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(71) Applicants and

(72) Inventors: **BAKER, Kevin, C.** [US/US]; 3227 Albert Avenue, Apartment No. 326, Royal Oak, MI 48073 (US).
DRELICH, Jaroslaw, W. [US/US]; 706 West lacker Avenue, Houghton, MI 49931 (US).

(74) Agent: **VANOPHEM, Remy, J.**; VanOphem & Vanopphem, P.C., 51543 Van Dyke Avenue, Shelby Township, MI 48316-4447 (US).

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(54) Title: DEPOSITION OF CALCIUM-PHOSPHATE COATINGS ON METALLIC AND POLYMERIC SURFACES

(57) Abstract: The invention is a method for coating an implantable medical device The surface of the substrate used, in the raw condition, following cleaning and physiochemical pretreatments, is coated using a biomimetic process in a supersaturated calcium phosphate solution (SCPS) to obtain the desired coating coverage and morphology maintaining a ratio of calcium to phosphorus pH, as well as solution temperature plays a major role in yielding precipitation of the proper phase of CaP so that composition, morphologies, crystal structures, and solubility characteristics are optimal for the deposition process The biomimetic coating adds osteoconductivity, to maximize bone growth This attribute is acquired by using therapeutic agents (bone morphogeny proteins, growth factors, stem cells, etc) The therapeutic agents are co-precipitated and bonded with the CaP directly A dipping process into BMP provides an initial burst of cellular activity Optionally stem and/or progenitor cells are cultured on the surface of the implant

INTERNATIONAL SEARCH REPORT

International application No

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C DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X		1-1 1, 19, 22, 24
Y	US 2005/0170070 A 1 (Layrolle et al) 04 August 2005 (04 08 2005) Entire document, especially para[001 1], para[0017] - para[0022], para[0027] and para[0089] - para[0092]	12-18, 20-21, 23, 25-27
Y	US 3,984,914 A (SCHWARTZ) 12 October 1976 (12 10 1976) col 3, ln 2-20	12, 17, 21, 26
Y	US 2004/0126596 A 1 (ZAMORA et al) 01 July 2004 (01 07 2004) para[0012], para[0047] and para[0072]	13, 18, 25, 27
Y	US 2003/01 13438 A 1 (LIU et al) 19 June 2003 (19 06 2003) para[0013] and para[0044]	14-18
Y	US 2004/0258726 A 1 (STUPP et al) 23 December 2004 (23 12 2004) para(0004] - para[001 1]	20, 23
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