

PATENT ASSIGNMENT COVER SHEET

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Stylesheet Version v1.2

EPAS ID: PAT3704787

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| CLARIENT DIAGNOSTIC SERVICES, INC. | 12/22/2015 |
| RECEIVING PARTY DATA | |
| Name: | GE HEALTHCARE BIO-SCIENCES CORP. |
| Street Address: | 100 RESULTS WAY |
| City: | MARLBOROUGH |
| State/Country: | MASSACHUSETTS |
| Postal Code: | 01752 |
| PROPERTY NUMBERS Total: 8 | |
| Property Type | Number |
| Application Number: | 14387861 |
| Application Number: | 14388057 |
| Application Number: | 14402724 |
| Application Number: | 14402895 |
| Application Number: | 14439749 |
| Application Number: | 14648176 |
| Application Number: | 14778453 |
| Application Number: | 14402816 |
| CORRESPONDENCE DATA | |
| Fax Number: | (414)721-2572 |
| <i>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.</i> | |
| Phone: | 414-721-3797 |
| Email: | HCTechnologies@ge.com |
| Correspondent Name: | HEEJA YOO-WARREN |
| Address Line 1: | 9900 W. INNOVATION DRIVE |
| Address Line 2: | 2131 |
| Address Line 4: | WAUWATOSA, WISCONSIN 53226 |
| NAME OF SUBMITTER: | HEEJA YOO-WARREN |
| SIGNATURE: | /Heeja Yoo-Warren/ |
| DATE SIGNED: | 01/21/2016 |

PATENT

INTELLECTUAL PROPERTY AND SOFTWARE ASSIGNMENT

This **INTELLECTUAL PROPERTY AND SOFTWARE ASSIGNMENT** ("Assignment"), effective as of December 22, 2015 ("Effective Date"), is by and among Clariant Diagnostic Services, Inc., a corporation organized and existing under the laws of the State of Delaware, Clariant, Inc., a corporation organized and existing under the laws of the State of Delaware (collectively, "Assignor"), on the one hand, and GE Healthcare Bio-Sciences Corp., a corporation organized and existing under the laws of the State of Delaware ("Assignee"), on the other hand.

BACKGROUND

WHEREAS, Assignor desires to sell, assign and transfer to Assignee all Software and other Intellectual Property (excluding Trademarks) related or otherwise pertaining to the software, technology, and service platforms generally referred to as "MultiOmyx", "Kermit", and "Olympus", including, without limitation, the Software and other Intellectual Property described on Exhibit A attached hereto, and all Intellectual Property Rights (excluding rights in and to Trademarks) therein and thereto (collectively, the "Assigned Platforms");

WHEREAS, Assignor also desires to sell, assign and transfer to Assignee all Intellectual Property described on Exhibit B attached hereto, and all Intellectual Property Rights therein and thereto (collectively, the "Assigned IP", and together with the Assigned Platforms, the "Assigned Property"); and

WHEREAS, Assignee now desires to acquire the Assigned Property from Assignor.

AGREEMENT

NOW, THEREFORE, for good and valuable consideration, including, without limitation, as set forth in Section 3 below, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the Parties agree as follows:

1. **Definitions.** Capitalized terms used herein shall have the meanings ascribed to them in this Assignment or in the following definitions:
 - (a) "Intellectual Property" means and includes all of the following: (a) works of authorship, including Software; (b) trade secrets, know-how, confidential information, inventions (whether or not patentable), research and development, formulas, compositions, manufacturing and production processes and techniques, technical data, designs, drawings, specifications, customer and supplier lists, pricing and cost information, financial reports and information, and business and marketing plans and proposals; (c) compilations of data (as well as the underlying data) and all related documentation, including documentation regarding the procedures used in connection with the collection, processing and distribution of data contained therein, together with documentation regarding the attributes of the data contained therein or the relationships among such data (including (i) whether the data must be numerical, alphabetic or alphanumeric, (ii) range or type limitations of the data or (iii) one-to-one, one-to-many, or many-to-many relationships with other data) and documentation regarding data structures and formats, and file structures and formats (collectively, "Databases"); (d) trademarks, service marks, certification marks, trade dress, logos, trade names, corporate names, domain names and any other indication of source or origin, together with all goodwill symbolized thereby or

associated therewith (collectively, “Trademarks”); and (e) any and all other forms of technology (whether or not embodied in any tangible form and including all instantiations and embodiments of the foregoing).

- (b) “Intellectual Property Rights” means and includes all of the following types in any jurisdiction throughout the world: (a) all rights arising out of or associated with works of authorship, including exclusive exploitation rights, copyrights, and moral rights; (b) all patents and applications therefor, including rights in and to the inventions disclosed therein, and all future patents that may issue from such patents and patent applications throughout the world, and all foreign counterparts, divisionals, continuations in whole or in part, reexaminations, reissues, substitutions or extensions of any of the preceding (collectively “Future Patents”), and the right to claim priority to any of the preceding (collectively, “Patents”), (c) all rights arising out of or associated with Trademarks, including all common law rights, trademark registrations and applications for the same, (d) all rights arising out of or associated with trade secrets, know-how and confidential information; (e) all other rights of any kind or nature in any Intellectual Property; and (f) all registrations, applications, reissues, continuations, continuations-in-part, divisionals, extensions, renewals and reexaminations for any of the rights referred to in clauses (a) through (e) above.
- (c) “Software” means computer software and programs (including, without limitation, all Source Code and object code form), and Databases in any form, including any computer software or programs that support or provide websites, website content, member or user lists and information associated therewith or links in websites, operating systems and specifications, data, databases, database management code, utilities, graphical user interfaces, menus, images, icons, links, forms, methods of processing, software engines, platforms, and data formats, all versions, updates, corrections, enhancements, and modifications thereto, and to the extent existing, all related documentation, developer notes, comments and annotations.
- (d) “Source Code” means the human readable source code of the software program to which it relates (in both paper and electronic form), in the programming language in which such software was written, together with all related flow charts, comments, job control language, other procedural code and technical documentation, including a description of the procedure for generating object code, all of a level and in form sufficient to enable a programmer reasonably fluent in such programming language to understand, build, operate, support, maintain and develop modifications, upgrades, updates, adaptations, enhancements, new versions and other derivative works and improvements of, and to develop computer programs compatible with, such software.

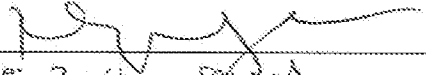
2. **Assignment.** Assignor hereby irrevocably and unconditionally grants, conveys, sells, assigns and transfers to Assignee all of Assignor’s worldwide right, title and interest in and to the Assigned Property, together with any and all goodwill connected with and symbolized by the Assigned IP, the same to be held and enjoyed by Assignee for its own use and enjoyment and the use and enjoyment of its successors, assigns and other legal representatives as fully and entirely as the same would have been held and enjoyed by Assignor if this assignment and sale had not been made, including, without limitation, all rights in and to all income, royalties, license fees, damages and payments now or hereafter due or payable with respect thereto, all causes of action (whether in law or in equity) with respect thereto, and the right to sue, counterclaim, and recover for past, present and future infringement of the rights assigned or to be assigned under this Assignment.

3. **Consideration.** In consideration for the rights granted to Assignee herein, Assignee shall pay to Clariant Diagnostic Services, Inc. one dollar (\$1.00 USD) in consideration of the Assigned Property other than the Software listed in Exhibit A, and the net book value as of November 30, 2015 in consideration of the Software associated with “MultiOmyx” , “Kermit” and “Olympus”, as listed in Exhibit A.
4. **Taxes.** Prices do not include sales, use, gross receipts, excise, valued-added, services, or any similar transaction or consumption taxes (“Taxes”). Assignee acknowledges and agrees it shall be responsible for the payment of any such Taxes to Assignor unless it otherwise timely provides Assignor with a valid exemption certificate or direct pay permit. In the event Assignor is assessed Taxes, interest and penalty by any taxing authority, Assignee agrees to reimburse Assignor for any such Taxes, including any interest or penalty assessed thereon. Each party is responsible for any personal property or real estate taxes on property that the party owns or leases, for franchise and privilege taxes on its business, and for taxes based on its net income or gross receipts.
5. **General.** This Assignment is binding upon, and inures to the benefit of, the parties hereto and their respective legal representatives, successors and assigns. It is understood that any finding of invalidity of one assignment as effected hereby shall not affect the assignment of other Assigned Property. All questions concerning the construction, validity and interpretation of this Assignment and the performance of the obligations imposed by this Assignment shall be governed by, and construed in accordance with, the laws of the State of New York without regard to the choice of law principles thereof. Upon request by Assignee, Assignor will execute additional documents and take other actions as may be necessary or desirable to record or memorialize the assignments of the Assigned Property set forth herein, and to vest in Assignee such right, title, and interest in and to the Assigned Property as sold, assigned and transferred to Assignee hereunder. If Assignee or its successor or assignee is unable, for any reason, to obtain a signature of Assignor on a document necessary to perfect the transfer or assignment of the Assigned Property to Assignee, Assignor hereby irrevocably appoints Assignee as Assignor’s agent and attorney-in-fact, which appointment is coupled with an interest, to act for and on behalf of Assignor to execute, verify, and file any documents with the same legal force and effect as if executed by Assignor. Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks of the United States, and any officer of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of intellectual property protection or applications as aforesaid, to issue the Future Patents to Assignee and its successors, assigns and other legal representatives in accordance with the terms of this instrument. No waiver, modification or change of any of the provisions of this Assignment shall be valid unless in writing and signed by the party against whom such claimed waiver, modification or change is sought to be enforced.
6. **Counterparts.** This Assignment may be executed in two (2) or more counterparts (facsimile and electronic transmission included), each of which shall be deemed an original, but all of which together shall constitute one (1) and the same instrument. After facsimile or electronic transmission, the parties agree to execute and exchange documents with original signatures.

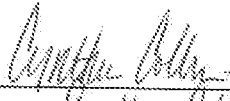
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IN WITNESS WHEREOF, the parties hereto, through their authorized representatives, have caused this Assignment to be duly executed and delivered as of the Effective Date.

