Iron

I 7100

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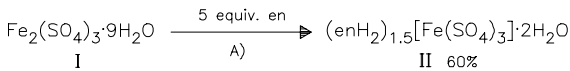
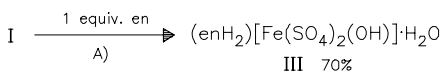
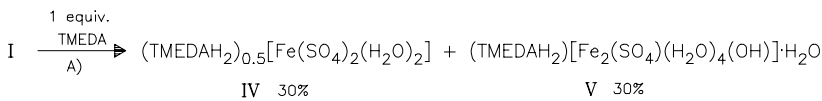
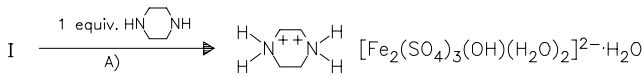
Organically Directed Iron Sulfate Chains: Structural Diversity Based on Hydrogen Bonding Interactions. — The ratio of reactants in the starting mixtures, the types of amines, and the hydrogen-bonding interactions are three crucial factors for the construction of inorganic frameworks, and their packing modes. As revealed by single crystal XRD, compounds (II) and (III) crystallize in the monoclinic space group $P2_1/c$ with Z = 4, compounds (IV) and (V) in the triclinic space group $P\bar{1}$ with Z = 2, (VI) in the orthorhombic space group $Pca2_1$ (Z = 4) and compound (VII) in the tetragonal space group $I4_1cd$ (Z = 16).(II), (III), (IV), and (V) possess the linear topological structures observed in ferrinatrite, sideronatrite, kröhnkite, and copiapite minerals, respectively. (VI) shows a novel linear structure that can be regarded as a hybrid of the tancoite and butlerite types. (VII) adopts a cis configuration resulting in a rare inorganic helical iron sulfate chain which is a new member of the organically directed transitional metal sulfates. — (FU*, Y.; XU, Z.; REN, J.; WU, H.; YUAN, R.; Inorg. Chem. 45 (2006) 20, 8452-8458; Sch. Chem. Mater. Sci., Shanxi Norm. Univ., Linfen 041004, Peop. Rep. China; Eng.) — W. Pewestorf

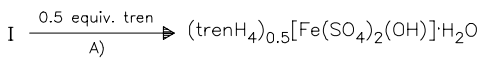


A): H_2SO_4, H_2O/EtOH, 110°C, [pH 2, autoclave, 2 d]









tren: $N(-CH_2-CH_2-NH_2)_3$