

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4439198

|                                                                                                                                                                                                 |                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <b>SUBMISSION TYPE:</b>                                                                                                                                                                         | NEW ASSIGNMENT                                                |
| <b>NATURE OF CONVEYANCE:</b>                                                                                                                                                                    | SECURITY INTEREST                                             |
| <b>CONVEYING PARTY DATA</b>                                                                                                                                                                     |                                                               |
| <b>Name</b>                                                                                                                                                                                     | <b>Execution Date</b>                                         |
| MU SIGMA, INC.                                                                                                                                                                                  | 05/31/2017                                                    |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                                     |                                                               |
| <b>Name:</b>                                                                                                                                                                                    | BNY MELLON CORPORATE TRUSTEE SERVICES LIMITED                 |
| <b>Street Address:</b>                                                                                                                                                                          | ONE CANADA SQUARE                                             |
| <b>Internal Address:</b>                                                                                                                                                                        | TRUSTEE ADMINISTRATION MANAGER (MU SIGMA, INC./PROJECT LOGIC) |
| <b>City:</b>                                                                                                                                                                                    | LONDON                                                        |
| <b>State/Country:</b>                                                                                                                                                                           | UNITED KINGDOM                                                |
| <b>Postal Code:</b>                                                                                                                                                                             | E14 5AL                                                       |
| <b>PROPERTY NUMBERS Total: 11</b>                                                                                                                                                               |                                                               |
| <b>Property Type</b>                                                                                                                                                                            | <b>Number</b>                                                 |
| Patent Number:                                                                                                                                                                                  | 9208462                                                       |
| Patent Number:                                                                                                                                                                                  | 9286380                                                       |
| Application Number:                                                                                                                                                                             | 13852835                                                      |
| Application Number:                                                                                                                                                                             | 14150735                                                      |
| Application Number:                                                                                                                                                                             | 14828390                                                      |
| Application Number:                                                                                                                                                                             | 14578254                                                      |
| Application Number:                                                                                                                                                                             | 14579656                                                      |
| Application Number:                                                                                                                                                                             | 14576061                                                      |
| Application Number:                                                                                                                                                                             | 14995259                                                      |
| Application Number:                                                                                                                                                                             | 15260589                                                      |
| Application Number:                                                                                                                                                                             | 15370048                                                      |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                                      |                                                               |
| <b>Fax Number:</b>                                                                                                                                                                              | (302)636-5454                                                 |
| <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> |                                                               |
| <b>Phone:</b>                                                                                                                                                                                   | 202-408-3121 X62348                                           |
| <b>Email:</b>                                                                                                                                                                                   | jean.paterson@cscglobal.com                                   |
| <b>Correspondent Name:</b>                                                                                                                                                                      | CSC                                                           |
| <b>Address Line 1:</b>                                                                                                                                                                          | 1090 VERMONT AVENUE NW, SUITE 430                             |

PATENT

|                                                                                                                                                                                                                                                                                                                                                     |               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Address Line 4:</b> WASHINGTON, D.C. 20005                                                                                                                                                                                                                                                                                                       |               |
| <b>ATTORNEY DOCKET NUMBER:</b>                                                                                                                                                                                                                                                                                                                      | 665732-5      |
| <b>NAME OF SUBMITTER:</b>                                                                                                                                                                                                                                                                                                                           | JEAN PATERSON |
| <b>SIGNATURE:</b>                                                                                                                                                                                                                                                                                                                                   | /jep/         |
| <b>DATE SIGNED:</b>                                                                                                                                                                                                                                                                                                                                 | 06/01/2017    |
| <b>Total Attachments: 8</b><br>source=6-1-17 Mu Sigma-PT#page1.tif<br>source=6-1-17 Mu Sigma-PT#page2.tif<br>source=6-1-17 Mu Sigma-PT#page3.tif<br>source=6-1-17 Mu Sigma-PT#page4.tif<br>source=6-1-17 Mu Sigma-PT#page5.tif<br>source=6-1-17 Mu Sigma-PT#page6.tif<br>source=6-1-17 Mu Sigma-PT#page7.tif<br>source=6-1-17 Mu Sigma-PT#page8.tif |               |

## INTELLECTUAL PROPERTY SECURITY AGREEMENT

**INTELLECTUAL PROPERTY SECURITY AGREEMENT**, dated as of May 31, 2017, between MU SIGMA, INC., a Delaware corporation (the "**Grantor**") and BNY Mellon Corporate Trustee Services Limited, as security agent for the Secured Parties (in such capacity, the "**Security Agent**").

