

Figure S1 Particle size distribution and zeta of Plain PLGA Nanoparticles(Control).
Size 189.4 nm, poly disparity index (PDI) 0.5 and mean zeta potential was -12.5 mV

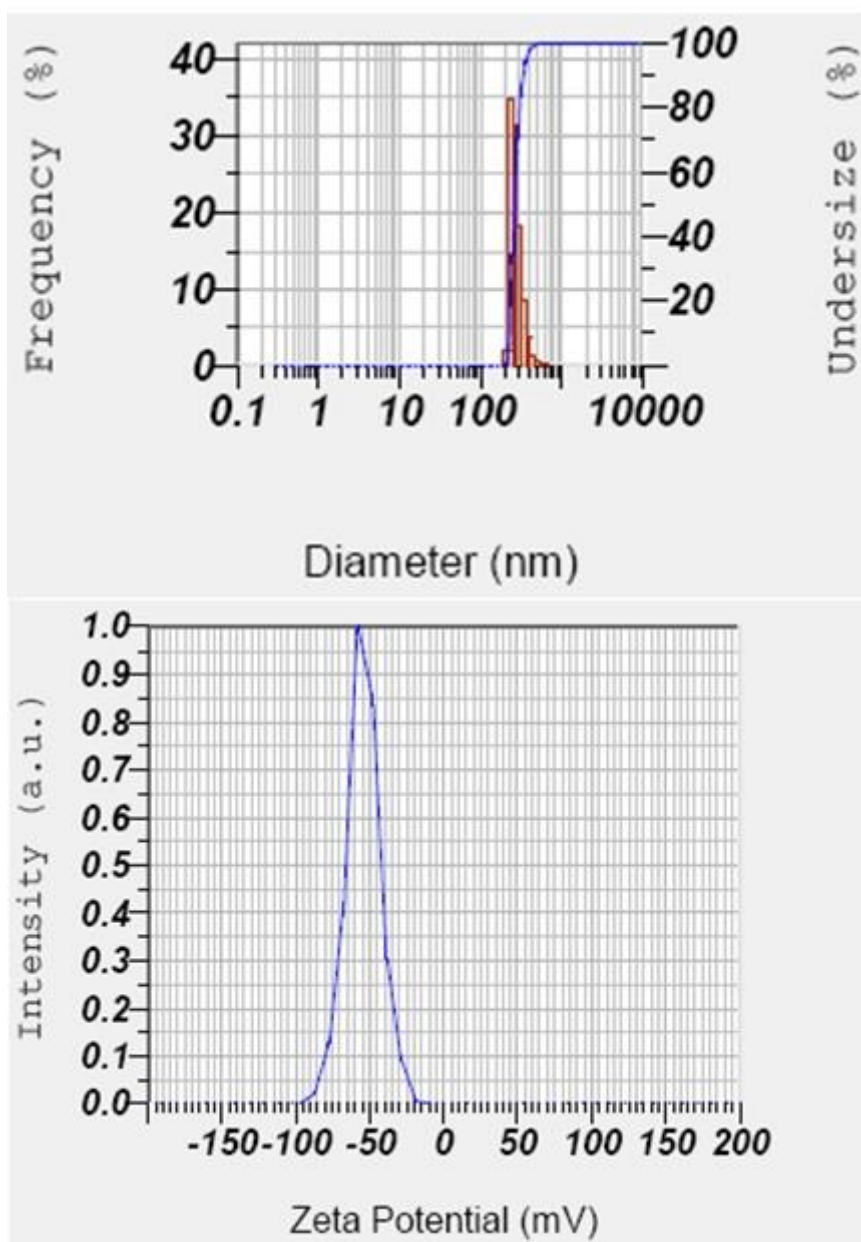


Figure S2 Particle size distribution and Zeta potential graph of PLGA- RIF Nanoparticles. Size 271.6nm, PDI 0.47 and Zeta potential -54.3mV

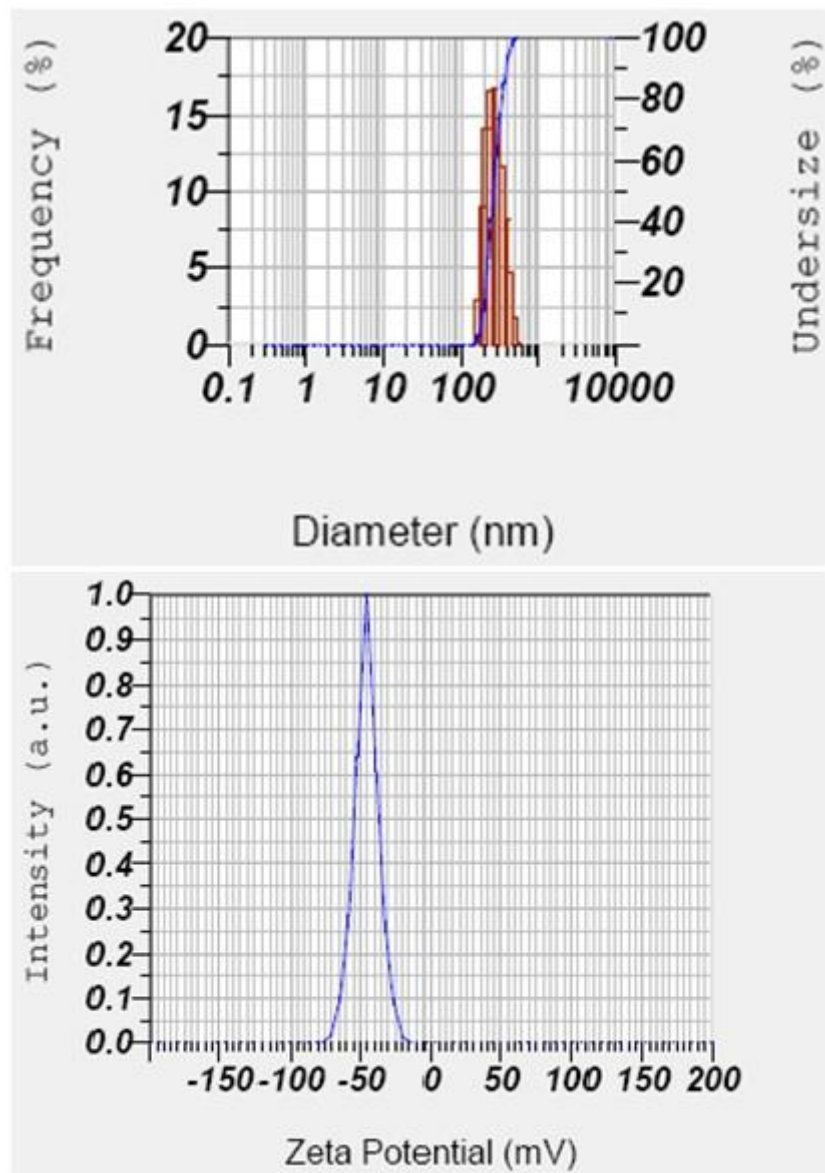


Figure S3 Particle size distribution and Zeta potential graph of PLGA- RIF Nanoparticles. Size 274.1nm, PDI 0.424 and Zeta potential -45.5mV

