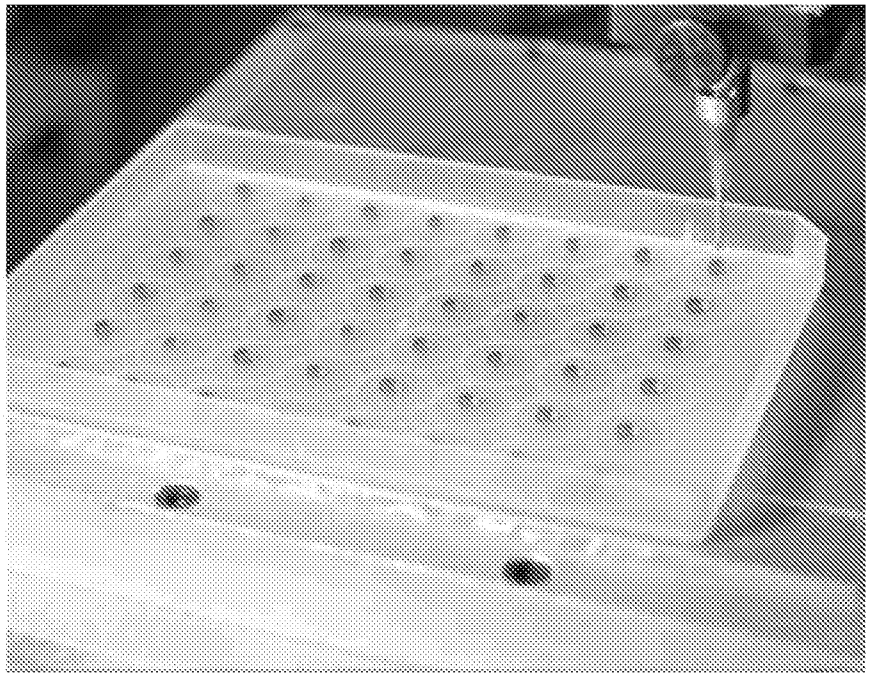


FIG. 1A

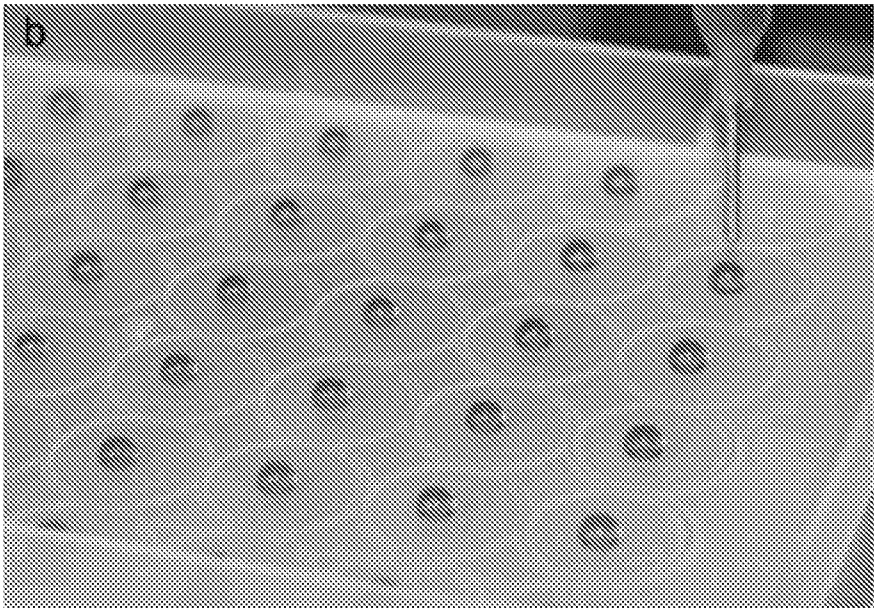


FIG. 1B

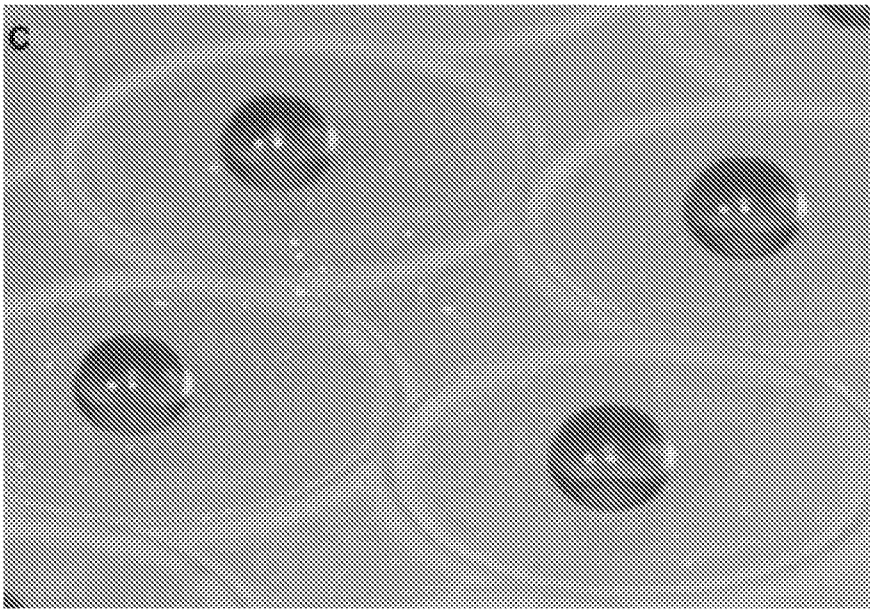


FIG. 1C

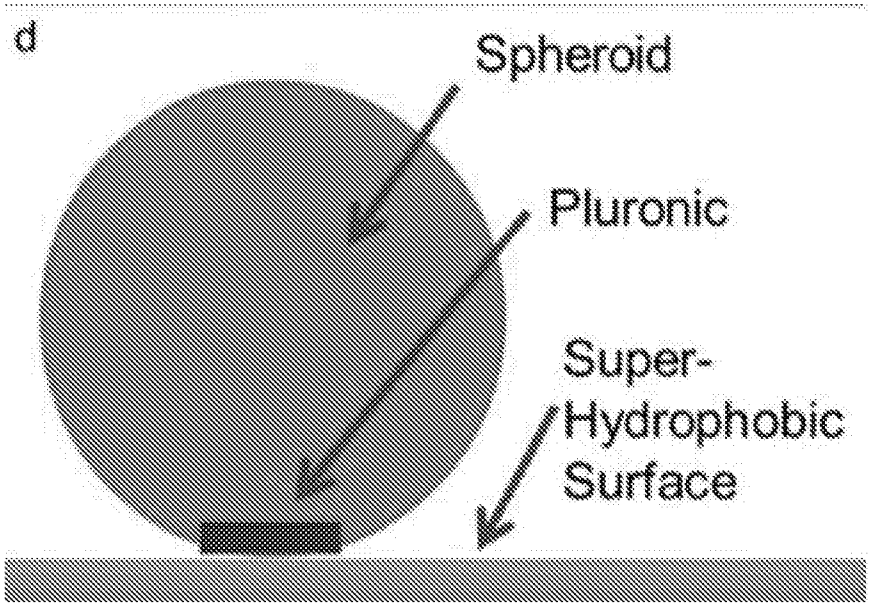


FIG. 1D

