

# Preparation and characterization of ferromagnetic nickel oxide nanoparticles from three different precursors: Application in drug delivery

Electronic supplementary information (ESI)

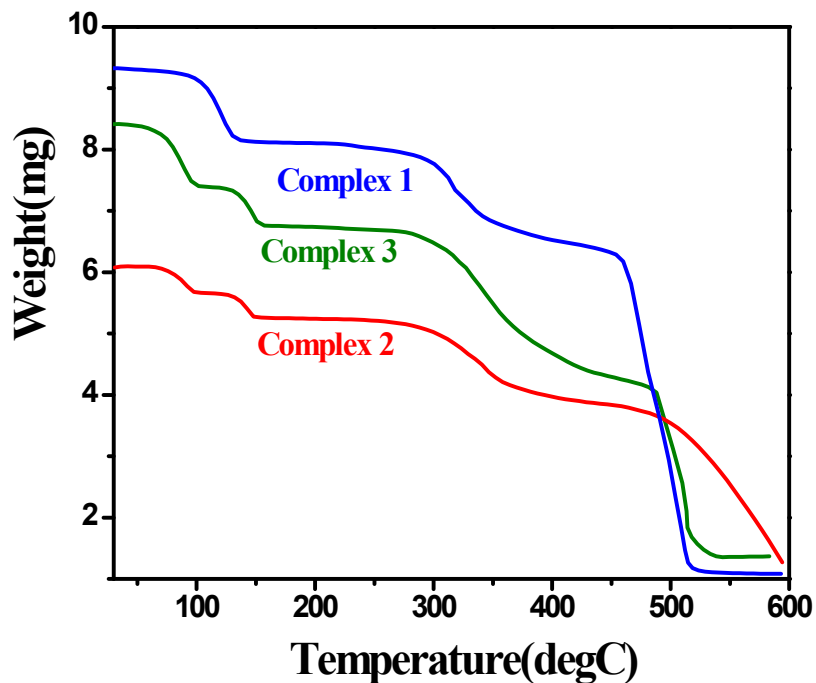


Fig. S1 TGA diagram of Complex 1-3.

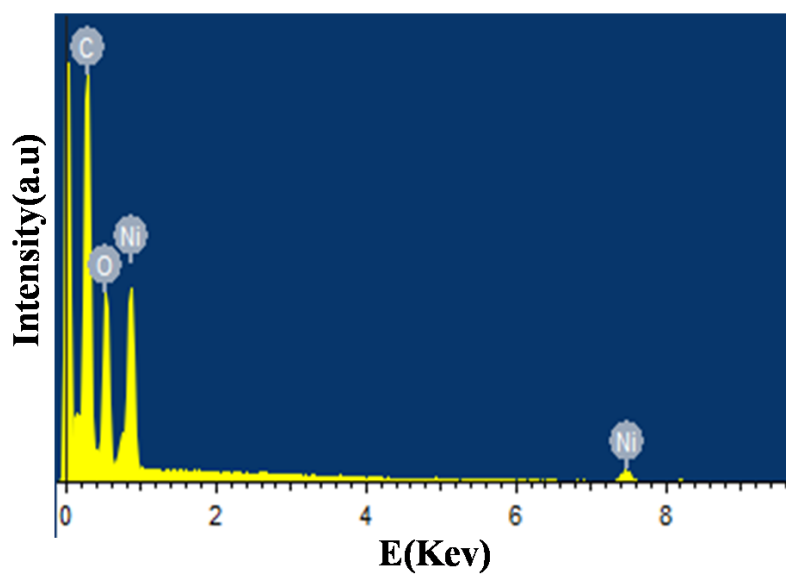


Fig. S2. EDX spectrum of the NiO-(Br) nanoparticles.