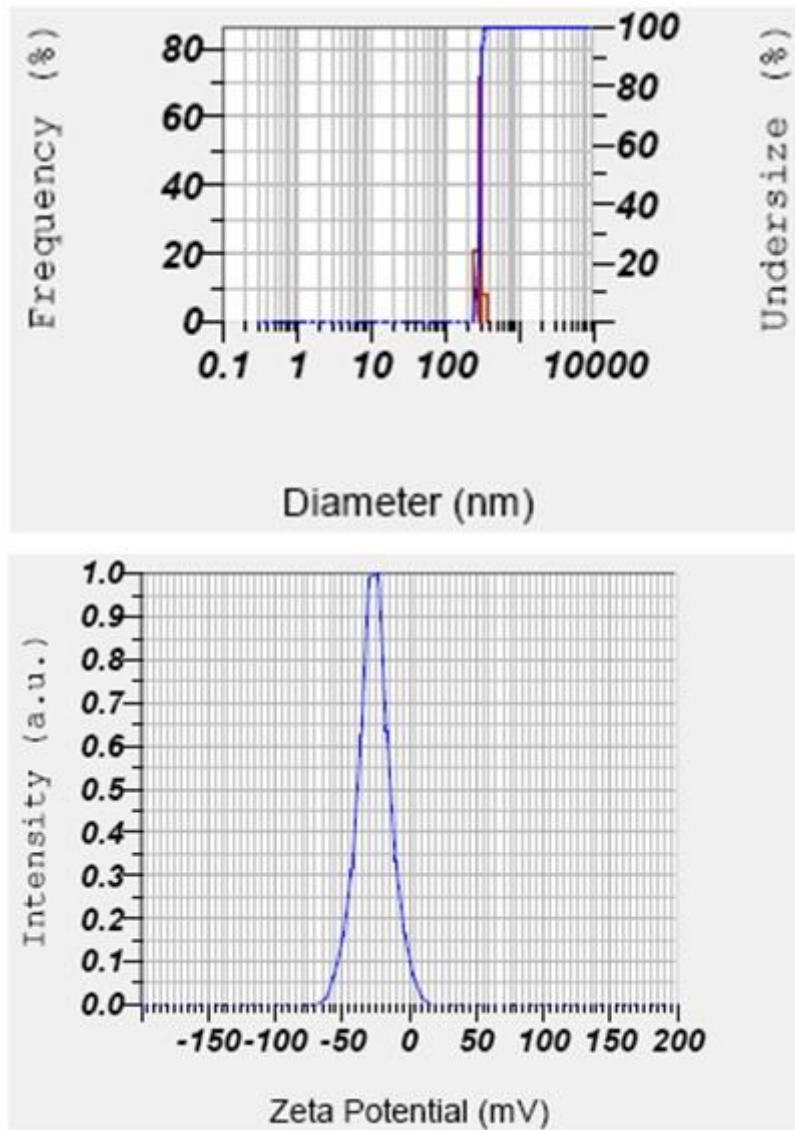


Figure S4 Particle distribution and Zeta potential graph of IH2 Nanoparticles. Size 292.6 nm, PDI 0.385 and zeta potential -26.2 mV

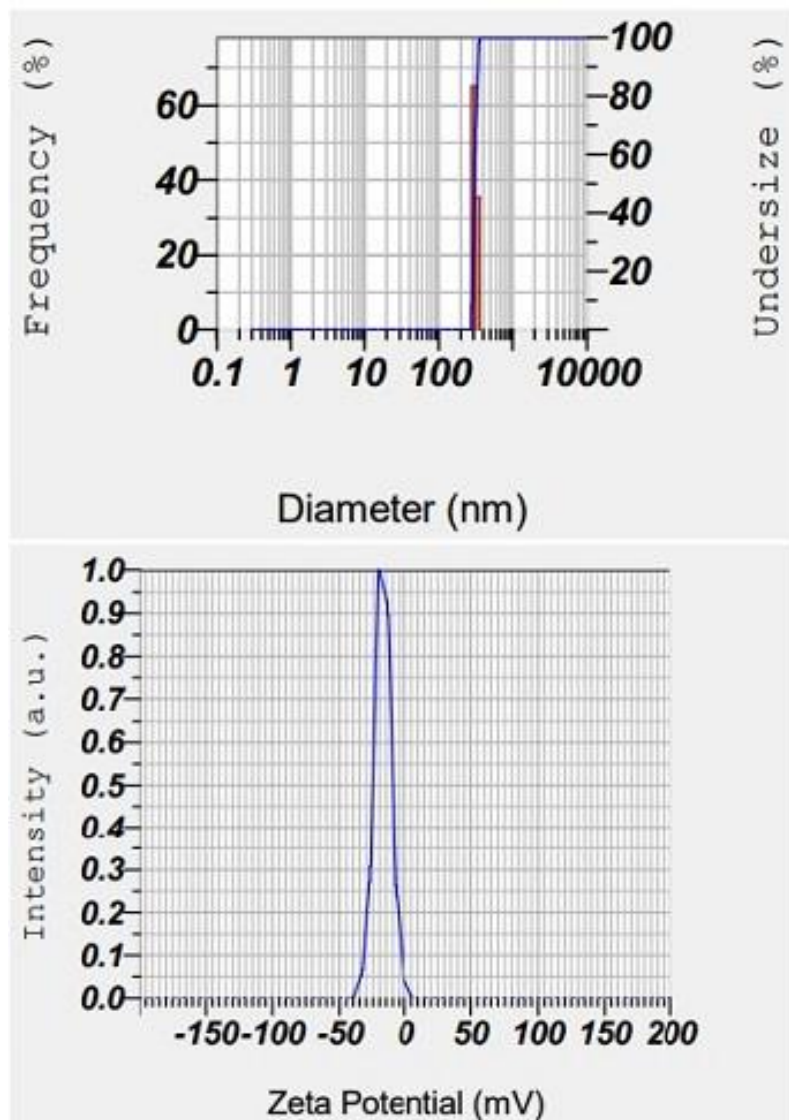


Figure S5 Particle distribution and Zeta potential graph of IH2 Nanoparticles. Size 310.1 nm, and zeta potential -17.4 mV

