The Synthesized-Hydroxyapatite Powder from Anadara Granosa Shells using Deposition Time Method for Biomedical Applications

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Abstract	Hydroxyapatite (HAp) powder, one of the biomaterials derived from natural sources, could be used in biomedical applications. In this research, the synthesized-HAp powder from Anadara Granosa shells as raw materials had a high calcium carbonate content with variations in deposition time using the precipitation method. Variations of deposition time used were 0 (S0), 24 (S24), and 48 (S48) hours. Fourier Transform Infrared (FTIR), X-Ray Diffractions (XRD), and Scanning Electron Microscopy (SEM) were used to investigate the chemical structure, phase analysis, and morphology of the synthesized HAp powder. FTIR results of the S0, S24, and S48 showed that the functional groups , Ã‚Â and were formed at variations in the deposition time. The XRD results showed that the smallest of crystallite size of S48 was 26.03 nm, and the crystallinity degree of S24 was 38.74%. The grain dispersity of the synthesized-hydroxyapatite powder from SEM results were uniform, agglomeration, and spherical, irregular shape. The Ca, P, Mg, and Si compositions were shown in the synthesized-hydroxyapatite powder. The deposition time affects the synthesized-Hydroxyapatite (HAp) powder from the Anadara Granosa shell, and it is a potential raw material for biomedical applications.
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