### RECITALS

- (A) The Grantor, the financial institutions party thereto as lenders (each individually referred to as a "**Lender**" and collectively as "**Lenders**"), The Bank of New York Mellon, Singapore Branch, as agent for the Lenders (in such capacity, the "**Agent**"), the Security Agent and the other parties thereto are parties to a Facility Agreement dated as of [●] (as amended, restated, supplemented or otherwise modified from time to time in accordance with its terms, the "**Facility Agreement**").
- (B) The Grantor is party to a Pledge and Security Agreement, dated as of the date hereof, in favor of the Security Agent (as it may from time to time be amended, restated, supplemented or otherwise modified in accordance with its terms, the "**Pledge and Security Agreement**"), pursuant to which the Grantor is required to execute and deliver this Agreement.
- (C) In consideration of the conditions and agreements set forth in the Facility Agreement, the Pledge and Security Agreement and this Agreement, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

#### **Section 1      Defined Terms**

Unless otherwise defined herein, terms defined in the Pledge and Security Agreement and used herein have the meaning given to them in the Pledge and Security Agreement.

#### **Section 2      Grant of Security Interest in Intellectual Property Collateral**

As security for the prompt and complete payment and performance in full when due (whether at stated maturity, by required prepayment, declaration, acceleration or otherwise) of all Obligations (as defined in the Facility Agreement), the Grantor hereby pledges, assigns, transfers and grants to the Security Agent, for its benefit and for the benefit of the Secured Parties, a continuing security interest in and Lien on all of its right, title and interest in, to and under all Intellectual Property Collateral (as defined below), whether now owned or hereafter acquired or existing and wherever located.

"**Intellectual Property Collateral**" means the Grantor's right, title and interest in, to and under all of the following property (other than any Excluded Property):

- (a) all Copyrights owned by or licensed to the Grantor;
- (b) all Patents owned by or licensed to the Grantor, including those referred to on Schedule II hereto;
- (c) all Trademarks owned by or licensed to the Grantor, including those referred to on Schedule III hereto, together with all goodwill of the business connected with the use of, and symbolized by, each such Trademark;
- (d) all Intellectual Property Licenses to which the Grantor is a party;
- (e) all reissues, continuations or extensions of the foregoing; and
- (f) all Proceeds of the foregoing, including any claim by the Grantor against third parties for past, present or future (i) infringement or, if applicable, dilution of any owned or licensed Copyright, Trademark or Patent, or (ii) injury to the goodwill associated with any owned or licensed Trademark.

**Section 3        Certain Exclusions**

Notwithstanding anything herein to the contrary, in no event will the Intellectual Property Collateral include nor will the Grantor be deemed to have granted a Security Interest in any of its right, title or interest in any Excluded Property.

**Section 4        Pledge and Security Agreement**

The security interest granted pursuant to this Agreement is granted in conjunction with the security interest granted to the Security Agent pursuant to the Pledge and Security Agreement, and the Grantor hereby acknowledges and affirms that the rights and remedies of the Security Agent with respect to the security interest granted by them in the Intellectual Property Collateral made and granted hereby are more fully set forth in the Pledge and Security Agreement. To the extent applicable for purposes of this Agreement, the terms and provisions of the Pledge and Security Agreement are incorporated by reference herein. To the extent there is any conflict between the terms of this Agreement and the Pledge and Security Agreement, the Pledge and Security Agreement shall control.

**Section 5        Governing Law**

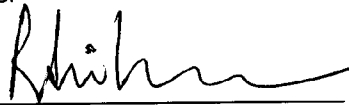
THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER ARE GOVERNED BY, AND WILL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK (INCLUDING SECTION 5-1401 OF THE GENERAL OBLIGATIONS LAW OF THE STATE OF NEW YORK).