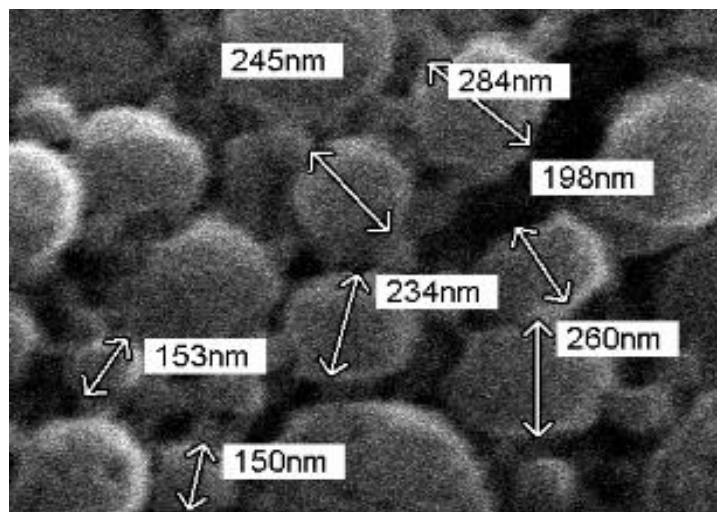


Figure S6 SEM Images of Rifampicin Encapsulated Nanoparticles Showing Size and Surface morphology.

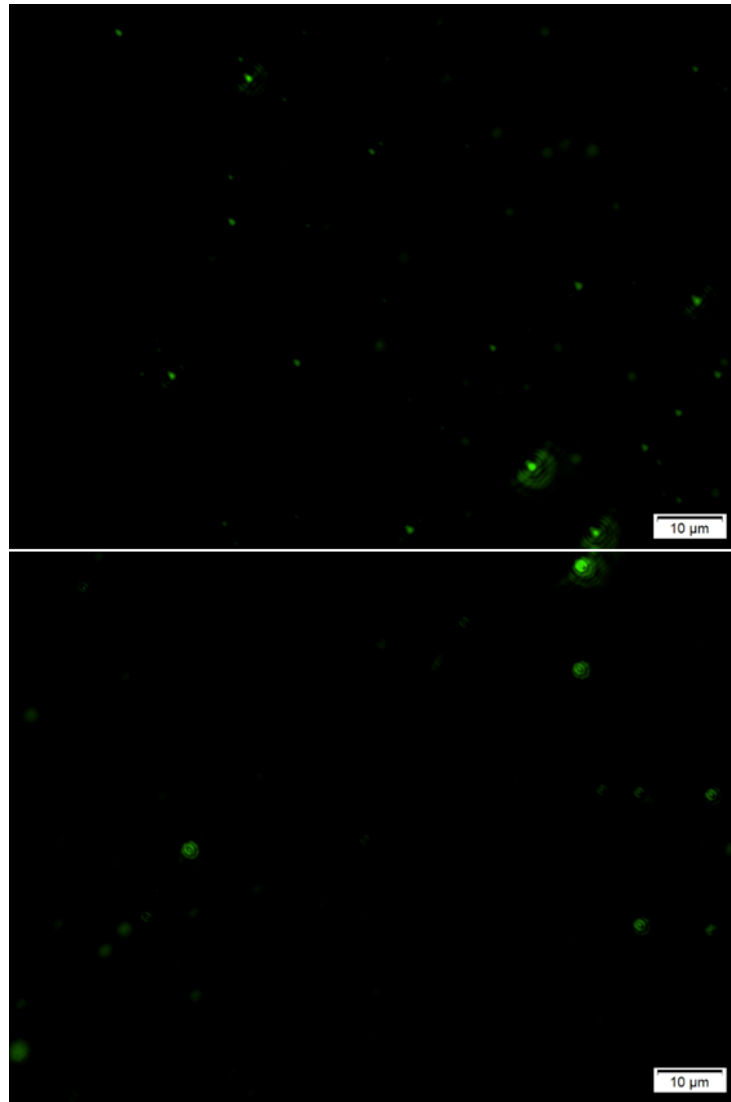


Figure S7 Fluorescence Images of Coumarin-6 loaded PLGA nanoparticles 100X oil immersion.

