RECORDATION FORM COVER SHEET 100	10-07-	1008	
RECORDATION FORM COVER SHEET 120° CST - 5 1/11 24 PATENTS ONLY TO: Commissioner of Patents and Trademarks: Please record the attached original document (s) or copyries). Submission Type New			
RECORDATION FORM COVER SHEET		PATENT	
TO: Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(les). Submission Type New	10084	8099	
TO: Commissioner of Patents and Trademarks: Please record the attached original document (s) or copyries). Submission Type New Assignment Security Agreement	RECORDATION F	ORM COVER SHEET 1920 COT -5 MINH: 24	
TO: Commissioner of Patents and Trademarks: Please record the attached original document (s) or copyrles). Submission Type New Resubmission (Non-Recordation) Document ID#: Correction of PTO Error Reel #: Frame # Corrective Document Reel #: Frame # Corrective Document Reel #: Frame # Conveying Party(ies) Mark if additional names of conveying parties attached both Day Name Laura E. Niklason Name Jinming Gao Name Robert S. Langer Name Name Name Name Name Name (line 1) Name (line 2) Address (line 2) Address (line 3) Corrective Name and Address Name Address (line 1) Address (line 1) Address (line 2) Address (line 3)	PATENTS ONLY CERTAMENT		
New		record the attached original document(s) or copy(les).	
Resubmission (Non-Recordation) Document ID#: Correction of PTO Error Reel #: Frame # Document Corrective Document Reel #: Frame # Departmental File Secret File Conveying Party(ies) Mark if additional names of conveying parties attached Execution Date Month Day Year Name Laura E. Niklason Name Jinming Gao Name Robert S. Langer Name Name Name Name Name Name Name Name	1		
Document ID#:			
Correction of PTO Error Reel #:	1 		
Corrective Document Reel #: Frame # Departmental File Secret File Conveying Party(ies) Mark if additional names of conveying parties attached Execution Date Month Day Year O9/09/1998 Name Laura E. Niklason 09/09/1998 Name Jinming Gao 09/08/1998 Name Robert S. Langer 09/14/1998 Name Mark if additional names of receiving parties attached is an assignment and the receiving party is not domicided in the United domicided in the United States, an appointment of a domestic representative is a datended. (Designation must be a separate document from Address (line 2) Address (line 3) Cambridge MA State/Country Zip Code Domestic Representative Name and Address Enter for the first Receiving Party only. Address (line 1) Address (line 2) Address (line 2) Address (line 3) Cambridge Enter for the first Receiving Party only.	\ \		
Reel #: Frame # Departmental File Secret File Conveying Party(ies) Mark if additional names of conveying parties attached Execution Date Month Day Year O9/09/1998 Name Laura E. Niklason 09/09/1998 Name Jinming Gao 09/08/1998 Name Robert S. Langer 09/14/1998 Name Mark if additional names of receiving parties attached is an assignment and the receiving Party Mark if additional names of receiving parties attached Name (line 1) Massachusetts Institute of Technology If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment) Address (line 2) Address (line 3) Cambridge MA O2139 Assignment) Name Address (line 1) Address (line 2) Address (line 3) Addre	Reel #: Frame #	(For use ONLY by U.S. Government Agencies)	
Conveying Party(ies) Mark if additional names of conveying parties attached Execution Date Month Day Year	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Demontrace to File Descrit File	
Name Laura E. Niklason 93/09/1998 Name Jinming Gao 99/08/1998 Name Robert S. Langer 99/14/1998 Name Name Mark if additional names of receiving parties attached 1/1 /	Reel #: Frame #	Departmental File Secret File	
Name Laura E. Niklason Name Jinming Gao Name Robert S. Langer Name Name Mark if additional names of receiving parties attached Name (line 1) Massachusetts Institute of Technology Name (line 2) If document to be recorded is an assignment and the receiving party is not domiciled in the United Address (line 1) 77 Massachusetts Avenue Address (line 2) State/Country Domestic Representative Name and Address Address (line 2) Interpretative Name and Address Enter for the first Receiving Party only. Address (line 2) Address (line 2) Address (line 2) Interpretative Name Int			
Name Jinming Gao 09/08/1998 Name Robert S. Langer 09/14/1998 Name / / / Name / / / Name // / Receiving Party Mark if additional names of receiving parties attached Name (line 1) Massachusetts Institute of Technology If document to be recorded is an assignment and the receiving party is not domiciled in the United Name (line 2) States, an appointment of a domestic representative is attached. (Designation must be a separate document from Address (line 3) Cambridge MA 02139 Assignment) City State/Country Zip Code Domestic Representative Name and Address Enter for the first Receiving Party only. Name Address (line 2) Qaddress (line 2) Qaddress (line 3) Qaddress (line 4) Qaddress (line 5) Qaddress (line 6) Qaddress (line 6) Qaddress (line 7) Qaddress (line 8) Qaddress		Month Day Year	
Name Robert S. Langer 09/14/1998 Name			
Name Name	Name Jinming Gao	09/08/1998	
Name	Name Robert S. Langer	09/14/1998	
Receiving Party Mark if additional names of receiving parties attached Name (line 1) Massachusetts Institute of Technology If document to be recorded is an assignment and the receiving party is not domiciled in the United	Name	/ /	
Name (line 1) Massachusetts Institute of Technology If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Address (line 3) Cambridge MA 02139 Assignment) Address (line 3) Cambridge MA 02139 Assignment) Domestic Representative Name and Address Enter for the first Receiving Party only.	Name	1 1	
Name (line 2) Address (line 1) 77 Massachusetts Avenue Address (line 2) Address (line 2) Address (line 3) Cambridge City City State/Country MA Does not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment) City State/Country Zip Code Domestic Representative Name and Address Enter for the first Receiving Party only. Address (line 1) Address (line 2) Address (line 3)	Receiving Party Mark if additional names of receiving parties attached		
Name (line 2) Address (line 1) 77 Massachusetts Avenue Address (line 2) Address (line 2) Address (line 3) Cambridge City City State/Country MA Does not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment) City State/Country Zip Code Domestic Representative Name and Address Enter for the first Receiving Party only. Address (line 1) Address (line 2) Address (line 3)	Name (line 1) Massachusetts Institute of Technolo	If document to be recorded	
Address (line 1) 77 Massachusetts Avenue Address (line 2) States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment) City State/Country Zip Code Domestic Representative Name and Address Enter for the first Receiving Party only. Name Address (line 1) Address (line 2) Address (line 3)	Traine (into 1) [Indoduction in outdoor Tooling to		
Address (line 1) 77 Massachusetts Avenue Address (line 2) States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment) City State/Country Zip Code Domestic Representative Name and Address Enter for the first Receiving Party only. Name Address (line 1) Address (line 2) Address (line 3)	Name (line 2)		
Address (line 2) Address (line 3) Cambridge City State/Country Name Address (line 1) Address (line 2) Address (line 3)	Address (line 1) 77 Massachusetts Avenue		
Address (line 3) Cambridge MA O2139 Assignment) Domestic Representative Name and Address Enter for the first Receiving Party only. Name Address (line 1) Address (line 2) Address (line 3)	, , , , , , , , , , , , , , , , , , , ,	domestic representative is	
Address (line 3) Cambridge MA O2139 Assignment) City State/Country Zip Code Domestic Representative Name and Address Enter for the first Receiving Party only. Name Address (line 1) Address (line 2) Address (line 3)	Address (line 2)		
City State/Country Zip Code Domestic Representative Name and Address Enter for the first Receiving Party only. Name Address (line 1) Address (line 2) Address (line 3)	Address (line 3) Cambridge MA	·	
Name Address (line 1) Address (line 2) Address (line 3)	City State/Country		
Address (line 1) Address (line 2) Address (line 3)	·	Enter for the first Receiving Party only.	
Address (line 2) Address (line 3)			
Address (line 3)			
7441000 (11110 0)			
Address (line 4)			
	Address (line 4)	750	
END METICE LIGE WILL A			
FOR OFFICE USE ONLY 15 1000		7000	

