2398488 | 10/24/2000 | Registered | SPECGX LLC                                                                                                                                   |
| NICU-PET                                       | US | 85/836260 | 1/30/2013 | 4410417 | 10/1/2013  | Registered | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED                                                                                                    |
| NIKS                                           | US | 75/928861 | 2/26/2000 | 3312981 | 10/16/2007 | Registered | STRATATECH                                                                                                                                   |

|                     |    |           |            |         |            |            |                                                                                                                                    |
|---------------------|----|-----------|------------|---------|------------|------------|------------------------------------------------------------------------------------------------------------------------------------|
|                     |    |           |            |         |            |            | CORPORATION                                                                                                                        |
| OCERA               | US | 78/968521 | 9/6/2006   | 5438448 | 4/3/2018   | Registered | OCERA THERAPEUTICS, INC.                                                                                                           |
| OCERA               | US | 78/756637 | 11/17/2005 | 4790741 | 8/11/2015  | Registered | OCERA THERAPEUTICS, INC.                                                                                                           |
| OFIRMEV             | US | 77/857487 | 10/26/2009 | 3955489 | 5/3/2011   | Registered | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED                                                                                          |
| ONSTORVIS           | US | 87/163067 | 9/7/2016   |         |            | Pending    | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED                                                                                          |
| PAMELOR             | US | 72/350038 | 1/30/1970  | 906503  | 1/26/1971  | Registered | SPECGX LLC                                                                                                                         |
| PARZONE             | US | 72/002436 | 2/10/1956  | 636736  | 11/6/1956  | Registered | SPECGX LLC                                                                                                                         |
| QUESTCOR AND DESIGN | US | 75/867216 | 12/9/1999  | 2756559 | 8/26/2003  | Registered | QUESTCOR PHARMACEUTICALS, INC. (assignment to Mallinckrodt ARD IP Limited not recorded; do not intend to renew                     |
| RESTORIL            | US | 73/058683 | 7/25/1975  | 1038108 | 4/20/1976  | Registered | SPECGX LLC                                                                                                                         |
| REYUBI              | US | 87/293862 | 1/9/2017   |         |            | Published  | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED                                                                                          |
| RG-AD               | US | 87/641965 | 10/11/2017 |         |            | Published  | SPECGX LLC                                                                                                                         |
| ROXICODONE          | US | 76/401917 | 4/24/2002  | 2686302 | 2/11/2003  | Registered | SPECGX LLC                                                                                                                         |
| STANATE             | US | 76/408361 | 5/15/2002  | 2851513 | 6/8/2004   | Registered | INFACARE PHARMACEUTICAL CORPORATION (assignment to Mallinckrodt Hospital Products IP Limited not recorded; do not intend to renew) |
| STRATAGRAFT         | US | 78/540747 | 1/1/2005   | 3395813 | 3/11/2008  | Registered | STRATATECH CORPORATION                                                                                                             |
| STRATATECH          | US | 77/088429 | 1/22/2007  | 3342834 | 11/27/2007 | Registered | STRATATECH CORPORATION                                                                                                             |
| TERLIVAZ            | US | 85/876469 | 3/14/2013  | 4720688 | 4/14/2015  | Registered | MALLINCKRODT HOSPITAL PRODUCTS IP LIMITED                                                                                          |

|                                               |    |           |           |         |            |            |                                                    |
|-----------------------------------------------|----|-----------|-----------|---------|------------|------------|----------------------------------------------------|
| THERAKOS                                      | US | 77/489277 | 6/3/2008  | 4115195 | 3/20/2012  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| TOFRANIL                                      | US | 87/543724 | 7/26/2017 | 5406873 | 2/20/2018  | Registered | SPECGX LLC                                         |
| TYMLENDA                                      | US | 88/420878 | 5/8/2019  |         |            | Pending    | VTESSE INC.                                        |
| UVADEX                                        | US | 85/319332 | 5/12/2011 | 4074104 | 12/20/2011 | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| UVADEX                                        | US | 77/489275 | 6/3/2008  | 4006506 | 8/2/2011   | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| UVAR                                          | US | 77/489273 | 6/3/2008  | 3908397 | 1/18/2011  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| UVAR XTS                                      | US | 77/948145 | 3/2/2010  | 3949903 | 4/26/2011  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| V DOT LOGO<br>(Ofirmev)                       | US | 85/672800 | 7/10/2012 | 4433497 | 11/12/2013 | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |
| XARTEMIS                                      | US | 85/705518 | 8/16/2012 | 4632837 | 11/4/2014  | Registered | MALLINCKRODT LLC                                   |
| YIN-YANG DESIGN<br>(black & white<br>version) | US | 86/694083 | 7/15/2015 | 4940208 | 4/19/2016  | Registered | MALLINCKRODT<br>HOSPITAL<br>PRODUCTS IP<br>LIMITED |