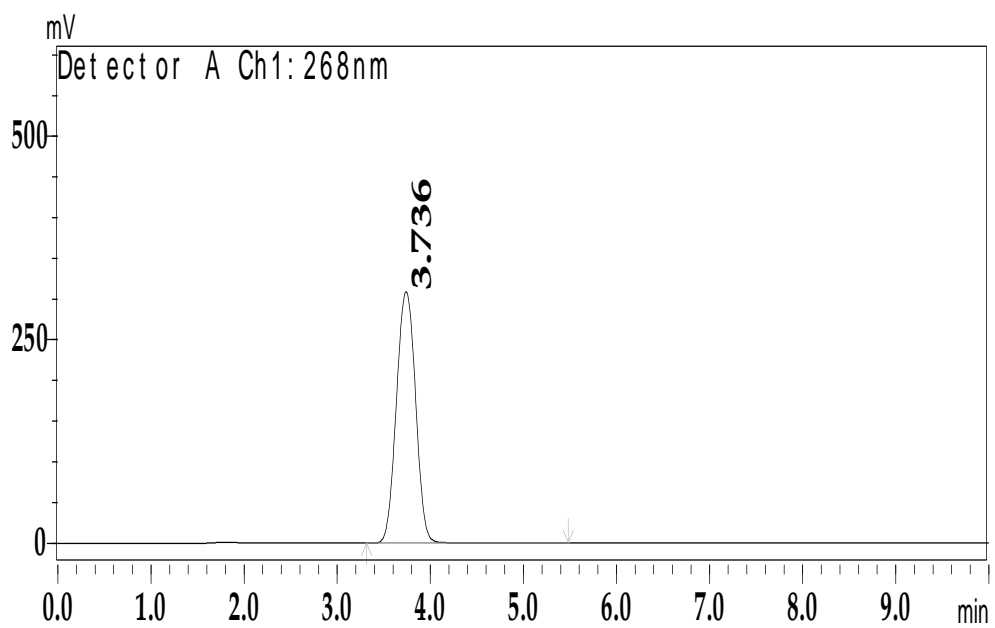


Figure S8 Chromatogram of IH2 peak

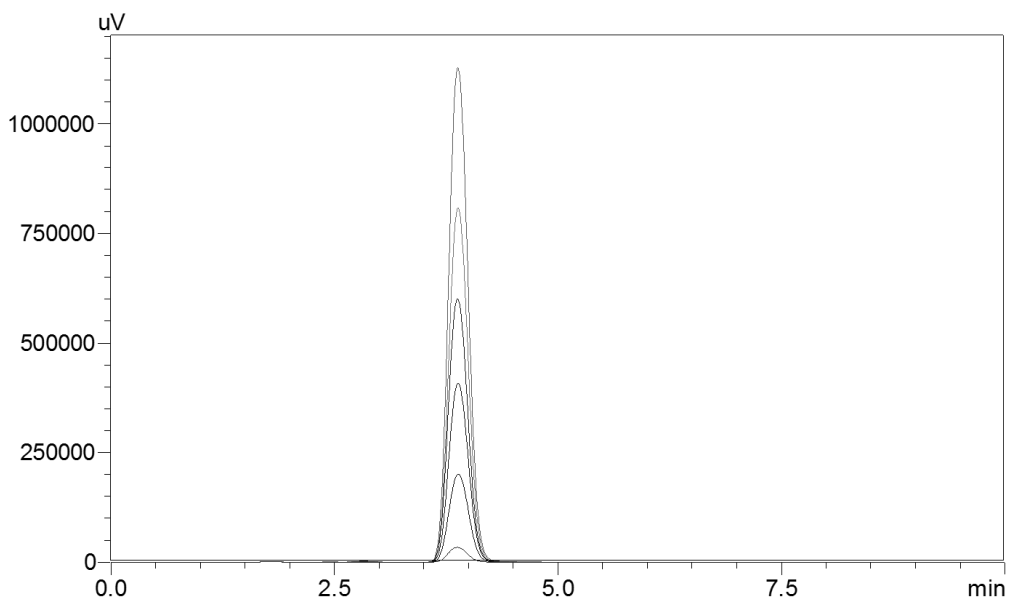


Figure S9 Different concentration of IH2 peaks, @ RT 3.7

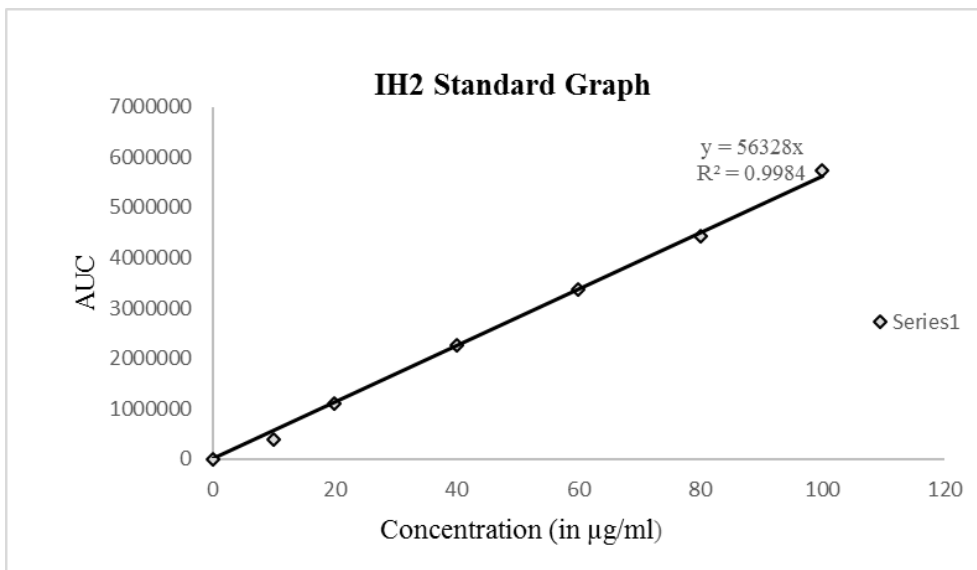


Figure S10 IH2 Standard Graph showing linearity

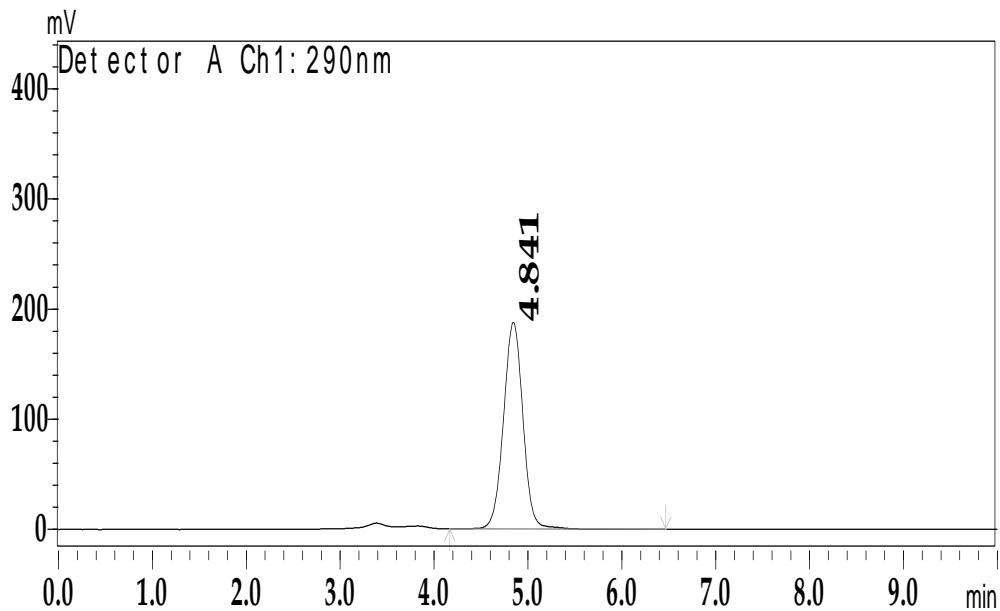


Figure S11 Chromatogram showing Rifampicin peaks at 4.8 RT, 100µg/ml

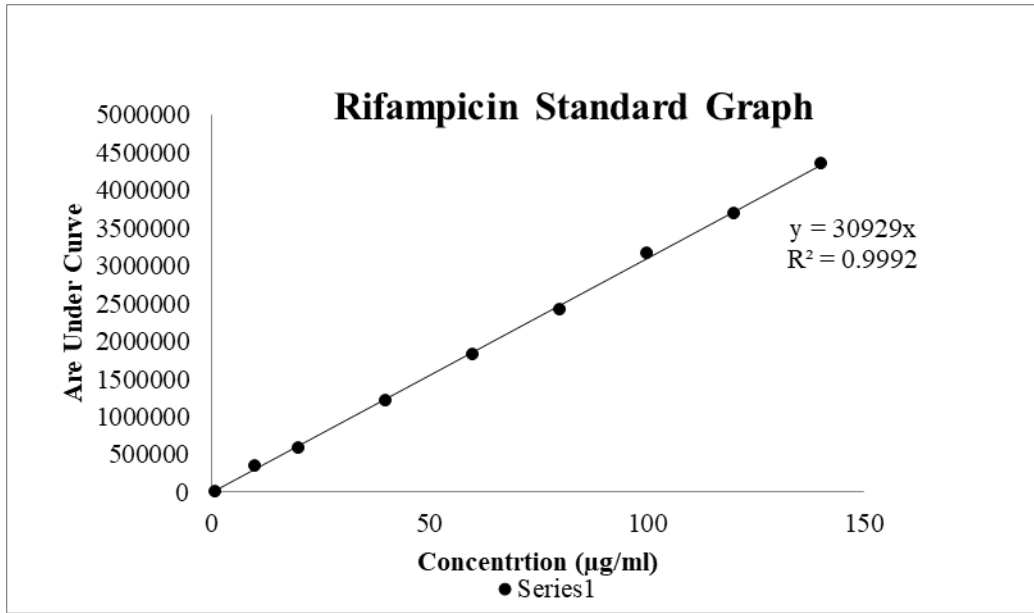


Figure S12 Rifampicin standard graph showing linearity

