Stimuli responsive nanocarrier for an effective delivery of multi-frontline tuberculosis drugs

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Scheme S1. Schematic representation of block copolymer, BCP-1 synthesis.

Scheme S2. Schematic representation of synthesis of randaom copolymer RCP-1.



Scheme S3. Schematic representation of synthesis of randaom copolymer RCP-2 (NOR-INZ-RIF-PEG).





Fig. S1: ¹H NMR spectrum of Mono 1 in DMSO-d₆.



Fig. S2: ¹³C NMR spectrum of Mono 1 in DMSO-d₆.



Fig. S3: MALDI-TOF spectrum of Mono 1.



Fig. S4: FT-IR spectrum of (a) Rifampicin and (b) Mono 1.



Fig. S5: ¹H NMR spectrum of compound 5 in DMSO-d₆



Fig. S6: ¹³C NMR spectrum of compound **5** in DMSO-d₆.



Fig. S7: ¹H NMR spectrum of Mono 3 in DMSO-d₆.



Fig. S8: ¹³C NMR spectrum of Mono 3 in DMSO-d₆.



Fig. S9: FT-IR spectrum of (a) compound 5 and (b) Mono 3.



Fig. S10: ¹H NMR spectrum of RIF-HP 4.



Fig. S11: GPC traces for PEG-HP 1 (Mn = 11400, PDI 1.07).



Fig. S12: A representative GPC traces for **BCP-1**(Mn = 42000, PDI 1.10) (black) and **RIF-HP 4** (Mn = 32200, PDI 1.09) (red).



Fig. S13: GPC traces for RCP-1 (Mn = 11700, PDI 1.09).



Fig. S14: (a) ¹H NMR spectra for **RCP-2** in DMSO-d₆. (b) CAC study of **RCP-2** in water using pyrene as the probe, the observed CAC is 50 μ g mL⁻¹,



Fig. S15: UV spectra of RCP- 2.



Fig. S16: Fluorescence spectra of RCP -2 excited at 469 nm.



Fig. S17: UV spectra for drug release from RCP-2 at pH 5.5 by Dialysis method .



Fig. S18: UV spectra for drug release from RCP-2 at pH 6.5 by Dialysis method .



Fig. S19: A comparative ¹H NMR spectroscopy of compound **5**, **Mono 3** and **Mono 1** after exposure to the acidic condition in DMSO-d6.



Fig. S20 : Cytotoxicity assay of Isoniazid.



Fig. S21 : Cytotoxicity assay of Rifampicin on A549 cell line.



Fig. S22 : Cytotoxicity assay of Norbornene polymer alone tested in HEK 293 cell line.



Fig. S23 : Cytotoxicity assay of the nanocarrier tested in normal healthy cells(HEK 293 cell line).



Fig. S24 : UV spectra of Rifampicin in different solutions.



Fig. S25 : Decomposition scheme for RIF. Ref: Singh, S., Mariappan, T. T., Sharda, N., Kumar, S., Chakraborti, A. K. *Pharm. Pharmaco. Commun.* 2000, *6*, 405-410.

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Fig. S26 : Control experiement to prove the delivery of undecomposed RIF drug.



Fig. S27 : General mechanism for imine hydrolysis in acidic condition.