Synthesis, Crystal Structure, Spectroscopic and Thermal Properties of a Novel Mixed Ligand Copper(II) Complex with 5,5-Dimethylhydantoin and Benzylamine

Murat Taş[a], Serkan Soylu[b], and Hümeyra Batı[c]

[a] Karadeniz Technical University, Giresun Faculty of Arts and Sciences, Department of Chemistry, Giresun, Turkey
[b] Karadeniz Technical University, Giresun Faculty of Arts and Sciences, Department of Physics, Giresun, Turkey
[c] Ondokuz Mayıs University, Faculty of Arts and Sciences, Department of Chemistry, Kurupelit, Samsun, Turkey

Reprint requests to Dr. M. Taş. Fax: +90 0454 2164518. E-mail: murattas@ktu.edu.tr

Z. Naturforsch. **61b,** 133 – 138 (2006); received September 7, 2005

The crystal structure of the newly synthesized complex, *trans*-aqua-bis(benzylamino)-bis(5,5-dimethylhydantoinato) copper(II) was determined by X-Ray single crystal data. The thermal analyses, FT-IR and magnetic susceptibility data are also presented. The complex crystallizes in the monoclinic system, space group *C*2. The complex features a distorted square pyramidal [CuN_4O] coordination with 5,5-dimethylhydantoinato, benzylamine and water ligands. The 5,5-dimethylhydantoinato anion is bonded to the copper(II) ion *via* its deprotonated N atom in the 3-position.

Key words: Hydantoins, Hydantoinato, 5,5-Dimethylhydantoin, Mixed Ligand Complex, Thermal Analyses