# Magnetic aspects and assemblies of solvent mediated layered manganese dicarboxylate based coordination polymers

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Polynuclear coordination complexes with transition metal ions in intramolecular spin communications have been sought by both synthetic and theoretical chemists to step forward towards a new generation of magnets [1]. In this context, manganese carboxylates are attractive systems owing to variable oxidation states of the metal and the diversity of the carboxylate linker which impart unique characteristics to the frameworks. Manganese (II) compounds in high spin ground state (S=5/2) are particularly important due to the possibility of a strong exchange interaction between the 3d-electrons. The magnetic centers with varying unpaired electrons provide a variety of magnetic ordering-spin frustrated multiferroics to single molecule magnetism [2]. Our group is adopting a crystal engineering approach to assemble high nuclear manganese clusters with varying coordination assemblies and explore the influence of selected aromatic dicarboxylic acids in different polar aprotic solvents on spin exchange interactions. In this presentation, we discuss our strategy on the structural design of new manganese carboxylate coordination polymers and the influence of nonbonding interaction on overall assembly and its antiferromagnetic behavior.

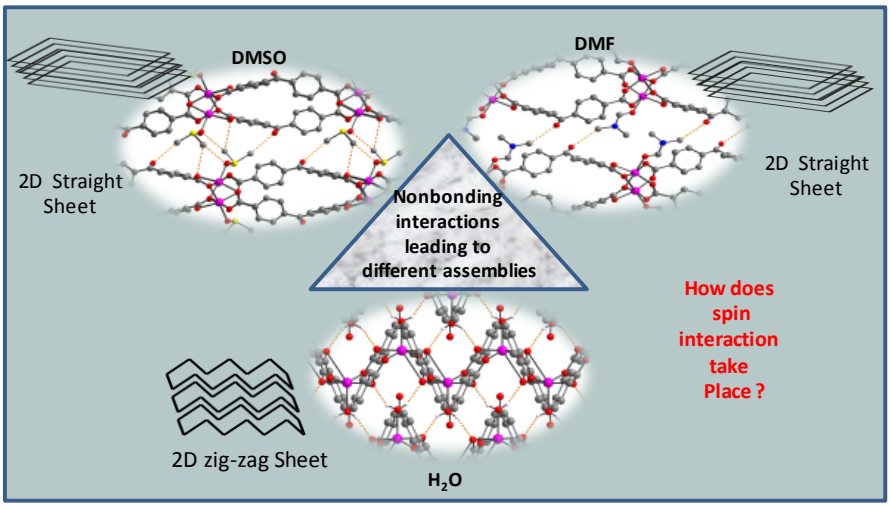


**Figure 1.** Nonbonding interactions leads to different assemblies.

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