

## Microsymposium

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### *Photochemical Reactions of Hydrogen-bonded Coordination Polymers*

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Crystallization is a kinetic phenomenon and the experimental conditions like solvents, concentration, pH, temperature and time have greater influence on the nature of products in the synthesis of coordination network structures. During crystallization, the solvents and ligands bind to the metal ions reversibly and hence, the least soluble polymer will crystallize first, independent of the metal-ligand ratio used in the crystallization. The kinetic products quite often contain solvents bonded to the metal ions. The removal of these coordinated solvents is likely to transform the kinetically formed coordination polymers (CPs) into thermodynamically stable products. In these structural conversions, supramolecular interactions play a major role. Such structural transformations as well as [2+2] cycloaddition reactions have been demonstrated in many coordination polymeric network structures aided by the directional hydrogen bonding interactions. A number of structural transformations involving the loss of solvent molecules and use of photodimerization reactions in the solid state will be presented in this talk.

**Keywords:** structural transformation, [2+2] cycloaddition reactions, coordination polymers