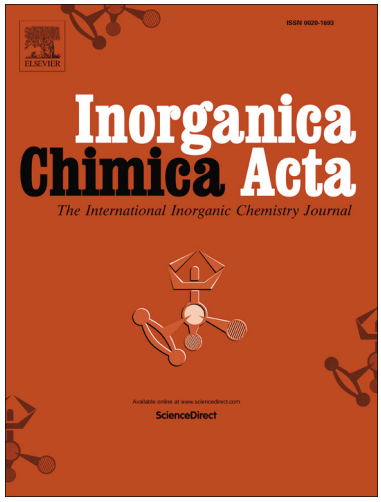

Research paper

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A novel chiral manganese-tetraamide macrocycle complex covalently attached to magnetite as recyclable catalyst for aerobic asymmetric epoxidation of olefins

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Abstract

A novel Mn complex containing N_4-tetradentate tetraamide macrocyclic ligand (L) derived from chiral diethyl-2,3-benzylidene-L-tartrate and polyamidoamine dendrimer on Fe_3O_4@SiO_2 surface was synthesized. The nanocomposite particles were investigated by SEM, XRD, VSM, EPR and FTIR. The nanocomposite showed high catalytic activity and selectivity for the epoxidation of linear terminal, cyclic and most of the aromatic olefins by O_2 in the presence of isobutyraldehyde under mild conditions; epoxide selectivity 87-100%, enantiomeric excess 53-100%. The catalyst could be separated and recovered from the reaction system by applying an

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