PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5010975

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------------|----------------|
| GE WEI | 12/06/2016 |
| GANG LI | 12/06/2016 |
| JONATHAN EE-REN LIM | 12/05/2016 |
| ZACHARY D. HORNBY | 12/06/2016 |

RECEIVING PARTY DATA

| Name: | IGNYTA, INC. |
|-----------------|-------------------------|
| Street Address: | 4545 TOWNE CENTRE COURT |
| City: | SAN DIEGO |
| State/Country: | CALIFORNIA |
| Postal Code: | 92121 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16063170 |

CORRESPONDENCE DATA

Fax Number: (858)792-6773

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 8588476700

Email: djones-beasley@foley.com, ipdocketing@foley.com

Correspondent Name: DEBORAH JONES-BEASLEY
Address Line 1: FOLEY & LARDNER LLP

Address Line 2: 3000 K STREET, N.W., SUITE 600

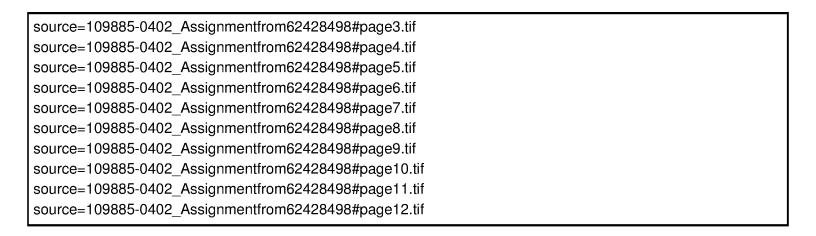
Address Line 4: WASHINGTON, D.C. 20007

| ATTORNEY DOCKET NUMBER: | 109885-0402 |
|-------------------------|-----------------------|
| NAME OF SUBMITTER: | DEBORAH JONES-BEASLEY |
| SIGNATURE: | /Deborah Beasley/ |
| DATE SIGNED: | 06/18/2018 |

Total Attachments: 12

source=109885-0402_Assignmentfrom62428498#page1.tif source=109885-0402_Assignmentfrom62428498#page2.tif

PATENT 504964229 REEL: 046117 FRAME: 0665



Page 1 of 2

ASSIGNMENT

WHEREAS, Ge Wei (hereinafter "ASSIGNOR") invented certain new and useful improvements, technology, inventions, developments, ideas, ornamental design or discoveries related to COMBINATIONS FOR THE TREATEMENT OF CANCER (collectively hereinafter referred to as the "Work") for which an application for Letters Patent in the United States has been prepared for filing (identified above) with the United States Patent and Trademark Office (hereinafter the "Application");

AND WHEREAS, Ignyta, Inc., a Delaware Corporation, with its principal place of business at 4545 Town Centre Ct., San Diego, CA 92121 (hereinafter the "ASSIGNEE"), desires to acquire the entire right, title, and interest in and to the Application and the Work:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby acknowledges that ASSIGNOR has sold, assigned, transferred and set over, and by these presents does hereby sell, assign, transfer and set over, unto said ASSIGNEE, its successors, legal representatives and assigns, the entire right, title, and interest throughout the world in the Application and the Work, including all provisional applications relating thereto, including but not limited to U.S. Provisional Application No. 62/428,498, and all nonprovisional applications claiming priority thereto, including, all divisions, continuations, continuations-in-part, reissues, and reexaminations thereof, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions and any related Letters Patent which may hereafter be granted or filed in any country or countries foreign to the United States, all extensions, renewals and reissues thereof; and ASSIGNOR hereby authorizes and requests the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all related Letters Patent to the ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND ASSIGNOR DOES HEREBY sell, assign, transfer, and convey to ASSIGNEE, its successors, legal representatives, and assigns all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue for, collect, and retain damages for past infringements of said Letters Patent before or after issuance.

AND ASSIGNOR DOES HEREBY covenant and agree that ASSIGNOR will communicate to said ASSIGNEE, its successors, legal representatives and assigns, any facts known to ASSIGNOR respecting the Work, and testify in any legal proceeding, assist in the preparation of any other provisional or non-provisional applications relating to the Application and the Work or any improvements made thereto, sign all lawful papers, execute and make all rightful oaths and/or declarations in connection with the Application and the Work including any improvements made thereto, any patent applications filed therefrom, and any continuing application filed from any of the aforementioned applications, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for the Work in all countries.