Clarient Diagnostic Services, Inc.
as Assignor

By: 
Name: *Reuben Reyes*
Title: *CEO*

Clariant, Inc.
as Assignor

By: 
Name: Cynthia Collins
Title: CEO

GE Healthcare Bio-Sciences Corp.,
as Assignee

By: SC Godwin
Name: Stan C Godwin
Title: Head of Licensing

Exhibit A
Assigned Platforms

Patents

| Docket Number | City | Title | Application Number | Application Date | Publication Number | Patent Number | Assignee | Status |
|---------------|------|-----------------------------------------------------------------------------------|--------------------|------------------|--------------------|---------------|------------------------------------|---------|
| 259457 | US | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | 61/618132 | 30/03/2012 | | | Clariant Diagnostic Services, Inc. | Expired |
| 259457 | WO | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | US2013/0333249 | 21/03/2013 | WO2013148448A1 | | Clariant Diagnostic Services, Inc. | Expired |
| 259457 | EP | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | 13715086.8 | 06/10/2014 | 2831591 | | Clariant Diagnostic Services, Inc. | Filed |
| 259457 | CN | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | 201380017702.4 | 29/09/2014 | 104520713 | | Clariant Diagnostic Services, Inc. | Filed |
| 259457 | IN | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | 7531/DELNP/2014 | 09/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 259457 | RU | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | 2014137129 | 15/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 259457 | US | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | 14/387861 | 25/09/2014 | 20150065371A1 | | Clariant Diagnostic Services, Inc. | Filed |
| 259457 | JP | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | 2015-503378 | 25/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |

| Docket Number | City | Title | Application Number | Application Date | Publication Number | Patent Number | Assignee | Status |
|---------------|------|-----------------------------------------------------------------------------------|--------------------|------------------|--------------------|---------------|------------------------------------|---------|
| 259457 | AU | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | 2013240127 | 15/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 259457 | NZ | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | 630091 | 04/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 259457 | SG | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | 11201406105U | 26/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 259457 | KR | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | 10-2014-7027562 | 30/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 259457 | CA | IMMUNOFLUORESCENCE AND FLUORESCENT-BASED NUCLEIC ACID ANALYSIS ON A SINGLE SAMPLE | 2867508 | 15/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 260517 | US | DETECTION OF TISSUE REGIONS IN MICROSCOPE SLIDE IMAGES | 61/618141 | 30/03/2012 | | | Clariant Diagnostic Services, Inc. | Expired |
| 260522 | US | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | 61/618282 | 30/03/2012 | | | Clariant Diagnostic Services, Inc. | Expired |
| 260522 | WO | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | US2013/033286 | 21/03/2013 | WO2013148458 | | Clariant Diagnostic Services, Inc. | Expired |
| 260522 | CN | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | 201380017701.X | 29/09/2014 | 104520689 | | Clariant Diagnostic Services, Inc. | Filed |
| 260522 | IN | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | 7533/DELNP/2014 | 09/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 260522 | RU | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | 2014137125 | 15/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 260522 | US | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | 14/388057 | 25/09/2014 | 20150050650A1 | | Clariant Diagnostic Services, Inc. | Filed |
| 260522 | EP | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | 13716556.9 | 06/10/2014 | 2831559 | | Clariant Diagnostic Services, Inc. | Filed |

| Docket Number | City | Title | Application Number | Application Date | Publication Number | Patent Number | Assignee | Status |
|---------------|------|-------------------------------------------------------------------|--------------------|------------------|--------------------|----------------|------------------------------------|---------|
| 260522 | JP | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | 2015-503398 | 25/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 260522 | AU | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | 2013240137 | 17/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 260522 | NZ | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | 630115 | 04/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 260522 | SG | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | 11201406104Q | 26/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 260522 | KR | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | 10-2014-7027571 | 30/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 260522 | CA | METHODS FOR GENERATING AN IMAGE OF A BIOLOGICAL SAMPLE | 2867359 | 12/09/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 262117 | US | Multiplexed Assay Method for Classical Hodgkin Lymphoma Diagnosis | 61/652984 | 30/05/2012 | | | Clariant Diagnostic Services, Inc. | Expired |
| 262117 | US | Multiplexed Assay Method for Classical Hodgkin Lymphoma Diagnosis | 61/719427 | 28/10/2012 | | | Clariant Diagnostic Services, Inc. | Expired |
| 262117 | US | Multiplexed Assay Method for Classical Hodgkin Lymphoma Diagnosis | 61/733978 | 06/12/2012 | | | Clariant Diagnostic Services, Inc. | Expired |
| 262117 | WO | Multiplexed Diagnosis Method for Classical Hodgkin Lymphoma | US2013/043404 | 30/05/2013 | WO2013181418 | | Clariant Diagnostic Services, Inc. | Expired |
| 262117 | US | Multiplexed Diagnosis Method for Classical Hodgkin Lymphoma | 14/402724 | 21/11/2014 | 20150105283A1 | | Clariant Diagnostic Services, Inc. | Filed |
| 262143 | US | Multiplexed Assay Method for Lung Cancer Classification | 61/653192 | 30/05/2012 | | | Clariant Diagnostic Services, Inc. | Expired |
| 262143 | WO | MULTIPLICATED ASSAY METHOD FOR LUNG CANCER CLASSIFICATION | PCT/US2013/042822 | 28/05/2013 | WO2013181127 | | Clariant Diagnostic Services, Inc. | Expired |
| 262143 | US | MULTIPLICATED ASSAY METHOD FOR LUNG CANCER CLASSIFICATION | 14/402895 | 21/11/2014 | 20150141278A1 | | Clariant Diagnostic Services, Inc. | Filed |
| 262153 | EM | DISPLAY SCREEN WITH USER INTERFACE | 001351357-0001 | 15/11/2012 | | 001351357-0001 | Clariant Diagnostic Services, Inc. | Issued |

| Docket Number | City | Title | Application Number | Application Date | Publication Number | Patent Number | Assignee | Status |
|---------------|------|----------------------------------------------------------------------------------|---------------------|------------------|--------------------|---------------|------------------------------------|---------|
| 262406 | US | CHEMICAL BLEACHING OF DYES USING RADICAL PHOTOINITIATORS | 61/737940 | 17/12/2012 | | | Clariant Diagnostic Services, Inc. | Expired |
| 262406 | WO | CHEMICAL BLEACHING OF DYES USING RADICAL PHOTOINITIATORS | US2013/070751 | 19/11/2013 | 2014099222 | | Clariant Diagnostic Services, Inc. | Filed |
| 262406 | US | CHEMICAL BLEACHING OF DYES USING RADICAL PHOTOINITIATORS | 14/439749 | 30/04/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 263645 | US | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES IN THE PRESENCE OF SCAVENGER ADDITIVES | 61/735586 | 11/12/2012 | | | Clariant Diagnostic Services, Inc. | Expired |
| 263645 | WO | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | US2013/074328 | 11/12/2013 | WO2014093455 | | Clariant Diagnostic Services, Inc. | Expired |
| 263645 | US | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | 14/648176 | 28/05/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 263645 | EP | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | 13814736.8 | 12/06/2015 | 2932270 | | Clariant Diagnostic Services, Inc. | Filed |
| 263645 | BR | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | BR 11 2015 013403 3 | 09/06/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 263645 | CA | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | 2893953 | 04/06/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 263645 | JP | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | 2015-545948 | 09/06/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 263645 | CN | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | 201380072726. X | 11/08/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 263645 | AU | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | 2013359393 | 20/05/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 263645 | SG | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | 11201504129S | 26/05/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 263645 | KR | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | 10-2015-7018103 | 07/07/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 263645 | NZ | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | 708935 | 09/06/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 263645 | RU | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | 2015120176 | 28/05/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 263645 | IN | PHOTOACTIVATED CHEMICAL BLEACHING OF DYES | 4422/DELNP/2015 | 22/05/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 264553 | US | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | 61/806841 | 30/03/2013 | | | Clariant Diagnostic Services, Inc. | Expired |

| Docket Number | City | Title | Application Number | Application Date | Publication Number | Patent Number | Assignee | Status |
|---------------|------|------------------------------------------------------------------------------------------------|--------------------|------------------|--------------------|----------------|------------------------------------|---------|
| 264553 | WO | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | US2014/031275 | 20/03/2014 | 2014165327 | | Clariant Diagnostic Services, Inc. | Filed |
| 264553 | AU | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | 2014248479 | 20/08/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 264553 | CA | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | FILED | 16/09/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 264553 | CN | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | | | | | Clariant Diagnostic Services, Inc. | Unfiled |
| 264553 | EP | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | 14779365.7 | 17/09/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 264553 | IN | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | FILED | 24/09/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 264553 | JP | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | | 25/09/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 264553 | KR | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | 10-2015-7026263 | 23/09/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 264553 | RU | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | 2015139001 | 14/09/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 264553 | NZ | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | 711515 | 27/08/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 264553 | SG | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | | | | | Clariant Diagnostic Services, Inc. | Unfiled |
| 264553 | US | MICROSCOPE SLIDES WITH QUALITY CONTROLS THEREON | 14/778453 | 18/09/2015 | | | Clariant Diagnostic Services, Inc. | Filed |
| 265272 | US | MULTIPLICATED METHOD FOR DIAGNOSING CLASSICAL HODGKIN LYMPHOMA | 61/719428 | 28/10/2012 | | | Clariant Diagnostic Services, Inc. | Expired |
| 265272 | US | MULTIPLICATED METHOD FOR DIAGNOSING CLASSICAL HODGKIN LYMPHOMA | 61/733990 | 06/12/2012 | | | Clariant Diagnostic Services, Inc. | Expired |
| 265272 | WO | Multiplexed Method for Diagnosing Classical Hodgkin Lymphoma | US2013/043409 | 30/05/2013 | 2014065889 | | Clariant Diagnostic Services, Inc. | Expired |
| 265272 | US | Multiplexed Method for Diagnosing Classical Hodgkin Lymphoma | 14/402816 | 21/11/2014 | 20150226743A1 | | Clariant Diagnostic Services, Inc. | Filed |
| 266863 | EM | DISPLAY SCREEN WITH ANIMATED USER INTERFACE | 001373674-0001 | 06/06/2013 | 2013/146 | 001373674-0001 | Clariant Diagnostic Services, Inc. | Issued |
| 266864 | US | SYSTEMS AND METHODS FOR SELECTION AND DISPLAY OF BIOMARKER EXPRESSION IN A BIOLOGICAL SPECIMEN | 61/734032 | 06/12/2012 | | | Clariant Diagnostic Services, Inc. | Expired |

| Docket Number | City | Title | Application Number | Application Date | Publication Number | Patent Number | Assignee | Status |
|---------------|------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------|--------------------|---------------|------------------------------------|---------|
| 266864 | US | SYSTEMS AND METHODS FOR SELECTION AND DISPLAY OF BIOMARKER EXPRESSION IN A BIOLOGICAL SPECIMEN | 61/828890 | 30/05/2013 | | | Clarient Diagnostic Services, Inc. | Expired |
| 266864 | US | SYSTEMS AND METHODS FOR SELECTION AND DISPLAY OF BIOMARKER EXPRESSION IN A BIOLOGICAL SPECIMEN AND FOR CAPTURING SNAPSHOT RECORDS THEREOF | 61/889820 | 11/10/2013 | | | Clarient Diagnostic Services, Inc. | Expired |
| 266864 | WO | SYSTEMS AND METHODS FOR SELECTION AND DISPLAY OF BIOMARKER EXPRESSION IN A BIOLOGICAL SPECIMEN AND FOR CAPTURING RECORDS THEREOF | US2013/073698 | 06/12/2013 | 2014089499 | | Clarient Diagnostic Services, Inc. | Expired |
| 266864 | US | SYSTEMS AND METHODS FOR SELECTION AND DISPLAY OF BIOMARKER EXPRESSION IN A BIOLOGICAL SPECIMEN AND FOR CAPTURING RECORDS THEREOF | 14/649465 | 03/06/2015 | | | Clarient Diagnostic Services, Inc. | Filed |
| 266864 | CN | SYSTEMS AND METHODS FOR SELECTION AND DISPLAY OF BIOMARKER EXPRESSION IN A BIOLOGICAL SPECIMEN AND FOR CAPTURING RECORDS THEREOF | 201380063700.9 | 05/06/2015 | | | Clarient Diagnostic Services, Inc. | Filed |
| 266864 | EP | SYSTEMS AND METHODS FOR SELECTION AND DISPLAY OF BIOMARKER EXPRESSION IN A BIOLOGICAL SPECIMEN AND FOR CAPTURING RECORDS THEREOF | 13859805.7 | 25/05/2015 | 2929453 | | Clarient Diagnostic Services, Inc. | Filed |
| 266864 | JP | SYSTEMS AND METHODS FOR SELECTION AND DISPLAY OF BIOMARKER EXPRESSION IN A BIOLOGICAL SPECIMEN AND FOR CAPTURING RECORDS THEREOF | 2015-545892 | 02/06/2015 | | | Clarient Diagnostic Services, Inc. | Filed |
| 266864 | KR | SYSTEMS AND METHODS FOR SELECTION AND DISPLAY OF BIOMARKER EXPRESSION IN A BIOLOGICAL SPECIMEN AND FOR CAPTURING RECORDS THEREOF | 10-2015-7014690 | 03/06/2015 | | | Clarient Diagnostic Services, Inc. | Filed |

