

研究论文

明胶基质作用下碳酸钙的仿生合成

付丽红^{*1,2}, 程惊秋², 来国莉¹

(¹山东轻工业学院 济南 250100)

(²四川大学华西医院卫生部移植工程与移植免疫重点实验室 成都 610041)

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摘要 依据生物矿化的基本原理,以明胶为基质,在动态条件下,仿生合成碳酸钙/明胶复合材料.

扫描电子显微镜和能量分散X射线(SEM-EDAX)分析表明,

明胶基质中形成的碳酸钙完全不同于纯水中形成的碳酸钙,具有独特的微观结构形态和取向.明胶浓度不同,晶体的形态、取向以及主要元素Ca, O和N的含量相差较大.

关键词 [明胶基质](#) [仿生合成](#) [碳酸钙](#) [SEM-EDAX](#) [微观结构形态](#)

分类号

Biomimetic Synthesis of Calcium Carbonate with the Existence of the Gelatin Matrix

FU Li-Hong^{*1,2}, CHENG Jing-Qiu², LAI Guo-Li¹

(¹ Shandong Institute of Light Industry, Jinan 250100)

Abstract Based on the basic principles of biomineralization, the CaCO₃/gelatin composite can be synthesized by the biomimetic synthesis under dynamic conditions, using gelatin as the matrix. The results of scanning electron microscopy with an energy dispersive X-ray analysis system (SEM-EDAX) showed that the synthesized composite, which has special microstructure and morphology and certain orientation, was different completely from the calcium carbonate that was formed in the water. The morphology, orientation and contents of the main elements (calcium, oxygen and nitrogen) of crystal are quite different for various content of the gelatin.

Key words [gelatin matrix](#) [biomimetic synthesis](#) [calcium carbonate](#) [scanning electron microscopy with an energy dispersive X-ray analysis system \(SEM-EDAX\)](#) [microstructure and morphology](#)

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通讯作者 付丽红 flh12@sohu.com

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