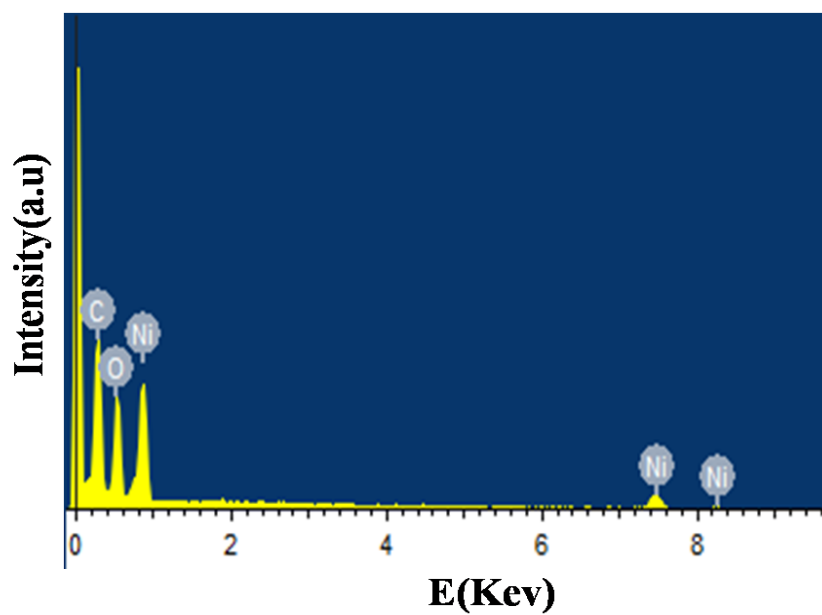
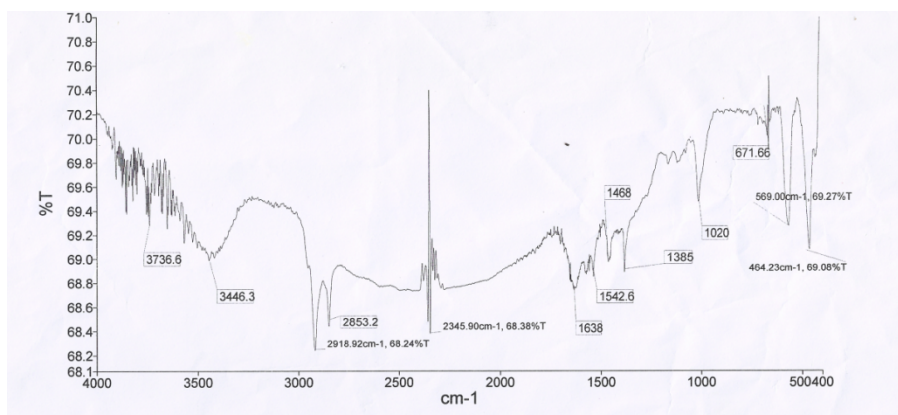
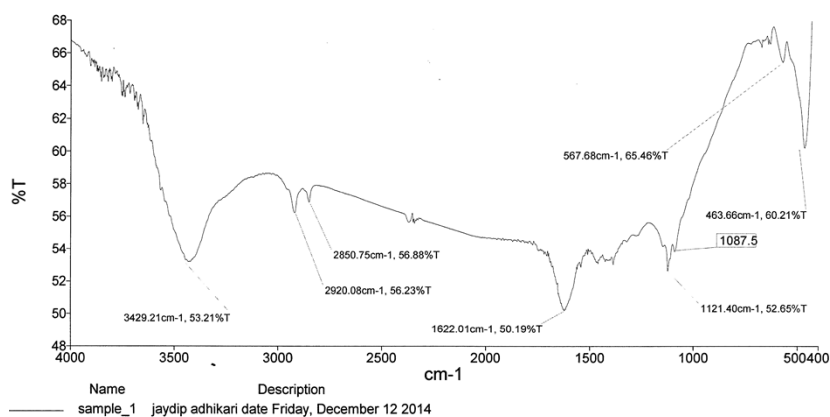


