
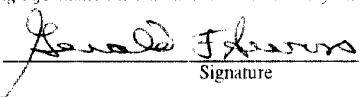
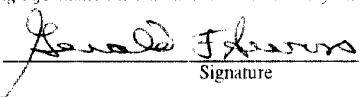
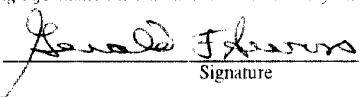


MRD 4/16/98

12 Rec'd PCT/EP 16 APR 1998

171 4

4 11

FORM PTO-1595 (Rev. 6/93)		<b>05-12-1998</b>		U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office				
		<b>R SHEET</b>		Attorney's Docket No. <u>026579-141</u>				
<b>100706780</b> To the Assistant Commissioner for Patents, please record the attached original documents or copy thereof.								
1. Name of conveying party(ies):  Louis D. HEERZE and Glen D. ARMSTRONG  Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			2. Name and address of receiving party(ies):  Name: <u>SYNSORB BIOTECH, INC.</u>  Address: <u>201, 1204 Kensington Road, N.W.</u> <u>Calgary, Alberta</u> <u>T2N 3P5, Canada</u>  Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
3. Nature of conveyance:  <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name  Other: _____  Execution Date: <u>Feb. 9, 1998 and Feb. 10, 1998</u>								
4. Application number(s) or patent number(s):  If this document is being filed together with a new application, the execution date of the application is: _____  <table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;">           A. Patent Application No.(s)             08/973,443         </td> <td style="width: 50%; vertical-align: top;">           B. Patent No.(s)         </td> </tr> </table> Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						A. Patent Application No.(s)  08/973,443	B. Patent No.(s)	
A. Patent Application No.(s)  08/973,443	B. Patent No.(s)							
5. Name and address of party to whom correspondence concerning document should be mailed:  Name: <u>Gerald F. Swiss</u>  Address: <u>BURNS, DOANE, SWECKER &amp; MATHIS, L.L.P.</u> <u>P.O. Box 1404</u> <u>Alexandria, Virginia 22313-1404</u>			6. Total number of applications and patents involved: <u>1</u>  7. Total fee (37 CFR 3.41): <u>\$ 40.00</u> <input checked="" type="checkbox"/> Enclosed <input checked="" type="checkbox"/> Authorized to be charged to deposit account, if necessary  8. Deposit account number: <u>02-4800</u>					
DO NOT USE THIS SPACE								
9. Statement and signature. <i>To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.</i>  <table style="width: 100%;"> <tr> <td style="width: 30%;"> <u>Gerald F. Swiss, Reg. No. 30,113</u>            Name of Person Signing         </td> <td style="width: 30%; text-align: center;">             Signature         </td> <td style="width: 30%; text-align: right;"> <u>April 9, 1998</u>            Date         </td> </tr> </table> Total number of pages including cover sheet, attachments, and document: <u>3</u>						<u>Gerald F. Swiss, Reg. No. 30,113</u> Name of Person Signing	 Signature	<u>April 9, 1998</u> Date
<u>Gerald F. Swiss, Reg. No. 30,113</u> Name of Person Signing	 Signature	<u>April 9, 1998</u> Date						

Mail documents to be recorded with required cover sheet information to:

Assistant Commissioner for Patents  
Box Assignments  
Washington, D.C. 20231

04/21/1998 PVOLPE 00000003 08973443

01 FC:581

40.00 OP

PATENT  
REEL: 9153 FRAME: 0451 (10/97)

## ASSIGNMENT (JOINT)

THIS ASSIGNMENT, by LOUIS D. HEERZE, and GLEN D. ARMSTRONG, residing at 4707 117A STREET, EDMONTON, ALBERTA, CANADA T6H 3R9 and 7951 91 AVENUE, EDMONTON, ALBERTA, CANADA T6C 1P9 (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements in TREATMENT OF TRAVELER'S DIARRHEA, [ ] which is a provisional application to be filed herewith; [X] which is a non-provisional application having an oath or declaration executed on even date herewith prior to filing of application; [X] bearing Application No. 08/973,443, and filed on DECEMBER 5, 1997; and

WHEREAS, SYNSORB BIOTECH, INC., a corporation duly organized under and pursuant to the laws of CANADA and having its principal place of business at 201, 1204 KENSINGTON ROAD, N.W., CALGARY, ALBERTA, T2N 3P5, CANADA (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon.


