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U.S. DEPARTMENT OF COMMERCE  
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To the Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

1. Name of conveying party(ies): 10-19-98  
The Center for Innovative Technology  
Additional name(s) of conveying party(ies) attached?  
 yes  no

2. Name and address of receiving party(ies)?  
Virginia Tech Intellectual Properties, Inc.  
1900 Kraft Drive, Blacksburg, Virginia 24061  
Additional name(s) & address(es) attached?  
 yes  no

3. Nature of Conveyance:  
 Assignment  Merger  
 Security Agreement  Change of Name  
 Other  
Execution Date: July 22, 1998 and August 7, 1998

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:  
A. Patent Application No.(s) | B. Patent No(s).  
08/296,588  
Additional numbers attached?  Yes  No

5. Name and address of party to whom correspondence concerning document should be mailed:  
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue, N.W.  
Suite 800  
Washington, D.C. 20037-3202

6. Total number of applications and patents involved:  
one  
7. Total Fee (37 CFR 3.41): \$ 40.00  
 Enclosed. Please charge any underpayment in connection with this Assignment to Deposit Account No. 19-4880.  
 Authorized to be charged to Deposit Account  
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9. Statement and Signature.  
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.  
Mary E. Goulet 10.19.98  
Mary E. Goulet Reg. No. 35,884 Date  
TOTAL NUMBER OF PAGES COMPRISING COVER SHEET, ATTACHMENTS AND DOCUMENT: 6

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## ASSIGNMENT AND ASSUMPTION AGREEMENT WITH AMENDMENT

THIS ASSIGNMENT AND ASSUMPTION AGREEMENT WITH AMENDMENT, is entered into this 1st day of August, 1998, by and among The Center for Innovative Technology, a Virginia Corporation located in Herndon, Virginia (hereinafter referred to as "C.I.T."), Virginia Tech Intellectual Properties, Inc., a Virginia Corporation located in Blacksburg, Virginia (hereinafter referred to as "VTIP"), and LigoChem, Incorporated, a Virginia Corporation located in North Caldwell, New Jersey (hereinafter referred to as "LIGOCHEM");

WHEREAS, C.I.T. is the owner of the following patents and patent applications:

- (1) U.S. Patent 5,328,603, issued July 12, 1994, entitled "Lignocellulosic and Cellulosic Beads for Use in Affinity and Immunoaffinity Chromatography of High Molecular Weight Proteins, and a divisional Patent Application no. 08/257,674, filed June 8, 1994, entitled "LIGNOCELLULOSIC AND CELLULOSIC BEADS";
- (2) U.S. Patent 5,530,111, issued June 25, 1996, entitled "Chemical Modification of Shaped Hydrogels in Non-aqueous Medium", and its corresponding European patent application 95931031.9-2115 (EPO Public. No. 0750638), Japanese patent application no. 08-508959, and Canadian patent application no. 2,185,140; and

WHEREAS, C.I.T. is the co-owner with Minnesota Mining & Manufacturing Company of the following patent applications:

- (3) U.S. Patent Application Serial No. 08/296,588 filed August 29, 1994, entitled "Method of Coupling of Ligands onto Supports and Products Therefrom", and its corresponding PCT patent application no. PCT/US/03927; and

WHEREAS, C.I.T. is the co-owner with the American National Red Cross of the following patent applications:

- (4) U.S. Patent Application no. 08/293,374, filed August 19, 1994 and allowed with the issue fee having been paid October 29, 1996, entitled "Immunoabsorbents with Developed Binding Efficiency and a Method of Manufacture", and a divisional Patent Application no. 08/747,563, filed November 12, 1996, entitled "Immunoabsorbents with Improved Binding Efficiency and a Method of Manufacture"; and

WHEREAS the patents and patent applications listed in the above paragraphs (1), (2), (3), and (4), are hereinafter collectively referred to as "the Patents"; and

WHEREAS, the Patents are the subject of an option-license agreement entitled "Ligochem and CIT - Hydrogel Cellulose Beads Agreement" entered into by C.I.T. and LIGOCHEM on March 13, 1995, as amended by the amendment entitled "Ligochem and CIT - Hydrogel Cellulose Beads Agreement Amendment", dated as of November 3, 1995, and wherein the aforesaid option-license agreement and the aforesaid amendment are attached to this Agreement as Exhibits and are herein incorporated by reference, and further wherein the aforesaid option-license agreement and the aforesaid amendment are hereinafter collectively referred to as the "License Agreement";

WHEREAS, C.I.T. wishes to assign all future rights and responsibilities under the License Agreement to VTIP except for the stock provisions set forth in the License Agreement at Section 3.3, and VTIP wishes to assume all future rights and responsibilities of C.I.T. under the License Agreement;

NOW THEREFORE, for and in consideration of good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

#### 1. Assignment and Assumption

1.1 From the effective date of this Agreement, C.I.T. hereby assigns, transfers, and sets over to VTIP, its successors and assigns, except for any monetary obligation of LIGOCHEM to C.I.T. accruing prior to the effective date of this agreement and except for the stock provisions set forth in the License Agreement at Section 3.3, all of its remaining right, title and interest in and to, and all of C.I.T.'s obligations arising under the License Agreement, including as amended herein, and VTIP accepts the assignment from C.I.T. and agrees to be bound by all of the terms and assumes any and all obligations of C.I.T. under the License Agreement, including as amended herein.