**D. IP Agreements.**

1. IV APAP Agreement (US and Canada), dated as of February 21, 2006, by and between Bristol-Myers Squibb Company (“BMS”) and Cadence Pharmaceuticals, Inc. (assigned to Mallinckrodt Hospital Products IP Limited).
2. License Agreement, dated as of June 11, 2013, between Novartis Pharma AG and Novartis AG and Questcor Pharmaceuticals, Inc. and Akasia Limited.
3. Exclusive Cross-License, Technology Transfer, and Regulatory Matters Agreement, dated February 9, 2014, between INO Therapeutics LLC and Bellerophon Pulse Technologies LLC.
4. Exclusive License Agreement by and between Stratatech Corporation and Wisconsin Alumni Research Foundation dated as of February 8, 2000, with amendments dated July 16, 2002 and August 10, 2016.
5. Exclusive Patent License Agreement (NIH License Number L-057-2015/0) between the NIH and Vtesse Inc., dated December 10, 2014.
6. Exclusive License and Commercialization Agreement (this “Agreement”) by and between NeuroproteXeon, Inc. (“Licensor”) and Mallinckrodt Pharma IP Trading DAC, dated October 2, 2017.
7. Second Amended and Restated License Agreement by and between UCL Business PLC and Ocera Therapeutics, Inc., dated July 1, 2015 and Amendment No. 1 to said License Agreement dated October 1, 2017.
8. License Agreement by and between Jazz Pharmaceuticals, Inc. and Jazz Pharmaceuticals Ireland Limited (collectively “Jazz”) and Mallinckrodt plc, MNK 2011 Inc. and Mallinckrodt LLC (collectively “Mallinckrodt”), dated June 4, 2018.
9. License Agreement by and between Shire Development LLC, Shire LLC and Shire US Inc. (collectively “Shire”) and SpecGx LLC, dated January 28, 2019.
10. License and Collaboration Agreement, dated as of July 18, 2019, by and between Silence Therapeutics PLC and Mallinckrodt Pharma IP Trading DAC.

Schedule IV to the  
Second Lien U.S. Collateral Agreement

**Commercial Tort Claims**

None.

**Form of Supplement to the Second Lien U.S. Collateral Agreement**

SUPPLEMENT NO. [●] (this “**Supplement**”), dated as of [●], 20[●][●] to the Second Lien U.S. Collateral Agreement dated as of December 6, 2019 (as amended, restated, supplemented or otherwise modified from time to time, the “**Second Lien U.S. Collateral Agreement**”), among Mallinckrodt International Finance S.A., a public limited liability company (*société anonyme*) incorporated under the laws of the Grand Duchy of Luxembourg, having its registered office at 124 boulevard de la Pétrusse, L-2330 Luxembourg, and registered with the Luxembourg Trade and Companies Register (*R.C.S Luxembourg*) under number B 172.865 (the “**Issuer**”), Mallinckrodt CB LLC, a Delaware limited liability company (the “**US Co-Issuer**”, and together with the Issuer, the “**Issuers**”), each Guarantor listed on the signature pages thereof and each other Guarantor that becomes a party thereto after the Issue Date (together with the Issuer and the US Co-Issuer, collectively, the “**Pledgors**”) and Wilmington Savings Fund Society, FSB, as Second Lien Collateral Agent (together with its successors and assigns in such capacity, the “**Second Lien Collateral Agent**”) for the Secured Parties (as defined therein).

A. Reference is made to the Indenture, dated as of December 6, 2019 (as amended, restated, supplemented or otherwise modified from time to time, the “**Second Lien Indenture**”), among Mallinckrodt plc (the “**Parent**”), the Issuer, the US Co-Issuer, the Guarantors party thereto from time to time, Wilmington Savings Fund Society, FSB, as Second Lien Trustee and Second Lien Collateral Agent.