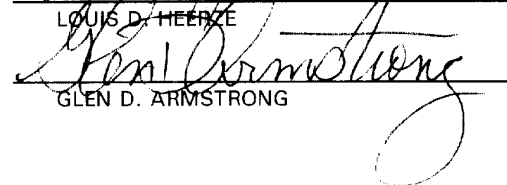
NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said application, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefor and thereon, and in and to any and all applications claiming priority to said applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall

country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns;

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignee as the Assignee of said inventions, the Letters Patent to be issued for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

Date Jan 9/98 Signature of Assignor   
LOUIS D. HEERZE  
Date Feb 10 '98 Signature of Assignor   
GLEN D. ARMSTRONG

74 Rec'd PCT/PTC 16 APR 1998

FORM-PTG-1390 (Rev. 10-96)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER
<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371</b>				026579-141
				U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.5) 08/973,443
INTERNATIONAL APPLICATION NO. PCT/CA96/00144		INTERNATIONAL FILING DATE 03/11/96		PRIORITY DATE CLAIMED 06/05/95
TITLE OF INVENTION TREATMENT OF TRAVELLER'S DIARRHEA				
APPLICANT(S) FOR DO/EO/US HEERZE, et al.				
<p>Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:</p> <ol style="list-style-type: none"> <li><input type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li><input checked="" type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li><input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and the PCT Articles 22 and 39(1).</li> <li><input type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.</li> <li><input checked="" type="checkbox"/> A copy of the international Application as filed (35 U.S.C. 371(c)(2))             <ol style="list-style-type: none"> <li><input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau).</li> <li><input type="checkbox"/> has been transmitted by the International Bureau.</li> <li><input checked="" type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US)</li> </ol> </li> <li><input type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)).</li> <li><input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))             <ol style="list-style-type: none"> <li><input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).</li> <li><input type="checkbox"/> have been transmitted by the International Bureau.</li> <li><input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li><input type="checkbox"/> have not been made and will not be made.</li> </ol> </li> <li><input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</li> <li><input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</li> <li><input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</li> </ol> <p><b>Items 11. to 16. below concern other document(s) or information included:</b></p> <ol style="list-style-type: none"> <li><input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</li> <li><input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</li> <li><input type="checkbox"/> A FIRST preliminary amendment. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.</li> <li><input type="checkbox"/> A substitute specification.</li> <li><input type="checkbox"/> A change of power of attorney and/or address letter.</li> <li><input checked="" type="checkbox"/> Other items or information: a postcard; copy of Decision Vacating Notification of Acceptance</li> </ol>				

U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.50) <b>08/973,443</b>		INTERNATIONAL APPLICATION NO. <b>PCT/CA96/00144</b>		ATTORNEY'S DOCKET NUMBER <b>026579-141</b>	
--------------------------------------------------------------------------	--	--------------------------------------------------------	--	-----------------------------------------------	--

17. <input type="checkbox"/> The following fees are submitted:				<b>CALCULATIONS</b>		PTO USE ONLY	
<b>Basic National Fee (37 CFR 1.492(a)(1)-(5)):</b>  Search Report has been prepared by the EPO or JPO ..... \$930  International preliminary examination fee paid to USPTO (37 CFR 1.482) ..... \$720.00 No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) ..... \$790.00  Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... \$1070.00  International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) ..... \$98.00  <div style="text-align: right;"><b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b></div>				\$			
Surcharge of <b>\$130.00</b> for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).							
Claims	Number Filed	Number Extra	Rate				
Total Claims	-20 =		X\$22.00	\$			
Independent Claims	-3 =		X\$82.00	\$			
Multiple dependent claim(s) (if applicable)			+ \$270.00	\$			
<b>TOTAL OF ABOVE CALCULATIONS =</b>				\$			
Reduction for 1/2 for filing by small entity, if applicable. Verified Small Entity statement must also be filed. (Note 37 CFR 1.9, 1.27, 1.28).				\$			
<b>SUBTOTAL =</b>				\$			
Processing fee of <b>\$130.00</b> for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$			
<b>TOTAL NATIONAL FEE =</b>				\$			
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +				\$	40.00		
<b>TOTAL FEES ENCLOSED =</b>				\$	40.00		
				<b>Amount to be:</b>			
				<b>refunded</b>	\$		
				<b>charged</b>	\$		

a. ☒ A check in the amount of \$ 40.00 to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. 02-4800 in the amount of \$ \_\_\_\_\_ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-4800. A duplicate copy of this sheet is enclosed.

**NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.**

SEND ALL CORRESPONDENCE TO:

Gerald F. Swiss  
 BURNS, DOANE, SWECKER & MATHIS, L.L.P.  
 P.O. Box 1404  
 Alexandria, Virginia 22313-1404

SIGNATURE  
  
 Gerald F. Swiss  
 NAME  
  
30,113  
 REGISTRATION NUMBER

FOIA/PTO-1390 (Rev. 10-96)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		1998	
<b>TRANSMITTAL LETTER TO THE UNITED STATES          DESIGNATED/ELECTED OFFICE (DO/EO/US)          CONCERNING A FILING UNDER 35 U.S.C. 371</b>				ATTORNEY'S DOCKET NUMBER 026579-141	
				U.S. APPLICATION NO. (if known, see 37 C.F.R. 1.5) 08/973,443	
INTERNATIONAL APPLICATION NO. PCT/CA96/00144		INTERNATIONAL FILING DATE 03/11/96		PRIORITY DATE CLAIMED 06/05/95	
TITLE OF INVENTION TREATMENT OF TRAVELLER'S DIARRHEA					
APPLICANT(S) FOR DO/EO/US HEERZE, et al.					
<p>Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:</p> <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>2. <input checked="" type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and the PCT Articles 22 and 39(1).</li> <li>4. <input type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.</li> <li>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2))             <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input type="checkbox"/> has been transmitted by the International Bureau.</li> <li>c. <input checked="" type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US)</li> </ol> </li> <li>6. <input type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)).</li> <li>7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))             <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input type="checkbox"/> have been transmitted by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li>d. <input type="checkbox"/> have not been made and will not be made.</li> </ol> </li> <li>8. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</li> <li>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</li> <li>10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</li> </ol> <p><b>Items 11. to 16. below concern other document(s) or information included:</b></p> <ol style="list-style-type: none"> <li>11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</li> <li>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</li> <li>13. <input type="checkbox"/> A FIRST preliminary amendment.  <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.</li> <li>14. <input type="checkbox"/> A substitute specification.</li> <li>15. <input type="checkbox"/> A change of power of attorney and/or address letter.</li> <li>16. <input checked="" type="checkbox"/> Other items or information:          a postcard; copy of Decision Vacating Notification of Acceptance       </li> </ol>					

U.S. APPLICATION NO. (if known, see 37 C.F.R. 1.50): <b>08/973,443</b>		INTERNATIONAL APPLICATION NO. <b>PCT/CA96/00144</b>		ATTORNEY'S DOCKET NUMBER <b>026579-141</b>	
---------------------------------------------------------------------------	--	--------------------------------------------------------	--	-----------------------------------------------	--

17. <input type="checkbox"/> The following fees are submitted:	<b>CALCULATIONS</b>	PTO USE ONLY
<b>Basic National Fee (37 CFR 1.492(a)(1)-(5)):</b> Search Report has been prepared by the EPO or JPO ..... \$930 International preliminary examination fee paid to USPTO (37 CFR 1.482) ..... \$720.00 No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) ..... \$790.00 Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... \$1070.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) ..... \$98.00		
<b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>		\$
Surcharge of \$130.00 for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492(e)). <input type="checkbox"/> 20 <input type="checkbox"/> 30		\$
Claims	Number Filed	Number Extra
Total Claims	-20 =	X\$22.00
Independent Claims	-3 =	X\$82.00
Multiple dependent claim(s) (if applicable)		+ \$270.00
<b>TOTAL OF ABOVE CALCULATIONS =</b>		\$
Reduction for 1/2 for filing by small entity, if applicable. Verified Small Entity statement must also be filed. (Note 37 CFR 1.9, 1.27, 1.28).		\$
<b>SUBTOTAL =</b>		\$
Processing fee of \$130.00 for furnishing the English translation later than months from the earliest claimed priority date (37 CFR 1.492(f)). <input type="checkbox"/> 20 <input type="checkbox"/> 30		\$
<b>TOTAL NATIONAL FEE =</b>		\$
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +		\$ 40.00
<b>TOTAL FEES ENCLOSED =</b>		\$ 40.00
		Amount to be: refunded \$
		charged \$

a. ☒ A check in the amount of \$ 40.00 to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. 02-4800 in the amount of \$ \_\_\_\_\_ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-4800. A duplicate copy of this sheet is enclosed.

**NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.**

SEND ALL CORRESPONDENCE TO:

Gerald F. Swiss  
 BURNS, DOANE, SWECKER & MATHIS, L.L.P.  
 P.O. Box 1404  
 Alexandria, Virginia 22313-1404

\_\_\_\_\_  
 SIGNATURE  
 Gerald F. Swiss  
 NAME  
30,113  
 REGISTRATION NUMBER