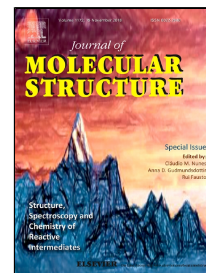


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Paddle wheel manganese carboxylate metal organic frame work as a host for hydrophilic molecules



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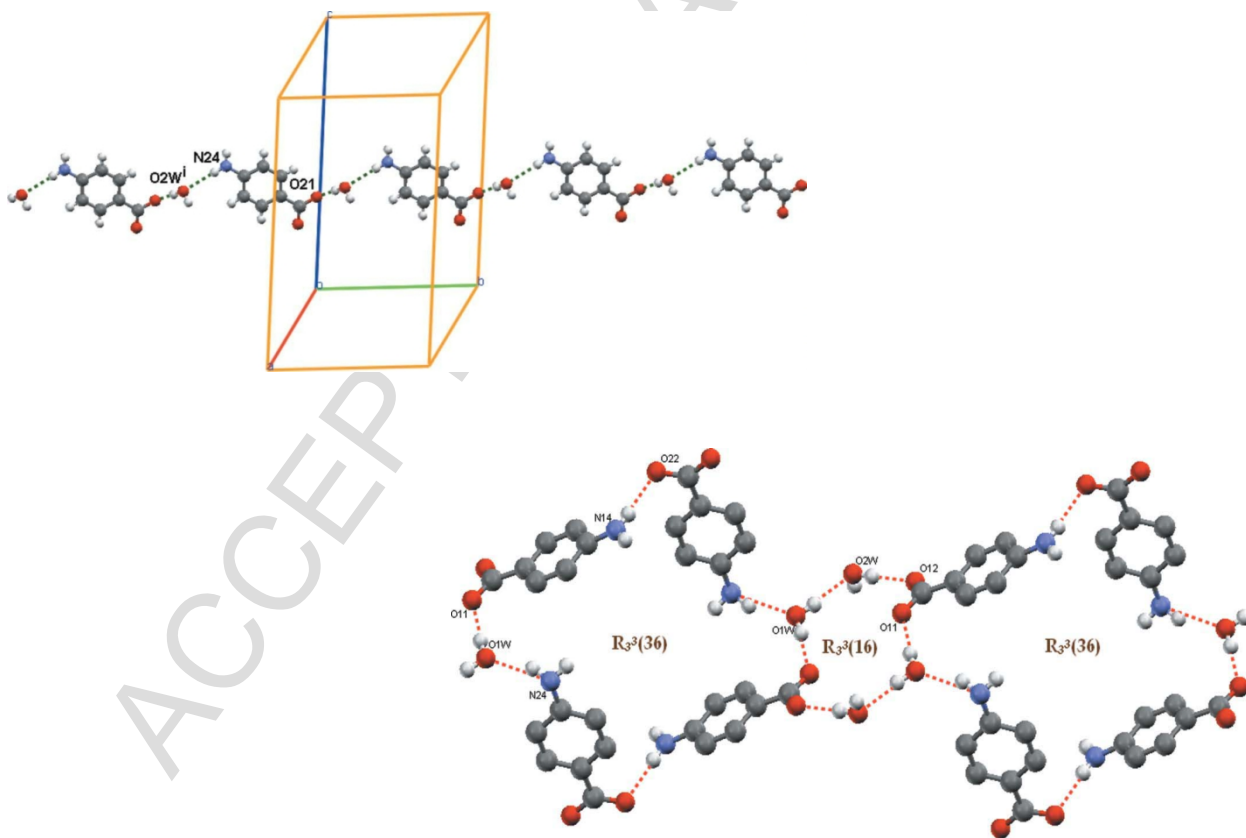
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Graphical Abstract

The present study deals with the synthesis of paddle-wheel structured binuclear Mn-TP complex via molecular adduct with chloride salt of Mn. We report a novel N,N,N',N'- tetramethylbutane1,4-diammonium bis(4-amino benzoate) $C_8H_{22}N_2^{2+} \cdot 2C_7H_6NO_2^- \cdot 2.25 H_2O$ (TP) and its binuclear metal-organic framework having a channel for hydrophilic guest molecules. Another interesting structural feature of ligand TP has the hexagonal cavity along with the stream of four waters molecules in the host hydrophilic channels. Both experimental and theoretical studies of bonding parameters, as well as optimized structure for Mn-TP complex were in good agreement with each other. Both Mn atoms lead to closed polyhedra with four PABA molecules and chlorine atoms.



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