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, the Grantor has caused this Intellectual Property Security Agreement to be duly executed and delivered by their respective officers or representatives thereunto duly authorized as of the date first written above.

**MU SIGMA, INC.,**  
as Grantor

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



Name: Krishna Rupanagunta  
Title: Geography Head

[US IP Security Agreement]

**PATENT**  
**REEL: 042562 FRAME: 0051**

**ACCEPTED AND AGREED:**

**BNY Mellon Corporate Trustee Services Limited,**  
as Security Agent

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

Name:

Title:

**Paul Cattermole**  
**Vice President**

[US IP Security Agreement]

**PATENT**  
**REEL: 042562 FRAME: 0052**

**SCHEDULE II TO THE INTELLECTUAL PROPERTY SECURITY AGREEMENT****PATENT REGISTRATIONS****Patents**

| <b>Grantor</b> | <b>Title</b>                                                       | <b>Reg. No. or Appln. No.</b> | <b>Date</b>               |
|----------------|--------------------------------------------------------------------|-------------------------------|---------------------------|
| MuSigma, Inc.  | System and method for generating a marketing mix solution          | 13/543,631/ 9,208,462         | 06-July-2012/ 08-Dec-2015 |
| MuSigma, Inc.  | Social media data analysis system and method                       | 13/748,465/ 9,286,380         | 23-Jan-2013/15-Mar-2016   |
| MuSigma, Inc.  | Data solutions system (MuRX)                                       | 13/852,835                    | 28-Mar-2013               |
| MuSigma, Inc.  | Data management system and tool                                    | 14/150,735                    | 08-Jan-2014               |
| MuSigma, Inc.  | Text Mining system and tool                                        | 14/828,390                    | 17-Aug-2015               |
| MuSigma, Inc.  | Event Processing systems and methods                               | 14/578,254                    | 19-Dec-2014               |
| MuSigma, Inc.  | Systems and Methods for Creating and Evaluating Experiments (mux2) | 14/579,656                    | 22-Dec-2014               |
| MuSigma, Inc.  | muUniverse (Business Problem Networking System and Tool )          | 14/576,061                    | 18-Dec-2014               |
| MuSigma, Inc.  | Analytics system and method                                        | 14/995,259                    | 14-Jan-2016               |
| MuSigma, Inc.  | muRX (Guided analytics system)                                     | 15/260,589                    | 09-Sep-2016               |
| MuSigma, Inc.  | muVx(model validation system and method)                           | 15/370,048                    | 06-Dec-2016               |

# SCHEDULE III TO THE INTELLECTUAL PROPERTY SECURITY AGREEMENT

## TRADEMARK REGISTRATIONS

### Trademarks

| Grantor        | Title                | Reg. No. or Appln. No. | Date       |
|----------------|----------------------|------------------------|------------|
| Mu Sigma, Inc. | DIPP                 | 4253347                | 4-Dec-12   |
| Mu Sigma, Inc. | MuSigma logo         | 4562236                | 8-Jul-14   |
| Mu Sigma, Inc. | MuPhoria logo        | 4562241, 4550044       | 17-Jun-14  |
| Mu Sigma, Inc. | muRx word            | 4550092,               | 17-Jun-14  |
| Mu Sigma, Inc. | muFlow word          | 4550093                | 17-Jun-14  |
| Mu Sigma, Inc. | muPDNA word          | 4550094                | 17-Jun-14  |
| Mu Sigma, Inc. | muMix word           | 4550095                | 17-Jun-14  |
| Mu Sigma, Inc. | muStream word        | 4550096                | 17-Jun-14  |
| Mu Sigma, Inc. | muBuzz word          | 4550097                | 17-Jun-14  |
| Mu Sigma, Inc. | muXo word            | 4500549                | 25-Mar-14  |
| Mu Sigma, Inc. | muText word          | 4504164                | 1-Apr-2014 |
| Mu Sigma, Inc. | muHPC word           | 4504165                | 1-Apr-2014 |
| Mu Sigma, Inc. | muESP word           | 4504166                | 1-Apr-2014 |
| Mu Sigma, Inc. | muKyun word          | 4500564                | 25-Mar-14  |
| Mu Sigma, Inc. | muFIRE word          | 4500565                | 25-Mar-14  |
| Mu Sigma, Inc. | muSense word         | 4500567                | 25-Mar-14  |
| Mu Sigma, Inc. | Mu Sigma Trademark   | 86062162               | 12-Aug-13  |
| Mu Sigma, Inc. | muViewTrademark      | 86135430               | 29-Aug-13  |
| Mu Sigma, Inc. | muUniverse-word      | 86232819               | 24-Mar-14  |
| Mu Sigma, Inc. | muUniverse-logo      | 86232779               | 24-Mar-14  |
| Mu Sigma, Inc. | muAoPS-logo          | 86300598               | 25-Apr-14  |
| Mu Sigma, Inc. | muAoPS-word          | 86300575               | 25-Apr-14  |
| Mu Sigma, Inc. | mux2                 | 86345011               | 13-Jun-14  |
| Mu Sigma, Inc. | muCheck logo         | 86345047               | 13-Jun-14  |
| Mu Sigma, Inc. | muCheck word         | 86345028               | 13-Jun-14  |
| Mu Sigma, Inc. | muFusion-word        | 86583343               | 22-Jan-15  |
| Mu Sigma, Inc. | muFusion-social-word | 86583355               | 22-Jan-15  |



