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# Morphology controlled synthesis of nano-hydroxyapatite using polyethylene glycol as a template

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## Abstract

Nano-hydroxyapatite samples with different morphologies were successfully prepared by chemical precipitation method using polyethylene glycol (PEG) as a template. The phase composition, micro-morphology and surface functional groups of the nano-hydroxyapatite samples were analyzed by X-ray diffraction (XRD), scanning electron microscopy (SEM), Fourier transform infrared spectroscopy (FTIR) and transmission electron microscopy (TEM), respectively. The results reveal that the micro-morphology of hydroxyapatite can be effectively controlled by adjusting pH values in the preparation. Moreover, the growth mechanism of HAp with different morphologies was also discussed.

**Keywords:** nano hydroxyapatite; chemical precipitation method; morphology; PEG

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