Water Soluble [Cu(dien)(NN)]Br₂ complexes and their antibacterial activity

Fatima Abu Saleem¹, Sharif Musameh², Ashraf Sawafta³, Paula Brandao⁴, Ismail Warad¹*

¹Department of Chemistry, AN-Najah National University P.O. Box 7, Nablus, Palestine
²Department of Physics, AN-Najah National University P.O. Box 7, Nablus, Palestine
³Biology and Biotechnology Department, An-Najah National University, P.O. Box 7, Nablus, Palestine
⁴Department of Chemistry, CICECO, University of Aveiro, 3810-193 Aveiro, Portugal

Abstract

Water soluble dicationic copper(II) complexes of general formula [Cu(dien)(NN)]Br₂ [dien = diethelenetriamine and NN is diamines] were made available in good yield under ultrasonic mode, as in the Scheme.

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\text{CuBr}_2\cdot4\text{H}_2\text{O} \xrightarrow{\text{dien/en in MeOH, Ultrasonic}} [\text{Cu(dien)(NN)}]Br_2
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The reaction was monitored by both FT-IR and UV-vis spectroscopy. The 3D structure was solved by X-ray single crystal diffraction. The solvatochromism phenomena of such complexes is recorded in several types of solvents. These complexes were spectrally and thermally characterized. The complexes showed higher antibacterial activity against several types of bacteria depending on their structures geometry.