B. Capitalized terms used herein and not otherwise defined herein shall have the meanings assigned to such terms in the First Priority/Second Priority Intercreditor Agreement, Second Lien Indenture or the Second Lien U.S. Collateral Agreement, as applicable.

C. The Pledgors have entered into the Second Lien U.S. Collateral Agreement pursuant to the requirements set forth in Section 13.01 of the Second Lien Indenture. Section 5.16 of the U.S. Collateral Agreement provides that additional Guarantors may become Pledgors under the Second Lien U.S. Collateral Agreement by execution and delivery of an instrument in the form of this Supplement. The undersigned Subsidiary (the “**New Subsidiary**”) is executing this Supplement in accordance with the requirements of the Second Lien Indenture to become a Pledgor under the Second Lien U.S. Collateral Agreement.

Accordingly, the New Subsidiary agrees as follows:

SECTION 1. In accordance with Section 5.16 of the Second Lien U.S. Collateral Agreement, the New Subsidiary by its signature below becomes a Pledgor under the Second Lien U.S. Collateral Agreement with the same force and effect as if originally named therein as a Pledgor and the New Subsidiary hereby (a) agrees to all the terms and provisions of the Second Lien U.S. Collateral Agreement applicable to it as a Pledgor thereunder and (b) represents and warrants that the representations and warranties made by it as a Pledgor thereunder are true and correct in all material respects on and as of the date hereof. In furtherance of the foregoing, the New Subsidiary, as security for the payment and performance in full of its Secured Obligations, does hereby create and grant to the Second Lien Collateral Agent, its successors and assigns, for the benefit of the Secured Parties, their successors and assigns, a security interest in and lien on all of the New Subsidiary's right, title and interest in and to the Collateral (as defined in the Second Lien U.S. Collateral Agreement) of the New Subsidiary; *provided* that, for the avoidance of doubt, the Collateral shall not include any Excluded Property or Excluded Securities. Each reference to a "Pledgor" in the Second Lien U.S. Collateral Agreement shall be deemed to include the New Subsidiary (except as otherwise provided in clause (ii) of the definition of Pledgor to the extent applicable). The Second Lien U.S. Collateral Agreement is hereby incorporated herein by reference.

SECTION 2. The New Subsidiary represents and warrants to the Second Lien Collateral Agent and the other Secured Parties that this Supplement has been duly authorized, executed and delivered by it and constitutes its legal, valid and binding obligation, enforceable against it in accordance with its terms, subject to (i) the effects of bankruptcy, insolvency, fraudulent conveyance or other similar laws affecting creditors' rights generally, (ii) general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law) and (iii) implied covenants of good faith and fair dealing.

SECTION 3. This Supplement may be executed in counterparts (and by different parties hereto on different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. This Supplement shall become effective when the Second Lien Collateral Agent shall have received a counterpart of this Supplement that bears the signature of the New Subsidiary. Delivery of an executed signature page to this Supplement by facsimile or other electronic transmission shall be as effective as delivery of a manually signed counterpart of this Supplement.

SECTION 4. The New Subsidiary hereby represents and warrants that, as of the date hereof, (a) set forth on *Schedule I* attached hereto is a true and correct schedule of any and all of (and, with respect to any Pledged Stock issued by an issuer that is not a subsidiary of the Issuer, correctly sets forth, to the knowledge of the New Subsidiary) the percentage of the issued and outstanding units of each class of the Equity Interests of the issuer thereof represented by the Pledged Stock and includes (i) all Equity Interests pledged hereunder and (ii) all Pledged Debt pledged hereunder in an individual principal amount in excess of \$5,000,000 now owned by the New Subsidiary required to be pledged in order to satisfy the Collateral and Guarantee Requirement (or any equivalent requirement of any Specified Other Second Lien Agreement) or delivered pursuant to Section 2.02(a) and 2.02(b) of the Second Lien U.S. Collateral Agreement, (b) set forth on *Schedule II* attached hereto is a list of any and all Intellectual Property now owned by the New Subsidiary consisting of material Patents and Trademarks applied for or



registered with the United States Patent and Trademark Office and material Copyrights registered with the United States Copyright Office, and (c) set forth under its signature hereto is the true and correct legal name of the New Subsidiary, its jurisdiction of organization and the location of its chief executive office.