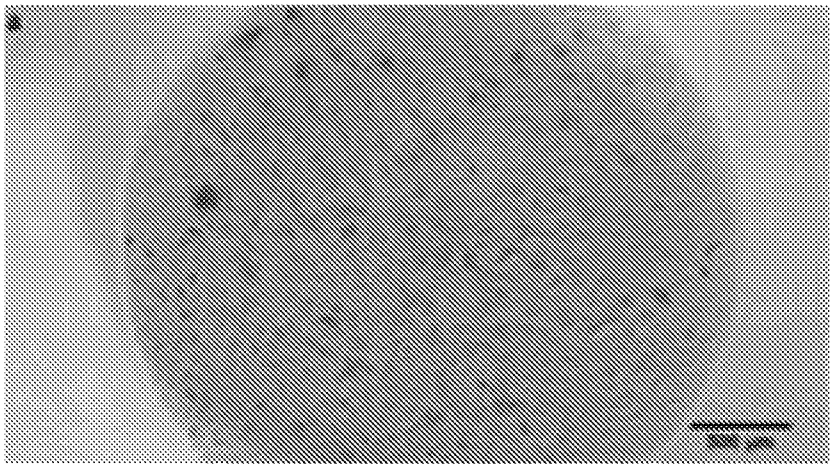


FIG. 2A

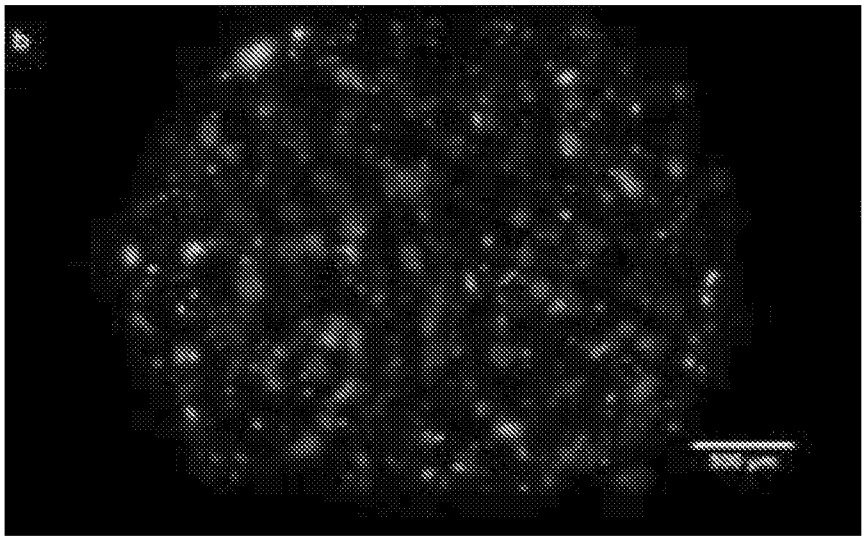


FIG. 2B

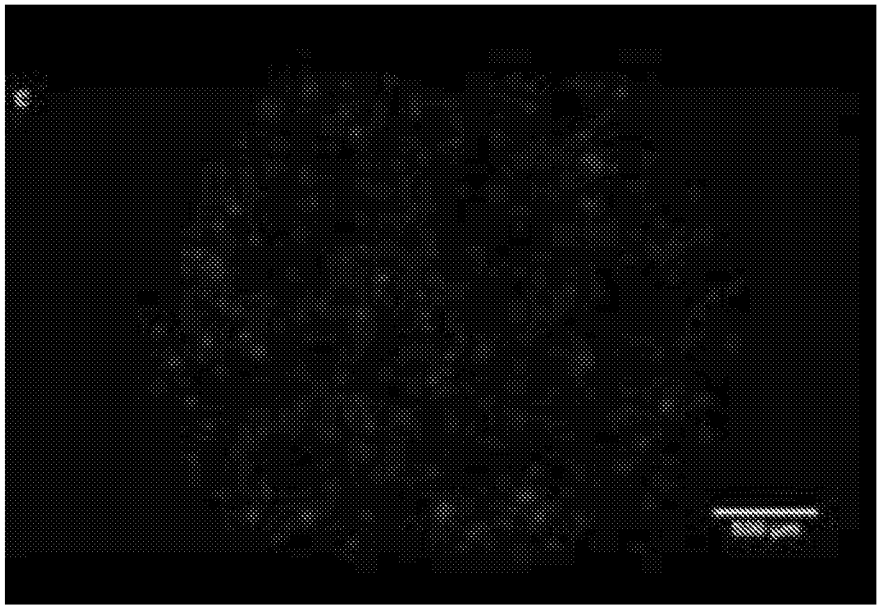


FIG. 2C

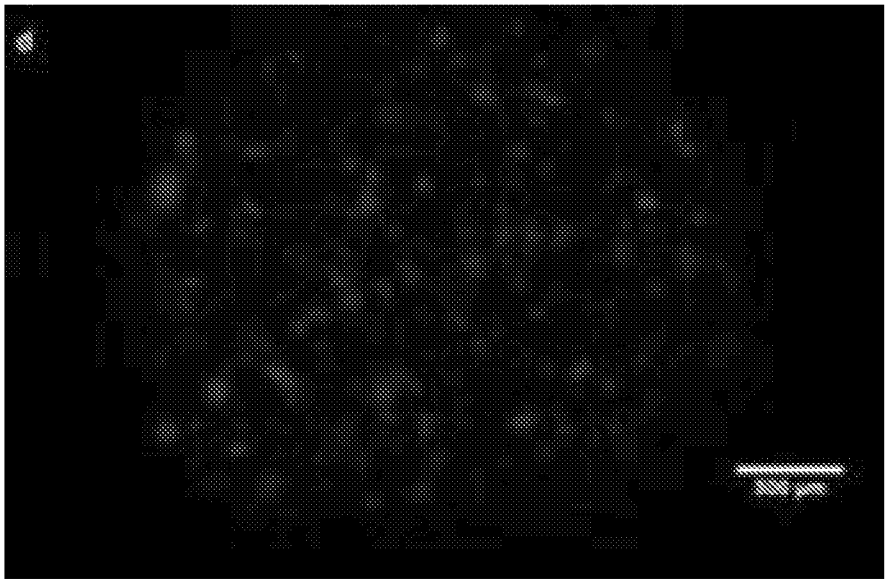


FIG. 2D

