

稀土胺羧酸配合物的研究 I. {[MnGd(DTPA)(H₂O)₅]·2H₂O}_n配合物的合成和晶体结构

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摘要 本文首次合成了{MnLn(DTPA)(H₂O)₅]·2H₂O}_n异核链式配合物(Ln=Gd, Er, Y)单晶,测定了{[MnGd(DTPA)(H₂O)₅]·2H₂O}_n的单晶结构。

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Studies on rare earth complexes of aminopolycarboxylic acids. I. Synthesis and crystal structure of {[MnGd(DTPA)(H₂O)₅]·2H₂O}_n complexes

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Abstract aqueous solution The crystal structure of {[MnGd(L)(H₂O)₅]·2H₂O}_n was determine The crystal is triclinic, space group P1, a 1.5896(3), b 0.8897(1), c 0.8416(1) nm, a 77.04(1), b 74.83(1), g 88.21(1)? Z = 1. In the crystal Gd(III) is coordinated by 5 O atoms and 3 N atoms of L and 1 O atom from H₂O, so that the coordination no. of Gd(III) is 9, taking a tricapped trigonal prism arrangement. Each Gd(L) is further connected by Mn(II) through 1 carboxyl group of L serving as bridging group to form a 1-dimensional chain. Mn(II) is coordinated by 2 O atoms from L and 4 O atoms from H₂O, the coordination no. of Mn(II) is 6, forming an octahedron. Mn(II) is located at center of symmetry the unit cell with coordinates (0.5,0,0.5) and the uncoordinated O atom from H₂O is located at (0.5,0,0) being shared by 2 of MnGd(L)(H₂O)₅.

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