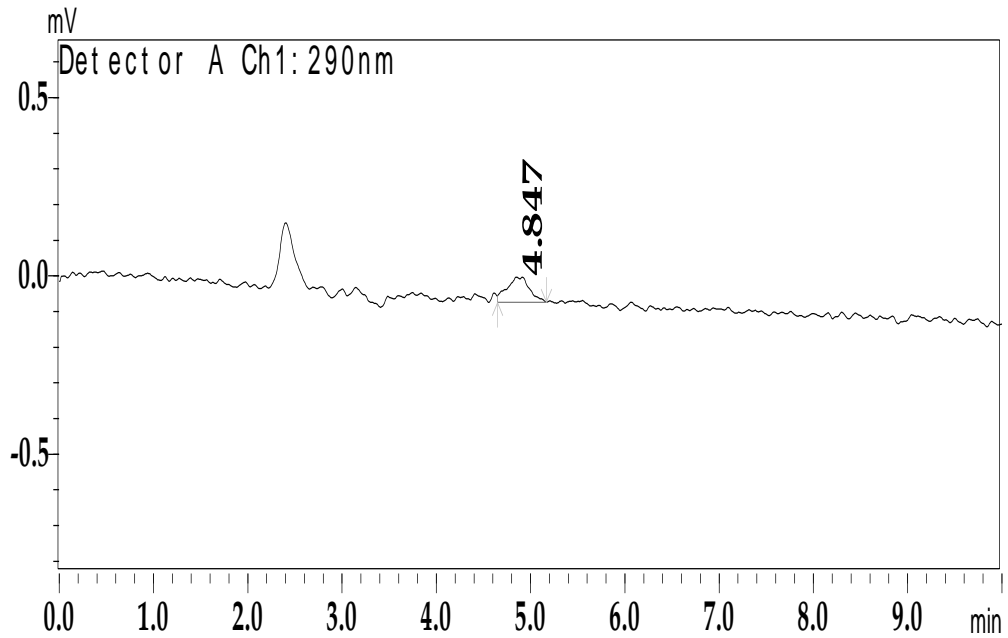


Figure S13 Chromatogram showing Rifampicin peak at 4.8 RT, 0.06 $\mu\text{g/ml}$

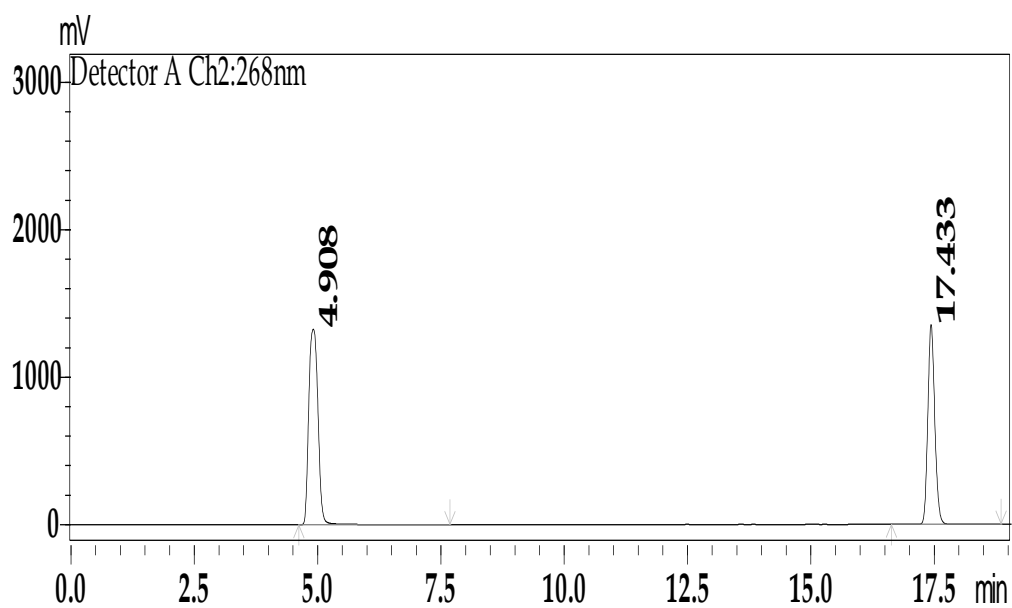


Figure S14 Chromatogram of Isoniazid peak at 4.9RT and IH2 peak at 17.43RT

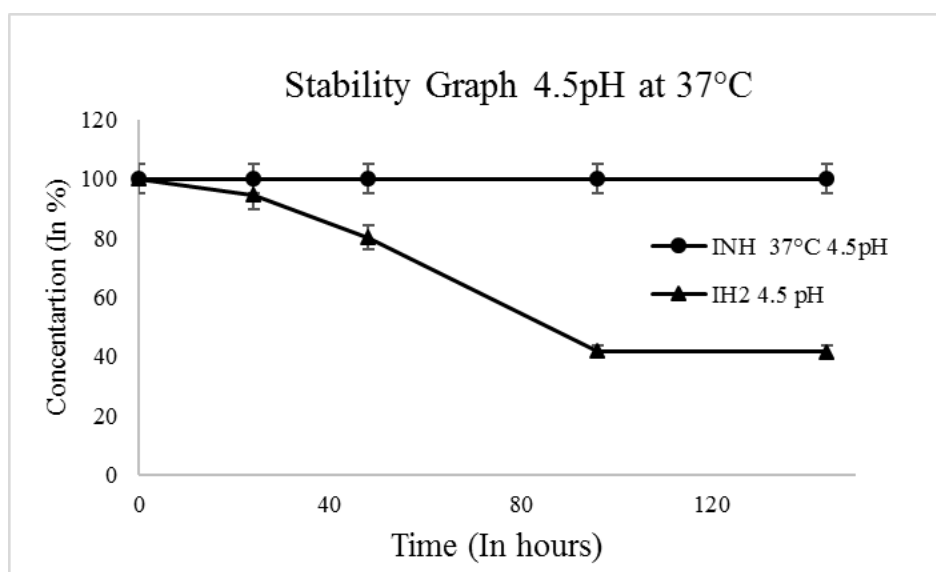


Figure S15 IH2 and INH Stability graph at 4.5 pH

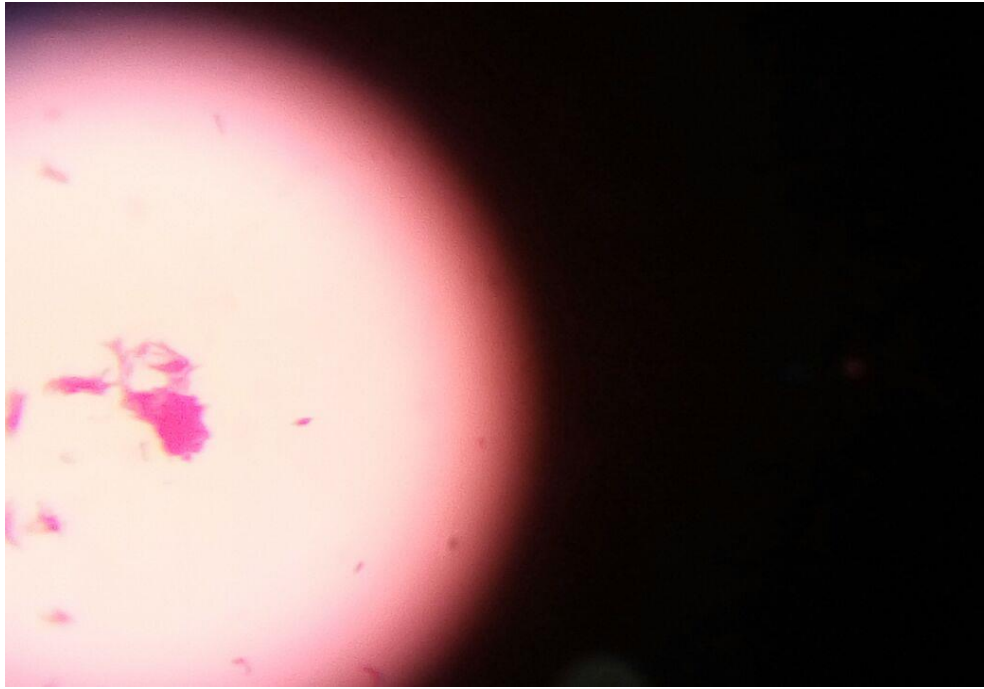


Figure S16 Zn Staining showing *Mycobacterium tuberculosis* rod shaped bacilli



