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— with international search report (Art. 21(3))

[Continued on next page]

(54) Title: METHOD FOR PRODUCING NANOSURFACES WITH NANO, MICRON, AND/OR SUBMICRON STRUCTURES ON A POLYMER

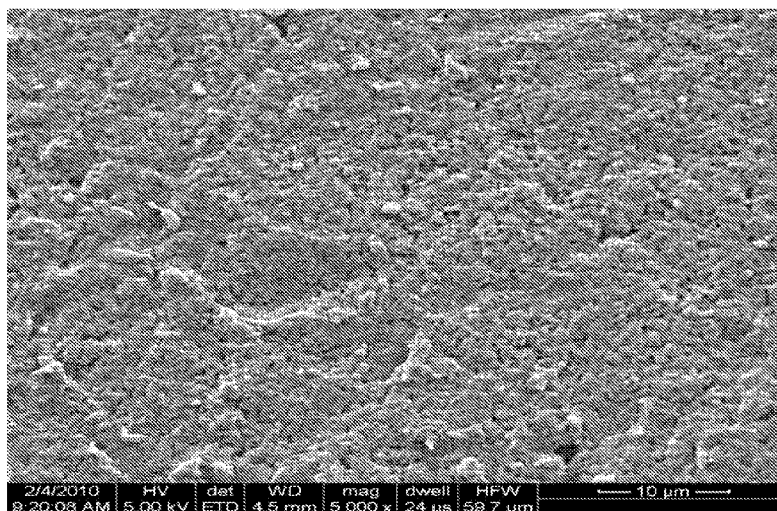


FIG. 12

(57) Abstract: The present invention relates to a modified polymeric material. The modified polymeric material includes a polymer having a modified surface, where the modified surface includes nano, micron, and/or submicron scale features. The present invention also relates to an implant comprising the modified polymeric material. The present invention further relates to processes for making the modified polymeric material and the implant.



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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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26 April 2012

**A. CLASSIFICATION OF SUBJECT MATTER***C08J 7/00(2006.01)i, C08F 8/00(2006.01)i, C08G 65/48(2006.01)i, C08G 63/91(2006.01)i, A61L 27/14(2006.01)i*

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)

C08J 7/00; A61F 2/28; B32B 7/02; B82B 3/00; A61F 2/06; B05D 1/08; C12N 5/08; B32B 9/04; C08J 7/04; A61F 2/04; B82Y 30/00

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) &amp; Keywords: modified polymeric material, implant, high vacuum treatment, incubating

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2007-0259427 A1 (DANIEL STOREY et al.) 08 November 2007 See claims 1,18,20-22,24,27, paragraphs [0003], [0077], [0078].	1-12 13-26
PX PA	US 2010-0168506 A1 (MOON MYOUNG-WOON et al.) 01 July 2010 See abstract, claims 1,2,9, paragraphs [0028]-[0030]	1-12 13-26
A	KR 10-2009-0088224 A (인하대학교 산학협력단) 19 August 2009 See the whole document.	1-26
A	US 7138180 B2 (DENES, F. et al.) 21 November 2006 See the whole document.	1-26
A	JP 2005-281679 A (MITSUBISHI CHEM MKV CO) 13 October 2005 See the whole document.	1-26

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

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"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 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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

06 MARCH 2012 (06.03.2012)

Date of mailing of the international search report

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**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2.  Claims Nos.: 28, 31, 32, 34, 36, 37  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
Claims 28, 31, 32, 34, 36 and 37 refer to claims 27, 30, 33, 35 respectively, which are not drafted in accordance with the second and third sentences of Rule 6.4(a).
3.  Claims Nos.: 27, 29, 30, 33, 35, 38  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

- Remark on Protest**
- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2011/041490**

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JP 2005-281679 A	13.10.2005	None	