| | Page 2 of 2 |
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| Legal Name of inventor: Ge W | ei , |
| Signature: | |
| STATE OF CALIFORNIA) | Signature before a Notary is desirable but not required. s. |
| COUNTY OF | |
| personally appeared Ge Wei who person(s) whose name(s) is/are s that he/she/they executed the sa | notary public, proved to me on the basis of satisfactory evidence to be the subscribed to the within instrument, and acknowledged to me me in his/her/their authorized capacity(ies), and that by instrument the person(s), or the entity upon behalf of which the strument. |
| I certify under PENALTY OF PERforegoing paragraph is true and of | RJURY under the laws of the State of California that the correct. |
| WITNESS my hand and official s | eal, |
| [SEAL] | Notary Signature |

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

| A notary public or other officer completing this certificate document to which this certificate is attached, and not the | te verifies only the identity of the individual who signed the e truthfulness, accuracy, or validity of that document. |
|--|---|
| State of California County of Andrew Date personally appeared | MANN Notam Public., Here Insert Name and Title of the Officer Name(\$\of Signer(\$\) |
| subscribed to the within instrument and acknowle | evidence to be the person(s) whose name(s) is/are edged to me that he/she/they executed the same in s/her/their signature(s) on the instrument the person(s), ted, executed the instrument. |
| A CONTRACTOR OF THE PROPERTY O | I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal. |
| Notary Public - California | Signature Signature of Notary Public |
| Place Notary Seal Above | TIONAL |
| Though this section is optional, completing this | information can deter alteration of the document or sform to an unintended document. |
| Description of Attached Document Title or Type of Document: A Combact | DXWX Number 104885 - 0401 Number of Pages: 1w012) |
| Capacity(ies) Claimed by Signer(s) Signer's Name: Corporate Officer — Title(s): Partner — Limited — General Individual — Attorney in Fact Trustee — Guardian or Conservator Other: Signer Is Representing: | ☐ Corporate Officer — Iffices): ☐ Partner — ☐ Limited ☐ General ☐ Individual ☐ Attorney in Fact ☐ Trustee ☐ Guardian or Conservator ☐ Other: ☐ Signer Is Representing: |
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Page 1 of 2

ASSIGNMENT

WHEREAS, Gang Li (hereinafter "ASSIGNOR") invented certain new and useful improvements, technology, inventions, developments, ideas, ornamental design or discoveries related to COMBINATIONS FOR THE TREATEMENT OF CANCER (collectively hereinafter referred to as the "Work") for which an application for Letters Patent in the United States has been prepared for filing (identified above) with the United States Patent and Trademark Office (hereinafter the "Application");

AND WHEREAS, Ignyta, Inc., a Delaware Corporation, with its principal place of business at 4545 Town Centre Ct., San Diego, CA 92121 (hereinafter the "ASSIGNEE"), desires to acquire the entire right, title, and interest in and to the Application and the Work:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby acknowledges that ASSIGNOR has sold, assigned, transferred and set over, and by these presents does hereby sell, assign, transfer and set over, unto said ASSIGNEE, its successors, legal representatives and assigns, the entire right, title, and interest throughout the world in the Application and the Work, including all provisional applications relating thereto, including but not limited to U.S. Provisional Application No. 62/428,498, and all nonprovisional applications claiming priority thereto, including, all divisions, continuations, continuations-in-part, reissues, and reexaminations thereof, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions and any related Letters Patent which may hereafter be granted or filed in any country or countries foreign to the United States, all extensions, renewals and reissues thereof; and ASSIGNOR hereby authorizes and requests the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all related Letters Patent to the ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND ASSIGNOR DOES HEREBY sell, assign, transfer, and convey to ASSIGNEE, its successors, legal representatives, and assigns all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue for, collect, and retain damages for past infringements of said Letters Patent before or after issuance.

AND ASSIGNOR DOES HEREBY covenant and agree that ASSIGNOR will communicate to said ASSIGNEE, its successors, legal representatives and assigns, any facts known to ASSIGNOR respecting the Work, and testify in any legal proceeding, assist in the preparation of any other provisional or non-provisional applications relating to the Application and the Work or any improvements made thereto, sign all lawful papers, execute and make all rightful oaths and/or declarations in connection with the Application and the Work including any improvements made thereto, any patent applications filed therefrom, and any continuing application filed from any of the aforementioned applications, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for the Work in all countries.

| 9 | | Page 2 of : | 2 |
|--|---|--|---|
| Legal Name of inv | ventor: Gang Li | | |
| Signature: | | Date: 12/6/2016 | |
| STATE OF CALIF | | e a Notary is desirable but not required. | |
| COUNTY OF | 333 | | |
| On | , before me, | , notary public, | |
| person(s) whose n that he/she/they ex his/her/their signat | ame(s) is/are subscribed to the wit xecuted the same in his/her/their au | he basis of satisfactory evidence to be the ithin instrument, and acknowledged to me authorized capacity(ies), and that by on(s), or the entity upon behalf of which the | |
| | NALTY OF PERJURY under the law | ws of the State of California that the | |

Notary Signature

Application No.: 62/428,498 Docket Number: 109885-0401 Filing Date: November 30, 2016

WITNESS my hand and official seal.