Figure S17 No growth on Blood agar plate confirms sterility of the *Mtb* growth culture

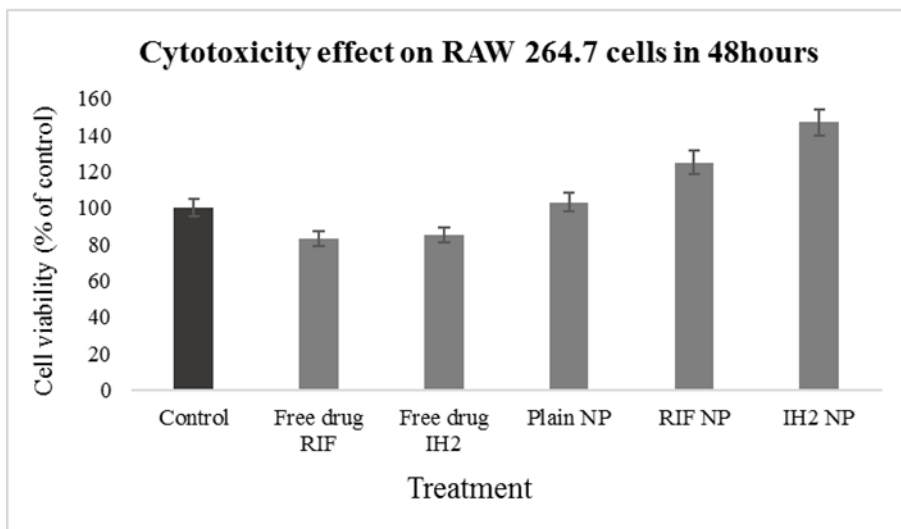
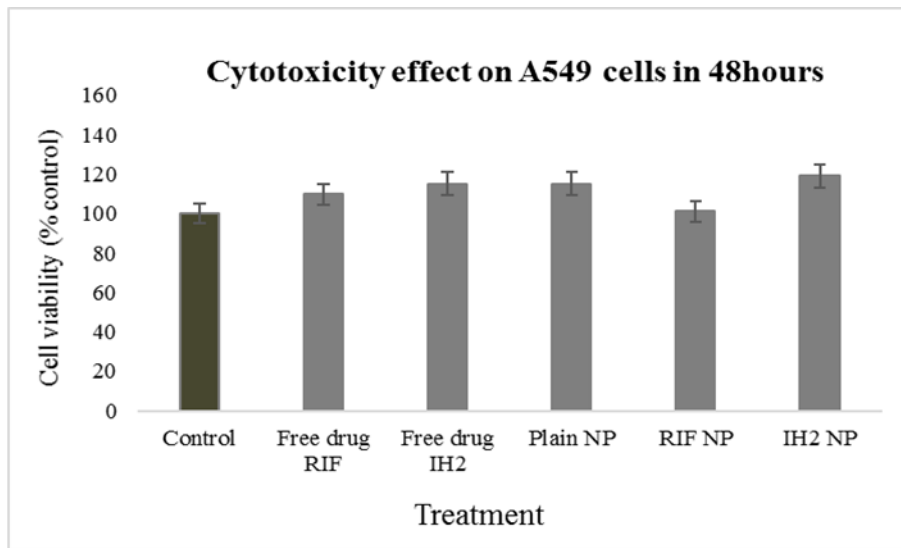


Figure S18: Cytotoxic effect on (A) A549 cells (B) RAW 264.7 macrophage cells after they have been incubated for 48h with Control, Free drug Rifampicin, Free drug IH2, Plain nanoparticles, Rifampicin loaded nanoparticles and IH2 loaded nanoparticles.

