

[Cu(CN)*en*₂]**I** – Copper Amine Propellers

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Dedicated to Professor Wolfgang Jeitschko on the occasion of his 70th birthday

Light blue [Cu(CN)*en*₂]**I** was prepared by reaction of copper iodide with ethylenediamine (*en*) and potassium cyanide in acetonitrile in air. It crystallizes in the space group *C*2 (No. 5) with $a = 11.082(6)$, $b = 7.155(2)$, $c = 9.017(3)$ Å, $\beta = 127.00(3)^\circ$, and $Z = 2$. The structure was refined from 1069 unique reflections and 90 parameters. The refinement converged to $R1 = 0.018$ and $wR2 = 0.041$ (all reflections). Copper has a trigonal bi-pyramidal environment formed by two *en* molecules and one CN[−] anion. The iodine anion shows no direct contact to the Cu²⁺ center. The propeller shaped complexes [Cu(CN)*en*₂]⁺ are all oriented parallel in the crystal structure. [Cu(CN)*en*₂]⁺ cations and I[−] anions form a zincblende related arrangement.

Key words: Copper (II) Complexes, Amines, Cyanide