SECTION 5. Except as expressly supplemented hereby, the Second Lien U.S. Collateral Agreement shall remain in full force and effect.

**SECTION 6. THIS SUPPLEMENT AND ANY CLAIMS, CONTROVERSY, DISPUTE OR CAUSES OF ACTION (WHETHER IN CONTRACT OR TORT OR OTHERWISE) BASED UPON, ARISING OUT OF OR RELATING TO THIS SUPPLEMENT SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAWS OF THE STATE OF NEW YORK.**

SECTION 7. In case any one or more of the provisions contained in this Supplement should be held invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein and in the Second Lien U.S. Collateral Agreement shall not in any way be affected or impaired thereby (it being understood that the invalidity of a particular provision in a particular jurisdiction shall not in and of itself affect the validity of such provision in any other jurisdiction). The parties hereto shall endeavor in good-faith negotiations to replace the invalid, illegal or unenforceable provisions with valid provisions the economic effect of which comes as close as possible to that of the invalid, illegal or unenforceable provisions.

SECTION 8. All communications and notices hereunder shall (except as otherwise expressly permitted by the Second Lien U.S. Collateral Agreement) be in writing and given as provided in Section 5.01 of the Second Lien U.S. Collateral Agreement.

SECTION 9. The New Subsidiary agrees to reimburse the Second Lien Collateral Agent for its reasonable and documented out-of-pocket expenses in connection with this Supplement, including the reasonable and documented fees, other charges and disbursements of counsel for the Second Lien Collateral Agent.

SECTION 10. Notwithstanding anything herein to the contrary, the lien and security interest granted to the Second Lien Collateral Agent pursuant to this Supplement and the exercise of any right or remedy by the Second Lien Collateral Agent hereunder are subject to the provisions of the First Priority/Second Priority Intercreditor Agreement. In the event of any conflict between the terms of the First Priority/Second Priority Intercreditor Agreement and this Supplement, the terms of the First Priority/Second Priority Intercreditor Agreement shall govern and control

IN WITNESS WHEREOF, the New Subsidiary has duly executed this Supplement to the Second Lien U.S. Collateral Agreement as of the day and year first above written.

[Signature Page Follows]

[NAME OF NEW SUBSIDIARY]

BY: \_\_\_\_\_

Name:

Title

Address:

Legal Name:

Jurisdiction of Formation:

Schedule I to  
Supplement No. \_\_ to the  
Second Lien U.S. Collateral Agreement

**Pledged Stock; Pledged Debt**

**A. Pledged Stock**

| <b>Issuer</b> | <b>Record Owner</b> | <b>Certificate No.</b> | <b>Number and Class</b> | <b>Percentage of Equity Interest Owned</b> | <b>Percent Pledged</b> |
|---------------|---------------------|------------------------|-------------------------|--------------------------------------------|------------------------|
|               |                     |                        |                         |                                            |                        |
|               |                     |                        |                         |                                            |                        |
|               |                     |                        |                         |                                            |                        |

**B. Pledged Debt**

| <b>Payee</b> | <b>Payor</b> | <b>Principal</b> | <b>Date of Issuance</b> | <b>Maturity Date</b> |
|--------------|--------------|------------------|-------------------------|----------------------|
|              |              |                  |                         |                      |
|              |              |                  |                         |                      |
|              |              |                  |                         |                      |

**Intellectual Property**

**A. U.S. Federally Issued or Applied for Patents Owned by [New Subsidiary]**

*U.S. Patent Registrations*

| <u>Title</u> | <u>Patent No.</u> | <u>Issue Date</u> |
|--------------|-------------------|-------------------|
|              |                   |                   |
|              |                   |                   |
|              |                   |                   |

*U.S. Patent Applications*

| <u>Title</u> | <u>Application No.</u> | <u>Filing Date</u> |
|--------------|------------------------|--------------------|
|              |                        |                    |
|              |                        |                    |
|              |                        |                    |