| Docket Number | City | Title | Application Number | Application Date | Publication Number | Patent Number | Assignee | Status |
|---------------|------|-----------------------------------------------------------------------------------------------------------------|--------------------|------------------|--------------------|----------------|------------------------------------|---------|
| 266865 | US | SYSTEMS AND METHODS FOR SPLIT SCREEN DISPLAY OF A BIOLOGICAL SPECIMEN | 61/734028 | 06/12/2012 | | | Clarient Diagnostic Services, Inc. | Expired |
| 266865 | US | SYSTEMS AND METHODS FOR SPLIT SCREEN DISPLAY OF A BIOLOGICAL SPECIMEN | 61/822875 | 30/05/2013 | | | Clarient Diagnostic Services, Inc. | Expired |
| 266865 | US | SYSTEMS AND METHODS FOR SPLITSCREEN DISPLAY OF A BIOLOGICAL SPECIMEN AND FOR CAPTURING SNAPSHOT RECORDS THEREOF | 61/889802 | 11/10/2013 | | | Clarient Diagnostic Services, Inc. | Expired |
| 266865 | WO | SYSTEMS AND METHODS FOR SPLIT SCREEN DISPLAY OF A BIOLOGICAL SPECIMEN AND FOR CAPTURING RECORDS THEREOF | US2013/073691 | 06/12/2013 | 2014089494 | | Clarient Diagnostic Services, Inc. | Expired |
| 266865 | US | SYSTEMS AND METHODS FOR SPLIT SCREEN DISPLAY OF A BIOLOGICAL SPECIMEN AND FOR CAPTURING RECORDS THEREOF | 14/649828 | 04/06/2015 | | | Clarient Diagnostic Services, Inc. | Filed |
| 266865 | CN | SYSTEMS AND METHODS FOR SPLIT SCREEN DISPLAY OF A BIOLOGICAL SPECIMEN AND FOR CAPTURING RECORDS THEREOF | 201380063691.3 | 05/06/2015 | | | Clarient Diagnostic Services, Inc. | Filed |
| 266865 | EP | SYSTEMS AND METHODS FOR SPLIT SCREEN DISPLAY OF A BIOLOGICAL SPECIMEN AND FOR CAPTURING RECORDS THEREOF | 13860606.6 | 25/05/2015 | 2929420 | | Clarient Diagnostic Services, Inc. | Filed |
| 266865 | JP | SYSTEMS AND METHODS FOR SPLIT SCREEN DISPLAY OF A BIOLOGICAL SPECIMEN AND FOR CAPTURING RECORDS THEREOF | 2015-545890 | 01/06/2015 | | | Clarient Diagnostic Services, Inc. | Filed |
| 266866 | US | DISPLAY SCREEN WITH USER INTERFACE | 29/439076 | 06/12/2012 | | | Clarient Diagnostic Services, Inc. | Filed |
| 266866 | EM | DISPLAY SCREEN WITH ANIMATED USER INTERFACE | 001373682-0001 | 06/06/2013 | 2013/146 | 001373682-0001 | Clarient Diagnostic Services, Inc. | Issued |

| Docket Number | City | Title | Application Number | Application Date | Publication Number | Patent Number | Assignee | Status |
|---------------|------|-----------------------------------------------------------------------------------|--------------------|------------------|--------------------|----------------|------------------------------------|---------|
| 266867 | US | DISPLAY SCREEN WITH USER INTERFACE | 29/439069 | 06/12/2012 | | | Clariant Diagnostic Services, Inc. | Filed |
| 266867 | EM | DISPLAY SCREEN WITH ANIMATED USER INTERFACE | 001373690-0001 | 06/06/2013 | 2013/146 | 001373690-0001 | Clariant Diagnostic Services, Inc. | Issued |
| 272359 | US | MODULAR IMAGE ANALYSIS SYSTEM AND METHOD | 61/921690 | 30/12/2013 | | | Clariant Diagnostic Services, Inc. | Expired |
| 272359 | WO | MODULAR IMAGE ANALYSIS SYSTEM AND METHOD | US2014/071087 | 18/12/2014 | 2015/0102919 | | Clariant Diagnostic Services, Inc. | Filed |
| 280321 | US | GRAPHICAL USER INTERFACE FOR A DISPLAY SCREEN OR A PORTION THEREOF | 29/512893 | 23/12/2014 | | | Clariant Diagnostic Services, Inc. | Filed |
| 280321 | EM | GRAPHICAL USER INTERFACE FOR A DISPLAY SCREEN OR A PORTION THEREOF | 002720425 | 17/06/2015 | | 002720425 | Clariant Diagnostic Services, Inc. | Issued |
| 280767 | US | METHOD FOR NUCLEIC ACID ANALYSIS FROM A REGION OF INTEREST IN A BIOLOGICAL SAMPLE | 62/112199 | 05/02/2015 | | | Clariant Diagnostic Services, Inc. | Filed |

Trade Secrets

| Docket Title | List of All Docket Inventors | Docket Action Date |
|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------|
| Accelerated Decoverslipping | FRANK MONDELLO, Alexander Ross -Lead, Antti Seppo, Michael Lazare, Alexander Bordwell | 10/04/2013 |
| Accelerated Decoverslipping | FRANK MONDELLO, Alexander Ross -Lead, Antti Seppo, Michael Lazare, Alexander Bordwell | 22/05/2013 |
| Accelerated Decoverslipping | FRANK MONDELLO, Alexander Ross -Lead, Antti Seppo, Michael Lazare, Alexander Bordwell | 27/11/2013 |
| MultiOmyx Process for Antibody Direct Conjugation to Fluorescent Dye | RONG (Sarah) ZHANG, Sean Dinn, Lakshmi Kaanumalle, Alexander Bordwell -Lead | 07/10/2013 |
| MultiOmyx Process for Antibody Direct Conjugation to Fluorescent Dye | RONG (Sarah) ZHANG, Sean Dinn, Lakshmi Kaanumalle, Alexander Bordwell -Lead | 27/11/2013 |
| Pre-Bleaching and Multiple Inter-round Bleaching Cycles During Multiplexing | Kevin Kenny, Alex Corwin, Denise Hollman-Hewgley -Lead, Antti Seppo, Michael Lazare, Alexander Bordwell | 22/10/2013 |
| Pre-Bleaching and Multiple Inter-round Bleaching Cycles During Multiplexing | Kevin Kenny, Alex Corwin, Denise Hollman-Hewgley -Lead, Antti Seppo, Michael Lazare, Alexander Bordwell | 27/11/2013 |

Cardiff SOPs

| DOCUMENT NUMBER | DOCUMENT TYPE | DOCUMENT VERSION | DOCUMENT TITLE | EFFECTIVE DATE | EXPIRATION DATE |
|-----------------|---------------|------------------|---------------------------------------------------------------------------------------------------|----------------|-----------------|
| SOP-0711 | SOP | B | General Slide Preparation | 12-Jun-2014 | 12-Jun-2016 |
| SOP-0712 | SOP | A | MultOmyx-Dye Inactivation and DAPI Staining | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0713 | SOP | A | Testing Antigen Effects | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0714 | SOP | A | Testing Initial Direct Conjugate | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0715 | SOP | A | MultOmyx-Determining The Optimal Concentration For A Direct Conjugate For a Specific Tissue Type. | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0716 | SOP | B | Antibody Scale Up Conjugation For Direct Immunofluorescence. | 12-Jun-2014 | 12-Jun-2016 |
| SOP-0717 | SOP | A | Reviewing Grayscale Images in Image. | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0718 | SOP | B | Initial Antibody Conjugation For Direct Immunofluorescence | 12-Jun-2014 | 12-Jun-2016 |
| SOP-0719 | SOP | A | Imaging For Antibody Characterization | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0720 | SOP | A | PRIMARY Ab DOWNSELECTION | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0721 | SOP | A | Guidelines For Selection of Antibodies of Tissue For Characterization | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0722 | SOP | A | Multiplex Sequencing Analysis Guidelines And Verification Study Design. | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0723 | SOP | A | Autofluorescence Removal Using Image. | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0724 | SOP | A | Re-validating a new lot of Direct Conjugate | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0725 | SOP | B | Multiplexing sequencing verification Assay | 12-Jun-2014 | 12-Jun-2016 |
| SOP-0726 | SOP | A | White Point Determination | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0738 | SOP | A | Imaging Multiplexing Assay Using IAS | 3-Oct-2013 | 3-Oct-2015 |
| SOP-0740 | SOP | A | Pharma Services Accessioning | 3-Oct-2013 | 3-Oct-2015 |
| FORM-0220 | FORM | C | Antibody Calculation Worksheet | 5-Sep-2013 | #REF! |
| Form-0195 | FORM | C | Decloker | 18-Jun-2014 | #REF! |

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| DOCUMENT NUMBER | DOCUMENT TYPE | DOCUMENT VERSION | DOCUMENT TITLE | EFFECTIVE DATE | EXPIRATION DATE |
|-----------------|---------------|------------------|-------------------------------------------------------------------------------------|----------------|-----------------|
| 35031-018 | FORM | C | Laboratory Equipment problem Log | 12-Jun-2013 | #REF! |
| FORM-0226 | FORM | B | MultiOmyx Clinical Laboratory – Antibody Purification & Conjugation Travel Document | 20-Jun-2014 | #REF! |
| SOP-0156 | SOP | A | MultiOmyx R&D-Leica Autostainer | 21-Jun-2013 | #REF! |
| SOP-0174 | SOP | A | MultiOmyx Clinical Laboratory - Leica CV5030 Automated Coverslipper | 1-Jul-2013 | #REF! |
| SOP-0154 | SOP | A | MultiOmyx R&D-Leica Bond III | 21-Jun-2013 | #REF! |

