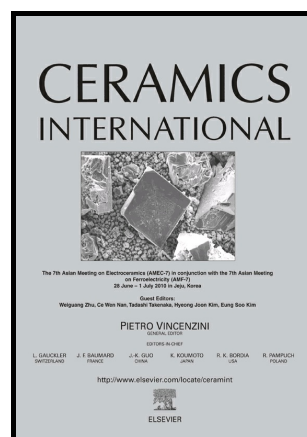


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Amorphous calcium phosphate powder synthesized from calcium acetate and polyphosphoric acid for bioceramics application

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ABSTRACT

Amorphous hydrated calcium phosphate powder was synthesized at room temperature from aqueous solutions of polyphosphoric acid and calcium acetate with addition of ammonia water solution. Synthesized powder remains amorphous after heat in the temperature range 200-500°C. Phase composition of powder and compacted powder samples after firing at 800°C consists of calcium polyphosphate (β -Ca(PO₃)₂), tromelite (Ca₄P₆O₁₉) and calcium pyrophosphate (β -Ca₂P₂O₇). Synthesis of amorphous hydrated calcium phosphate powder with the ion-exchange stage for preparing an aqueous solution of polyphosphoric acid can be recommended as a simple way of production of powdered precursor for biocompatible bioresorbable phosphate ceramics containing calcium polyphosphate, tromelite and calcium pyrophosphate.

Key words

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