PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4990775

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

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------|----------------|
| ALEXANDER VLASSOV | 06/04/2018 |
| SARAH LAROCCA | 05/07/2018 |
| MU LI | 06/04/2018 |

RECEIVING PARTY DATA

| Name: | LIFE TECHNOLOGIES CORPORATION | |
|-----------------|-------------------------------|--|
| Street Address: | 5823 NEWTON DRIVE | |
| City: | CARLSBAD | |
| State/Country: | CALIFORNIA | |
| Postal Code: | 92008 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15909789 |

CORRESPONDENCE DATA

Fax Number: (760)476-6048

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: (760)603-7200

Email: LSGDocketing@thermofisher.com

LIFE TECHNOLOGIES CORPORATION **Correspondent Name:**

Address Line 1: **5823 NEWTON DRIVE**

Address Line 4: CARLSBAD, CALIFORNIA 92008

| ATTORNEY DOCKET NUMBER: | LT01075CON | |
|-------------------------|------------------|--|
| NAME OF SUBMITTER: | GRACIE SEGOVIA | |
| SIGNATURE: | /Gracie Segovia/ | |
| DATE SIGNED: | 06/04/2018 | |

Total Attachments: 9

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PATENT REEL: 045983 FRAME: 0976 504944028

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PATENT REEL: 045983 FRAME: 0977

ASSIGNMENT

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency, and adequacy of which are hereby acknowledged, I/we:

- Alexander VLASSOV, a citizen of US; having a mailing address of Life Technologies Corporation, 5823 Newton Drive, Carlsbad, CA 92008; and a resident of Austin, TX.
- Sarah LAROCCA, a citizen of US; having a mailing address of Life Technologies Corporation, 5823 Newton Drive, Carlsbad, CA 92008; and a resident of Austin, TX.
- Mu LI, a citizen of CA; having a mailing address of Life Technologies Corporation, 5823 Newton Drive, Carlsbad, CA 92008; and a resident of San Diego, CA.

do hereby SELL, ASSIGN, AND TRANSFER to LIFE TECHNOLOGIES CORPORATION, (the "Assignee", a corporation of the State of Delaware) having a place of business at 5823 Newton Drive, Carlsbad, California 92008, USA the entire right, title, and interest for the United States and all foreign countries in and to

- (1) any and all inventions, improvements, know-how, and other subject matter described, disclosed, or contained (whether claimed or not) in (a) United States Non-provisional Patent Application Serial No. 15/909,789 filed March 1, 2018 entitled PURIFICATION OF NUCLEIC ACID FROM ENVIRONMENTAL OR BIOLOGICAL SAMPLES, (b) all divisional, continuing, design, utility model, substitute, renewal, reissue, reexamination, and all other applications for patent which have been or shall be filed in the United States and all foreign countries that claim priority to or through, any of the foregoing applications; and (c) all original, reissued and reexamined patents which have been or shall be issued in the United States or any foreign country on or resulting from any of the applications referenced in (a) or (b);
- (2) any and all inventions, improvements, know-how, and other subject matter described, disclosed, or contained (whether claimed or not) in any of the foregoing applications and patents;

(3) the right to file foreign applications under the provisions of any convention or treaty and claim priority based on any of the foregoing applications in the United States or any other country; and

(4) the copyright in any and all material described, disclosed, or contained in the foregoing applications and patents;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

WARRANT AND COVENANT that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned; and

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will (1) execute any and all papers and documents (including without limitation oaths, declarations, assignments, and powers of attorney) and perform any and all acts reasonably necessary in connection with the filing, prosecution, and issuance of each of the patent applications and patents referenced herein; (2) communicate to the Assignee all facts known to the undersigned relating to each of the patent applications, patents, and improvements referenced herein, and the history thereof; and (3) generally do everything possible that the Assignee shall reasonably consider desirable to vest title in Assignee in and to each of the patent applications, patents, and improvements referenced herein and for securing, maintaining, and enforcing proper patent protections for inventions, improvements, know-how, and other subject matter referenced herein.

ASSIGNOR(S) HEREBY AUTHORIZE AND REQUEST the assignee's agents associated with customer number 52059 to insert above the filing date and application number of said application when known.

TO BE BINDING on the heirs, assigns, representatives, and successors of the undersigned and extend to the successors, assigns, and nominees of the Assignee.

SEVERABILITY. If a provision of this Assignment is or becomes illegal, invalid, or unenforceable in any jurisdiction, that shall not affect (a) the validity or enforceability in that jurisdiction of any other provision of this Assignment, or (b) the validity or enforceability in other jurisdictions of that or any other provision of this Assignment.

| Signature: Name (1) Alexander VLASSOV | Date: |
|--|-------|
| Signature: Name (2) Sarah LAROCCA | Date: |
| Signature: Name (3) Mu LI | Date: |

ASSIGNMENT

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency, and adequacy of which are hereby acknowledged, I/we:

- 1. Alexander VLASSOV, a citizen of **US**; having a mailing address of Life Technologies Corporation, 5823 Newton Drive, Carlsbad, CA 92008; and a resident of **Austin**, **TX**.
- Sarah LAROCCA, a citizen of US; having a mailing address of Life Technologies Corporation, 5823 Newton Drive, Carlsbad, CA 92008; and a resident of Austin, TX.
- Mu LI, a citizen of CA; having a mailing address of Life Technologies Corporation, 5823 Newton Drive, Carlsbad, CA 92008; and a resident of San Diego, CA.

do hereby SELL, ASSIGN, AND TRANSFER to **LIFE TECHNOLOGIES CORPORATION**, (the "Assignee", a corporation of the State of Delaware) having a place of business at 5823 Newton Drive, Carlsbad, California 92008, USA the entire right, title, and interest for the United States and all foreign countries in and to

