

# **[Zn(phen)<sub>2</sub>(CX<sub>3</sub>COO)]<sup>+</sup>, X = H or Cl; Influence of X on the Coordination Mode of the Carboxylate Group (phen = 1,10-Phenanthroline)**

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Two new Zn<sup>II</sup>(phen)<sub>2</sub> complexes with trichloroacetate and acetate anions, [Zn(phen)<sub>2</sub>(CCl<sub>3</sub>COO)-(H<sub>2</sub>O)](ClO<sub>4</sub>) and [Zn(phen)<sub>2</sub>(CH<sub>3</sub>COO)](ClO<sub>4</sub>), have been synthesized and characterized by elemental analysis, IR, <sup>1</sup>H NMR, <sup>13</sup>C NMR spectroscopy. The single crystal X-ray data of these compounds show the Zn atoms to have six-coordinate geometry. From IR spectra and X-ray crystallography it is established that the coordination of the COO<sup>−</sup> group is different for trichloroacetate and acetate. The former acts as a monodentate whereas the latter acts as a bidentate ligand.

*Key words:* Zinc(II) Complexes, Mixed-Anion Complexes, 1,10-Phenanthroline, Trichloroacetate, Acetate.