

Polyoxomolybdates

Structure-Directing Role of Hydrogen-Bonded Dimers of Phenylenediammonium Cations: Supramolecular Assemblies of Octamolybdate-Based Organic/Inorganic Hybrids

August 19, 2005

Authors

[Arunachalam Ramanan](#)

[Shailesh Upreti](#)

Abstract

Crystallization of three new organic/inorganic hybrid solids (1-3) based on octamolybdate under self-assembly conditions has demonstrated the structure-directing role of three hydrogen-bonded organic dimers (supramolecular synthons) in the construction of multidimensional networks. In acidified aqueous molybdate solution, isomeric phenylenediammonium ions form dimers through strong hydrogen-bonding and/or π - π interactions, which in turn dictate the supramolecular assemblies between themselves or with octamolybdate anions that eventually result in the growth of hybrid solids.

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