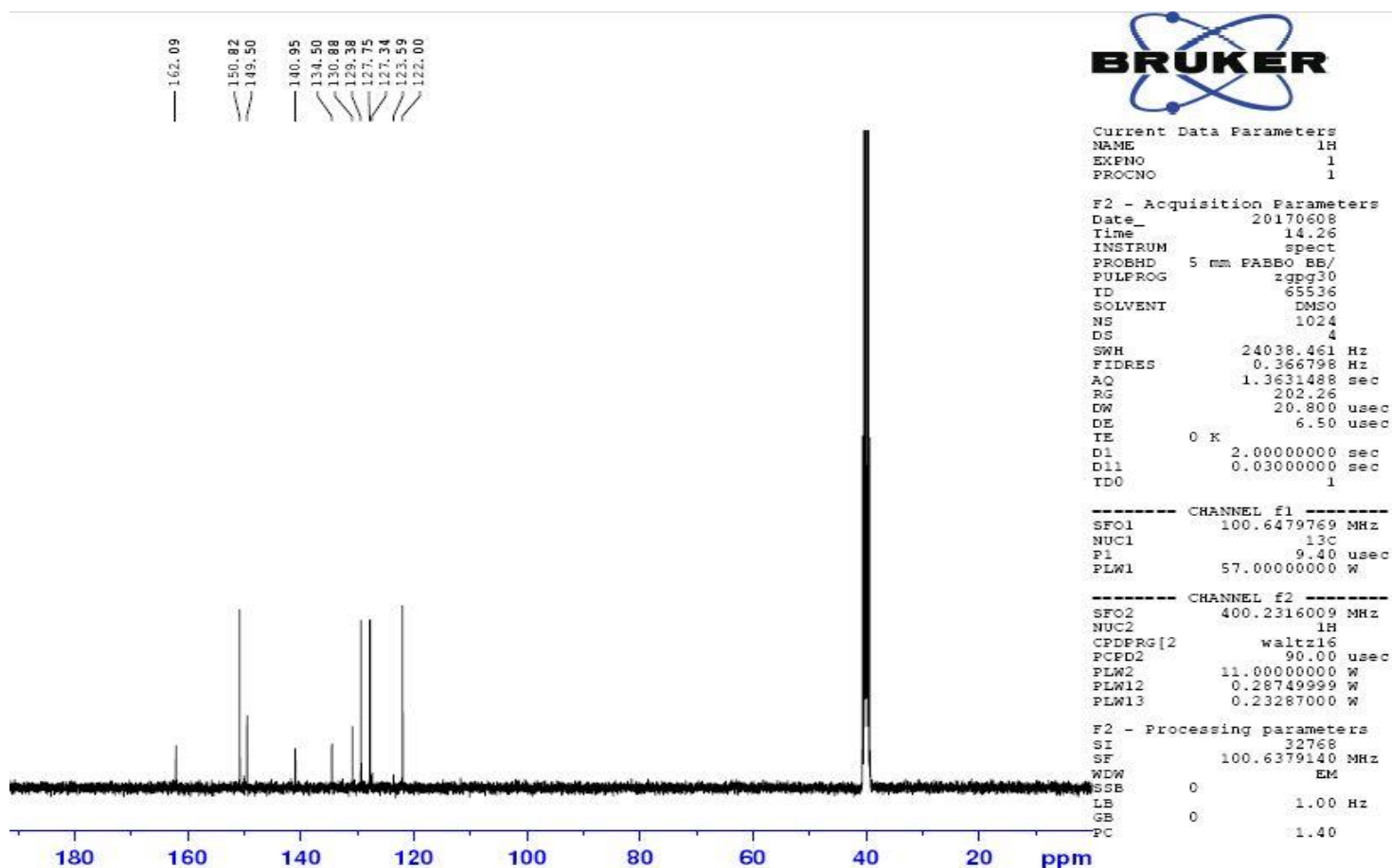


Figure S19 ¹³C NMR Spectrum of IH2

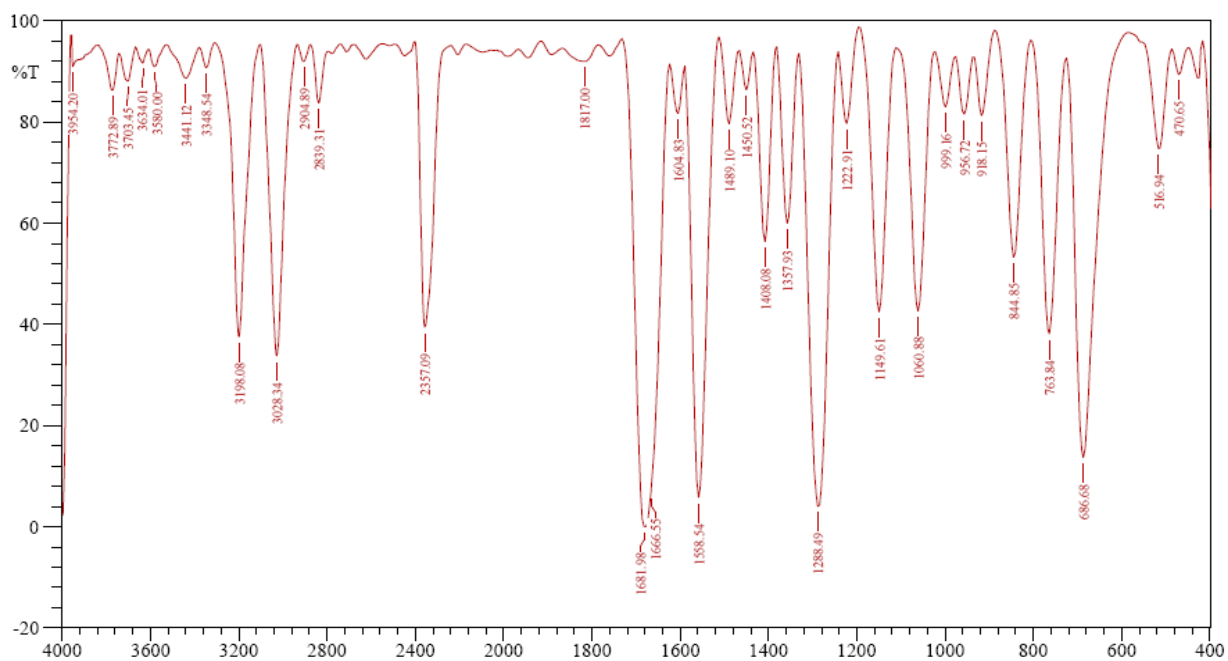


Figure S20 IR Spectrum IH2

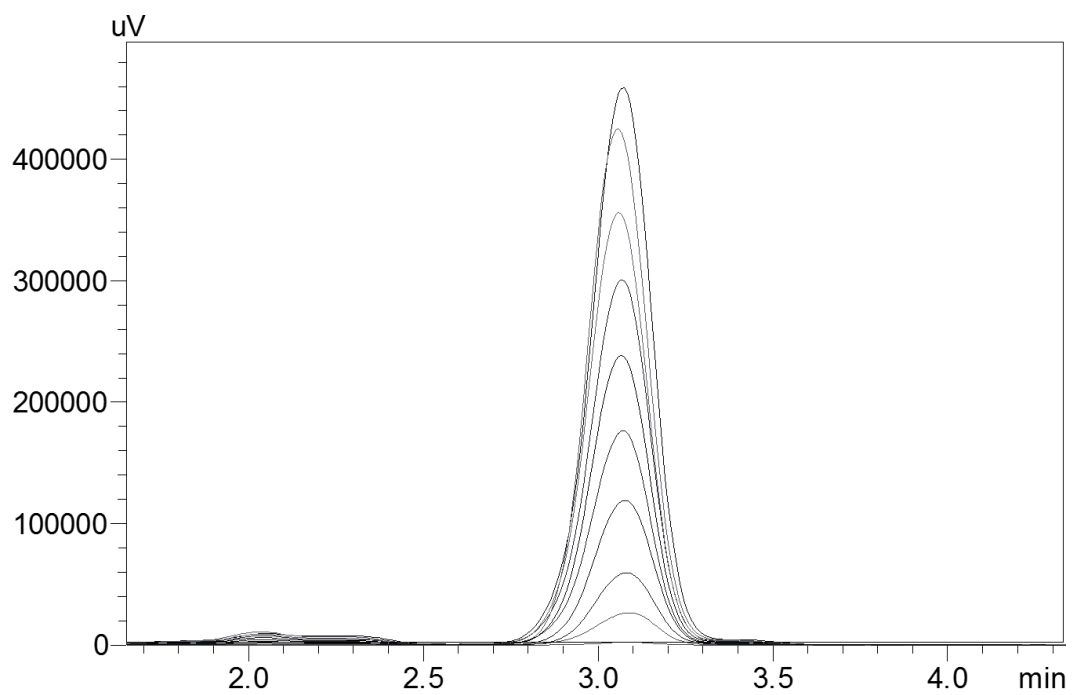


Figure S21 Different concentration of Rifampicin peaks, Retention Time 3.2 in c-18 luna, 150mm column

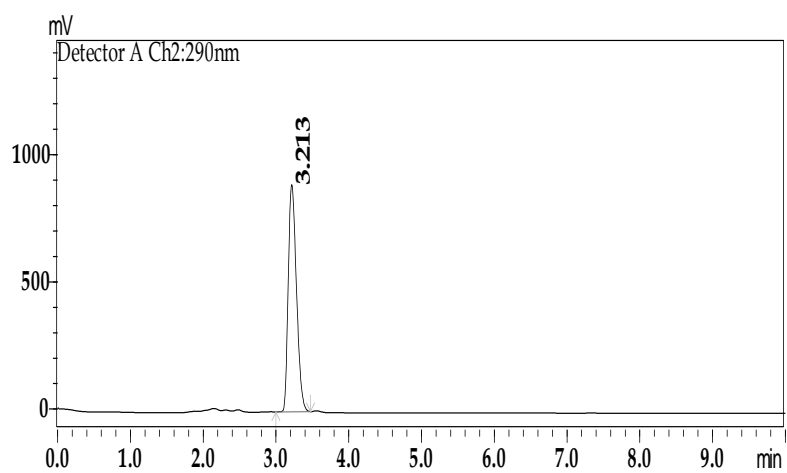


Figure S22 stability study, chromatogram of Rifampicin initial reading at zero-hour RT 3.2.