R&D, Clinical, and Pharma SOPs

| MultiOmyx Department | DOCUMENT NUMBER | DOCUMENT TYPE | DOCUMENT VERSION | DOCUMENT TITLE | EFFECTIVE DATE | EXPIRATION DATE |
|----------------------|-----------------|---------------|------------------|----------------------------------------------------------------------------------|----------------|-----------------|
| R & D | Form-0193 | FORM | C | R&D Exposure Time Calculation Worksheet | 7-May-2015 | 7-May-2017 |
| R & D | FORM-0197 | FORM | A | Lot Phase-In Travel Document | 24-Jun-2013 | 24-Jun-2015 |
| R & D | Form-0225 | FORM | A | MultiOmyx-Antibody Purification And Conjugation Travel Document | 27-Jun-2013 | 27-Jun-2015 |
| R & D | Form-0232 | FORM | A | Training Checklist-MultiOmyx R&D: Antibody Purification | 27-Jun-2013 | 27-Jun-2015 |
| R & D | Form-0233 | FORM | A | Training Checklist-MultiOmyx R&D: Antibody Direct Conjugation To Fluorescent Dye | 27-Jun-2013 | 27-Jun-2015 |
| R & D | Form-0234 | FORM | A | Training Checklist-MultiOmyx R&D: Hodgkin Lymphoma Reagent Phase In | 27-Jun-2013 | 27-Jun-2015 |
| R & D | Form-0235 | FORM | A | Training Checklist-MultiOmyx R&D: Hodgkin Lymphoma Multiplexing Assay | 27-Jun-2013 | 27-Jun-2015 |
| R & D | Form-0575 | FORM | B | MultiOmyx Operational Qualification Antigen Retrieval System | 9-Jun-2014 | 9-Jun-2016 |
| R & D | SOP-0146 | SOP | A | MultiOmyx R&D -Hodgkin Lymphoma Multiplexing Assay | 6-Jun-2013 | 6-Jun-2015 |
| R & D | SOP-0147 | SOP | C | MultiOmyx R&D-Hodgkin Lymphoma Multiplexing Assay Making Antibody Dilutions | 14-May-2015 | 14-May-2017 |
| R & D | SOP-0148 | SOP | B | MultiOmyx R&D-Decoverslipping | 14-May-2015 | 14-May-2017 |
| R & D | SOP-0149 | SOP | A | MultiOmyx R&D-Hodgkin Lymphoma Multiplexing Imaging | 6-Jun-2013 | 6-Jun-2015 |
| R & D | SOP-0150 | SOP | B | MultiOmyx R&D-Reagent Phase In | 15-May-2015 | 15-May-2017 |

| MultiOmyx Department | DOCUMENT NUMBER | DOCUMENT TYPE | DOCUMENT VERSION | DOCUMENT TITLE | EFFECTIVE DATE | EXPIRATION DATE |
|----------------------|-----------------|---------------|------------------|----------------------------------------------------------------------------------------------------|----------------|-----------------|
| R & D | SOP-0153 | SOP | B | Stitched Image Generation For Hodgkin Lymphoma | 2-Apr-2015 | 2-Apr-2017 |
| R & D | SOP-0154 | SOP | A | MultiOmyx R&D-Leica Bond III | 21-Jun-2013 | 21-Jun-2015 |
| R & D | SOP-0155 | SOP | B | MultiOmyx R&D-CV5030 Automated Coverslipper | 14-May-2015 | 14-May-2017 |
| R & D | SOP-0156 | SOP | A | MultiOmyx R&D-Leica Autostainer | 21-Jun-2013 | 21-Jun-2015 |
| R & D | SOP-0157 | SOP | B | MultiOmyx R&D-Antibody Conjugation For Direct Immunofluorescence | 14-May-2015 | 14-May-2017 |
| R & D | SOP-0158 | SOP | B | Antibody Purification For Antibody Conjugations | 18-Jun-2014 | 18-Jun-2016 |
| R & D | SOP-0162 | SOP | B | MultiOmyx INCell 2000 Routine Calibrations | 29-Aug-2014 | 29-Aug-2016 |
| R & D | SOP-0163 | SOP | A | MultiOmyx R&D-IN Cell 2000 Troubleshooting | 21-Jun-2013 | 21-Jun-2015 |
| R & D | SOP-0168 | SOP | A | Qualifications, Operations And Maintenance Of Ohaus Balance Model PA214 | 21-Jun-2013 | 21-Jun-2015 |
| R & D | SOP-0212 | SOP | B | MultiOmyx R&D Hodgkin Lymphoma Control Block Tissue Procurement Procedure | 14-May-2015 | 14-May-2017 |
| R & D | SOP-0213 | SOP | A | MultiOmyx R&D Laboratory-Antibody Conjugation Lot Phase In on Image App | 22-Nov-2013 | 22-Nov-2015 |
| Clinical | 35531-001A | FORM | C | NanoDrop Maintenance Log | 14-May-2015 | 14-May-2017 |
| Clinical | Form-0189 | FORM | B | MultiOmyx-Certificate Of Analysis For Direct Conjugates | 6-May-2014 | 6-May-2016 |
| Clinical | FORM-0220 | FORM | D | Antibody Calculation Worksheet | 15-Sep-2014 | 15-Sep-2016 |
| Clinical | FORM-0226 | FORM | B | MultiOmyx Clinical Laboratory – Antibody Purification & Conjugation Travel Document | 20-Jun-2014 | 20-Jun-2016 |
| Clinical | FORM-0227 | FORM | B | MultiOmyx Clinical Laboratory – Lot Phase-In Travel Document | 11-Jun-2014 | 11-Jun-2016 |
| Clinical | FORM-0236 | FORM | E | IN CELL EXPOSURE COUNTS | 7-May-2015 | 7-May-2017 |
| Clinical | FORM-0243 | FORM | B | MultiOmyx Tissue Procurement Log | 10-Jun-2014 | 10-Jun-2016 |
| Clinical | FORM-0246 | FORM | B | MultiOmyx Control Batch Control Accessioning Log | 10-Jun-2014 | 10-Jun-2016 |
| Clinical | FORM-0247 | FORM | B | MultiOmyx Batch Control Verification Log | 26-Sep-2014 | 26-Sep-2016 |
| Clinical | FORM-0252 | FORM | B | Training Checklist – MultiOmyx Clinical Laboratory: Antibody Direct Conjugation to Fluorescent Dye | 21-Feb-2014 | 21-Feb-2016 |
| Clinical | FORM-0253 | FORM | B | Training Checklist – MultiOmyx Clinical Laboratory Hodgkin Lymphoma Reagent Phase-In | 21-Feb-2014 | 21-Feb-2016 |

| MultiOmnyx Department | DOCUMENT NUMBER | DOCUMENT TYPE | DOCUMENT VERSION | DOCUMENT TITLE | EFFECTIVE DATE | EXPIRATION DATE |
|-----------------------|-----------------|---------------|------------------|--------------------------------------------------------------------------------------------------|----------------|-----------------|
| Clinical | FORM-0254 | FORM | B | Training Checklist – MultiOmnyx Clinical Laboratory Antibody Purification | 21-Feb-2014 | 21-Feb-2016 |
| Clinical | FORM-0256 | FORM | C | Training Checklist – MultiOmnyx Clinical Laboratory HL Multiplexing Assay | 25-Apr-2014 | 25-Apr-2016 |
| Clinical | FORM-0278 | FORM | C | Calibration Test Acceptance Test Report Template | 7-May-2015 | 7-May-2017 |
| Clinical | FORM-0316 | FORM | C | MultiOmnyx Clinical Laboratory - Hodgkin Lymphoma Multiplexing Imaging QC Checklist | 5-Sep-2013 | 5-Sep-2015 |
| Clinical | FORM-0508 | FORM | A | Certificate Of Analysis For Batch Control Block | 13-Nov-2013 | 13-Nov-2015 |
| Clinical | FORM-0557 | FORM | A | MultiOmnyx Hodgkin Lymphoma Tissue Block Screening | 26-Jun-2014 | 26-Jun-2016 |
| Clinical | FORM-0579 | FORM | A | MultiOmnyx Antibody Characterization Checklist | 21-Feb-2014 | 21-Feb-2016 |
| Clinical | FORM-0724 | FORM | A | MultiOmnyx- Instrument Performance Qualification | 31-Oct-2014 | 31-Oct-2016 |
| Clinical | SOP-0171 | SOP | A | Qualification, Operation & Maintenance of Ohaus Balance Model PA214 | 1-Jul-2013 | 1-Jul-2015 |
| Clinical | SOP-0173 | SOP | B | MultiOmnyx Clinical- Laboratory Antibody Conjugation for Direct Immunofluorescence | 25-Sep-2014 | 25-Sep-2016 |
| Clinical | SOP-0174 | SOP | B | MultiOmnyx Clinical Laboratory - Leica CV5030 Automated Coverslipper | 15-Aug-2014 | 15-Aug-2016 |
| Clinical | SOP-0175 | SOP | A | MultiOmnyx Clinical Laboratory - Leica Autostainer | 1-Jul-2013 | 1-Jul-2015 |
| Clinical | SOP-0176 | SOP | D | MultiOmnyx Clinical Laboratory – Antibody Conjugation Lot phase In on Image App | 14-May-2015 | 14-May-2017 |
| Clinical | SOP-0177 | SOP | C | MultiOmnyx Clinical Laboratory - Hodgkin Lymphoma Multiplexing Assay – Making Antibody Dilutions | 15-Aug-2014 | 15-Aug-2016 |
| Clinical | SOP-0179 | SOP | C | MultiOmnyx Clinical Laboratory - Decoverslipping | 15-Aug-2014 | 15-Aug-2016 |
| Clinical | SOP-0180 | SOP | C | MultiOmnyx Clinical Laboratory - Leica Bond III | 19-Mar-2015 | 19-Mar-2017 |
| Clinical | SOP-0181 | SOP | B | MultiOmnyx Clinical Laboratory – Antibody Purification for Antibody Conjugations | 15-Aug-2014 | 15-Aug-2016 |
| Clinical | SOP-0182 | SOP | B | MultiOmnyx Clinical Laboratory – Stitched Image Generation for HL | 2-Apr-2015 | 2-Apr-2017 |
| Clinical | SOP-0183 | SOP | G | MultiOmnyx Clinical Laboratory - Hodgkin Lymphoma Multiplexing Assay Using Production Software | 17-Apr-2015 | 17-Apr-2017 |
| Clinical | SOP-0184 | SOP | B | MultiOmnyx Clinical Laboratory – Imaging | 3-Oct-2014 | 3-Oct-2016 |

