**ABSTRACT**

Nickel(II)salensulphadiazine complex was prepared and characterised by the spectral studies such as FT-IR, UV-Vis, NMR and single crystal XRD. The Nickel(II) complex was screened for in-vitro antimicrobial activities against various test organisms *Aeromonas hydrophila*, *Serratia marcescens*, *Bacillus licheniform*, *Pseudomonas aeruginosa*, *Acinetobacter baumanii*, *Aspergillus niger* and *Candida albicans* by the well diffusion method cultured on Sabrouds dextrose agar as medium and in-vitro anticancer activity against the human breast cancer cell line HeLa. The NiO obtained by the thermal decomposition of Ni (salen) sulphadiazine complex was characterised using TEM images and their SAED pattern.