|                |                                          |          |           |
|----------------|------------------------------------------|----------|-----------|
|                |                                          |          |           |
| Mu Sigma, Inc. | muFusion-enterprise-word                 | 86583362 | 22-Jan-15 |
| Mu Sigma, Inc. | muFusion-logo                            | 86583369 | 22-Jan-15 |
| Mu Sigma, Inc. | muFusion-social-logo                     | 86583379 | 24-Jan-15 |
| Mu Sigma, Inc. | muFusion-enterprise-logo                 | 86583385 | 24-Jan-15 |
| Mu Sigma, Inc. | muApt-word                               | 86946022 | 18-Mar-16 |
| Mu Sigma, Inc. | muApt-word                               | 86729064 | 18-Aug-15 |
| Mu Sigma, Inc. | muApt-logo-with tagline                  | 86946032 | 18-Mar-16 |
| Mu Sigma, Inc. | muApt-logo-with tagline                  | 86729122 | 18-Aug-15 |
| Mu Sigma, Inc. | muApt-logo-without tagline               | 86946012 | 18-Mar-16 |
| Mu Sigma, Inc. | muApt-logo-without tagline               | 86729098 | 18-Aug-15 |
| Mu Sigma, Inc. | Word mark- Art of Problem Solving System | 86684558 | 07-Jul-15 |
| Mu Sigma, Inc. | Logo - Chart                             | 86684578 | 07-Jul-15 |
| Mu Sigma, Inc. | muVx (word)                              | 86790950 | 16-Oct-15 |
| Mu Sigma, Inc. | muOBI (word)                             | 87155875 | 30-Aug-16 |
| Mu Sigma, Inc. | muIDA (word)                             | 87155919 | 30-Aug-16 |
| Mu Sigma, Inc. | muDSC (word)                             | 87155943 | 30-Aug-16 |
| Mu Sigma, Inc. | muVCL(word)                              | 87155930 | 30-Aug-16 |
| Mu Sigma, Inc. | Meta-software (word)                     | 87364097 | 08-Mar-17 |
| Mu Sigma, Inc. | Service-as-a-Software (word)             | 87364108 | 08-Mar-17 |
| Mu Sigma, Inc. | muRecommend (word)                       | 87364113 | 08-Mar-17 |
| Mu Sigma, Inc. | muDetect (word)                          | 87364122 | 08-Mar-17 |
| Mu Sigma, Inc. | muForecast (word)                        | 87364127 | 08-Mar-17 |
| Mu Sigma, Inc. | muSegment (word)                         | 87364133 | 08-Mar-17 |
| Mu Sigma, Inc. | muClassify (word)                        | 87364143 | 08-Mar-17 |
| Mu Sigma, Inc. | Musigma Meta-                            |          |           |

|                |                               |          |           |
|----------------|-------------------------------|----------|-----------|
|                | software                      |          |           |
| Mu Sigma, Inc. | Musigma Service-as-a Software | 87364157 | 08-Mar-17 |