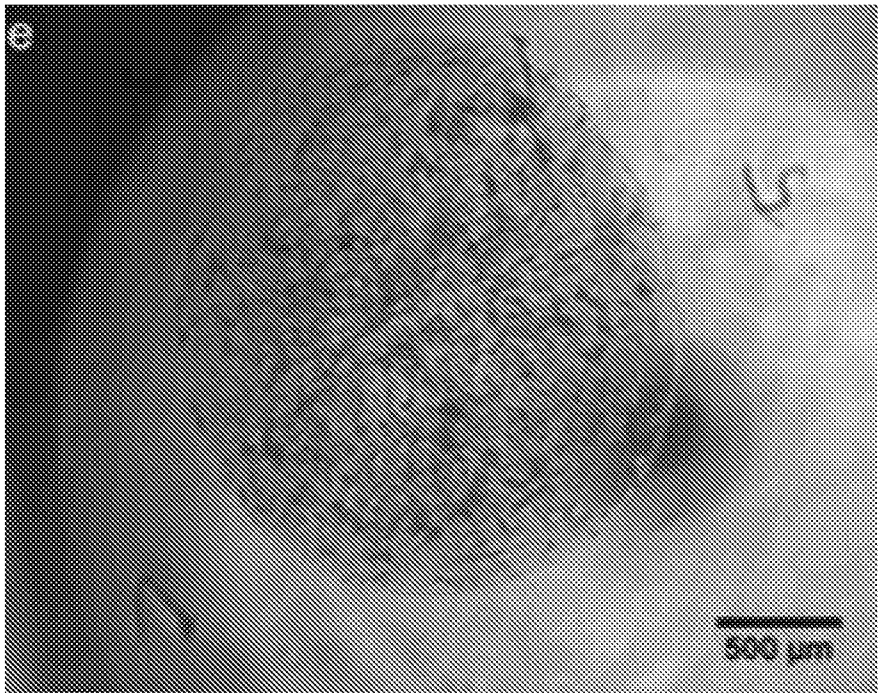


FIG. 2E

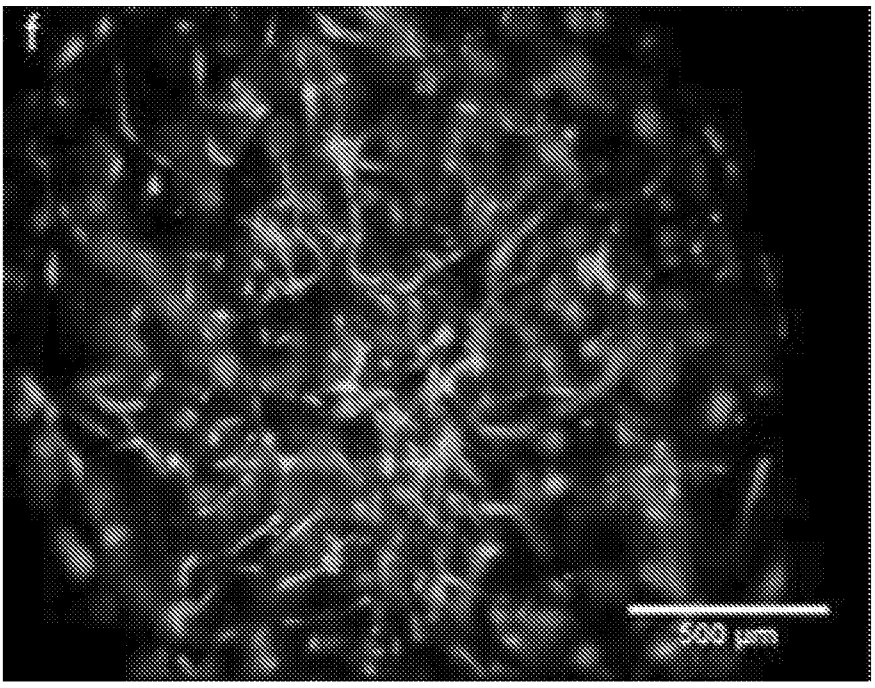


FIG. 2F

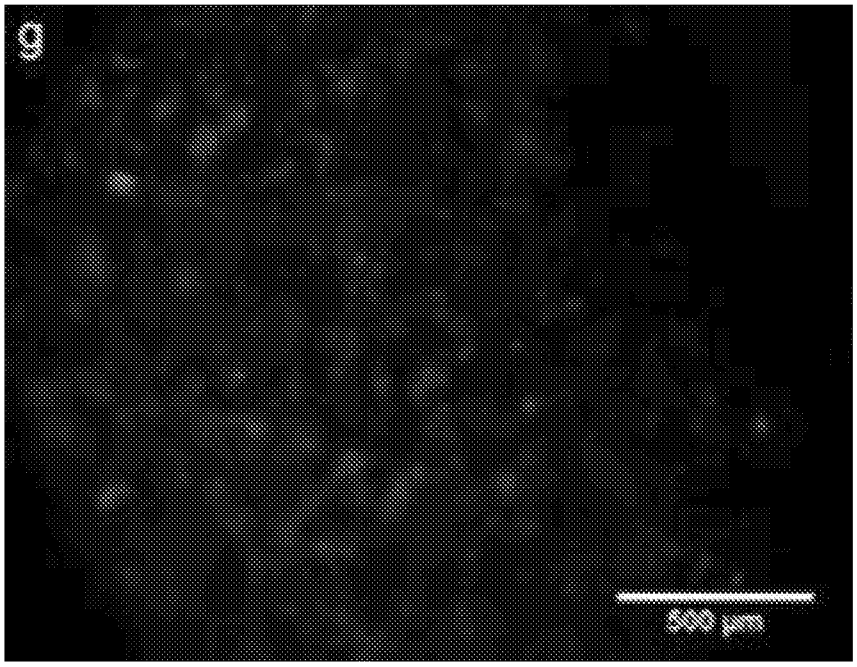


FIG. 2G

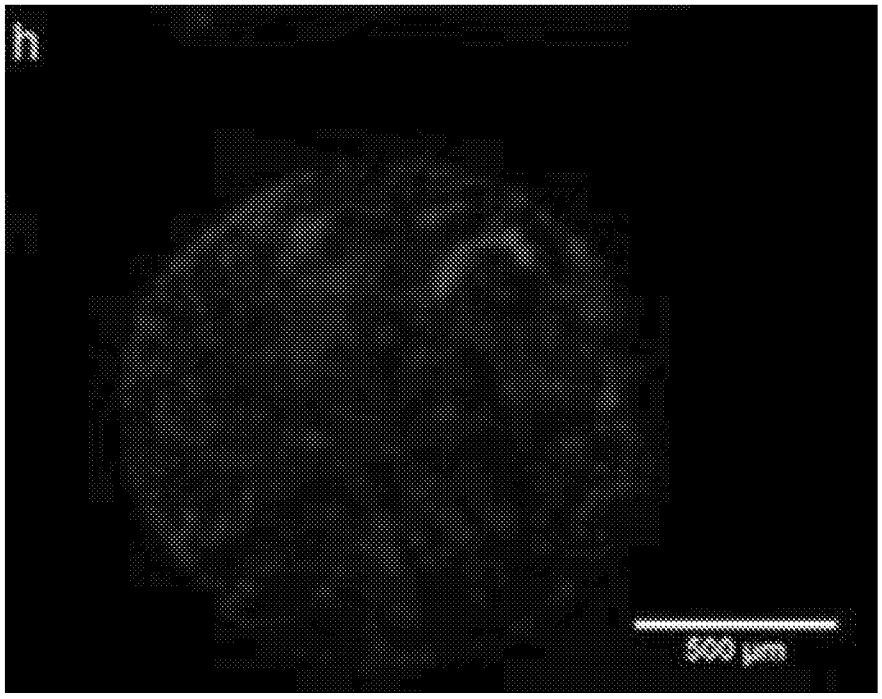


FIG. 2H

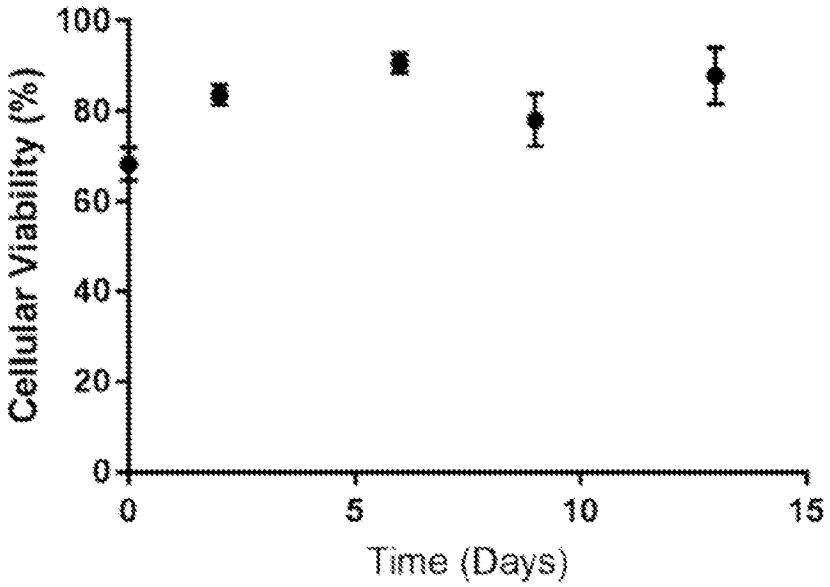


