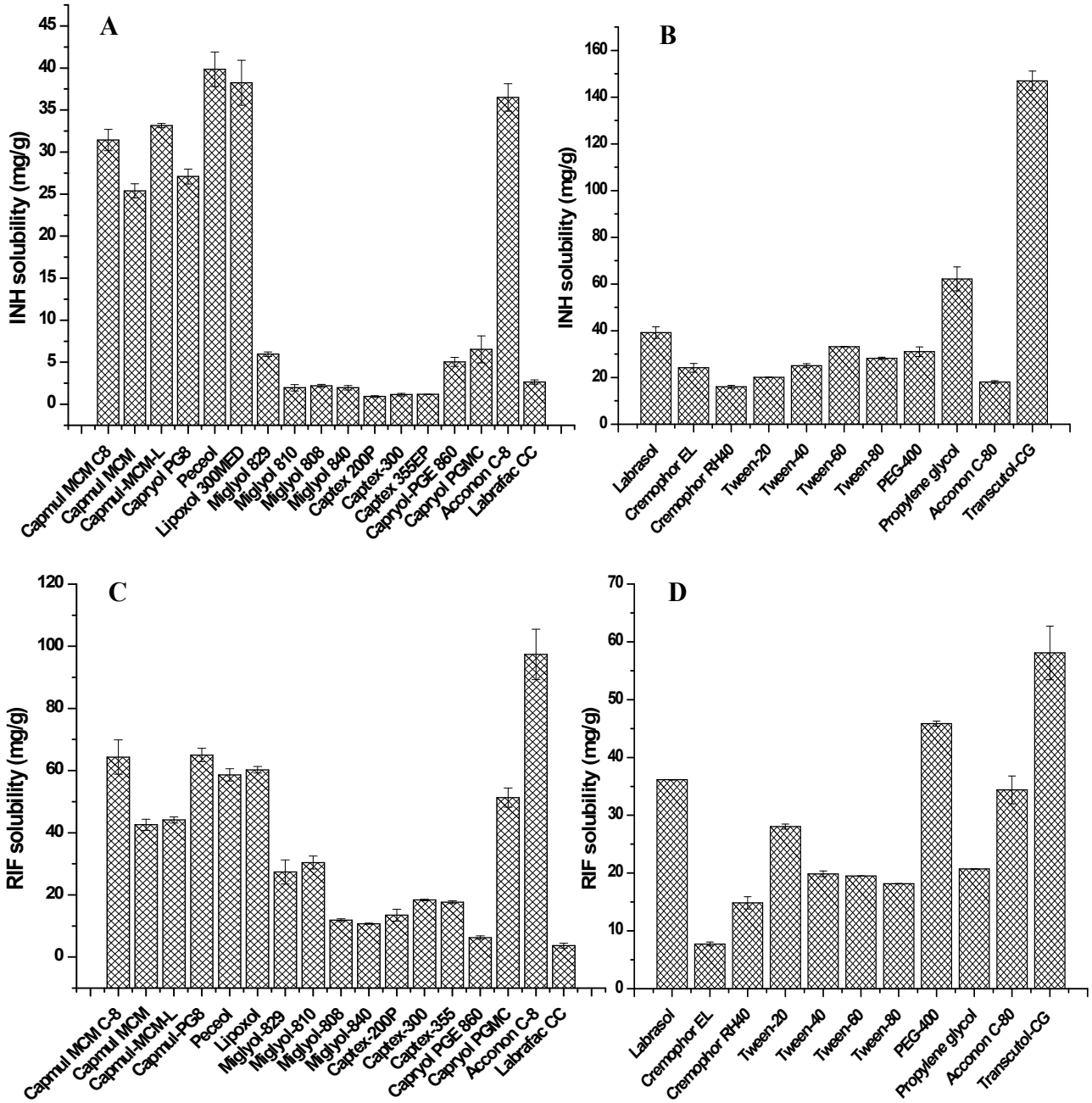