1.2 In consideration for the assignment, VTIP agrees to pay C.I.T. twenty-five percent (25%) of all revenues derived from LIGOCHEM, its successors or assigns, for its use of the technology set forth in the Patents. VTIP's obligation to pay C.I.T. under this

provision will survive any termination and renegotiated license governing the Patents which is entered into by VTIP and LIGOCHEM or their successors or assigns.

1.3 C.I.T. agrees to execute any and all assignment documents necessary to assign the Patents to VTIP and to record these assignments, at C.I.T.'s expense, in the U.S. Patent and Trademark Office and foreign patent offices, as applicable.

## 2. Amendment

2.1 LIGOCHEM, C.I.T. and VTIP also further agree to amend the License Agreement incorporated herein to include the following additional technology in the Patents covered by the terms of the License Agreement:

a U.S. patent application based on C.I.T. Case No. 772, filed March 3, 1998, entitled "Inside-out Crosslinked and Commercial Scale Hydrogels, and Submacromolecular Selective Purification Using Hydrogels" (the "CIT 772 technology"), developed by William H. Velander and others.

2.2 LIGOCHEM shall reimburse C.I.T. for all costs incurred by C.I.T. prior to the effective date of this agreement related to preparing, filing and maintaining said U.S. patent application based on C.I.T. case no. 772. Such costs include legal fees, applicable government fees, and other directly related costs, but do not include any amounts for time devoted by C.I.T. employees or C.I.T. supervision of the patenting process. C.I.T. shall invoice LIGOCHEM for such costs incurred, and LIGOCHEM shall reimburse C.I.T. for such costs within sixty (60) days of the receipt of the invoice.

## 3. Mutual Releases and Warranties and Indemnification

3.1 C.I.T. hereby releases VTIP from any and all claims and liabilities, known or unknown, whether now existing or hereafter arising, that C.I.T. may have against VTIP with respect to the License Agreement, and VTIP hereby releases C.I.T. from any and all claims and liabilities, known or unknown, whether now existing or hereafter arising, that VTIP may have against C.I.T. with respect to the License Agreement.

3.2 C.I.T. makes no representations or warranties to VTIP concerning the validity, originality, infringement, fitness for the particular purpose, or any other aspect of the Patents.

3.3 VTIP will indemnify and hold C.I.T. harmless from any damage, loss, liability or expense, including, without limitation, reasonable expenses of investigation and litigation and reasonable attorneys', accountants', and other professional fees arising out of:

(a) a breach of any representation or warranty, including, without limitation, any representation or warranty regarding quality, safety, and effectiveness made by VTIP to licensees of the Patents or purchasers of products related to the Patents; or

(b) a breach by VTIP after the Effective Date of any agreement or obligation of C.I.T. under the License Agreement assumed by VTIP under this Agreement.

3.4 The obligation of VTIP to indemnify C.I.T. under this Agreement (including governmental claims or penalties, fines and assessments) shall be subject to the following terms and conditions:

(a) C.I.T. shall give prompt written notice to VTIP of any assertion of liability by a third party which might, give rise to a claim for indemnification, which notice shall state the nature and basis of the assertion and the amount thereof, to the extent known; provided, however, that no delay on the part of C.I.T. in giving notice shall relieve VTIP of any obligation to indemnify unless (and then solely to the extent that) VTIP is prejudiced by such delay. However, notice shall not be required when C.I.T. is named jointly with VTIP in a complaint filed by a third party or when C.I.T. is named in a counter claim or suit in any action, suit, or proceeding (a "Legal Action") in which VTIP is a party.

(b) If any Legal Action is brought against C.I.T. with respect to which VTIP may have an obligation to indemnify C.I.T., the Legal Action shall be defended by VTIP and such defense to include all proceedings for appeal or review which counsel for VTIP shall reasonably deem appropriate.

c) Notwithstanding the provisions of the previous subsection of this Article, until VTIP shall have assumed the defense of any such Legal Action, the defense shall be handled by C.I.T. If the defense of the Legal Action is handled by C.I.T. under the provisions of this subsection, VTIP shall pay all legal and other expenses reasonably incurred by C.I.T. in conducting such defense

(d) In any Legal Action initiated by a third party and defended by VTIP, i) C.I.T. shall have the right to be represented by advisory counsel and accountants, at its own expense,