PATENT ASSIGNMENT COVER SHEET

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

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------------|----------------|
| STEPHEN J SAVARINO | 01/03/2006 |

RECEIVING PARTY DATA

| Name: | UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF THE NAVY |
|-------------------|--|
| Street Address: | NAVAL MEDICAL RESEARCH CENTER |
| Internal Address: | 503 ROBERT GRANT AVE., 1 URO |
| City: | SILVER SPRING |
| State/Country: | MARYLAND |
| Postal Code: | 20910 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15991443 |

CORRESPONDENCE DATA

Fax Number: (301)319-7432

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: 3013199151

Email: diane.p.tso.civ@mail.mil

Correspondent Name: DIANE P. TSO

Address Line 1: NAVAL MEDICAL RESEARCH CENTER
Address Line 2: 503 ROBERT GRANT AVE., 1 URO
Address Line 4: SILVER SPRING, MARYLAND 20910

| ATTORNEY DOCKET NUMBER: | NC90906USCON2 |
|-------------------------|----------------|
| NAME OF SUBMITTER: | DIANE P. TSO |
| SIGNATURE: | /Diane P. Tso/ |
| DATE SIGNED: | 10/05/2018 |

Total Attachments: 2

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PATENT 505128609 REEL: 047081 FRAME: 0493

NC 96,906

ASSIGNMENT OF INVENTION

WHEREAS, I, Stephen J. Savarino of Kensington, MD, while employed by the Government of the United States of America, have invented to as the Government, have invented certain new and useful improvements in PIMBRIAL ADHESIN AS IMMUNOGEN AGAINST ESCHERICHIA COLI identified as Navy Case No. 96,906 and 97,809 and described in provisional application for Letters Patent of the United States of America 60/642,771 filed on January 11, 2005 and hereby authorize and request my attorney, Joseph K. Hemby, Jr. Naval Medical Research Center, 503 Robert Grant Ave., Silver Spring, MD 20910-7500, to insert here in parentheses (U.S. Patent Application No. 11/340% filed on 1/40/2006) when known; and

WHEREAS, the Government is desirous of acquiring an assignment of the invention disclosed in said application and other rights and benefits herein granted; and

WHEREAS, the conditions under which the invention was made are such as to emittle the Government under Paragraph 1(a) of Executive Order 10096, to the entire right, title, and interest therein, including foreign rights; and

WHEREAS, as to foreign rights, it is the policy of the Government to obtain an option to exercise such rights;

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration the receipt of which is hereby acknowledged, we hereby assign and transfer to the United States of America as represented by the Secretary of the Navy the entire right title, and interest in and to said invention within the United States of America its territories and possessions, and the entire right, title, and interest in and to said application and any continuation, division or substitution thereof, and such Letters Patents as may issue therefrom and any reissue or extensions thereof, said invention, application and Letters Patent to be held by the United States of America as represented by the Secretary of the Navy to the end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this assignment not been made.

I do hereby also grant unto the Government, the option to take the entire right, title, and interest in the invention and all patent applications or other forms of protection thereon in all countries foreign to the United States of America in which the Government may file, or cause to be filed, applications for Letters Patent or other forms of protection, without payment of any consideration; provided, however, that this grant of an option to take foreign rights in the invention, or applications or other forms of protection thereon, shall have force and effect only as to foreign countries in which an application or other form of protection is filed, or which are designated in a Patent Cooperation Treaty

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application filed within six months of the filing date of any application for United States Letters Patent covering the invention, or within six months from the declassification of the invention, whichever is later, and that all foreign rights not exercised under the option are left to me subject to a nonexclusive, irrevocable, royalty-free license to the Government in any patent or other form of protection which may issue on said invention in any foreign country, including the power to issue sub-licenses for use in behalf of the Government and on/ in furtherance of the foreign policies of the Government.

We hereby further agree to make, execute, and deliver to the Government, any and all papers, documents, affidavits, statements, or other instruments that may be necessary in the prosecution of the application and of any continuations, division or substitution of the application, for reissue or extension of said Letters Patent, and to assist the Government in every way in protecting the invention as may be requested, provided that any expenses arising through such efforts will be paid by the Government.

IN TESTIMONY WHIREOF, I have let my hand and affixed my seal.

01/08/06 (date)

(signature) SEAL

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