

SW-P011

수산화인회석에 Ru를 도입한 이중상 촉매의 합성 및 특성 평가

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수산화인회석(Hydroxyapatite)는 뼈와 이빨의 무기물의 주성분으로서 칼슘과 인산염으로 구성된다. 본 실험에서는 다양한 농도의 염기조건(NaOH 0,2,4,5,10 M)하에서 서로 다른 형태의 수산화인회석을 수열합성법(hydrothermal method)을 이용해 합성하였다. 합성된 각각의 수산화인회석을 XRD로 확인하였고 일정 농도 이하에서는 octacalcium phosphate이 함께 존재한다는 것을 확인하였다. 수산화인회석 표면에 Ru를 Ion-exchange 반응을 통하여 도입하였으며, 도입된 표면을 TEM을 확인하였다. Ru를 도입한 수산화인회석을 benzyl alcohol과 benzyl amine을 산화반응에 응용하였다.

Keywords: 수산화인회석, 수열합성법, Ion-exchange, Ruthenium

SW-P012

Anisotropic Superomniphobic Wettability on Hierarchical Structures of Micro Line Array Combined with Fluorinated Wax (C24F50)

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In recent years, researches about hydrophobic and hydrophilic surfaces have been executed however their other effects have not been researched enough. In this paper, the fabrication method of hierarchical structures of micro line array combined with fluorinated wax for anisotropic superomniphobic wettability is presented. We have achieved anisotropic and superomniphobic surface via simple two step methods, which are maskless photolithography and wax deposition. In order to prove how to provide those characteristics, SEM, contact angle measurement tool and X-ray diffraction are used. Fluorinated wax is crystalized self-assembly and it is subordinated on micro line array so that it is able to display anisotropic wettability. Understanding on anisotropic superomniphobic surface and simple fabrication method has been attracted to apply for lots of applications which range from self-cleaning surface, microfluidic chip, to directionally fluid control device, even in oily fluid.

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Keywords: Anisotropic wettability, Superomniphobic, Fluorinated wax, Hierarchical Structures