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| MultiOmnyx Department | DOCUMENT NUMBER | DOCUMENT TYPE | DOCUMENT VERSION | DOCUMENT TITLE | EFFECTIVE DATE | EXPIRATION DATE |
|-----------------------|-----------------|---------------|------------------|------------------------------------------------------------------------------------------------------|----------------|-----------------|
| Clinical | SOP-0189 | SOP | D | MultiOmnyx Clinical Laboratory – HL Control Block Tissue Procurement | 3-Oct-2014 | 3-Oct-2016 |
| Clinical | SOP-0191 | SOP | C | MultiOmnyx Clinical Laboratory – Training SOP | 21-Feb-2014 | 21-Feb-2016 |
| PHARMA | FORM-0166 | FORM | C | Balance Calibration Log | 2-Apr-2015 | 2-Apr-2017 |
| PHARMA | Form-0195 | FORM | D | Declaker Log | 20-Mar-2015 | 20-Mar-2017 |
| PHARMA | Form-0219 | FORM | C | Leica CV5030 Automated Coverslipper Maintenance Log | 11-Sep-2014 | 11-Sep-2016 |
| PHARMA | FORM-0224 | FORM | D | Incell Calibration Check/Maintenance Log | 11-Sep-2014 | 11-Sep-2016 |
| PHARMA | FORM-0421 | FORM | A | Amount of Antibody Required For Initial Direct Conjugation | 4-Oct-2013 | 4-Oct-2015 |
| PHARMA | FORM-0422 | FORM | A | Amount of Antibody Required For Scale Up Conjugation | 4-Oct-2013 | 4-Oct-2015 |
| PHARMA | FORM-0423 | FORM | A | Initial Cy5 Direct Conjugate Dye to Protein Calculation | 4-Oct-2013 | 4-Oct-2015 |
| PHARMA | FORM-0424 | FORM | A | Initial Cy3 Direct Conjugate Dye to Protein Calculation | 4-Oct-2013 | 4-Oct-2015 |
| PHARMA | FORM-0425 | FORM | A | Certificate Of Analysis For Initial Direct Conjugation | 4-Oct-2013 | 4-Oct-2015 |
| PHARMA | FORM-0438 | FORM | A | Multiplexing Sequence Analysis Travel Doc | 4-Oct-2013 | 4-Oct-2015 |
| PHARMA | FORM-0492 | FORM | C | Leica Bond Maintenance Log | 15-Sep-2014 | 15-Sep-2016 |
| PHARMA | FORM-0548 | FORM | A | MultiOmnyx System Installation Acceptance | 14-Jan-2014 | 14-Jan-2016 |
| PHARMA | FORM-0549 | FORM | A | Calibration Plate Certification | 14-Jan-2014 | 14-Jan-2016 |
| PHARMA | FORM-0630 | FORM | A | Certificate Of Analysis For Pharma Direct Conjugation | 6-May-2014 | 6-May-2016 |
| PHARMA | FORM-0634 | FORM | B | Reagent Preparation Record | 11-Sep-2014 | 11-Sep-2016 |
| PHARMA | FORM-0643 | FORM | C | MultiOmnyx Initial Conjugation Travel Document Template | 14-May-2015 | 14-May-2017 |
| PHARMA | FORM-0706 | FORM | B | MultiOmnyx Pharma Services Lab Stain and Image QC Checklist | 23-Feb-2015 | 23-Feb-2017 |
| PHARMA | FORM-0834 | FORM | A | MultiOmnyx- Pharma Services- Antibody Receipt Log | 20-May-2015 | 20-May-2017 |
| PHARMA | FORM-0835 | FORM | A | IAS XML Checklist | 20-May-2015 | 20-May-2017 |
| PHARMA | FORM-0862 | FORM | A | Study Antibody Calculation Sheet | 7-May-2015 | 7-May-2017 |
| PHARMA | SOP-0711 | SOP | C | General Slide Preparation | 14-May-2015 | 14-May-2017 |
| PHARMA | SOP-0712 | SOP | A | MultiOmnyx- Dye Inactivation and DAPI Staining | 3-Oct-2013 | 3-Oct-2015 |
| PHARMA | SOP-0713 | SOP | C | Testing Antigen Effects | 13-Feb-2015 | 13-Feb-2017 |
| PHARMA | SOP-0714 | SOP | C | Testing Initial Direct Conjugate | 14-May-2015 | 14-May-2017 |
| PHARMA | SOP-0715 | SOP | A | MultiOmnyx- Determining The Optimal Concentration For A Direct Conjugate For a Specific Tissue Type. | 3-Oct-2013 | 3-Oct-2015 |

LEGAL_US_E # 117077596.8

| MultiOmnyx Department | DOCUMENT NUMBER | DOCUMENT TYPE | DOCUMENT VERSION | DOCUMENT TITLE | EFFECTIVE DATE | EXPIRATION DATE |
|-----------------------|-----------------|---------------|------------------|------------------------------------------------------------------------------------------------------|----------------|-----------------|
| PHARMA | SOP-0716 | SOP | B | Antibody Scale Up Conjugation For Direct Immunofluorescence. | 12-Jun-2014 | 12-Jun-2016 |
| PHARMA | SOP-0717 | SOP | A | Reviewing Grayscale Images in Image. | 3-Oct-2013 | 3-Oct-2015 |
| PHARMA | SOP-0718 | SOP | E | Initial Antibody Conjugation For Direct Immunofluorescence | 9-Apr-2015 | 9-Apr-2017 |
| PHARMA | SOP-0719 | SOP | B | Imaging For Antibody Characterization | 17-Apr-2015 | 17-Apr-2017 |
| PHARMA | SOP-0720 | SOP | C | PRIMARY Ab DOWNSELECTION | 14-May-2015 | 14-May-2017 |
| PHARMA | SOP-0721 | SOP | B | Guidelines For Selection of Antibodies of Tissue For Characterization | 13-Feb-2015 | 13-Feb-2017 |
| PHARMA | SOP-0722 | SOP | B | Multiplex Sequencing Analysis Guidelines And Verification Study Design. | 20-Mar-2015 | 20-Mar-2017 |
| PHARMA | SOP-0723 | SOP | A | Autofluorescence Removal Using Image. | 3-Oct-2013 | 3-Oct-2015 |
| PHARMA | SOP-0724 | SOP | B | Re-validating a new lot of Direct Conjugate | 13-Feb-2015 | 13-Feb-2017 |
| PHARMA | SOP-0725 | SOP | C | Multiplexing sequencing verification Assay | 20-Mar-2015 | 20-Mar-2017 |
| PHARMA | SOP-0726 | SOP | A | White Point Determination | 3-Oct-2013 | 3-Oct-2015 |
| PHARMA | SOP-0735 | SOP | A | LIMS Experimental Tracking | 3-Oct-2013 | 3-Oct-2015 |
| PHARMA | SOP-0736 | SOP | A | LIMS Inventory Tracking | 3-Oct-2013 | 3-Oct-2015 |
| PHARMA | SOP-0737 | SOP | A | Technology Transfer of R&D Multiplexed Assay To Pharma Services Group | 3-Oct-2013 | 3-Oct-2015 |
| PHARMA | SOP-0738 | SOP | C | Imaging Multiplexing Assay Using IAS | 17-Apr-2015 | 17-Apr-2017 |
| PHARMA | SOP-0739 | SOP | B | Updating Exposure Times And White Points In IAS | 13-Feb-2015 | 13-Feb-2017 |
| PHARMA | SOP-0740 | SOP | A | Pharma Services Accessioning | 3-Oct-2013 | 3-Oct-2015 |
| PHARMA | SOP-0823 | SOP | A | MultiOmnyx Coverslipping Process | 18-Jul-2014 | 18-Jul-2016 |
| PHARMA | SOP-0824 | SOP | A | MultiOmnyx Deparaffinization and Rehydration Process | 18-Jul-2014 | 18-Jul-2016 |
| PHARMA | SOP-0825 | SOP | A | MultiOmnyx Manual Slide Staining Process | 18-Jul-2014 | 18-Jul-2016 |
| PHARMA | SOP-0828 | SOP | A | MultiOmnyx IN Cell 2200 Weekly Calibration Check | 14-May-2015 | 14-May-2017 |
| PHARMA | SOP-0829 | SOP | A | MultiOmnyx INCell 2200 Troubleshooting | 14-May-2015 | 14-May-2017 |
| PHARMA | SOP-0830 | SOP | A | MultiOmnyx INCell 2200 Routine Calibrations | 14-May-2015 | 14-May-2017 |
| PHARMA | SOP-0871 | SOP | A | MultiOmnyx- Manual Dye Inactivation and DAPI Staining | 5-Sep-2014 | 5-Sep-2016 |
| PHARMA | SOP-0885 | SOP | B | MultiOmnyx Technical Support Procedures | 14-May-2015 | 14-May-2017 |
| PHARMA | SOP-0891 | SOP | A | MultiOmnyx Immunofluorescence and Singleplexing DNA Fluorescent In Situ Hybridization Combined Assay | 27-Apr-2014 | 27-Apr-2016 |
| PHARMA | SOP-0907 | SOP | B | MultiOmnyx Laboratory- Operation, Calibration, Maintenance and Qualification of Decloakers. | 14-May-2015 | 14-May-2017 |

| MultiOmnyx Department | DOCUMENT NUMBER | DOCUMENT TYPE | DOCUMENT VERSION | DOCUMENT TITLE | EFFECTIVE DATE | EXPIRATION DATE |
|-----------------------|-----------------|---------------|------------------|-----------------------------------------------------------------------------------------------------------------|----------------|-----------------|
| PHARMA | SOP-0934 | SOP | A | MultiOmnyx Laboratory- Operation, Maintenance and Qualificatio of the MultiOmnyx Automated Slide Loading System | 4-Dec-2014 | 4-Dec-2016 |
| PHARMA | SOP-0972 | SOP | B | MultiOmnyx Laboratory- INCELL 2200 Calibration Acceptance Test Using IAS | 14-May-2015 | 14-May-2017 |
| PHARMA | SOP-0990 | SOP | A | MultiOmnyx Laboratory- Operation, Calibration, Maintenance and Qualification of INCell 2200 Imaging Platform | 14-May-2015 | 14-May-2017 |

Software

| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------------------------------|-------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image acquisition system (IAS) UI | Application | C# .NET | Used by laboratory personnel to scan slides. Interfaces with the IN Cell 2200 firmware control, as well as the MultiOmnyx services to scan slides | <p>GEHealthcare.ASIST.Shared.Utility.dll GEHealthcare.ASIST.Shared.Types.dll GEHealthcare.ASIST.IAS.Shared.Types.dll GEHealthcare.MultiOmnyx.Shared.ImageProcessing.CoreLibrary.dll 10x_cy3.tif 10x_cy3.xml 10x_cy5.tif 10x_cy5.xml 10x_dapi.tif 10x_dapi.xml 10x_fitc.tif 10x_fitc.xml 20x_high_na_cy3.tif 20x_high_na_cy3.xml 20x_high_na_cy5.tif 20x_high_na_cy5.xml 20x_high_na_dapi.tif 20x_high_na_dapi.xml 20x_high_na_fitc.tif 20x_high_na_fitc.xml 2x_cy3.tif 2x_cy3.xml 2x_cy5.tif</p> |

| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------|------|------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | 2x_cy5.xml 2x_dapi.tif 2x_dapi.xml 2x_fitc.tif 2x_fitc.xml 40x_high_na_cy3.tif 40x_high_na_cy3.xml 40x_high_na_cy5.tif 40x_high_na_cy5.xml 40x_high_na_dapi.tif 40x_high_na_dapi.xml 40x_high_na_fitc.tif 40x_high_na_fitc.xml 10x.xml 20x_high_na.xml 2x.xml 40x_high_na.xml IncellPrior2.xml IncellPrior2.xml dlvsens.tab InCell2000MicroscopeParameters.xml InCell2200MicroscopeParameters.xml MicroscopeCalibration.xml TileCheckMoves.xml Timestamps.xml GEHealthcare.ASIST.IAS.Scanner.BarcodeReader.dll GEHealthcare.ASIST.IAS.Scanner.Microscope.dll GEHealthcare.ASIST.IAS.Scanner.MicroscopeDriver.dll GEHealthcare.ASIST.IAS.Scanner.MotorolaBarcodeReader.dll Slide0.png Slide1.png Slide2.png Slide3.png TEST_Cy3.tif TEST_Cy5.tif TEST_DAPI.tif TEST_FITC.tif barcode_config.xml BarcodeSimulatorConfiguration.xml MicroscopeSimulatorConfiguration.xml GEHealthcare.ASIST.IAS.Scanner.BarcodeReader.Simulator.dll GEHealthcare.ASIST.IAS.Scanner.Domain.dll GEHealthcare.ASIST.IAS.Scanner.Microscope.Simulator.dll |

