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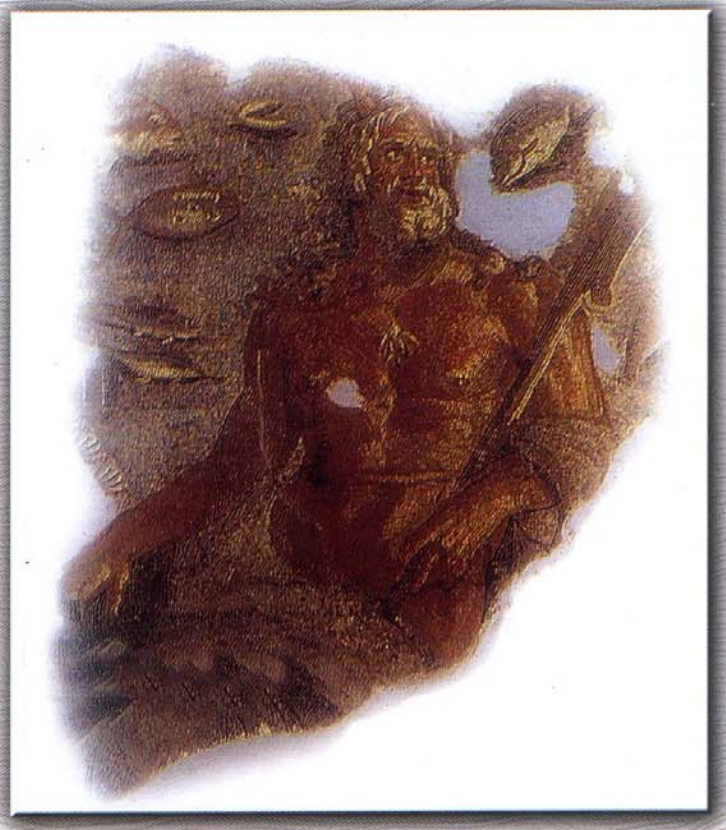

Book of Abstracts

Turkish Chemical Society

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TÜBİTAK

SYNTHESIS, STRUCTURE DETERMINATION AND THERMAL BEHAVIOUR OF SOME THIOUREA LIGANDS AND THEIR METAL COMPLEXES

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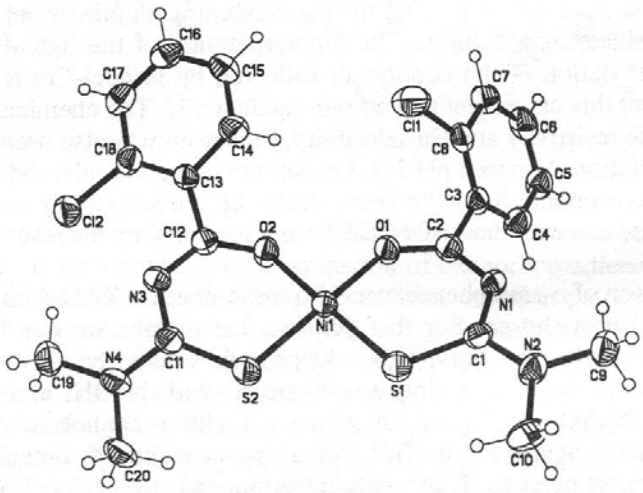
Introduction: The natural resources of Co, Ni and Cu are used in bulk quantities in nature. Some of these metals are essential elements for biological system present in trace quantities. The use of *N,N*-disubtituted-*N'*-benzoylthioureas as ligands for transition metal ions has received considerable attention because of their applications in separation processes [1,2]. *N,N*-diaryl-*N'*-benzoylthioureas form neutral chelates with lots of metal ions in aqueous solutions and this chelates can be extracted with $CHCl_3$ and separated by chromatography [3]. A variety of metal chelates have been described in the literature [4-6].



Discussion: *N,N*-diaryl-*N'*-2-chlorobenzoylthiourea and it's complexes with Ni(II), Co(II) and Cu(II) were synthesised and their structure determined by NMR, Mass, IR, micro analyses technique. Thermal decomposition of ligands and it's metal complexes have also been investigated by TG, DTG and DTA. A gas chromatography – mass spectrometry combined system was used for the verification of the first decomposition product. The characterization of the decomposition end products was achieved by X-ray diffraction.

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