



Synthesis, Characterization and Biocidal Studies of Rare Earth Metal Complexes of Diazepam

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ABSTRACT

*Complexes of diazepam (DZM) with the metal nitrates of thorium, uranium and cerium have been synthesized and characterized by elemental analysis, IR spectra and pH metric analysis. In the view of above studies complexes were found to have the general composition $[L(M_1)(NO_3)_4]$, $[L(M_2)(NO_3)_2]$ and $[L(M_3)(NO_3)_4]$. Where, L= ligand (DZM), $M_1= Th(IV)$, $M_2= UO_2(II)$ and $M_3= Ce(IV)$. The ligand act as a bi-dentate chelating agent and the complexes were proposed to be the octahedral in geometry. The ligand and its metal complexes were screened for their antimicrobial activities on bacteria (*E. coli*, *S. typhi*, *B. subtilis*, *S. aureus*) and fungi (*A. niger*, *F. species*, *P. triticena*, *A. flavous*).*

Keywords: Diazepam (DZM), Antimicrobial Studies, Metal complexes.