[SEAL]

| CALIFORNIA ALL-PURPOSE ACKNOWLEDGE | WENT CIVIL CODE § 118 |
|--|---|
| A notary public or other officer completing this certifical document to which this certificate is attached, and not the | te verifies only the identity of the individual who signed the truthfulness, accuracy, or validity of that document. |
| State of California) | |
| County of XIV Victor 1 | × |
| On D(Umby 1/2 1/2 before me,) Date |) AUM Barmy NOTAW Public Here Insert Name and Title of the Officer |
| personally appeared | Name(s), of Signer(s). |
| subscribed to the within instrument and acknowledge | evidence to be the person(s), whose name(s) is/ar ledged to me that he/she/they executed the same is/her/their signature(s) on the instrument the person(s) ted, executed the instrument. |
| | I certify under PENALTY OF PERJURY under the law of the State of California that the foregoing paragrap is true and correct. |
| Commission # 2091736 Notary Public - California Santa Clara County | WITNESS my hand and official seal. |
| | Signature Signature of Notary Public |
| Place Notary Seal Above | |
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| \$ NO STATE OF THE | DOUGH Number 109885-DUDI |
| Signer(s) Other Than Named Above: NAME AND ADDRESS OF THE PROPERTY OF THE PROP | Number of Pages: 18VI(2-) |
| Capacity(ies) Claimed by Signer(s) Signer's Name: VANA IA | Signer's Name: |
| Corporate Officer — Title(s): | |
| ☐ Partner — ☐ Limited ☐ General | ☐ Partner — ☐ Limited ☐ General |
| ☐ Individual ☐ Attorney in Fact ☐ Guardian or Conservator | ☐ Individual ☐ Attorney in Fact ☐ Trustee ☐ Guardian or Conservator |
| | |
| ☐ Other: Signer Is Representing: | Signer Is Representing: |
| | |

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Page 1 of 2

ASSIGNMENT

WHEREAS, Jonathan Ee-ren Lim (hereinafter "ASSIGNOR") invented certain new and useful improvements, technology, inventions, developments, ideas, ornamental design or discoveries related to COMBINATIONS FOR THE TREATEMENT OF CANCER (collectively hereinafter referred to as the "Work") for which an application for Letters Patent in the United States has been prepared for filing (identified above) with the United States Patent and Trademark Office (hereinafter the "Application");

AND WHEREAS, Ignyta, Inc., a Delaware Corporation, with its principal place of business at 4545 Town Centre Ct., San Diego, CA 92121 (hereinafter the "ASSIGNEE"), desires to acquire the entire right, title, and interest in and to the Application and the Work:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby acknowledges that ASSIGNOR has sold, assigned, transferred and set over, and by these presents does hereby sell, assign, transfer and set over, unto said ASSIGNEE, its successors, legal representatives and assigns, the entire right, title, and interest throughout the world in the Application and the Work, including all provisional applications relating thereto, including but not limited to U.S. Provisional Application No. 62/428,498, and all nonprovisional applications claiming priority thereto, including, all divisions, continuations, continuations-in-part, reissues, and reexaminations thereof, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions and any related Letters Patent which may hereafter be granted or filed in any country or countries foreign to the United States, all extensions, renewals and reissues thereof; and ASSIGNOR hereby authorizes and requests the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all related Letters Patent to the ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND ASSIGNOR DOES HEREBY sell, assign, transfer, and convey to ASSIGNEE, its successors, legal representatives, and assigns all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue for, collect, and retain damages for past infringements of said Letters Patent before or after issuance.

AND ASSIGNOR DOES HEREBY covenant and agree that ASSIGNOR will communicate to said ASSIGNEE, its successors, legal representatives and assigns, any facts known to ASSIGNOR respecting the Work, and testify in any legal proceeding, assist in the preparation of any other provisional or non-provisional applications relating to the Application and the Work or any improvements made thereto, sign all lawful papers, execute and make all rightful oaths and/or declarations in connection with the Application and the Work including any improvements made thereto, any patent applications filed therefrom, and any continuing application filed from any of the aforementioned applications, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for the Work in all countries.