B. **U.S. Federally Registered Copyrights Owned by [New Subsidiary]**

*U.S. Copyright Registrations*

| <u>Title</u> | <u>Registration No.</u> | <u>Registration Date</u> |
|--------------|-------------------------|--------------------------|
|              |                         |                          |
|              |                         |                          |
|              |                         |                          |

**C. U.S. Federally Registered or Applied for Trademarks Owned by [New Subsidiary]**

*U.S. Trademark Registrations*

| <u>Mark</u> | <u>Registration No.</u> | <u>Registration Date</u> |
|-------------|-------------------------|--------------------------|
|             |                         |                          |
|             |                         |                          |

*U.S. Trademark Applications*

| <u>Mark</u> | <u>Application No.</u> | <u>Filing Date</u> |
|-------------|------------------------|--------------------|
|             |                        |                    |
|             |                        |                    |

**Form of Notice of Grant of Security Interest in Intellectual Property**

[FORM OF] NOTICE OF GRANT OF SECURITY INTEREST IN [COPYRIGHTS] [PATENTS] [TRADEMARKS], dated as of [DATE] (this “Agreement”), made by [●], a [●] [●] (the “*Pledgor*”), in favor of Wilmington Savings Fund Society, FSB, as Second Lien Collateral Agent (as defined below).

Reference is made to the Second Lien U.S. Collateral Agreement dated as of December 6, 2019 (as amended, restated, supplemented or otherwise modified from time to time, the “*Second Lien U.S. Collateral Agreement*”), among Mallinckrodt International Finance S.A., a public limited liability company (*société anonyme*) incorporated under the laws of the Grand Duchy of Luxembourg, having its registered office at 124 boulevard de la Pétrusse, L-2330 Luxembourg, and registered with the Luxembourg Trade and Companies Register (*R.C.S Luxembourg*) under number B 172.865 (the “*Issuer*”), Mallinckrodt CB LLC, a Delaware limited liability company (the “*US Co-Issuer*”, and together with the Issuer, the “*Issuers*”), each Guarantor listed on the signature pages thereof and each other Guarantor that becomes a party thereto after the Issue Date (together with the Issuer and the US Co-Issuer, collectively, the “*Pledgors*”) and Wilmington Savings Fund Society, FSB, as Second Lien Collateral Agent (together with its successors and assigns in such capacity, the “*Second Lien Collateral Agent*”) for the Secured Parties (as defined therein). The parties hereto agree as follows:

SECTION 1. *Terms.* Capitalized terms used in this Agreement and not otherwise defined herein have the meanings specified in the Second Lien U.S. Collateral Agreement. The rules of construction specified in Section 1.01(b) of the Second Lien U.S. Collateral Agreement also apply to this Agreement.

SECTION 2. *Grant of Security Interest.* As security for the payment and performance, as applicable, in full of its Secured Obligations, the Pledgor pursuant to the Second Lien U.S. Collateral Agreement did, and hereby does, assign and pledge to the Second Lien Collateral Agent, its successors and permitted assigns, for the benefit of the Secured Parties, a continuing security interest in all of such Pledgor’s right, title and interest in, to and under any and all of the following assets now owned or at any time hereafter acquired by such Pledgor or in which such Pledgor now has or at any time in the future may acquire any right, title or interest (collectively, but excluding any Excluded Property, the “*IP Collateral*”):

[all Patents of the United States of America, including those listed on Schedule I;

[all Copyrights of the United States of America, including those listed on Schedule I;

[all Trademarks of the United States of America, including those listed on Schedule I;

[*provided, however*, that the foregoing pledge, assignment and grant of security interest will not cover any Excluded Property, including, without limitation, any “intent-to-use” trademark applications, to the extent that the grant of a security interest therein would impair the validity or enforceability of, or render void or voidable or result in the cancellation of the applicable grantor’s right, title or interest therein or in any trademark issued as a result of such application under applicable federal law.]

SECTION 3. *Second Lien U.S. Collateral Agreement.* The security interests granted to the Second Lien Collateral Agent herein are granted in furtherance, and not in limitation of, the security interests granted to the Second Lien Collateral Agent pursuant to the Second Lien U.S. Collateral Agreement. Each Pledgor hereby acknowledges and affirms that the rights and remedies of the Second Lien Collateral Agent with respect to the IP Collateral are more fully set forth in the Second Lien U.S. Collateral Agreement, the terms and provisions of which are hereby incorporated herein by reference as if fully set forth herein. In the event of any conflict between the terms of this Agreement and the Second Lien U.S. Collateral Agreement, the terms of the Second Lien U.S. Collateral Agreement shall govern.