FIG. 3

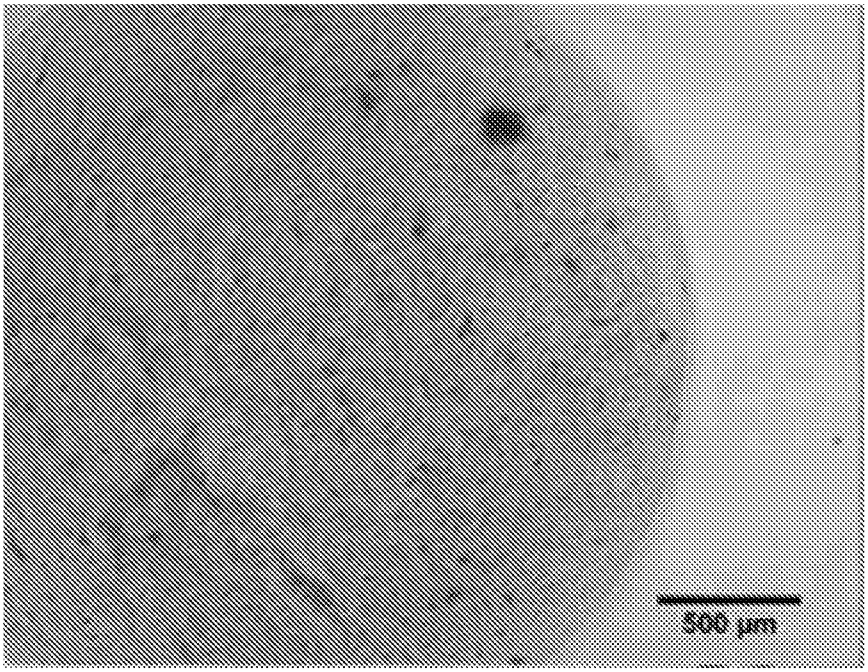


FIG. 4A

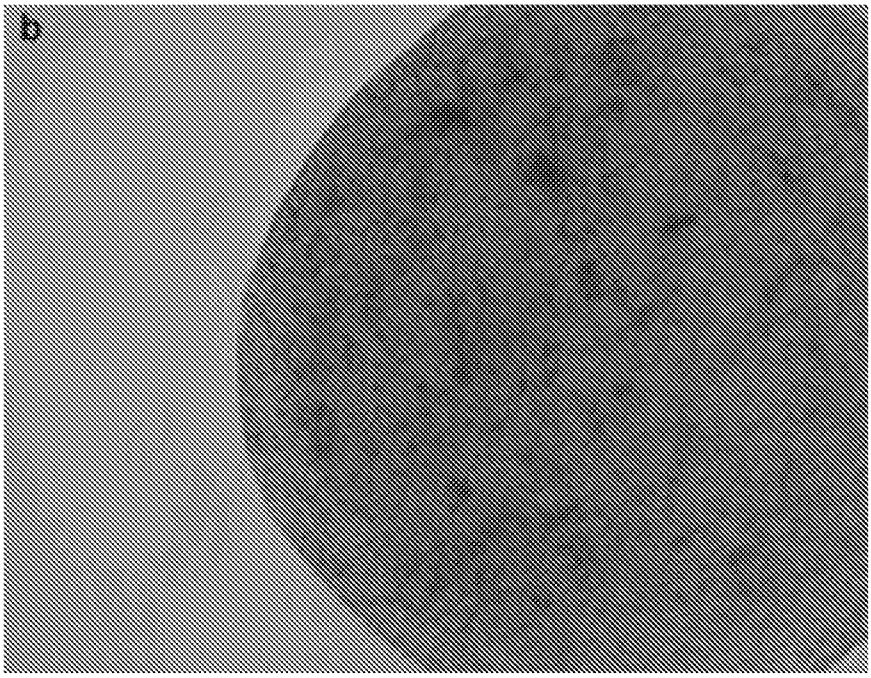


FIG. 4B

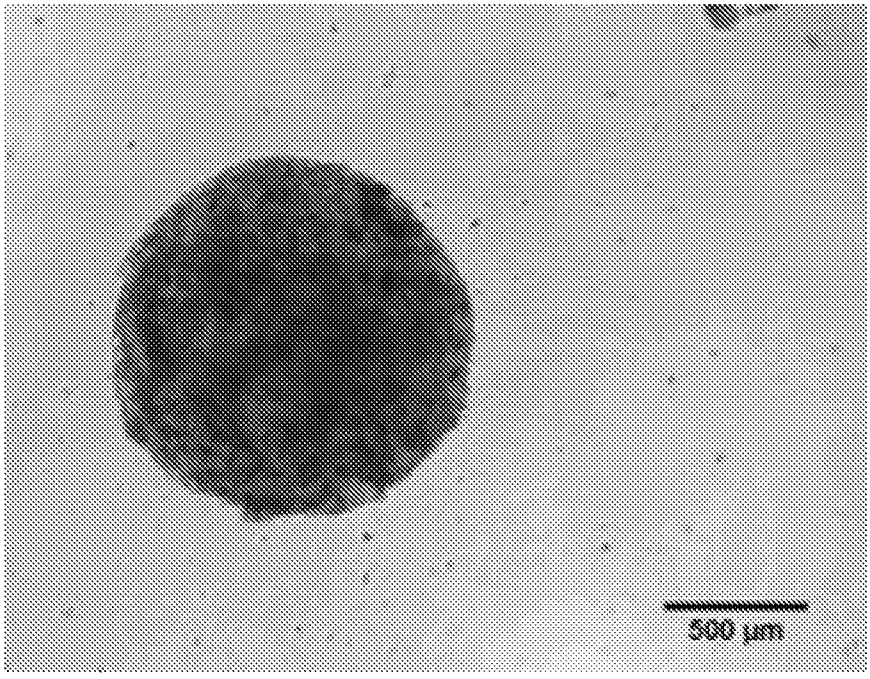


FIG. 4C

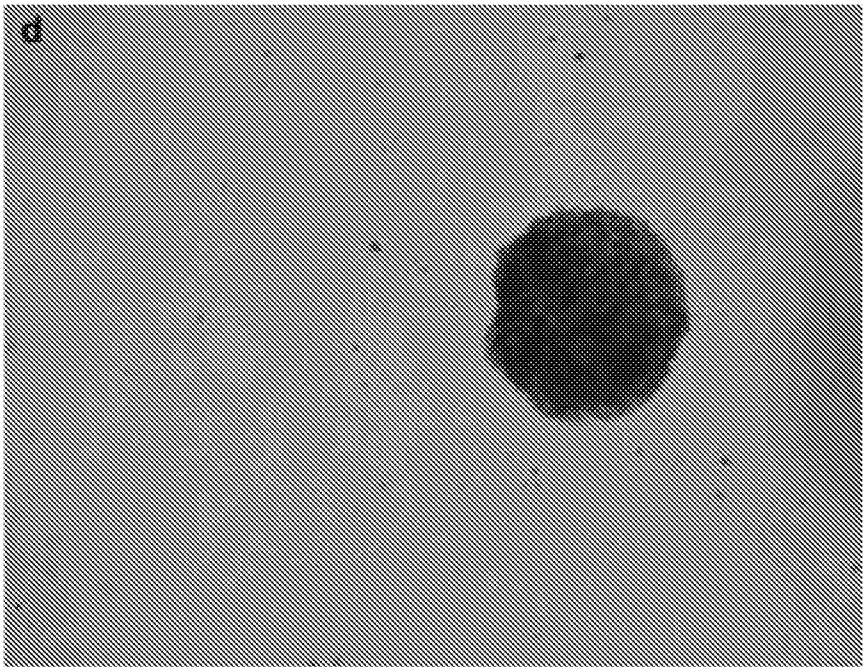