| Component | Type | Technology | Notes | Including, without limitation, the following files |
|---------------------|-------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IAS Automation Host | Application | # NET | A "headless" version of IAS that hosts a service interface to allow IAS to be commanded by an external robotics interface (currently PAA Overlord). | <p> GEHealthcare.ASIST.IAS.Scanner.ScanPlanning.dll GEHealthcare.ASIST.IAS.Scanner.Workflow.dll multi_barcode_dll.dll multi_barcode_dll.lib Dialog_Properties.xml test1_dapi_test2_cy3_st_S001_P000_Z00_cy3.tif GEHealthcare.ASIST.IAS.Scanner.UI.exe.config Image Acquisition System Help.pdf GEHealthcare.ASIST.IAS.Scanner.UI.exe GEHealthcare.ASIST.Shared.Utility.dll GEHealthcare.ASIST.Shared.Types.dll GEHealthcare.ASIST.IAS.Shared.Types.dll GEHealthcare.ASIST.Shared.ImageProcessing.dll GEHealthcare.MultiOmyx.Shared.ImageProcessing.CoreLibrary.dll 10x_cy3.tif 10x_cy3.xml 10x_cy5.tif 10x_cy5.xml 10x_dapi.tif 10x_dapi.xml 10x_fitc.tif 10x_fitc.xml 20x_high_na_cy3.tif 20x_high_na_cy3.xml 20x_high_na_cy5.tif 20x_high_na_cy5.xml 20x_high_na_dapi.tif 20x_high_na_dapi.xml 20x_high_na_fitc.tif 20x_high_na_fitc.xml 2x_cy3.tif 2x_cy3.xml 2x_cy5.tif 2x_cy5.xml 2x_dapi.tif 2x_dapi.xml 2x_fitc.tif 2x_fitc.xml 40x_high_na_cy3.tif 40x_high_na_cy3.xml 40x_high_na_cy5.tif 40x_high_na_cy5.xml </p> |

| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------|------|------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | 40x_high_na_dapi.tif 40x_high_na_dapi.xml 40x_high_na_fitc.tif 40x_high_na_fitc.xml 10x.xml 20x_high_na.xml 2x.xml 40x_high_na.xml InCellPrior2.xml dlenses.tab InCell2000MicroscopeParameters.xml InCell2200MicroscopeParameters.xml MicroscopeCalibration.xml TiltCheckMoves.xml Timestamps.xml GEHealthcare.ASIST.IAS.Scanner.BarcodeReader.dll GEHealthcare.ASIST.IAS.Scanner.Microscope.dll GEHealthcare.ASIST.IAS.Scanner.MicroscopeDriver.dll GEHealthcare.ASIST.IAS.Scanner.MotorolaBarcodeReader.dll Slide0.png Slide1.png Slide2.png Slide3.png TEST_Cy3.tif TEST_Cy5.tif TEST_DAPI.tif TEST_FITC.tif barcode_config.xml BarcodeSimulatorConfiguration.xml MicroscopeSimulatorConfiguration.xml GEHealthcare.ASIST.IAS.Scanner.BarcodeReader.Simulator.dll GEHealthcare.ASIST.IAS.Scanner.Domain.dll GEHealthcare.ASIST.IAS.Scanner.Microscope.Simulator.dll GEHealthcare.ASIST.IAS.Scanner.ScanPlanning.dll GEHealthcare.ASIST.IAS.Scanner.Workflow.dll multi_barcode_dll.dll multi_barcode_dll.lib GEHealthcare.ASIST.IAS.Scanner.Automation.Host.exe.config GEHealthcare.ASIST.IAS.Scanner.Automation.Host.exe GEHealthcare.ASIST.IAS.Scanner.Automation.Service.dll |

| Component | Type | Technology | Notes | Including, without limitation, the following files |
|------------------------------|-----------------|------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IAS Image processing service | Windows service | C# .NET | Performs stitching, background subtraction and blending of individual images to create whole region of interest images | GEHealthcare.ASIST.Shared.Utility.dll GEHealthcare.ASIST.Shared.Types.dll GEHealthcare.ASIST.Shared.DataServices.Proxy.dll GEHealthcare.ASIST.IAS.Shared.Types.dll GEHealthcare.ASIST.Shared.ImageProcessing.dll GEHealthcare.MultiOmnyx.Shared.ImageProcessing.CoreLibrary.dll wisdom.txt MultiOmnyx.CAT_10x_20x_40x.ImagingWorkflow.xml TestDefinitions.Schema.xsd SimulatedVStainerImage.tif GEHealthcare.ASIST.IAS.ImagingWorkflow.Host.exe.config ImagingWorkflowDialogProperties.xml GEHealthcare.ASIST.IAS.ImagingWorkflow.Host.exe GEHealthcare.ASIST.IAS.ImagingWorkflow.Service.dll GEHealthcare.ASIST.Shared.ImageProcessing.Simulator.dll |
| Data service | Windows service | C# .NET | Provides an interface to the primary MultiOmnyx data repository. | GEHealthcare.ASIST.Shared.Utility.dll GEHealthcare.ASIST.Shared.Types.dll MO_sqlite_empty.db GEHealthcare.ASIST.Shared.DataServices.Proxy.dll DataServiceDialogProperties.xml GEHealthcare.ASIST.DataServices.Host.exe.config GEHealthcare.ASIST.DataServices.Host.exe GEHealthcare.ASIST.DataServices.Service.dll |
| Lab workflow service | Windows service | C# .NET | Manages the state of slides (and batches of slides) as they progress through the multiplex test steps. | GEHealthcare.ASIST.Shared.Utility.dll GEHealthcare.ASIST.Shared.Types.dll Dialog_Properties.xml MultiOmnyx.CAT_10x_20x_40x.LabWorkflow.xml GEHealthcare.ASIST.LWS.Host.exe.config Pharma~Pantomics.MNT241.xml Pharma~Pantomics.MTU391.xml Pharma~Template.2.xml Stainers.xml GEHealthcare.ASIST.LWS.Host.exe GEHealthcare.ASIST.LWS.Service.dll PrinterLabelTemplate.xsl |

| Component | Type | Technology | Notes | Including, without limitation, the following files |
|------------------------------|-------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lab workflow system (LWS) UI | Application | # .NET | Used by laboratory personnel to created and process batches of slides with the selected multiplex test. This application is a client of the Lab workflow service. | GEHealthcare.ASIST.Shared.Utility.dll GEHealthcare.ASIST.Shared.Types.dll Dialog_Properties.xml GEHealthcare.ASIST.LWS.UI.exe.config GEHealthcare.ASIST.LWS.UI.vshost.exe.config Lab Workflow System Help.pdf GEHealthcare.ASIST.LWS.UI.exe GEHealthcare.ASIST.LWS.Domain.dll |
| IAS Image processing library | DLL | C++ | Performs calibration correction, slide alignment, registration, stitching and blending. Used by the IAS | GEHealthcare.ASIST.Shared.Utility.dll Web.config Web.Debug.config Web.Release.config Handler.ashx Dialog_Properties.xml Configuration.settings GEHealthcare.ASIST.TilingServer.CaseManagerService.dll GEHealthcare.ASIST.TilingServer.ClientUI.xap GEHealthcare.ASIST.TilingServer.ImageProcessing.dll GEHealthcare.ASIST.TilingServer.TilingServer.dll GEHealthcare.ASIST.TilingServer.Website.dll TiledTiffReader.dll CaseService.svc ClientUITestPage.aspx ClientUITestPage.html Configuration.Designer.cs |
| Tile server | IIS Web app | .NET, C++ | Serves image tiles to the web viewer, performs image blends, generates and delivers thumbnails | Web.config Web.Debug.config Web.Release.config Handler.ashx InnerShadow.png MainBackground.png AppManifest.xml clientaccesspolicy.xml crossdomain.xml packages.config PathWorklist.xml ViewerDialogProperties.xml ReadMe.txt Clarent.Web.SL.PWS.dll Clarent.Web.SL.PWS.xap GE.MultiOmny.Shared.dll |
| Web-based viewer | IIS Web app | Silverlight | Used for ROI selection, image QC, case review and reporting. | Web.config Web.Debug.config Web.Release.config Handler.ashx InnerShadow.png MainBackground.png AppManifest.xml clientaccesspolicy.xml crossdomain.xml packages.config PathWorklist.xml ViewerDialogProperties.xml ReadMe.txt Clarent.Web.SL.PWS.dll Clarent.Web.SL.PWS.xap GE.MultiOmny.Shared.dll |

| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------|---------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| pyGETTK | DLL, Python wrapper | C++, Python | A library of image analysis algorithms such as segmentation and quantification, along with a thin wrapper to allow the functions to be called from Python. | GE.MultiOmyx.Silverlight.Data.dll GE.MultiOmyx.Silverlight.UI.dll GE.MultiOmyx.Web.Main.dll GE.MultiOmyx.Web.ServiceProxy.dll Pns.SharedResources.dll Global.asax Release.pubxml\User ServiceReferences.ClientConfig AppManifest.xaml Default.aspx Exporter.aspx sibwm.js |
| GEMIA | Scripts | Python | A library of image analysis components with interfaces to the key pyGETTK algorithms and related utilities. Used as the building blocks for image analysis workflows. | pyGETTK.py __init__.py CellPathUtils.py combnehists.py combneimages.py combneimages2rgb.py combnemasks.py computecellmarkmetrics.py computecellmorphfeat.py computeemetrics.py computeemetricshsc.py computeemetricshsc2.py computemaskmetrics.py computevesselemetrics.py concatfilists.py concattables.py correllimages.py diffimages.py extractable.py fillermasks.py filtertable.py histmarker.py kit_ip_countcellsbionarkers.py kit_ip_countcellssphenotypes.py kit_ip_layerscellclass.py kit_ip_layersimprorfile.py pivottable.py |

| Component | Type | Technology | Notes | Including, without limitation, the following files |
|--------------------------|-------------|------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Layers | Application | C# .NET | Windows application for viewing MultiOrnx images and analysis results. | receivefile.py segcell.py segcyl.py segepi.py segetranuc.py seghierarchsubcell.py segremn.py segnuc.py segvessel.py spittable.py spittablewithindex.py threshhist.py threshimage.py threshquantile.py utils.py |
| Multiplex test publisher | Application | C# .NET | Editor for creating, modifying and publishing the XML-based multiplex test definitions. | MO_sqlite_empty.db AnalysisInputs.xml Annotations.xml DefaultUserSettings.xml Layers.exe.config xilnet.xml CellQueriesExample.pdf ColorBlendsExample.pdf ConfigFileWizardExample.pdf ExploreClustersExample.pdf GeneralToolFeatures.pdf ImageReviewExample.pdf ManualConfigFileGenerationExample.pdf Layers.exe DynamicForms.dll GraphControl.dll MultiOmicsVizLibrary.dll xilnet.dll GEHealthcare.ASIST.Shared.Utility.dll GEHealthcare.ASIST.Types.dll TestDefinitions.Schema.xsd GEHealthcare.ASIST.Shared.MultiplexTestPublisher.UI.exe.config RulesConfiguration.xml GEHealthcare.ASIST.Shared.MultiplexTestPublisher.UI.exe GEHealthcare.ASIST.Shared.MultiplexTestPublisher.Domain.dll Blend Definition Long Report.xsl Blend Definition Short Report.xsl Blend Output Report.xsl |