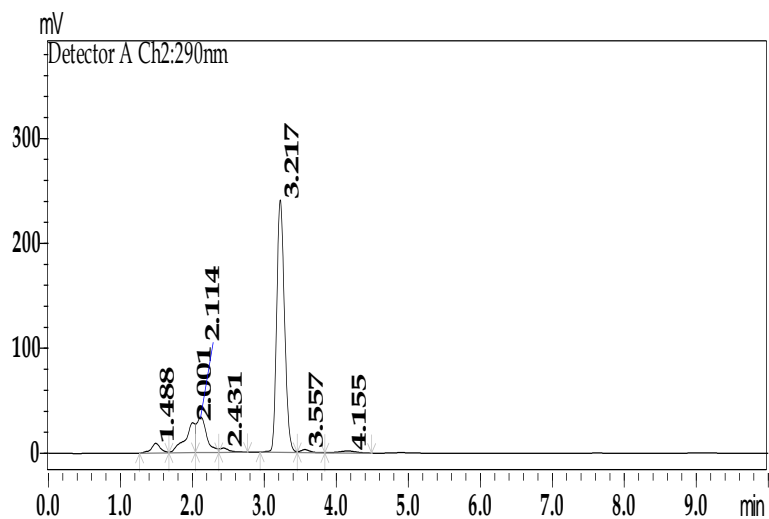


Figure S23 Stability study of Rifampicin, 6 hour chromatogram @ RT 3.2

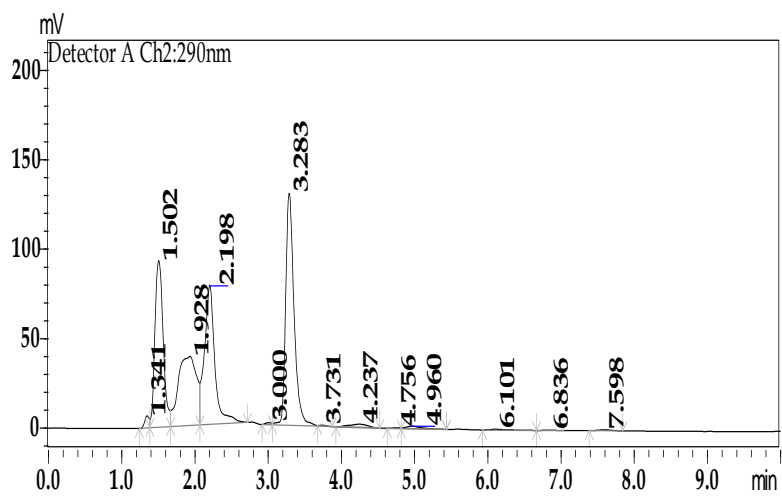


Figure S24 Stability study of Rifampicin, 24hour chromatogram @ RT 3.2

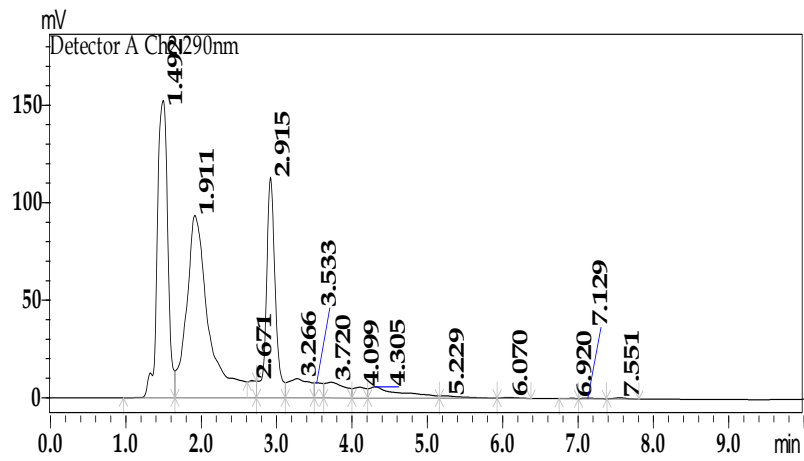


Figure S25 Stability study of Rifampicin, 48hours chromatogram showing complete degradation @ RT 3.2. (Run Time-x axis) (Peak Area Y axis)