d

FIG. 4D

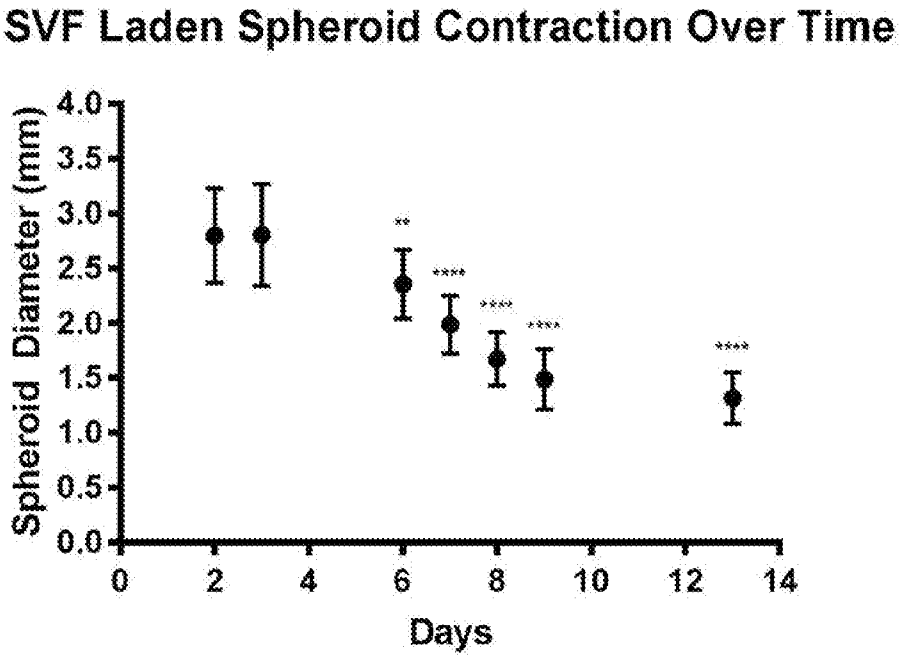

SVF Laden Spheroid Contraction Over Time
Spheroid Diameter (mm)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
2
4
6
8
10
12
14
Days
**
****
****
****
****

