Synthesis, Spectral, Thermal and Structural Characterization of the Copper(II) Saccharinato Complex of 2–Aminopyrimidine, $[Cu(sac\text{–}O)_2(ampym\text{–}N)_2(H_2O)_2]\cdot 2ampym$

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Bis(2-aminopyrimidine-*N*)diaquabis(saccharinato-*O*)copper(II) di(2-aminopyrimidine), $[Cu(sac\text{-}O)_2(ampym\text{-}N)_2(H_2O)_2]\cdot 2ampym$ was synthesized and characterized by means of elemental analysis, IR and UV-vis spectroscopy, magnetic susceptibility, simultaneous TG, DTG, DTA techniques, and X-ray diffraction. The complex crystallizes in the monoclinic space group $P2_1/c$ [$a = 7.4697(5)$, $b = 10.1679(5)$, $c = 22.743(2)$ Å, $\beta = 92.844(5)$, $Z = 2$, $R = 0.0275$, $wR = 0.0757$, $V = 1725.26(19)$ Å^3]. The copper atom is bonded to two ampym N atoms and two sac O atoms as well as to two water O atoms in *trans* positions in the geometry of a distorted octahedron. There are also two ampym moieties as solvate molecules in the unit cell. The crystal structure is stabilized by N–H$\cdots$O, O–H$\cdots$N and C–H$\cdots$O type hydrogen bonding interactions. Intermolecular $\pi-\pi$ interactions between the phenyl rings of ampym groups and C–H$\cdots\pi$ interactions also support the packing of the molecules. The thermal decomposition of the complex has been studied.

Key words: Copper(II) Complex, Saccharinato Complex, 2-Aminopyrimidine, Thermal Studies