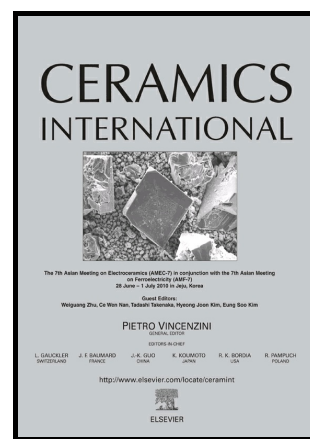


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β -TCP scaffold coated with PCL as biodegradable materials for dental applications

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Abstract

Requirements for an ideal scaffold include biocompatibility, biodegradability, mechanical strength and sufficient porosity and pore dimensions. Beta tricalcium phosphate (β -TCP) has competent biocompatibility and biodegradability, but has low mechanical strength because of its porous structure. Polycaprolactone (PCL) is a biodegradable polymer with elastic characteristics and good biocompatibility. In this study, β -TCP/PCL composites were prepared in different ratio and their morphology, phase content, mechanical properties, biodegradation and biocompatibility were investigated. After coating, surfaces of β -TCP scaffolds were covered with the PCL while some of the pores were partially clogged. The compression and bending strength of β -TCP scaffolds were significantly enhanced by PCL coating. The

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