

ABSTRACT

The objective of this research is to synthesize β -lactam metal complexes by using reflux method and then undergo microbial evaluation by means of dextrose extract agar petri plates treatment with control and experimental group of analysis on *Bacillus sp.* The metals complexation was done with Cu, Sn and Ni metals where all those metal cephalosporin complexes showed maximum activity at 100ppm. The %age inhibition was calculated by measuring the radial increment of colony using statistical approach. The %age inhibition for CuCEF, SnCEF and NiCEF treatments at 100ppm on *Bacillus sp.* showed $94.987 \pm 0.012\%$, $80.12 \pm 0.013\%$ and $86.753 \pm 0.013\%$ respectively. In short maximum inhibition was observed in Copper Cephalosporin complexes treatment.