- (1) any and all inventions, improvements, know-how, and other subject matter described, disclosed, or contained (whether claimed or not) in (a) United States Non-provisional Patent Application Serial No. 15/909,789 filed March 1, 2018 entitled PURIFICATION OF NUCLEIC ACID FROM ENVIRONMENTAL OR BIOLOGICAL SAMPLES, (b) all divisional, continuing, design, utility model, substitute, renewal, reissue, reexamination, and all other applications for patent which have been or shall be filed in the United States and all foreign countries that claim priority to or through, any of the foregoing applications; and (c) all original, reissued and reexamined patents which have been or shall be issued in the United States or any foreign country on or resulting from any of the applications referenced in (a) or (b);
- (2) any and all inventions, improvements, know-how, and other subject matter described, disclosed, or contained (whether claimed or not) in any of the foregoing applications and patents;

(3) the right to file foreign applications under the provisions of any convention or treaty and claim priority based on any of the foregoing applications in the United States or any other country; and

(4) the copyright in any and all material described, disclosed, or contained in the foregoing applications and patents;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

WARRANT AND COVENANT that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned; and

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will (1) execute any and all papers and documents (including without limitation oaths, declarations, assignments, and powers of attorney) and perform any and all acts reasonably necessary in connection with the filing, prosecution, and issuance of each of the patent applications and patents referenced herein; (2) communicate to the Assignee all facts known to the undersigned relating to each of the patent applications, patents, and improvements referenced herein, and the history thereof; and (3) generally do everything possible that the Assignee shall reasonably consider desirable to vest title in Assignee in and to each of the patent applications, patents, and improvements referenced herein and for securing, maintaining, and enforcing proper patent protections for inventions, improvements, knowhow, and other subject matter referenced herein.

ASSIGNOR(S) HEREBY AUTHORIZE AND REQUEST the assignee's agents associated with customer number 52059 to insert above the filing date and application number of said application when known.

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SEVERABILITY. If a provision of this Assignment is or becomes illegal, invalid, or unenforceable in any jurisdiction, that shall not affect (a) the validity or enforceability in that jurisdiction of any other provision of this Assignment, or (b) the validity or enforceability in other jurisdictions of that or any other provision of this Assignment.

| Signature: Name (1) Alexander VLASSOV | Date: |
|--|-------|
| Signature: AAROCCA Signature: Sarah LAROCCA | |
| Signature: Name (3) Mu LI | Date: |

ASSIGNMENT

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- Mu LI, a citizen of CA; having a mailing address of
 Life Technologies Corporation, 5823 Newton Drive, Carlsbad, CA 92008;
 and a resident of San Diego, CA.

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- (1) any and all inventions, improvements, know-how, and other subject matter described, disclosed, or contained (whether claimed or not) in (a) United States Non-provisional Patent Application Serial No. 15/909,789 filed March 1, 2018 entitled PURIFICATION OF NUCLEIC ACID FROM ENVIRONMENTAL OR BIOLOGICAL SAMPLES, (b) all divisional, continuing, design, utility model, substitute, renewal, reissue, reexamination, and all other applications for patent which have been or shall be filed in the United States and all foreign countries that claim priority to or through, any of the foregoing applications; and (c) all original, reissued and reexamined patents which have been or shall be issued in the United States or any foreign country on or resulting from any of the applications referenced in (a) or (b);
- (2) any and all inventions, improvements, know-how, and other subject matter described, disclosed, or contained (whether claimed or not) in any of the foregoing applications and patents;

(3) the right to file foreign applications under the provisions of any convention or treaty and claim priority based on any of the foregoing applications in the United

States or any other country; and

(4) the copyright in any and all material described, disclosed, or contained in

the foregoing applications and patents;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United

States and foreign patents granted on such improvements to the Assignee;

WARRANT AND COVENANT that no assignment, grant, mortgage, license, or

other agreement affecting the rights and property herein conveyed has been or will be

made to others by the undersigned, and that the full right to convey the same as herein

expressed is possessed by the undersigned; and

COVENANT, when requested and at the expense of the Assignee, to carry out in

good faith the intent and purpose of this assignment, the undersigned will (1) execute

any and all papers and documents (including without limitation oaths, declarations,

assignments, and powers of attorney) and perform any and all acts reasonably

necessary in connection with the filing, prosecution, and issuance of each of the patent

applications and patents referenced herein; (2) communicate to the Assignee all facts

known to the undersigned relating to each of the patent applications, patents, and

improvements referenced herein, and the history thereof; and (3) generally do »

everything possible that the Assignee shall reasonably consider desirable to vest title in

Assignee in and to each of the patent applications, patents, and improvements

referenced herein and for securing, maintaining, and enforcing proper patent protections

for inventions, improvements, know-how, and other subject matter referenced herein.

ASSIGNOR(S) HEREBY AUTHORIZE AND REQUEST the assignee's agents

associated with customer number 52059 to insert above the filing date and application

number of said application when known.

TO BE BINDING on the heirs, assigns, representatives, and successors of the

undersigned and extend to the successors, assigns, and nominees of the Assignee.

2 of 3

PATENT REEL: 045983 FRAME: 0985 SEVERABILITY. If a provision of this Assignment is or becomes illegal, invalid, or unenforceable in any jurisdiction, that shall not affect (a) the validity or enforceability in that jurisdiction of any other provision of this Assignment, or (b) the validity or enforceability in other jurisdictions of that or any other provision of this Assignment.

| Signature: Name (1) Alexander VLASSOV | Date: |
|--|----------------|
| Signature:Name (2) Sarah LAROCCA | Date: |
| Signature: Name (3) Mu L/ | Date: 6(4/2018 |