Page 2 of 2

| Legal Name of inventor: Jonat | han Ee-ren Lim | |
|--|--|---|
| Signature: | | Date: 12/5/16 |
| | and the second s | y is desirable but not required. |
| STATE OF CALIFORNIA | | |
| COUNTY OF | SS. | |
| On before r | ne, | notary public, |
| personally appeared Jonathan E evidence to be the person(s) who acknowledged to me that he/she capacity(ies), and that by his/her | e-ren Lim who proved to me o ose name(s) is/are subscribed /they executed the same in hi /their signature(s) on the instr | on the basis of satisfactory I to the within instrument, and s/her/their authorized ument the person(s), or the entity |
| upon behalf of which the person(| (s) acted, executed the instrur | nent. |
| I certify under PENALTY OF PER foregoing paragraph is true and o | | State of California that the |
| WITNESS my hand and official s | eal. | |
| (SEAL) | Notary Signa | ature |

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Page 1 of 2

ASSIGNMENT

WHEREAS, Zachary D. Hornby (hereinafter "ASSIGNOR") invented certain new and useful improvements, technology, inventions, developments, ideas, ornamental design or discoveries related to COMBINATIONS FOR THE TREATEMENT OF CANCER (collectively hereinafter referred to as the "Work") for which an application for Letters Patent in the United States has been prepared for filing (identified above) with the United States Patent and Trademark Office (hereinafter the "Application");

AND WHEREAS, Ignyta, Inc., a Delaware Corporation, with its principal place of business at 4545 Town Centre Ct., San Diego, CA 92121 (hereinafter the "ASSIGNEE"), desires to acquire the entire right, title, and interest in and to the Application and the Work:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby acknowledges that ASSIGNOR has sold, assigned, transferred and set over, and by these presents does hereby sell, assign, transfer and set over, unto said ASSIGNEE, its successors, legal representatives and assigns, the entire right, title, and interest throughout the world in the Application and the Work, including all provisional applications relating thereto, including but not limited to U.S. Provisional Application No. 62/428,498, and all nonprovisional applications claiming priority thereto, including, all divisions, continuations, continuations-in-part, reissues, and reexaminations thereof, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions and any related Letters Patent which may hereafter be granted or filed in any country or countries foreign to the United States, all extensions, renewals and reissues thereof; and ASSIGNOR hereby authorizes and requests the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all related Letters Patent to the ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND ASSIGNOR DOES HEREBY sell, assign, transfer, and convey to ASSIGNEE, its successors, legal representatives, and assigns all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue for, collect, and retain damages for past infringements of said Letters Patent before or after issuance.

AND ASSIGNOR DOES HEREBY covenant and agree that ASSIGNOR will communicate to said ASSIGNEE, its successors, legal representatives and assigns, any facts known to ASSIGNOR respecting the Work, and testify in any legal proceeding, assist in the preparation of any other provisional or non-provisional applications relating to the Application and the Work or any improvements made thereto, sign all lawful papers, execute and make all rightful oaths and/or declarations in connection with the Application and the Work including any improvements made thereto, any patent applications filed therefrom, and any continuing application filed from any of the aforementioned applications, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for the Work in all countries.

Page 2 of 2

| Legal Name of inventor: Za | chary D. Hornby | | |
|---|--|--|--|
| Signature: | ATTENDED TO THE PARTY OF THE PA | | Date: 12/6/16 |
| | Signature (| before a Notary i | s desirable but not required. |
| STATE OF CALIFORNIA |] | - | |
| | ss. | | |
| COUNTY OF | J | | |
| On, befo | re me. | | . notary public. |
| personally appeared Zachary to be the person(s) whose na acknowledged to me that he/s | D. Hornby who p me(s) is/are subs she/they executed her/their signature | roved to me on th cribed to the withi d the same in his/t e(s) on the instrun | e basis of satisfactory evidence n instrument, and ner/their authorized nent the person(s), or the entity |
| l certify under PENALTY OF I foregoing paragraph is true ar | | the laws of the St | ate of California that the |
| WITNESS my hand and offici | al seal. | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | |
| [SEAL] | | Notary Signatu | re |

CIVIL CODE § 1189 CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document. State of California personally appeared who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are. subscribed to the within instrument and acknowledged to me that he/she/they, executed the same in his/her/their authorized capacity(res), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. DAWN BARRON WITNESS my hand and official seal. Commission # 2091736 Notary Public - California Santa Clara County Signature: My Comm. Expires Dec 25, 2018 Signature of Notary Public Place Notary Seal Above - OPTIONAL -Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document. Description of Attached Dogument Title or Type of Document: 15500000+ Duilet Number 19185-040 Document Date: XCM bac Co. 10 lp Signer(s) Other Than Named Above: Capacity(ies) Claimed by Signer(s) Signer's Name: TUCY NA WITH HOME Signer's Name: ____ X Corporate Officer — Title(s): (これ) L. Corporate Officer - Title(s): Partner - Limited General ☐ Partner — ☐ Limited ☐ General 🗀 Individual Attorney in Fact Attorney in Fact Individual Guardian or Conservator Trustee Guardian or Conservator Trustee

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Signer Is Representing:

RECORDED: 06/18/2018

□ Other:

Signer Is Representing: _