FIG. 5

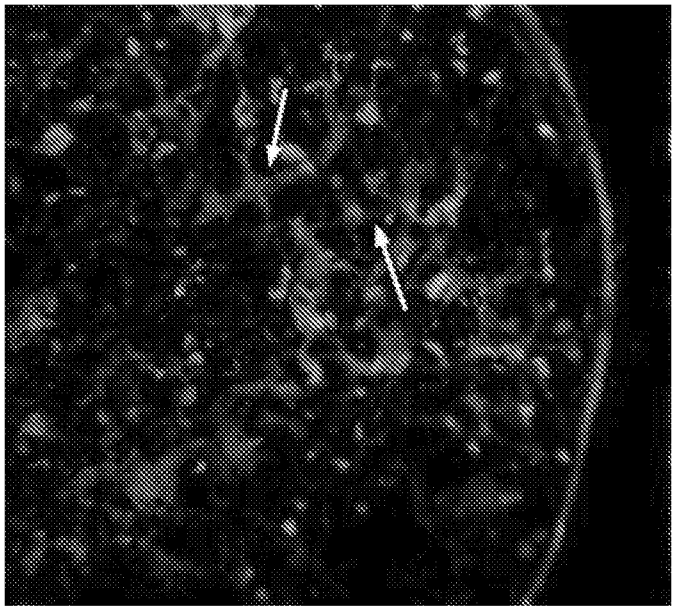


FIG. 6A

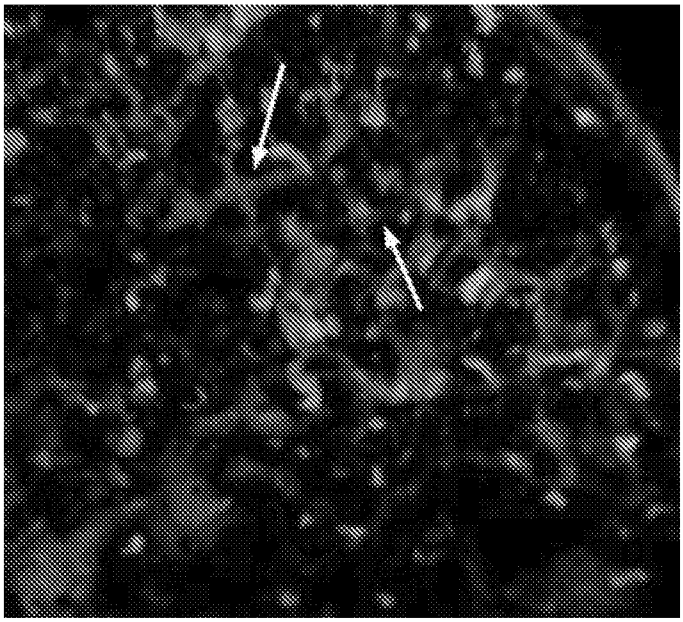


FIG. 6B

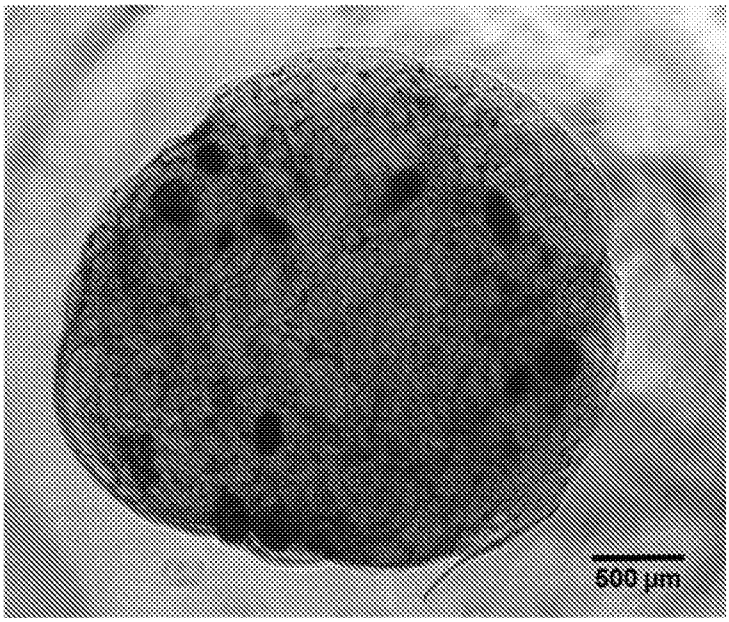


FIG. 7A

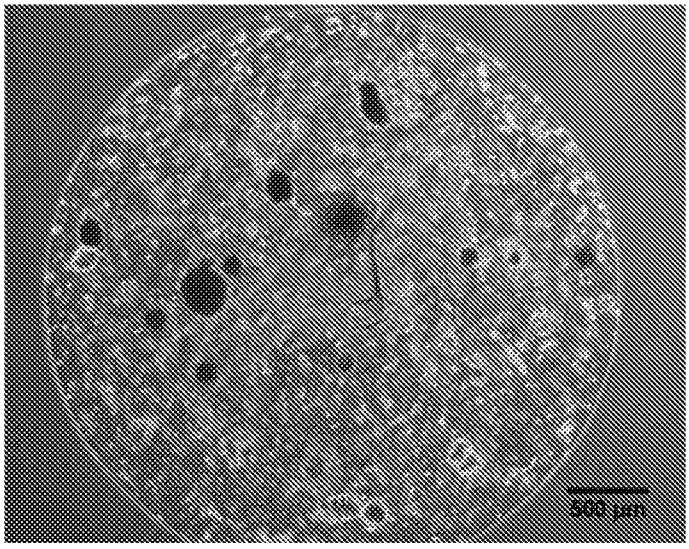


FIG. 7B

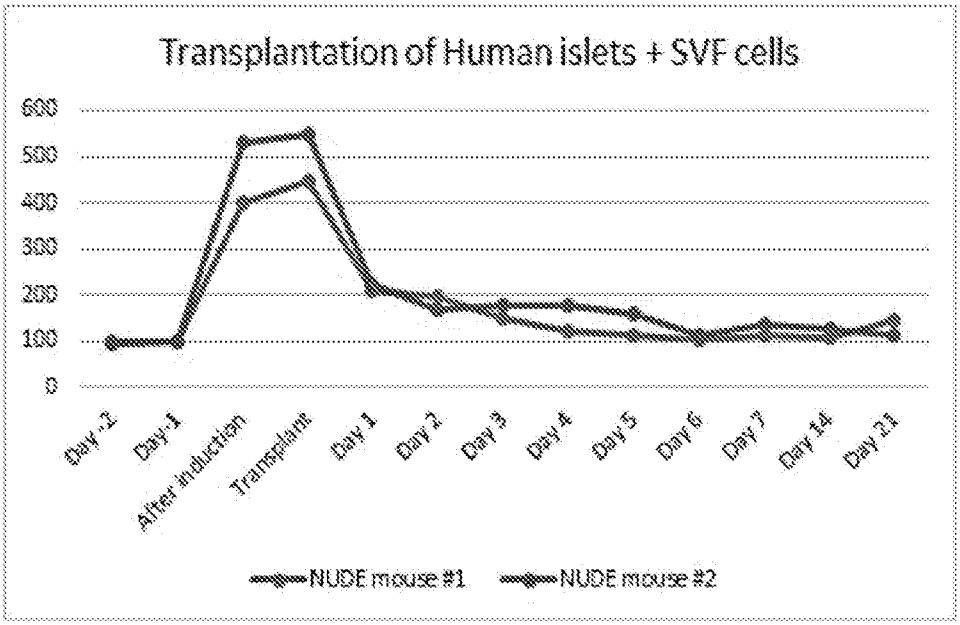

Transplantation of Human islets + SVF cells
600
500
400
300
200
100
0
Day -2
Day -1
After induction
Transplant
Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Day 7
Day 14
Day 21
NUDE mouse #1
NUDE mouse #2