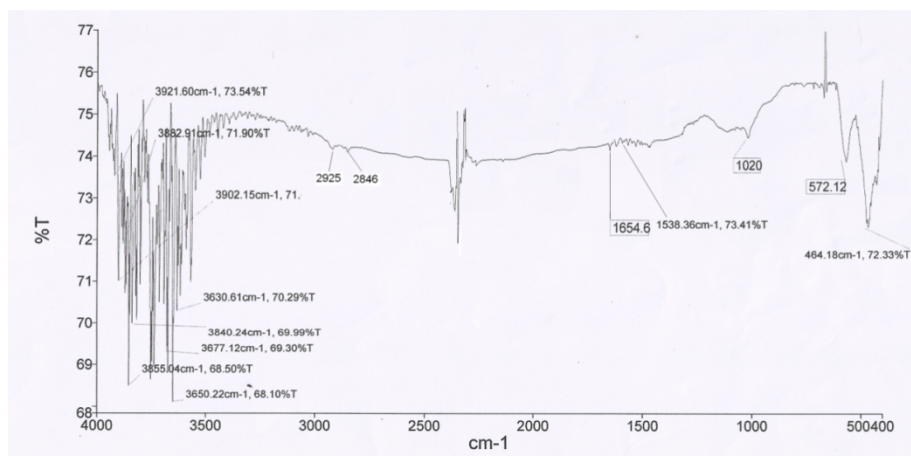
Fig. S3. EDX spectrum of the NiO-(Cl) nanoparticles.



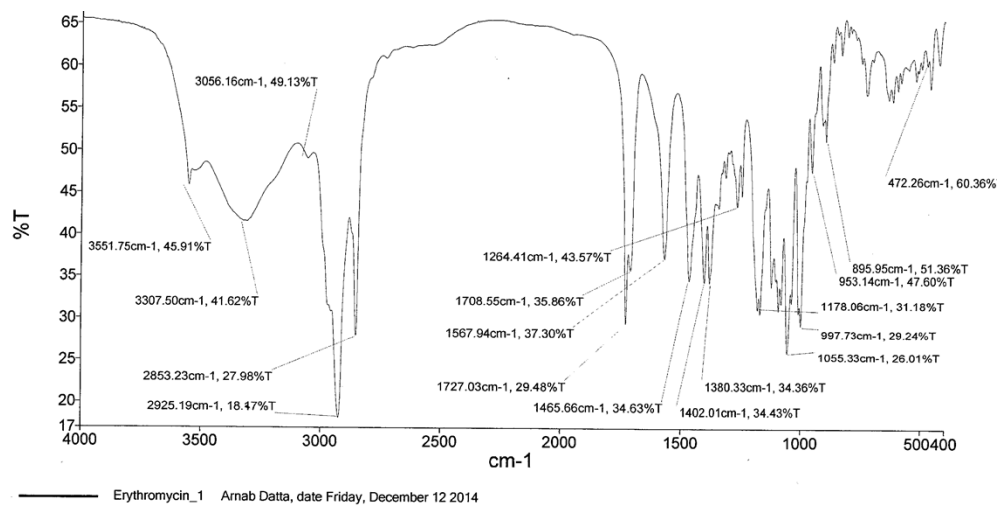
**Fig. S4.** FTIR spectrum of the Erythromycin conjugated NiO-(I) nanoparticles.



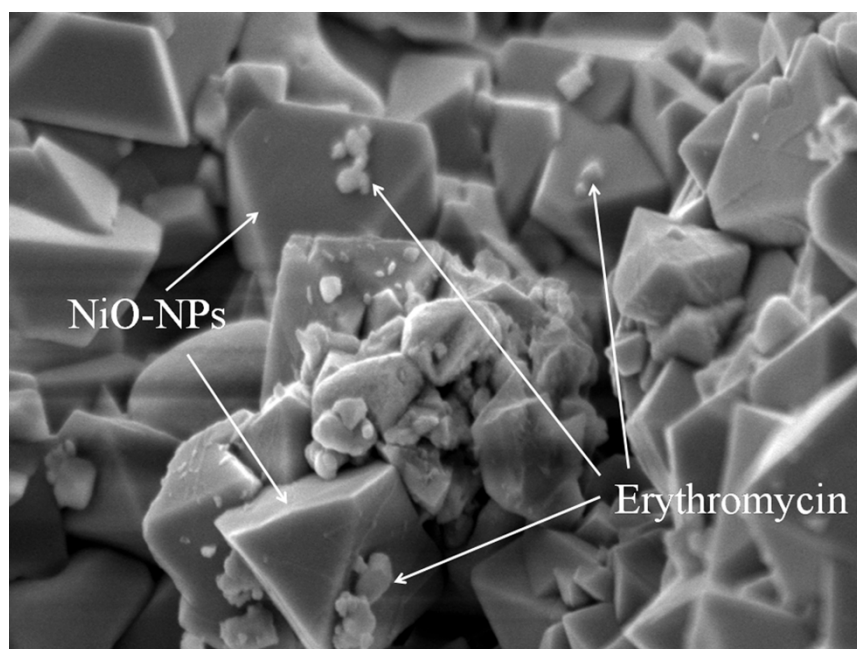
**Fig. S5.** FTIR spectrum of the Erythromycin conjugated NiO-(Br) nanoparticles.