| Component | Type | Technology | Notes | Including, without limitation, the following files |
|---------------|-------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Re-blend tool | Application | C# .NET | Admin tool for repeating image processing (for example after modifying blend definitions or parameters) | <ul style="list-style-type: none"> Dependency Report.xml Protocol Linkage Report.xml Scan Plan Channel Report.xml GEHealthcare.ASIST.Shared.Utility.dll GEHealthcare.ASIST.Shared.Types.dll GEHealthcare.ASIST.IAS.Shared.Types.dll GEHealthcare.ASIST.Shared.ImageProcessing.dll wisdom.txt GEHealthcare.MultiOmyx.Shared.ImageProcessing.CoreLibrary.dll MultiOmyx.CAT_10x_20x_40x.LabWorkflow.xml MultiOmyx.CAT_10x_20x_40x.ImagingWorkflow.xml ImageProcessingReblendTool.exe.config ImageProcessingReblendTool.exe GEHealthcare.MultiOmyx.Shared.ImageProcessing.CoreLibrary.lib |
| MOPOC | Application | C, Lua | Application developed and maintained by GE Global Research (GRC). MOPOC is a precursor to IAS and is used to generate the calibration data needed to run MultiOmyx scans. | <ul style="list-style-type: none"> modules.lst Accession.hbm.xml asistWS.properties BlendAlgorithm.hbm.xml BlendAlgorithmParameters.hbm.xml CanvasTransform.hbm.xml ChannelName.hbm.xml Image.hbm.xml ImageFormat.hbm.xml ImageType.hbm.xml NewRegion.hbm.xml Patient.hbm.xml Physician.hbm.xml Protocol.hbm.xml ProtocolFoundPrep.hbm.xml ProtocolStep.hbm.xml SampleRegion.hbm.xml Slide.hbm.xml SlideImage.hbm.xml SlideImageSet.hbm.xml Specimen.hbm.xml StainName.hbm.xml web.xml WorkListItem.hbm.xml Accession.class AccessionCheckOutStatusRequest.class AccessionRequest.class AccessionResponse.class |

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| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------|------|------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | AccessionSlideRequest.class Address.class AdminAgent.class AnnotationRegion.class AnnotationRegionRequest.class AnnotationRegionResponse.class AsistBase.class AsistService.class Attachment.class BlendAlgorithm.class BlendAlgorithmParameters.class CanvasRegion\$Point.class CanvasRegion\$Rect.class CanvasRegion.class CanvasTransform.class CaptureRegion.class CaptureRegionRequest.class CaptureRegionResponse.class CaptureSetting.class ChangeControlModule.class ChannelName.class CheckInAccessionRequest.class CheckOutAccessionRequest.class CheckOutAccessionResponse.class Client.class Contact.class Context.class Correlation.class CorrelationResponse.class Courier.class CreateSlideImageSetModel.class CreateSlideImageSetRequest.class DataElement.class DataNotFoundException.class DBCommand.class DBParameter.class DBUtility.class DeleteRegionsRequest.class DeleteSlideImageSetRequest.class DOSItem.class Experiments.class Facility.class |

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| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------|------|------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | FovCell.class GeneralResp.class GetConnection.class GetConnection2.class HeartbeatRequest.class Identification.class Image.class ImageCreationComplete.class ImageFormat.class ImageObjective.class ImageType.class ISecurityModule.class IsReadOnlyException.class KeyValue.class KeyValueSort.class LabResult.class Logger.class LoginRequest.class LoginResponse.class Logo.class LogOutRequest.class Methodology.class Microscope.class MockSecurityModule.class NameValue.class NameValueSet.class NameValueUtils.class NewRegion.class NotCheckedOutException.class Note.class NotImplementedException.class OIDDCommand.class OrderedTest.class Patient.class Person.class Physician.class PointInfo.class Priority.class ProfessionalReport.class Protocol.class ProtocolRoundPrep.class ProtocolStep.class |

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| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------|------|------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | QACode.class Region.class RegionType.class ROIBase.class SampleRegion.class SaveAnnotationRegionRequest.class SaveCaptureRegionRequest.class SaveImageSetRegionRequest.class SavePreferencesRequest.class SaveRegionResponse.class SaveSlideImageSetRequest.class SendToLabRequest.class ServiceRequest.class ServiceResponse.class SessionFactoryUtil.class Slide.class SlideDataModule\$RegionSet.class SlideDataModule.class SlideImage.class SlideImageSet.class SlideImageSetRegionRequest.class SlideImageSetRegionResponse.class SlideImageSetResponse.class SlideOnScopeResp.class SlideProtocol.class SlideRoundChannel.class SlideRoundMoves.class Slides.class SlidesResponse.class SlideState.class Specimen.class StainName.class Status.class SystemResetRequest.class SystemUser.class TechReport.class TestComponents.class Tests.class UOFM.class UOFMSet.class UpdateSlideImageSetModel.class |

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| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------|------|------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | UpdateSlideImageSetRequest.class UserPreference.class UserWorkListItemStatusRequest.class WorkListDataModule.class WorkListItem.class WorkListRequest.class WorkListResponse.class ZoomGroup.class ZoomGroupRequest.class ZoomGroupResponse.class worklist.sql 10x_cy3.tif 10x_cy3.xml 10x_cy5.tif 10x_cy5.xml 10x_dapi.tif 10x_dapi.xml 10x_fitc.tif 10x_fitc.xml 20x_high_na_cy3.tif 20x_high_na_cy3.xml 20x_high_na_cy5.tif 20x_high_na_cy5.xml 20x_high_na_dapi.tif 20x_high_na_dapi.xml 20x_high_na_fitc.tif 20x_high_na_fitc.xml 2x_cy3.tif 2x_cy3.xml 2x_cy5.tif 2x_cy5.xml 2x_dapi.tif 2x_dapi.xml 2x_fitc.tif 2x_fitc.xml 40x_high_na_cy3.tif 40x_high_na_cy3.xml 40x_high_na_cy5.tif 40x_high_na_cy5.xml 40x_high_na_dapi.tif 40x_high_na_dapi.xml 40x_high_na_fitc.tif |

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| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------|------|------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | 40x_high_na_fitc.xml 10x.xml 20x_high_na.xml 2x.xml 40x_high_na.xml IncellPrior2.xml wisdom.txt README config.txt 10x_cy3.dat 10x_cy5.dat 10x_dapi.dat 10x_distortion.tsv 10x_fitc.dat 20x_high_na_cy3.dat 20x_high_na_cy5.dat 20x_high_na_dapi.dat 20x_high_na_distortion.tsv 20x_high_na_fitc.dat 2x_cy3.dat 2x_cy5.dat 2x_dapi.dat 2x_distortion.tsv 2x_fitc.dat 40x_high_na_cy3.dat 40x_high_na_cy5.dat 40x_high_na_dapi.dat 40x_high_na_distortion.tsv 40x_high_na_fitc.dat BGComparisonWithThorPowerMeter_multipleLocations.lua BGLinearityComparisonWithThorPowerMeter.lua Blank_glass_subtraction_results.csv Distortion_results.csv image_app.xml PM100USB_power_logging.lua ver_info.txt addression.png addspot.png disableFOV.png enableFOV.png imageapp_tcl_lfb.zip label.png |

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| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------|------|------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | move.png select.png setradius.png toggle.png 102.csv 104.csv 105.csv 106.csv 108.csv 109.csv 10x.dat 10x_1.tif 10x_2.tif 10x_3.tif 10x_4.tif 10x_5.tif 10x_6.tif 10x_cy3_1.tif 10x_cy5_1.tif 10x_dapi_1.tif 10x_fitc_1.tif 110.csv 111.csv 1110.csv 121.csv 1211.csv 122.csv 123.csv 124.csv 1241.csv 151.csv 152.csv 153.csv 154.csv 155.csv 1551.csv 156.csv 157.csv 158.csv 159.csv 160.csv 161.csv |

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| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------|------|------------|-------|----------------------------------------------------|
| | | | | 162.csv |
| | | | | 163.csv |
| | | | | 1631.csv |
| | | | | 20x_high_na.dat |
| | | | | 20x_high_na_1.tif |
| | | | | 20x_high_na_2.tif |
| | | | | 20x_high_na_3.tif |
| | | | | 20x_high_na_4.tif |
| | | | | 20x_high_na_5.tif |
| | | | | 20x_high_na_6.tif |
| | | | | 20x_high_na_cy3_1.tif |
| | | | | 20x_high_na_cy5_1.tif |
| | | | | 20x_high_na_dapi_1.tif |
| | | | | 20x_high_na_file_1.tif |
| | | | | 210.csv |
| | | | | 211.csv |
| | | | | 212.csv |
| | | | | 2x.dat |
| | | | | 2x_1.tif |
| | | | | 2x_2.tif |
| | | | | 40x_high_nadat |
| | | | | 40x_high_na_1.tif |
| | | | | 40x_high_na_2.tif |
| | | | | 40x_high_na_3.tif |
| | | | | 40x_high_na_4.tif |
| | | | | 40x_high_na_cy3_1.tif |
| | | | | 40x_high_na_cy5_1.tif |
| | | | | 40x_high_na_dapi_1.tif |
| | | | | 40x_high_na_file_1.tif |
| | | | | FieldFlattening_results.csv |
| | | | | master.tsv |
| | | | | mono_Bob1.tsv |
| | | | | mono_CD151.tsv |
| | | | | mono_CD201.tsv |
| | | | | mono_CD3.tsv |
| | | | | mono_CD301.tsv |
| | | | | mono_CD30_10x.tsv |
| | | | | mono_CD45.tsv |
| | | | | mono_CD79a.tsv |
| | | | | mono_cy3.tsv |
| | | | | mono_cy3_10x.tsv |
| | | | | mono_cy3_40x.tsv |

