

Correspondence

Comments on the paper ‘A thermal analysis study of dialkyl dithiocarbamate nickel(II) and copper(II) complexes’ by Ali et al.,
Thermochim. Acta 419 (2004) 39–43

Apart from the very poor quality of the presentation of this paper, there are major shortcomings with respect to the scientific content.

The title of the paper is too broad to be able to relate to the actual complexes studied. The introduction does not place the new work described by the authors into context; it does not indicate why the work described is worth doing. I noted this especially since much of my work in this field in the 1980s was sufficient to predict the thermal decomposition mechanisms of metal dithiocarbamate complexes based on the nature and character of the R-groups attached to the dithiocarbamate moiety. Although the authors cited my reviews of metal dithiocarbamate thermochemistry, they apparently did not appreciate the significance of these in a wider context.

The most serious problem with this paper is that ‘mass scales’ are not given for Figs. 1 and 2 (TG data), and therefore the thermal decomposition mechanisms proposed are simply

‘postulations’ having no empirical significance. Similarly, the corresponding DSC data are qualitative only, whereas DSC is usually applied to obtain quantitative enthalpy data for the chemical transformations noted. The ‘stable intermediates’ postulated have not been unambiguously identified. The fact that the proposed thermal decomposition mechanism for the nickel(II) complex is different from that of the copper(II) complex was not commented on in the discussion, even though this has major theoretical significance in terms of the nature of the metal–ligand bonding in these complexes.

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