Synthesis and Crystal Structures of Copper(II), Zinc(II), Lead(II) and Cadmium(II) Tetrazole-5-carboxylate Complexes Generated *via in situ* Hydrolysis Reaction

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Four metal complexes, namely $[Cu_2(ttzCOO)_2(H_2O)_4]\cdot 4H_2O$ (**1**), $[Zn_2(ttzCOO)_2(H_2O)_6]\cdot 2H_2O$ (**2**), $[Pb(ttzCOO)(H_2O)_2]_n$ (**3**), and $\{[Cd(ttzCOO)(H_2O)]\cdot 1/2H_2O\}_n$ (**4**), where $ttzCOO^{2-}$ = tetrazole-5-carboxylate dianion, have been prepared by the reaction of the sodium salt of 1*H*-tetrazole-5-carboxylic acid ethyl ester in aqueous methanolic solution at room temperature with $CuCl_2$, ZnI_2, $Pb(NO_3)_2$, or $Cd(NO_3)_2$, respectively. The compounds were characterized by elemental analysis, IR spectroscopy, TG-DSC analysis and single-crystal X-ray diffraction. While **1** and **2** are structurally similar dinuclear complexes, **3** and **4** exhibit a 1D chain structure and a 3D polymeric framework, respectively.

Key words: Tetrazole-5-carboxylate, Complex, *in situ* Synthesis, Structure