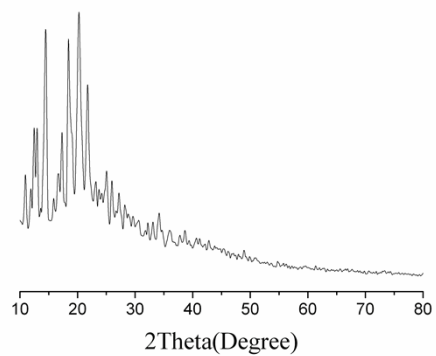
**Fig. S6.** FTIR spectrum of the Erythromycin conjugated NiO-(Cl) nanoparticles.



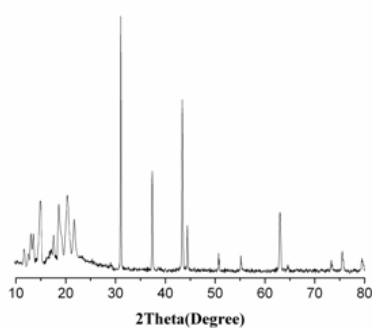
**Fig. S7.** FTIR spectrum of only Erythromicine.



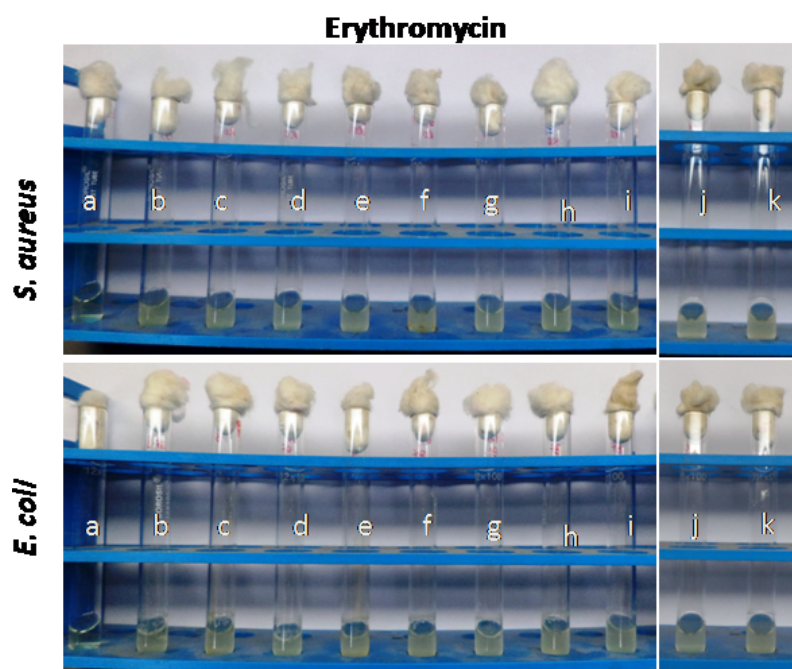
**Fig. S8.** SEM image of Erythromycin conjugated NiO.



