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## THE INVESTIGATIONS OF THE COMPLEXES OF 2-HYDROXY SCHIFF BASES-NICKEL (II) WITH THERMAL ANALYSIS

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2-hydroxy Schiff bases have been known in the coordination chemistry literatures since 1932. With this ligand group was examined about more than 30 metal ions complexes. But the knowledge of the thermal decomposition of these complexes are not sufficient in the literatures.

In this study, ON, ONO and ONNO type Schiff bases between metal(II) ions and mononuclear, dinuclear, trinuclear complexes were prepared and these complexes were reported by thermogravimetric analysis (TGA), Differential Thermal Analysis (DTA) and Differential Scanning Calorimetry (DSC) methods. As we expected, in thermogravimetric analysis the first weight losses were observed as NH<sub>3</sub>, DMF and DMSO coordinative groups. These weight losses also explained the stoichiometry of the complexes (Figure 1.). The iminic and aliphatic groups were reported that they were decomposed at about 330 °C by losing weight. And the amount of residue of these complexes was characterized by element analysis and IR spectroscopic methods. It was found that the residue was composed of metal-phenolate groups. In addition, it was observed that NH<sub>3</sub> and DMF groups were removed from the structure at 240-276 °C. These temperatures are very high for these volatile groups. The thermal degradation energy of these groups was determined by Differential Scanning Calorimetry (DSC), and the magnitude of coordinative bond energy was interpreted.

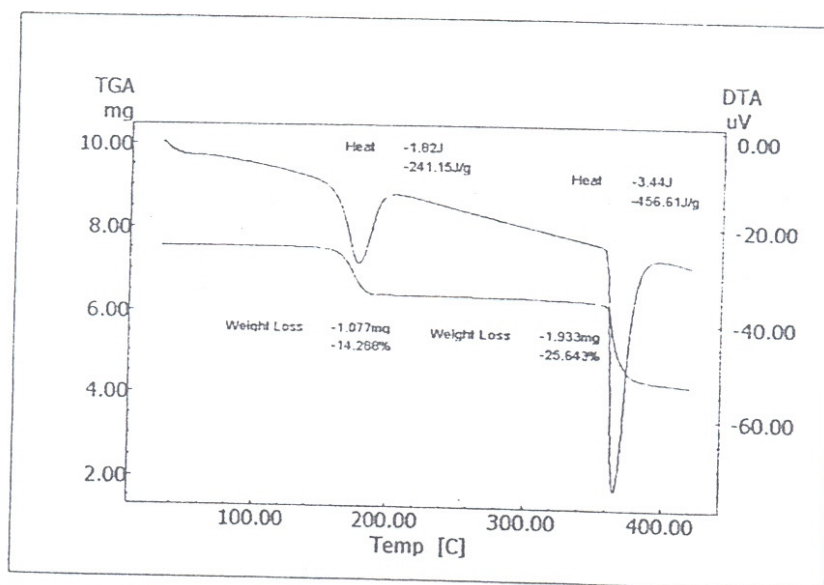


Figure 1. TGA and DTA thermogram of complexes of Ni-Zn-Ni

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