

Organo-inorganic tetrameric zinc cluster with phosphate bridges. $[Zn_4(HPO_4)_4(phen)_4](H_3PO_4)_2(H_2O)_4$

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A novel molecular tetrameric zinc cluster with phosphate bridges has been synthesized by a hydrothermal method and characterized by X-ray diffraction. The structure is stabilized by neutral H_3PO_4 and water molecules. Both phosphorus and water oxygen atoms play a central role as connecting agents in this planar, weblike array. Protruding phenanthroline ligands bonded to the zinc atoms are present both above and below the plane, constituting the main interaction between neighboring planes, through π - π stacking. The distance between ring centroids varies between 3.489 and 4.109 Å. © 2005 American Chemical Society.