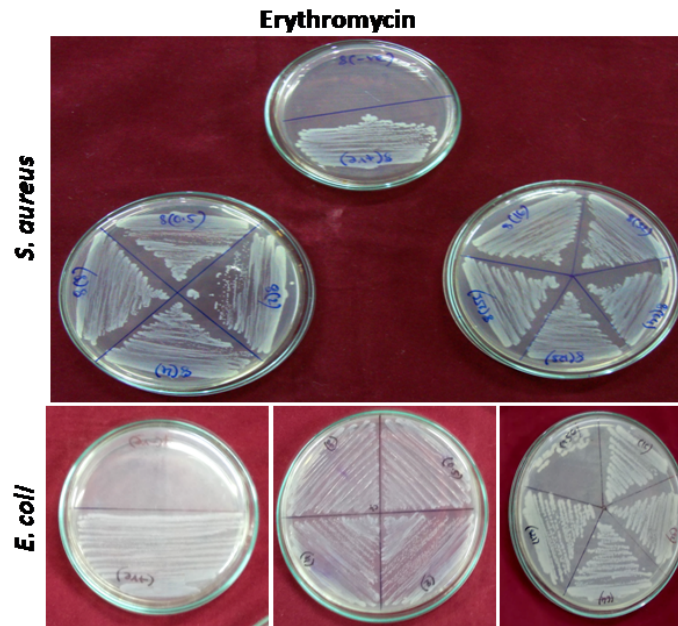
**Fig. S9** XRPD pattern of Erythromycin only.



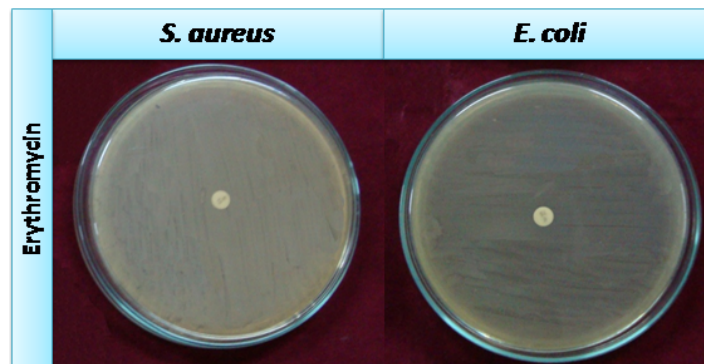
**Fig. S10** XRPD pattern of Erythromycin conjugated NiO nanoparticles.



**Fig. S11** Minimum inhibitory concentration of Multi drug resistant *E. coli* and *S. aureus* strains against Erythromycin only. Here a = (-)ve control, b = (+)ve control, c = 0.5,  $\mu\text{g/ml}$ , d = 2  $\mu\text{g/ml}$ , e = 4  $\mu\text{g/ml}$ , f = 8  $\mu\text{g/ml}$ , g = 16  $\mu\text{g/ml}$ , h = 32  $\mu\text{g/ml}$ , i = 64  $\mu\text{g/ml}$ , j = 128  $\mu\text{g/ml}$ , k = 256  $\mu\text{g/ml}$ . Data obtained from three independent experiments that yielded similar results.



**Fig. S12** Minimum bactericidal concentration of Multi drug resistant *E. coli* and *S. aureus* strains against Erythromycin only. Data obtained from three independent experiments that yielded similar results.



**Fig. S13** Diameter of inhibition zone of Multi drug resistant *E. coli* and *S. aureus* strains against Erythromycin only. Data obtained from three independent experiments that yielded similar results.

**Table S1** DLS size and Zeta Potential for NiO NPs along with the Erythromycin conjugated NPs.

|                 | DLS Size(nm) | Zeta Potential(mV) |
|-----------------|--------------|--------------------|
| NiO(I)          | 194.6        | -4.81              |
| NiO(I)Ery       | 242.3        | -8.21              |
| NiO(Br)         | 230.9        | -12.3              |
| NiO(Br)Ery      | 262.6        | -17.8              |
| NiO(Cl)         | 262.1        | -2.63              |
| NiO(Cl)Ery      | 279.8        | -31.9              |
| <i>S.aureus</i> | -            | -30.9              |
| <i>E.coli</i>   | -            | -26.4              |