

SINTESIS DAN AKTIVITAS ANTIBAKTERI KOMPLEKS Cu(II) LIGAN TETRADENTAT –ONNO-

Oleh

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ABSTRAK

Pada penelitian ini telah dilakukan sintesis, karakterisasi kimia fisik, dan aktivitas antibakteri kompleks [Cu(salen)] jenis [Cu(salen)]. Kompleks [Cu(salen)] yang disintesis dari logam Cu(asetat)₂ dengan ligan H₂salen dalam perbandingan mol sebesar 1:1. Uji aktivitas senyawa kompleks tetradentat [Cu(salen)] dilakukan terhadap uji aktivitas antibakteri. Karakterisasi senyawa kompleks tetradentat [Cu(salen)] memiliki gelombang maksimum (λ_{maks}) sebesar 404 nm, ikatan logam dengan ligan ditunjukkan pada vibrasi Cu-N pada 418 cm⁻¹, dan momen magnet efektif (μ_{eff}) sebesar 2,466 BM. Dari hasil penelitian diketahui penambahan senyawa kompleks Cu(II) salen tetradentat dapat menghambat aktivitas bakteri sebesar 23-30% pada konsentrasi 1024 $\mu\text{g/mL}$.

Kata kunci: [Cu(salen)] tetradentat beratom donor –ONNO-, aktivitas antibakteri

**ANTIBACTERIAL SYNTHESIS AND ACTIVITY
Cu(II) TETRADENTATE LIGAN COMPLEX –ONNO–**

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ABSTRACT

In this study, the synthesis, physical chemical characterization, and antibacterial activity of the [Cu(salen)] complex were carried out. [Cu(salen)] complex was synthesized from Cu(acetate)₂ metal with H₂salen ligand in a mole ratio of 1:1. The activity test of the tetradentate complex [Cu(salen)] was carried out on the antibacterial activity test. The characterization of the tetradentate complex [Cu(salen)] has a maximum waveform (λ_{max}) of 404 nm, metal-ligand bonding is shown in Cu-N vibrations at 418 cm⁻¹, and an effective magnetic moment (μ_{eff}) of 2.466 BM. From the research, it is known that the addition of the complex compound Cu(II) salen tetradentate can inhibit bacterial activity by 23-30% at a concentration of 1024 g/mL.

Keyword: [Cu(salen)] donor atomic tetradentate –ONNO–, antibacterial activity