Mail documents to be recorded with required cover sheet(s) information to:

Box Assignment, Commissioner of Patents and Trademarks, Washington, MC. 20231

PATENT

REEL: 9486 FRAME: 0243

	Page 2	PATENT		
Correspondent Name and Address				
Area Code and Telephone Number (617) 248-7000				
Name Patent Administrat	or			
Address (line 1) Testa, Hurwitz & T	hibeault, LLP			
Address (line 2) High Street Tower				
Address (line 3) 125 High Street	Address (line 3) 125 High Street			
Address (line 4) Boston, MA 02110				
Pages Enter the total number of p including any attachments	ages of the attached conveyance docu	Copies of Three (3) Assignments (total of 6 pages)		
Application Number(s) or Patent Number(s) Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property). Patent Application Number(s) 09/109,427 09/109,427 09/109,427				
Patent Cooperation Treaty (PCT Enter PCT application number only if a U.S. Application Number has not been assigned.	PCT PCT PCT	PCT PCT		
Number of Properties	Enter the total number of properties	involved. # 1		
Fee Amount	Fee Amount for Properties Listed (37 C	FR 3.41): \$ 40.00		
Method of Payment: Enclosed ☑ Deposit Account ☐ Deposit Account (Enter for payment by deposit account or if additional fees can be charged to the account) Deposit Account Number # 20-0531				
	Authorization to charge additi	ional fees: Yes 🛛 No 🗌		
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. Charges to deposit account are authorized, as indicated herein.				
Michael J. Twomey	Typichael & Twome	y Sept. 30, 1998		
Name of Person Signing	/ Sighature	O Date		

Mail documents to be recorded with required cover sheet(s) information to:

Box Assignment, Commissioner of Patents and Trademarks, Washington, D.C. 20231

395MJT5473/89.660684-1

REEL: 9486 FRAME: 0244

ASSIGNMENT

WHEREAS, I, Laura E. Niklason, along with Jinming Gao and Robert S. Langer, am a co-inventor of one or more inventions described and disclosed in the following application for Letters Patent of the United States:

TITLE: Tissue-Engineered Constructs

SERIAL NO.: 09/109,427 FILED: July 2, 1998;

WHEREAS, the Massachusetts Institute of Technology (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts, and having a usual place of business at 77 Massachusetts Avenue, Cambridge, Massachusetts, 02139, desires to acquire an interest therein, in accordance with agreements duly entered into with me;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, my entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the inventions described in said application. together with my entire right, title and interest in and to said application and such Letters Patent as may issue thereon or claim priority under international convention; said inventions. applications and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full 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 and sale not been made; I hereby convey all of my rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. I hereby acknowledge that this assignment, being of my entire right, title and interest in and to said inventions, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all Letters Patent to ASSIGNEE for its own name as assignee of my entire right, title and interest therein;

AND, I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including: the execution of applications for patents in foreign countries; the execution of substitution, reissue, divisional or continuation applications; and preliminary or other statements or the giving

Assignment Page 2

of testimony in any interference or other proceeding in which said inventions or any application or patent directed thereto may be involved;

AND, I hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, I have hereunto set my hand on the date set forth below.

Inventor: Laura E Niklasan

Commonwealt of Massachusetts

County of Grange, N'

) ss

Subscribed and sworn to before me, by the above-named Laura E. Niklason this 2+ day of day of 1998.

Notary Public

My Commission Expires: 6/15/2000.

395MJT5473/89.638906-1

ASSIGNMENT

WHEREAS, I, Jinming Gao, along with Laura E. Niklason and Robert S. Langer, am a co-inventor of one or more inventions described and disclosed in the following application for Letters Patent of the United States:

TITLE: Tissue-Engineered Constructs

SERIAL NO.: 09/109,427 FILED: July 2, 1998;

WHEREAS, the Massachusetts Institute of Technology (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts, and having a usual place of business at 77 Massachusetts Avenue, Cambridge, Massachusetts, 02139, desires to acquire an interest therein, in accordance with agreements duly entered into with me:

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, my entire right, title and interest in and throughout the United States of America. its territories and all foreign countries, in and to the inventions described in said application, together with my entire right, title and interest in and to said application and such Letters Patent as may issue thereon or claim priority under international convention; said inventions. applications and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full 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 and sale not been made; I hereby convey all of my rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. I hereby acknowledge that this assignment, being of my entire right, title and interest in and to said inventions, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all Letters Patent to ASSIGNEE for its own name as assignee of my entire right, title and interest therein;

AND, I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including: the execution of applications for patents in foreign countries; the execution of substitution, reissue, divisional or continuation applications; and preliminary or other statements or the giving

Assignment Page 2

of testimony in any interference or other proceeding in which said inventions or any application or patent directed thereto may be involved;

AND, I hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, I have hereunto set my hand on the date set forth below.

Inventor: Jinming Gao

OHIO

Commonwealt of Massachusetts

County of Cuyattoga

Subscribed and sworn to before me, by the above-named Jinming Gao this <u>8</u> day of <u>Jeptems.ov</u>, 1998. My Commission Expires: 4/24/2010 A. Leiger

Cuyattoga
OHio

395MJT5473/89.638937-1

ASSIGNMENT

WHEREAS, I, Robert S. Langer, along with Laura E. Niklason and Jinming Gao, am a co-inventor of one or more inventions described and disclosed in the following application for Letters Patent of the United States:

TITLE: Tissue-Engineered Constructs

SERIAL NO.: 09/109,427 FILED: July 2, 1998;

WHEREAS, the Massachusetts Institute of Technology (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts, and having a usual place of business at 77 Massachusetts Avenue, Cambridge, Massachusetts, 02139, desires to acquire an interest therein, in accordance with agreements duly entered into with me;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, my entire right, title and interest in and throughout the United States of America. its territories and all foreign countries, in and to the inventions described in said application, together with my entire right, title and interest in and to said application and such Letters Patent as may issue thereon or claim priority under international convention; said inventions. applications and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full 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 and sale not been made; I hereby convey all of my rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. I hereby acknowledge that this assignment, being of my entire right, title and interest in and to said inventions, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all Letters Patent to ASSIGNEE for its own name as assignee of my entire right, title and interest therein;

AND, I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including: the execution of applications for patents in foreign countries; the execution of substitution, reissue, divisional or continuation applications; and preliminary or other statements or the giving

Assignment Page 2

of testimony in any interference or other proceeding in which said inventions or any application or patent directed thereto may be involved;

AND, I hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, I have hereunto set my hand on the date set forth below.

Inventor:

Róbert S. Langer

Commonwealt of Massachusetts

County of Suffeets

) ss

Subscribed and sworn to before me, by the above-named Robert S. Langer this 14 day of

Seplember, 1998.

RECORDED: 09/30/1998

Notary Public

My Commission Expires: 9-29-2000

395MJT5473/89.638937-1

Sh