Influence of physicochemical parameters on the formation of calcium-phosphate phases in aqueous solutions

Area of Research Coatings based on hydroxyapatite for medical implants, chemical synthesis of composite coatings. Nanocomposites based on hydroxyapatite and biopolymers, synthesis and characterization. Influence of chemical and physical factors on calcium phosphate crystallization. Synthesis of metal nanoparticles.

The most significant publications:

1. Yevheniia Husak, Oleksandr Solodovnyk, Anna Yanovska, Yevhenii Kozik, Iryna Liubchak, Viktoriia Ivchenko, Oleg Mishchenko, Yevhen Zinchenko, Vladimir Kuznetsov and Maksym Pogorielov* Degradation and in Vivo Response of Hydroxyapatite-Coated Mg Alloy. Coatings 2018, 8(11), 375, https://doi.org/10.3390/coatings8110375.

2. .A Yanovska, V. Kuznetsov, A. Stanislavov, E. Husak, M. Pogorielov, V. Starikov, S. Bolshanina, S. Danilchenko Synthesis and characterization of hydroxyapatite-gelatine composite materials for orthopaedic application // Materials Chemistry and Physics 183 (2016) 93-100.

3. L.B. Sukhodub, G.O. Yanovska, V.M. Kuznetsov, O.O. Martynyuk, L.F. Sukhodub Injectable Biopolymer-hydroxyapatite Hydrogels: Obtaining and their Characterization // Journal of Nano- and Electronic Physics Vol. 8, № 1 (2016) 01032 (8pp).

4. V.N. Kuznetsov, A.A. Yanovska, A.S. Stanislavov, S.N. Danilchenko, A.N. Kalinkevich, L.F. Sukhodub Controllability of brushite structural parameters using an applied magnetic field // Materials Science and Engineering C 60 (2016) 547–553.

5. Yanovska A., Danilchenko S., Sukhodub L. Fabrication of nanocomposite calciumphosphate coatings by thermal substrate method. «Comprehensive guide for nanocoatings technology. Application and commercialization». Nova Science Publishers. USA. New-York. – 2015. V. 4. P. 157-183. (Chapter in the book).

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8. A.A. Yanovska, V.N. Kuznetsov, A.S. Stanislavov, S.N. Danilchenko, Sukhodub L.F. A study of brushite crystallization from calcium-phosphate solution in the presence of magnesium under the action of a low magnetic field. Materials science and engineering, Series C. – 2012. – Vol. 32. – P. 1883-1887.

9. A. Yanovska, V. Kuznetsov, A. Stanislavov, S. Danilchenko, L. Sukhodub Calcium– phosphate coatings obtained biomimetically on magnesium substrates under low magnetic field. Applied Surface Science 258 (2012) 8577– 8584.

10. A. Yanovska , V. Kuznetsov, A. Stanislavov, S. Danilchenko, L. Sukhodub Synthesis and characterization of hydroxyapatite-based coatings for medical implants obtained on chemically modified Ti6Al4V substrates. Surface & Coatings Technology 205 (2011) 5324– 5329.

Patents

1. Patent of Ukraine UA 95075 U. Biocomposite coating on metal implant A61L 27/00 / Sukhodub L.F., Yanovska G.O., Sukhodub L.B. – № u 2014 07019; Given. 23.06.2014; Published. 10.12.2014, № 23.

2. Patent of Ukraine UA 90155 U. Bomaterial for the growth of bone tissues “Chitocomposite” / Sukhodub L.F., Yanovska G.O., Sukhodub L.B. – № u 2013 15464; Given. 30.12.2013; Published. 12.05.2014, № 9.

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