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Biomimetic Synthesis and characterization of polymer template Mn@CaCO₃nanomaterials using natural carbonate sources

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Abstract:PMMA templateMn doped CaCO₃nanomaterials were synthesized bybiomimetic method using calcium rich natural carbonate sources. The following, techniques have been used to recognize the mineralogy (FTIR), morphology and elemental composition (SEM-EDX) and structure and crystallites size (XRD). The synthesized products are in rhombohedralstructure within the crystallite of 20-40 nm range. It has monodispersedspherical shape and aggregated crystalline with flower like morphology. The revealed characteristics show that the transition metal doped biomimetic products may be used for various industrial applications. This eco-friendly method is very easy for large scale production in lower cost without any impurity.

Keywords:Manganese; Nano CaCO₃; Natural sources; Calcite; Mineralogy.

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