
Vibrational analysis and thermal stability of Cu and Ni oxamide complexes

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Abstract Studying the coordination nature of oxamide and determining the binding site(s) to metal ions is the key to understand the bioinorganic chemistry of oxamide complexes. Also, this is a possibility to compare the capacity of coordination of some different $3d^8$ and $3d^9$ metal ions with *N, N*-bidentate ligands as oxamide and to characterize thermal and chemical stability for the obtained complexes.

The paper presents a comparative analysis on thermal stability of Cu and Ni oxamide complexes with oxamide in 1:2 molar ratios. The obtained experimental data as elemental analysis, vibrational and crystallographic spectra and decomposition stages show that Cu (II) complex presents a lower stability than Ni (II) complex due to the weaker Cu-N bond in Cu (II) oxamide complex.

Keywords: Ni (II) and Cu (II) square – planar complexes, oxamide, vibrational analysis, TG and DTG analysis.
