Syntheses, Crystal Structures and Thermal Stability of Co(II) and Zn(II) Complexes with Ethyl Carbazate

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Cobalt(II) and zinc(II) complexes of ethyl carbazate (ECZ), $[Co(ECZ)_3](NO_3)_2$ and $[Zn(ECZ)_3](NO_3)_2$, were synthesized. Single crystals of these two compounds were grown from aqueous solutions using a slow evaporation method. Their structures have been determined by X-ray diffraction analysis. Both of them are monoclinic with space group $P2_1/n$. The complexes are further characterized by element analysis and IR measurements. Their thermal stabilities are studied by using TG-DTG, DSC techniques. When heated to 350 °C, only metal oxide was left for both complexes.

Key words: Cobalt(II) Complex, Zinc(II) Complex, Ethyl Carbazate, Crystal Structure, Thermal Stability