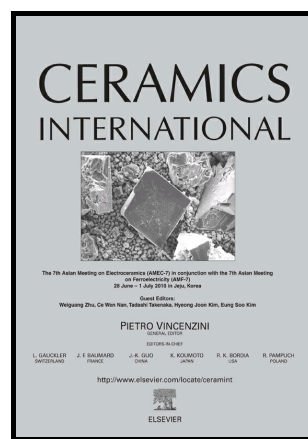


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One-step and low-temperature synthesis of monetite nanoparticles in an all-in-one system (reactant, solvent, and template) based on calcium chloride–choline chloride deep eutectic medium

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Abstract

Monetite nanoparticles were synthesized via a facile and sustainable method using deep eutectic medium based on choline $\text{CaCl}_2 \cdot 6\text{H}_2\text{O}$ –choline chloride to act as solvent, reactant and template. The synthesized nanoparticles were characterized by X-ray diffraction (XRD), field emission scanning electron microscopy (FESEM), transmission electron microscopy (TEM), energy dispersive X-ray spectroscopy (EDS), and Fourier transform infra-red spectroscopy (FTIR). Analysis data revealed the formation of CaHPO_4 nanoparticles crystallized in anorthic structure with spherical morphology, mean particle size of 65 nm, and high elemental–structural purity. The results suggested the ternary role of the eutectic system

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