SECTION 4. *Counterparts.* This Agreement may be executed in two or more counterparts, each of which shall constitute an original but all of which when taken together shall constitute but one contract. Delivery of an executed counterpart to this Agreement by facsimile or other electronic transmission shall be as effective as delivery of a manually signed original.

SECTION 5. *Governing Law.* **THIS AGREEMENT AND ANY CLAIMS, CONTROVERSY, DISPUTE OR CAUSES OF ACTION (WHETHER IN CONTRACT OR TORT OR OTHERWISE) BASED UPON, ARISING OUT OF OR RELATING TO THIS AGREEMENT SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAWS OF THE STATE OF NEW YORK.**

SECTION 6 Notwithstanding anything herein to the contrary, the lien and security interest granted to the Second Lien Collateral Agent pursuant to this Agreement and the exercise of any right or remedy by the Second Lien Collateral Agent hereunder are subject to the provisions of the First Priority/Second Priority Intercreditor Agreement. In the event of any conflict between the terms of the First Priority/Second Priority Intercreditor Agreement and this Agreement, the terms of the First Priority/Second Priority Intercreditor Agreement shall govern and control

[Signature Pages Follow]



IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the day and year first above written.

[Name of Pledgor]

By: \_\_\_\_\_

Name:

Title:

WILMINGTON SAVINGS FUND  
SOCIETY, FSB,  
as Second Lien Collateral Agent,

By: \_\_\_\_\_  
Name:  
Title:

By: \_\_\_\_\_  
Name:  
Title:

Schedule I  
to Notice of Grant of Security Interest in Patents

Patents Owned by [Name of Pledgor]

*U.S. Patent Registrations*

| <u>Title</u> | <u>Patent No.</u> | <u>Issue Date</u> |
|--------------|-------------------|-------------------|
|              |                   |                   |
|              |                   |                   |
|              |                   |                   |

*U.S. Patent Applications*

| <u>Title</u> | <u>Application No.</u> | <u>Filing Date</u> |
|--------------|------------------------|--------------------|
|              |                        |                    |
|              |                        |                    |
|              |                        |                    |

Schedule I  
to Notice of Grant of Security Interest in Copyrights

Copyrights Owned by [Name of Pledgor]

*U.S. Copyright Registrations*

| <u>Title</u> | <u>Registration No.</u> | <u>Registration Date</u> |
|--------------|-------------------------|--------------------------|
|              |                         |                          |
|              |                         |                          |
|              |                         |                          |

Schedule I  
to Notice of Grant of Security Interest in Trademarks

Trademarks Owned by [Name of Pledgor]

*U.S. Trademark Registrations*

| <u>Mark</u> | <u>Registration No.</u> | <u>Registration Date</u> |
|-------------|-------------------------|--------------------------|
|             |                         |                          |
|             |                         |                          |

*U.S. Trademark Applications*

| <u>Mark</u> | <u>Application No.</u> | <u>Filing Date</u> |
|-------------|------------------------|--------------------|
|             |                        |                    |
|             |                        |                    |

**Form of Specified Other Second Lien Secured Party Consent**

SPECIFIED OTHER SECOND LIEN SECURED PARTY CONSENT

[Name of Authorized Representative]  
[Address of Authorized Representative]

[Date]

[Name of Second Lien Collateral Agent]  
[Address of Second Lien Collateral Agent]