FIG. 8

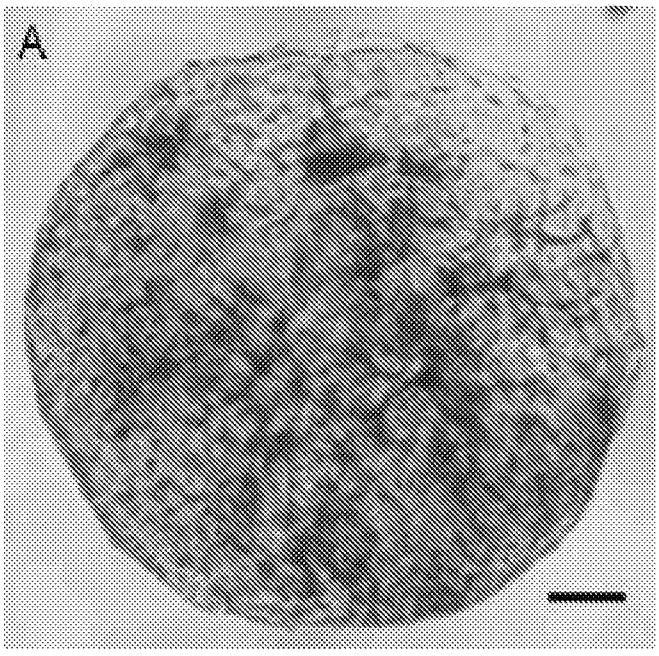

A

FIG. 9A

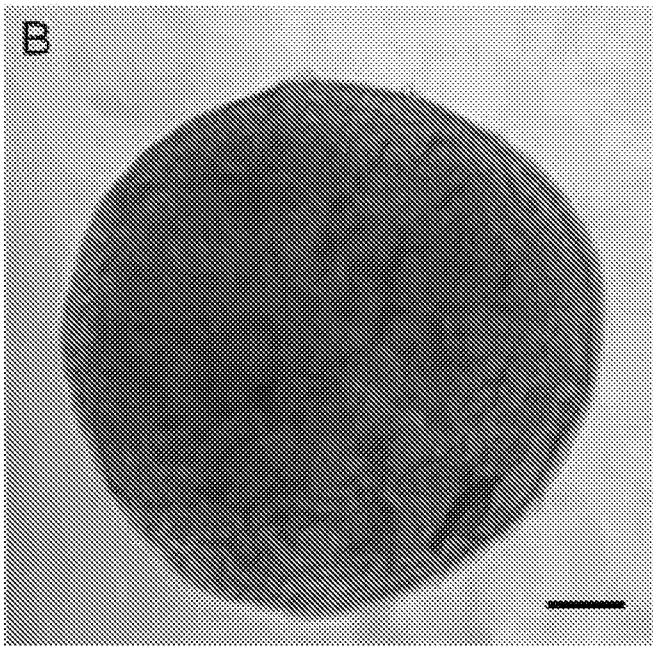


FIG. 9B

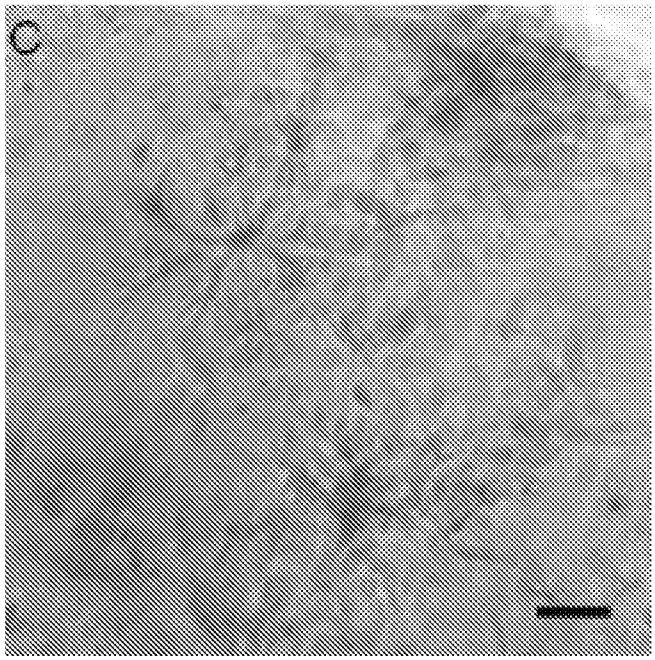


FIG. 9C

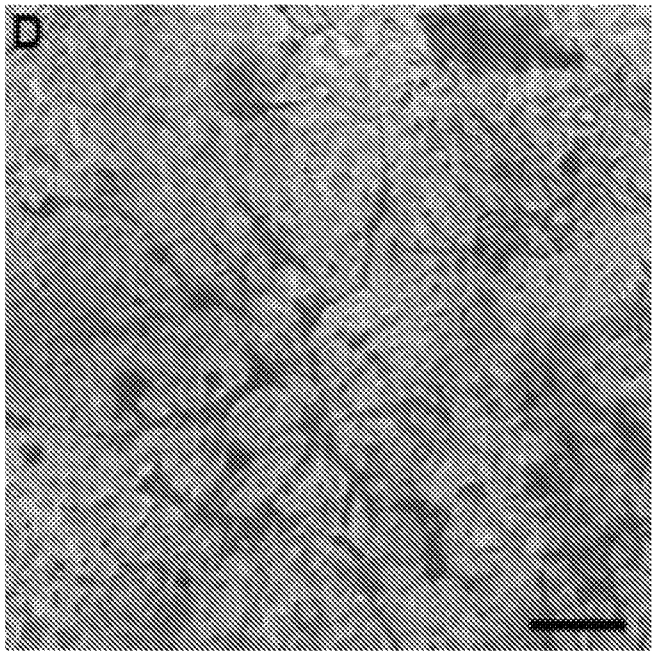


FIG. 9D

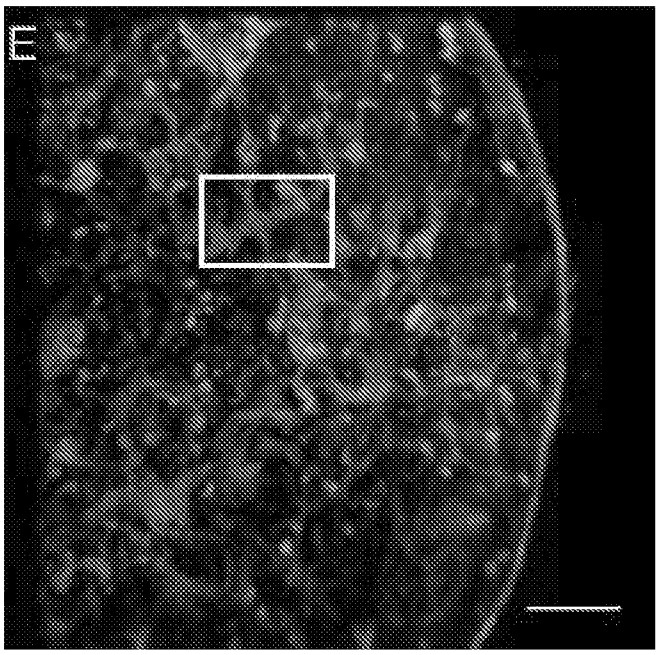


FIG. 9E

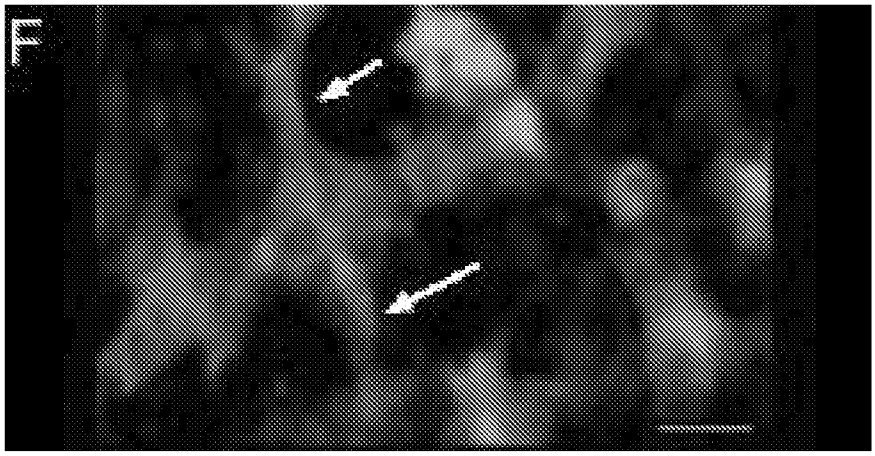


FIG. 9F

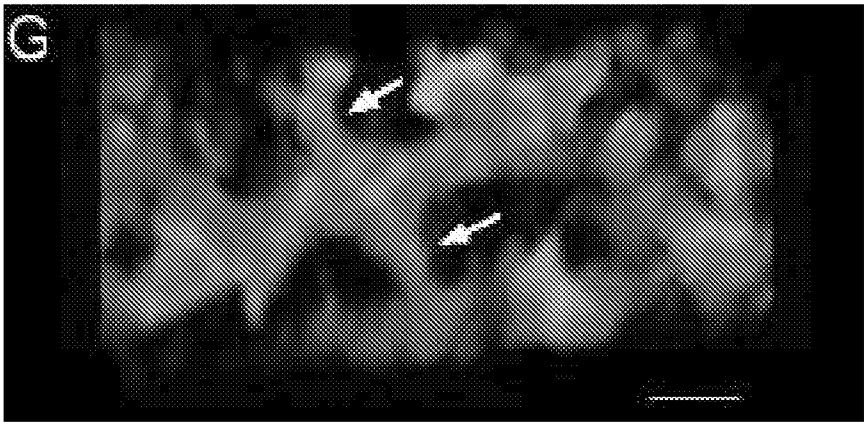


FIG. 9G

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US17/39483

A. CLASSIFICATION OF SUBJECT MATTER

IPC - A61L 27/52, 27/54, 27/56, 27/24; C08J 3/24; A61K 35/12, 35/39; C12N 5/0735 (2017.01)

CPC - A61L 27/52, 27/24, 27/54, 27/56; C08J 3/24; C08L 5/10; B28B 1/001; A61K 35/12, 35/39; C12N 5/06, 5/0623

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
See Search History document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2015/027086 A1 (UNIVERSITY OF LOUISVILLE RESEARCH FOUNDATION, INC.) 26 February 2015; paragraphs [0002], [0007]-[0008], [0011], [0017], [0022], [0030], [0034], [0050]; Figure 7	1-21
Y	US 2014/0012407 A1 (ORGANOVO, INC.) 09 January 2014; paragraph [0122]	1-21
Y	WO 2015/066705 A1 (UNIVERSITY OF IOWA RESEARCH FOUNDATION) 07 May 2015; paragraphs [0145], [0328]	5, 8, 20
Y	(SIMPSON, JT et al.) Superhydrophobic materials and coatings: a review. Reports on Progress in Physics. 16 July 2015, Vol. 78; pages 1-14; page 3, 1st column, 3rd paragraph; DOI: 10.1088/0034-4885/78/8/086501	13-14, 19
P, X	(MIR, TA et al.) Three-Dimensional Bioprinting: Toward the Era of Manufacturing Human Organs as Spare Parts for Healthcare and Medicine. Tissue Engineering. 21 March 2017, Vol. 23, No. 3; pages 245-256; DOI: 10.1089/ten.teb.2016.0398	1-21

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
5 September 2017 (05.09.2017)	29 SEP 2017
Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (January 2015)