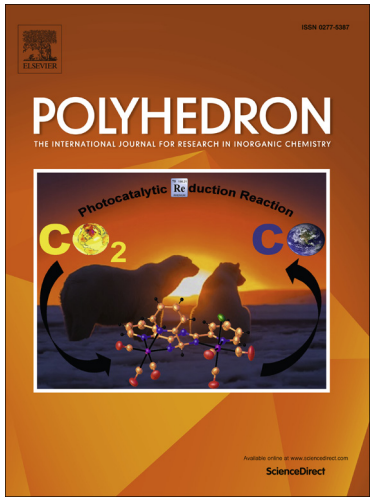

Three multinuclear metal-organic coordination compounds based on 8-hydroxyquinoline derivative: syntheses, structures and fluorescence properties

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Three multinuclear metal-organic coordination compounds based on 8-hydroxyquinoline derivative: syntheses, structures and fluorescence properties

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Abstract: By taking advantage of the synthetic 8-hydroxyquinoline derivatives, (E)-2-[2- (4-chlorophenyl)vinyl]-8-hydroxyquinoline (HL), three new metal-organic coordination compounds $[Zn_3L_6]$ (**1**), $[Cd_3L_6]$ (**2**) and $[Cu_2L_4]$ (**3**) have been obtained by solvothermal or solution processing methods and structurally characterized. Single crystal X-ray diffraction analysis revealed that complexes **1** and **2** have similar 'V'-type trinuclear structures. Different from complexes **1** and **2** (trinuclear structure), complex **3** displays dinuclear structure. The effects of central metals and reaction solvents on the structures of complexes **1**–**3** have been discussed. Furthermore, thermogravimetric analysis and solid state fluorescence of ligand **HL**, **1**–**3** were investigated.

Keywords: 8-hydroxy quinoline derivatives; metal-organic coordination compounds; crystal structure; solid state fluorescence