The undersigned is the Authorized Representative for persons wishing to become Secured Parties (the “*New Secured Parties*”) under the Second Lien U.S. Collateral Agreement dated as of December 6, 2019 (as amended, restated, supplemented or otherwise modified from time to time, the “*Second Lien U.S. Collateral Agreement*”), among Mallinckrodt International Finance S.A., a public limited liability company (*société anonyme*) incorporated under the laws of the Grand Duchy of Luxembourg, having its registered office at 124 boulevard de la Pétrusse, L-2330 Luxembourg, and registered with the Luxembourg Trade and Companies Register (*R.C.S Luxembourg*) under number B 172.865 (the “*Issuer*”), Mallinckrodt CB LLC, a Delaware limited liability company (the “*US Co-Issuer*”, and together with the Issuer, the “*Issuers*”), each Guarantor listed on the signature pages thereof and each other Guarantor that becomes a party thereto after the Issue Date (together with the Issuer and the US Co-Issuer, collectively, the “*Pledgors*”) and Wilmington Savings Fund Society, FSB, as Second Lien Collateral Agent (together with its successors and assigns in such capacity, the “*Second Lien Collateral Agent*”) for the Secured Parties (as defined therein). Capitalized terms used but not otherwise defined in this Specified Other Second Lien Secured Party Consent have the meanings set forth in the Second Lien U.S. Collateral Agreement (or, if not set forth therein, as set forth in the Second Lien Indenture referred to therein).

In consideration of the foregoing, the undersigned hereby:

(i) represents that it has been duly authorized by the New Secured Parties to become a party to the Second Lien U.S. Collateral Agreement on behalf of the New Secured Parties under that certain [DESCRIBE OPERATIVE AGREEMENT] (the “*New Agreement*” and the obligations under the New Agreement, the “*New Secured Obligations*”) and to act as the Authorized Representative for the New Secured Parties;

(ii) acknowledges that it has received a copy of the Second Lien U.S. Collateral Agreement, the joinder to the First Priority/Second Priority Intercreditor Agreement (to the extent then in effect) and [the joinder to] Permitted Second Lien Intercreditor Agreement to be executed in connection with the New Secured Obligations;

(iii) appoints and authorizes the Second Lien Collateral Agent (on the terms and conditions set forth in the Second Lien U.S. Collateral Agreement and in Article XIII of the Second Lien Indenture) to take such action as agent on its behalf and on behalf of all other Secured Parties and to exercise such powers under the Second Lien U.S. Collateral Agreement and the aforementioned First Priority/Second Priority Intercreditor Agreement (if in effect) and Second Priority Intercreditor Agreement as are delegated to the Second Lien Collateral Agent by the terms thereof, together with all such powers as are reasonably incidental thereto; and

(iv) accepts and acknowledges the terms of the Second Lien U.S. Collateral Agreement and aforementioned Second Priority Intercreditor Agreement and agrees to serve as Authorized Representative for the New Secured Parties with respect to the New Secured Obligations and agrees on its own behalf and on behalf of the New Secured Parties to be bound by the terms thereof applicable to holders of Specified Other Second Lien Obligations, with all the rights and obligations of a Secured Party thereunder and bound by all the provisions thereof as fully as if it had been a Secured Party on the date of the Second Lien U.S. Collateral Agreement and agrees that its address for receiving notices pursuant to the Security Documents shall be as follows:

[Address].

The Second Lien Collateral Agent, by acknowledging and agreeing to this Specified Other Second Lien Secured Party Consent, accepts the appointment in clause (iii) above subject to the terms set forth in the Second Lien U.S. Collateral Agreement and in Article XIII of the Second Lien Indenture.

**THIS SPECIFIED OTHER SECOND LIEN SECURED PARTY CONSENT AND ANY CLAIMS, CONTROVERSY, DISPUTE OR CAUSES OF ACTION (WHETHER IN CONTRACT OR TORT OR OTHERWISE) BASED UPON, ARISING OUT OF OR RELATING TO THIS SPECIFIED OTHER SECOND LIEN SECURED PARTY CONSENT SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAWS OF THE STATE OF NEW YORK.**

[Signature pages follow]

IN WITNESS WHEREOF, the undersigned has caused this Specified Other Second Lien Secured Party Consent to be duly executed by its authorized officer as of the date first set forth above.

[NAME OF AUTHORIZED  
REPRESENTATIVE]

By: \_\_\_\_\_  
Name:  
Title:



Acknowledged and Agreed:

WILMINGTON SAVINGS FUND  
SOCIETY, FSB,  
as Second Lien Collateral Agent

By: \_\_\_\_\_  
Name:  
Title:

By: \_\_\_\_\_  
Name:  
Title:

Acknowledged and Agreed:

MALLINCKRODT INTERNATIONAL  
FINANCE S.A., for itself and on behalf of  
the other Pledgors

By: \_\_\_\_\_

Name:

Title: