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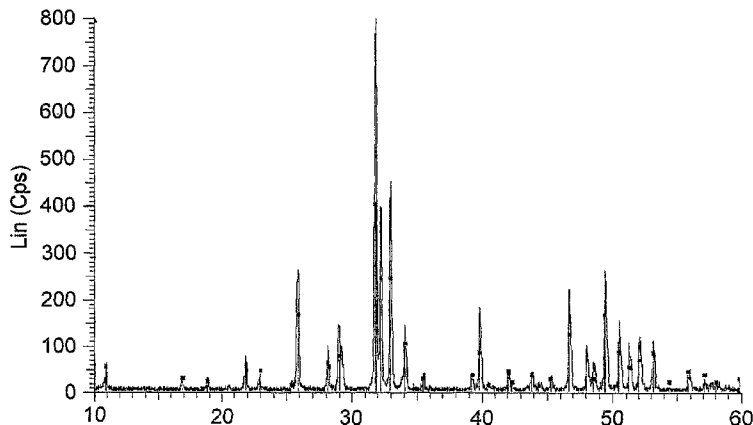
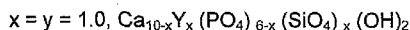
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[Continued on next page]

(54) Title: BIOMEDICAL MATERIALS



JS68 1200 degrees - File: JS68 1200 .RAW - Type 2Th/Th locked-  
Start: 10.000° - End: 60.000° - Step: 0.020° - St

09-0432(l) - Hydroxylapatite, - syn - Ca5(PO4)3(OH) - Y: 50.00% - d x  
by: 1. - WL: 1.5406 - 0 l/c PDF 1. -

(57) Abstract: A synthetic calcium phosphate-based biomedical material comprising silicon and a trivalent cation.

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**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/GB2006/002411

**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. C04B35/447 C01B25/32 A61L27/46 A61L27/42 A61L27/32  
 A61L24/02 A61L27/12

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)  
 C04B C01B A61L

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

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

EPO-Internal, INSPEC, COMPENDEX, WPI Data, PAJ, CHEM ABS Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ITO J: "SILICATE APATITES AND OXYAPATITES" AMERICAN MINERALOGIST, WASHINGTON, DC, US, US, vol. 53, no. 516, May 1968 (1968-05), pages 890-907, XP008057476 ISSN: 0003-004X page 892, paragraph 3 - page 892, last paragraph; table 3 page 898, paragraph 2; figure 5 ----- -/--	1-11, 14-17, 19-29, 31-33, 35-40, 43-45

Further documents are listed in the continuation of Box C.

See patent family annex.

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- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
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- \*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

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- \*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
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- \*Z\* document member of the same patent family

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Raming, Tomas

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/GB2006/002411

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>IMBACH J ET AL: "SYNTHESIS AND NMR CHARACTERIZATION (1H AND 31P MAS) OF THE FLUORINE-FREE HYDROXYLAPATITE-BRITHOLITE-(Y) SERIES" AMERICAN MINERALOGIST, WASHINGTON, DC, US, US, vol. 87, no. 7, 2002, pages 947-957, XP008057475 ISSN: 0003-004X page 947, right-hand column; table 1</p>	1-11, 14-17, 43-45
X	<p>ARCOS D ET AL: "Crystal-chemical characteristics of silicon-neodymium substituted hydroxyapatites studied by combined X-ray and neutron powder diffraction" CHEMISTRY OF MATERIALS AMERICAN CHEM. SOC USA, vol. 17, no. 1, 11 January 2005 (2005-01-11), pages 57-64, XP002360025 ISSN: 0897-4756 page 58, left-hand column, paragraph 3</p>	1-16,43, 44
Y	<p>page 60, paragraph 1 - page 61, last paragraph</p>	18-22, 27-40
X	<p>ZASLAVSKAYA, L. V. ET AL: "Synthesis of the modified bioactive calcium hydroxyapatite" SCIENCE FOR MATERIALS IN THE FRONTIER OF CENTURIES: ADVANTAGES AND CHALLENGES, INTERNATIONAL CONFERENCE, KYIV, UKRAINE, NOV. 4-8, 2002, VOLUME 1, 281-282. EDITOR(S): SKOROKHOD, VALERY V. PUBLISHER: FRANTSEVICH INSTITUTE FOR PROBLEMS OF MATERIALS SC, 2002, XP008057472 page 281, left-hand column, paragraph 3 - right-hand column, paragraph 1 page 282, right-hand column, lines 6-9</p>	1,2,10, 12-21, 23, 25-27, 29, 31-35, 37-40, 43-45
X	<p>EL OUENZERFI R ET AL: "Investigation of the CaO-La2O3-SiO2-P2O5 quaternary diagram. Synthesis, existence domain, and characterization of apatitic phosphosilicates" SOLID STATE IONICS, NORTH HOLLAND PUB. COMPANY. AMSTERDAM, NL, vol. 156, no. 1-2, January 2003 (2003-01), pages 209-222, XP004396180 ISSN: 0167-2738 table 2b</p>	1,2, 10-16, 43,44

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## INTERNATIONAL SEARCH REPORT

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PCT/GB2006/002411

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>EL OUENZERFI R ET AL: "Luminescent properties of rare-earth (Eu<sup>3+</sup>, Eu<sup>2+</sup> and Ce<sup>3+</sup>) doped apatitic oxyphosphosilicates"</p> <p>JOURNAL OF LUMINESCENCE, AMSTERDAM, NL, vol. 102-103, May 2003 (2003-05), pages 426-433, XP004416566 ISSN: 0022-2313 the whole document</p>	<p>1,2,10, 11, 14-16, 43,44</p>
Y	<p>ARCOS D ET AL: "Silicon incorporation in hydroxyapatite obtained by controlled crystallization"</p> <p>CHEM. MATER.; CHEMISTRY OF MATERIALS JUN 1 2004, vol. 16, no. 11, 1 June 2004 (2004-06-01), pages 2300-2308, XP002360026 page 2301, left-hand column, paragraph 3</p>	<p>19-22, 27-33, 35-38,40</p>
Y	<p>VALLET-REGI MARIA ET AL: "Silicon substituted hydroxyapatites. A method to upgrade calcium phosphate based implants"</p> <p>J. MATER. CHEM.; JOURNAL OF MATERIALS CHEMISTRY APR 21 2005, vol. 15, no. 15, 21 April 2005 (2005-04-21), pages 1509-1516, XP002360027 page 1510, right-hand column, paragraph 2 - page 1512, last paragraph</p>	<p>18-22, 28-40</p>