



Syntheses, Structures and Photoluminescence Properties of Zinc (II) and Cadmium (II) Metal Complexes Constructed from 3,4-Pyridinedicarboxylic Acid and Aromatic Diimines

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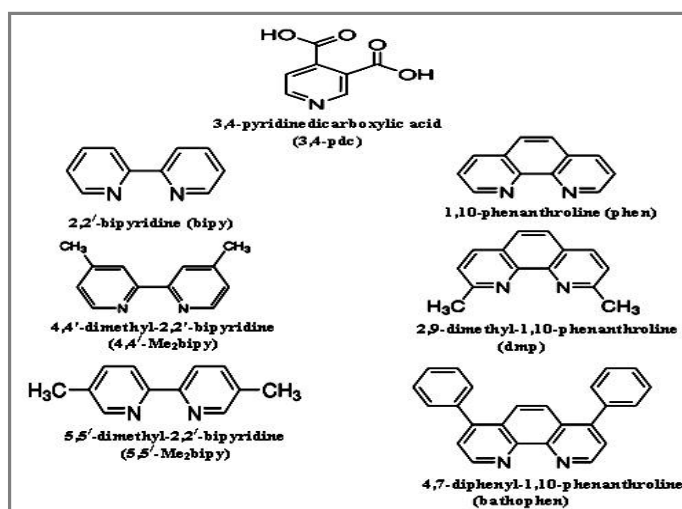
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ABSTRACT

Some mixed-ligand complexes of zinc(II) and cadmium (II) [$Zn_3(pdc)_3(bipy)$] (1), [$Zn_2(pdc)_2(4,4'-Me_2bipy)_2$] (2), [$Zn_2(pdc)_2(5,5'-Me_2bipy)_2(H_2O)_2 \cdot (H_2O)_2$] (3), [$Zn_2(pdc)_2(phen)_2 \cdot 4H_2O$] (4), [$Zn_2(pdc)_2(dmp)_2 \cdot 2H_2O$] (5) [$Cd_3(pdc)_3(bipy)(H_2O)_4$] (6), [$Cd_3(pdc)_3(4,4'-Me_2bipy)(H_2O)_2$] (7), [$Cd_3(pdc)_3(5,5'-Me_2bipy)(H_2O)_2$] (8), [$Cd_3(pdc)_3(phen)(H_2O)_3 \cdot H_2O$] (9), [$Cd_3(pdc)_3(dmp)(H_2O)_4$] (10) and [$Cd(pdc)(bathophen)$] (11) have been synthesized by hydrothermal method in 3:1:1 metal-to-ligand molar ratio. The newly synthesized complexes have been characterized by elemental analyses (C, H, N), thermogravimetric (TGA/DTG/DTA) analyses, FTIR-spectra, photoluminescence spectra, and powder X-ray diffraction analyses (PXRD).

Graphical Abstract



Keywords: Mixed-ligand Zn (II) and Cd (II) complexes, 3,4-pyridinedicarboxylic acid, Diimines, Photoluminescence, Thermogravimetry.