Component

Type

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Notes

Including, without limitation, the following files

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|--|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | mono_cy5.tsv mono_dapi.tsv mono_dapi_10x.tsv mono_dapi_40x.tsv mono_flic.tsv mono_flic_10x.tsv mono_flic_40x.tsv mono_OCT2.tsv mono_Pax5.tsv moves.csv stain_params.tsv VDAB_Bob1.tsv VDAB_CD15.tsv VDAB_CD20.tsv VDAB_CD3.tsv VDAB_CD30.tsv VDAB_CD30_10x.tsv VDAB_CD45.tsv VDAB_CD79a.tsv vdab_cy3.tsv vdab_cy5.tsv vdab_flic.tsv VDAB_OCT2.tsv VDAB_Pax5.tsv vhe.tsv vhe_10x.tsv vhe_40x.tsv vs_40x_MonoCy3_noaf.tsv vs_MonoCy3_noaf_16-bit.tsv vs_MonoCy5_no_af_16-bit.tsv vs_MonoDAPI_noaf_16_bit.tsv vs_VDAB_CD20_no_af.tsv vs_VDAB_CD3_no_af.tsv vs_VDAB_Pax5_no_af.tsv image_app_backup.xml image_app_nostagecal.xml image_app_stagecal.xml image_app_template.xml Incell_cal1.xml IncellGR1.xml IncellPrior4.xml stain_templates.xml |
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Including, without limitation, the following files

| | | | | |
|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | <ul style="list-style-type: none"> 01-BuildBatchConfigImageAnalysis.txt 01-BuildBatchConfigImageAnalysis-anydirectory.txt 02-RegisterImages.txt 02-RegisterImages-Batch.txt 03-AFRemoval-ContrastRatio.txt 03-AFRemoval-ContrastRatio-Batch.txt 04-ComputeStatistics.txt 04-ComputeStatistics-Batch.txt 05-VirtualStain-Batch.txt 06-Segment-Quantitate-Batch.txt README.txt fieldmodel_assist.exe Flatten_Field.class image_app.exe Molecular_H_and_E.class pos_rollangle_vstain.exe register.exe register2.exe stitch_helper.exe Virtual_Stain.class vstain.exe abort_cleanup.bin auto_camera_alignment.bin auto_exposure.bin auto_objective_concentration.bin auto_objective_scale_factor.bin barcode_alignment.bin BarcodeLibrary.dll blank_glass_median.bin cal_check.bin cal_globals.bin cal_lib.bin cal_slide_defn.bin calibrate_incell.bin csv_lib.bin distortion_and_stage_calibration.bin dummy_religa_wrapper.dll field_flatten_xml.bin image_funcs.dll image_tol.dll IncellCtrlLib.dll lib.zip |
|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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Notes

Including, without limitation, the following files

| | | | | |
|--|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | luamatrix_complex.bin luamatrix_matrix.bin pos_rollangle_stitcher.dll ScanMDDL.dll stitcher.dll tma_scanplan.zip xml_calibration.bin compile_lua_scripts.bat image_lib.R installation_builder.nsi mbc.jpg pos_1.jpg pos_2.jpg region_picker.uir scanplan.cfg stitch_helper.uir stitch_helper.ini test.bat abort_cleanup.lua Analyze_Antibody_Validation.jim Analyze_Multiplexing_Experiment.jim auto_camera_alignment.lua auto_camera_rotation.lua auto_exposure.lua auto_objective_centration.lua auto_objective_scale_factor.lua auto_scale_and_rotation.lua auto_text.lua barcode_alignment.lua blank_glass_image_repeatability.lua blank_glass_median.lua blank_glass_median_through_glass.lua blank_glass_vs_power_meter.lua blank_glass_vs_power_meter_linearity.lua cal_check.lua cal_globals.lua cal_lib.lua cal_slide_defn.lua calibrate_incell.lua camera_alignment.lua camera_offset.lua compile_lua_scripts.lua |
|--|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------|------|------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | compile_nameswap_bint.lua.sh compile_nameswap_lua0bin.sh csv_lib.lua daily_check_photobleaching_test.lua daily_check_photobleaching_test_rev2.lua data_structure_test.lua distortion_and_stage_calibration.lua distortion_calibration.lua distortion_calibration_loadImages.lua distortion_calibration_through_glass.lua example_find2xGridCenterUsingRscript_and_ParseOutputFile.lua exp_test.lua exp_time_compare.lua exposure_damage_test.lua field_flatten_fixed_position.lua field_flatten_focusingWithinPlastic.lua field_flatten_xml.lua Field_Model_-_Grid_Slides.jim Field_Model_-_Tissue_Averaging.jim Flatten_Field.java flatten_median.lua fluidic_clamp.lua fluidic_home.lua gen_holder_traceability_files.lua get_brenners.lua get_star_slanting_edge_across_FOV.lua holder_setup.lua IIC2200_Longterm_power_meas.lua image_repeatability.lua intensity_calibration.lua lamp_warmup_test.lua laser_damage_test.lua laser_scan_first_peak_test.lua LEDheating_TypicalExpTimeTest.lua linearity_test.lua linearity_vs_exp_time_test.lua plt.c luamatrix_complex.lua luamatrix_matrix.lua luamatrix_test.lua lumemoor.lua Makefile |

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Notes

Including, without limitation, the following files

| | | | | |
|--|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | <p>map_slide_z_profile.lua</p> <p>matrix_multiply.lua</p> <p>measure_power_all_XcileMeter.lua</p> <p>Molecular_H_and_E.lua</p> <p>multiple_image_crop.lua</p> <p>multiscopes_compare.lua</p> <p>objective_centration.lua</p> <p>objective_centration_pattern_match.lua</p> <p>objective_focus.lua</p> <p>objective_scale_factor.lua</p> <p>partial_identity_stage_cal.lua</p> <p>pattern_match.lua</p> <p>pattern_match_2.lua</p> <p>picb_raster_scan.lua</p> <p>picb_tilt.lua</p> <p>picb_tilt_funcs.lua</p> <p>PM100USB_1lb.lua</p> <p>PM100USB_logPowerData.lua</p> <p>PM100USB_measPower.lua</p> <p>raster_tissue_crop.lua</p> <p>register2.c</p> <p>rinse_demo.lua</p> <p>scale.c</p> <p>scale_factor.lua</p> <p>Segment_Nuclei_And_Perinuclei.jm</p> <p>serviceClient.tcl</p> <p>snr.lua</p> <p>stage_cal_image_capture_test.lua</p> <p>stage_cal_repeatability.lua</p> <p>stage_repeatability.lua</p> <p>stage_repeatability_0and10sec.lua</p> <p>stain_demo.lua</p> <p>string_gmatch_test.lua</p> <p>temp.lua</p> <p>temp2.lua</p> <p>temp3.lua</p> <p>test.lua</p> <p>test_allen_package.lua</p> <p>test_dirnameCleanup.lua</p> <p>test_laserScanFirstPeak.lua</p> <p>test_PM100USB.lua</p> <p>test_svn_parse.lua</p> |
|--|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

LEGAL_US_E # 117077596.8

| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-------------------------|-------------|------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Calibration import tool | Application | # NET | Admin tool for importing the calibration data generated by MOPPOC into the IAS format. | test_ThorLabsPoweMeterHeating.lua test2.lua testCSVread.lua testCSVwrite.lua tilt_holder.lua TMA_scanplan.tcl tmascanplan.c turret_check.lua turret_repeatability.lua turret_repeatability_0and10sec.lua turret_test.lua Virtual_Stain.java xml_calibration.lua xml_test.lua z_stack_backlash.lua zstacks_blankglass_test.lua zstacks_test.lua 10x_cy3.tif 10x_cy3.xml 10x_cy5.tif 10x_cy5.xml 10x_dapi.tif 10x_dapi.xml 10x_fitc.tif 10x_fitc.xml 20x_high_na_cy3.tif 20x_high_na_cy3.xml 20x_high_na_cy5.tif 20x_high_na_cy5.xml 20x_high_na_dapi.tif 20x_high_na_dapi.xml 20x_high_na_fitc.tif 20x_high_na_fitc.xml 2x_cy3.tif 2x_cy3.xml 2x_cy5.tif 2x_cy5.xml 2x_dapi.tif 2x_dapi.xml 2x_fitc.tif 2x_fitc.xml 40x_high_na_cy3.tif 40x_high_na_cy3.xml |

| Component | Type | Technology | Notes | Including, without limitation, the following files |
|-----------|------|------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | 40x_high_na_cy5.tif 40x_high_na_cy5.xml 40x_high_na_dapi.tif 40x_high_na_dapi.xml 40x_high_na_fitc.tif 40x_high_na_fitc.xml 10x.xml 20x_high_na.xml 2x.xml 40x_high_na.xml IncellPrior2.xml GEHealthcare.ASIST.Shared.Utility.dll GEHealthcare.ASIST.Shared.Types.dll GEHealthcare.ASIST.IAS.Shared.Types.dll GEHealthcare.ASIST.Shared.ImagerProcessing.dll dVlenses.tab InCell2000Microscope.Parameters.xml InCell2200Microscope.Parameters.xml MicroscopeCalibration.xml TiltCheckMoves.xml Timestamps.xml GEHealthcare.ASIST.IAS.Scanner.BarcodeReader.dll GEHealthcare.ASIST.IAS.Scanner.Microscope.dll GEHealthcare.ASIST.IAS.Scanner.MicroscopeDriver.dll GEHealthcare.ASIST.IAS.Scanner.MotorolaBarcodeReader.dll GEHealthcare.ASIST.IAS.Scanner.Microscope.ConfigTool.exe.config GEHealthcare.ASIST.IAS.Scanner.Microscope.ConfigTool.exe |

| <i>Olympus Modules</i> |
|------------------------|
| Application (Web) |
| User Management |
| Notification |
| Logging |
| Auditing |
| Data services |

| <i>Kernit Modules</i> |
|-----------------------|
| Application (Web) |
| PIH Encryption |
| Practice Management |

LEGAL_US_E # 117077596.8

| |
|------------------------|
| Test Management |
| Orders Management |
| Barcode Generation |
| User Management |
| Notification |
| Printing |
| Logging |
| Auditing |
| Data services |
| HL7 Outbound connector |
| HL7 Inbound connector |

Exhibit B
Assigned IP

Patents

| Docket Number | City | Title | Application Number | Application Date | Publication Number | Patent Number | Assignee | Status |
|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------|--------------------|---------------|-----------------------------------|---------|
| 274440 | US | ACCURATE DETECTION OF RARE GENETIC VARIANTS IN NEXT GENERATION SEQUENCING | 61/971792 | 28/03/2014 | | | Clarent Diagnostic Services, Inc. | Expired |
| 274440 | WO | ACCURATE DETECTION OF RARE GENETIC VARIANTS IN NEXT GENERATION SEQUENCING | US2015/021279 | 18/03/2015 | | | Clarent Diagnostic Services, Inc. | Filed |
| 276951 | US | Method for nucleic acid analysis directly from an unpurified biological sample | 62/057401 | 30/09/2014 | | | Clarent Diagnostic Services, Inc. | Expired |
| 276951 | WO | METHOD FOR NUCLEIC ACID ANALYSIS DIRECTLY FROM AN UNPURIFIED BIOLOGICAL SAMPLE | US2015/50760 | 17/09/2015 | | | Clarent Diagnostic Services, Inc. | Filed |
| 285441 | US | SELF-CONTAINED SLIDE PROCESSING UNIT FOR BIOLOGICAL SPECIMENS - DOCKET ID 285441 | | | | | Clarent Diagnostic Services, Inc. | Unfiled |
| 280182A | US | ALGORITHMS FOR AUTOMATED STAINING AND SEGMENTATION QC IN MULTIMYX ANALYTICS WORKFLOW - DOCKET ID 280182A | | | | | Clarent Diagnostic Services, Inc. | Unfiled |
| 286104 | US | INTEGRATED MULTIMYX AND RNASCOPE IMMUNOFLOURESCENCE ASSAY FOR IN SITU MRNA ANALYSIS AND PROTEIN PROFILING FROM A SINGLE FORMALIN-FIXED PARAFFIN-EMBEDDED (FFPE) SLIDE | | | | | Clarent Diagnostic Services, Inc. | Unfiled |

Domain Names

Ge genomicservices.com
 Gelaboratoryandgenomics.com
 Gelaboratoryandgenomicservices.com
 Gelaboratoryservices.com

LEGAL_US_E # 117077596.8

PATENT