

The Serbian Society for Ceramic Materials
Institute for Multidisciplinary Research (IMSI), University of Belgrade
Institute of Physics, University of Belgrade
Center of Excellence for the Synthesis, Processing and Characterization of
Materials for use in Extreme Conditions "CEXTREME LAB" - Institute of
Nuclear Sciences "Vinča", University of Belgrade
Faculty of Mechanical Engineering, University of Belgrade
Center of Excellence for Green Technologies, Institute for Multidisciplinary
Research, University of Belgrade
Faculty of Technology and Metallurgy, University of Belgrade

PROGRAMME and the BOOK of ABSTRACTS

6CSCS-2022

6th Conference of
the Serbian Society for Ceramic Materials
June 28-29. 2022. Belgrade Serbia

Edited by:
Branko Matović
Aleksandra Dapčević
Vladimir V. Srdić

Programme and Book of Abstracts of The Sixth Conference of The Serbian Society for Ceramic Materilas **publishes abstracts from the field of ceramics, which are presented at international Conference.**

Editors-in-Chief

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Publisher

Institut za multidisciplinarna istraživanja
Kneza Višeslava 1, 11000 Belgrade, Serbia

For Publisher

Dr Dragica Stanković

Printing layout

Vladimir V. Srdić

Press

Faculty of Technology and Metalurgy, Research and Development Centre of Printing
Technology, Karnegieva 4, Belgrade, Serbia

The year off issue:

2022.

ISBN 987-86-80109-23-7

CIP - Каталогизacija у публикацији
Народна библиотека Србије, Београд

666.3/.7(048)
66.017/.018(048)

DRUŠTVO za keramičke materijale Srbije. Konferencija (6 ; 2022 ; Beograd)

Programme ; and the Book of Abstracts / 6th Conference of The Serbian Society for Ceramic Materials, 6CSCS-2022, June 28-29, 2022, Belgrade, Serbia ; [organizers] The Serbian Society for Ceramic Materials ... [et al.] ; edited by Branko Matović, Aleksandra Dapčević, Vladimir V. Srdić. - Belgrade : Institut za multidisciplinarna istraživanja, 2022 (Belgrade : Faculty of technology and metalurgy, Research and development centre of printing technology). - 91 str. : ilustr. ; 25 cm

Tiraž 120. - Str. 7: Welcome message / Branko Matovic. - Registar.

ISBN 978-86-80109-23-7

a) Керамика -- Апстракти б) Наука о материјалима -- Апстракти
в) Наноматеријали -- Апстракти

COBISS.SR-ID 69088009

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BEHAVIOUR OF Mg AND Si SUBSTITUTED HYDROXYAPATITES IN MODEL MEDIA

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Thanks to its similarity with biological apatite found in vertebrate hard tissues, calcium hydroxyapatite is one of the most investigated materials in bone tissue engineering. Since biological apatite is not stoichiometric, ion substituted hydroxyapatites are in the focus of many studies as they more closely mimic the composition of natural bone. Although there are many investigations of the influence of foreign ions on the structure and physico-chemical properties of ion-substituted hydroxyapatites, there is no much information on their behaviour in different media.

In present study, magnesium - which plays a key role in bone metabolism and silicon - which is necessary for normal skeletal development, were used as ion substitutes. The behaviour of Mg and Si substituted hydroxyapatite in simulated body fluid and physiological solution was investigated by XRD, FTIR and SEM. Obtained results confirmed great potential of these substituted hydroxyapatites for biomedical applications.