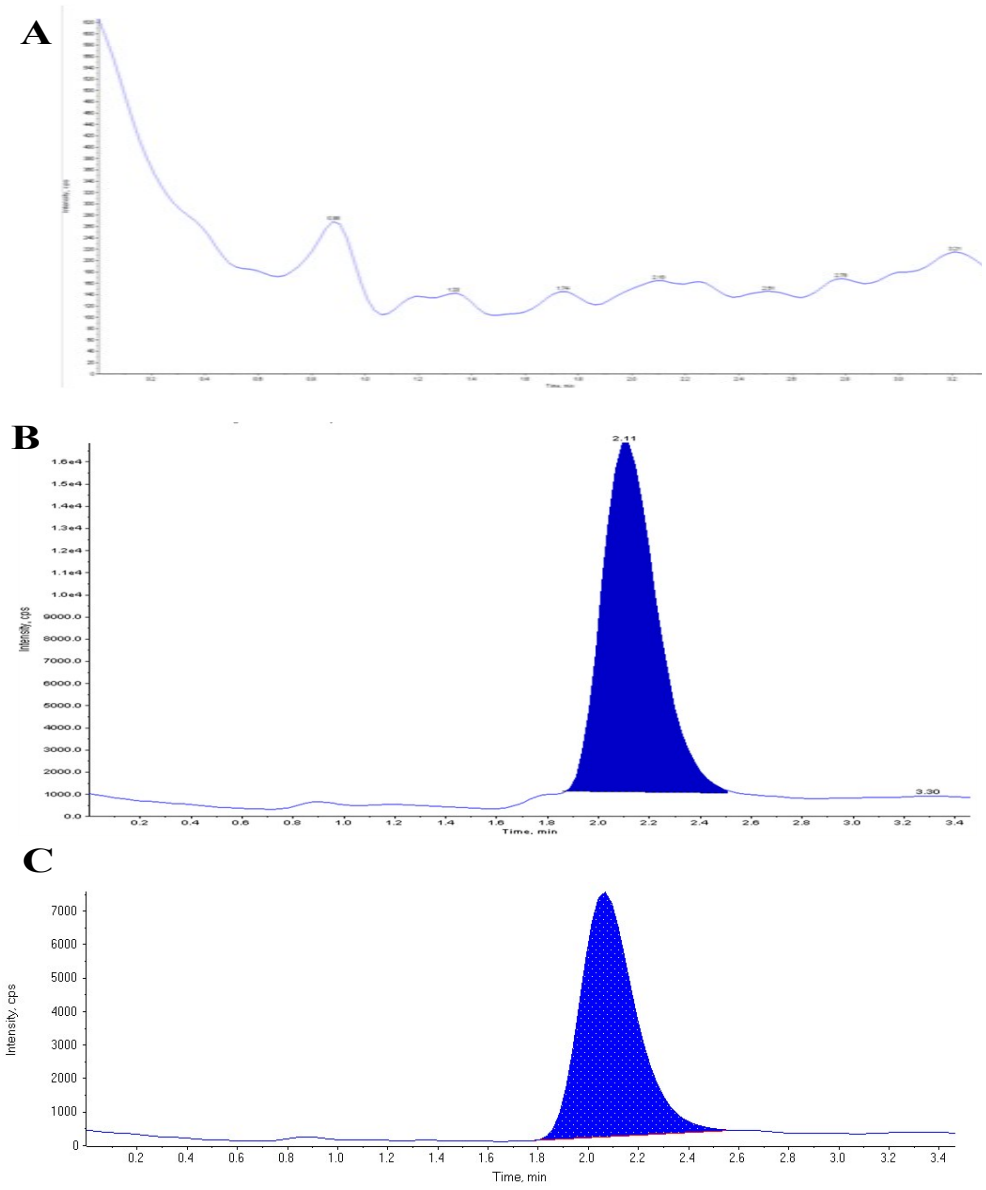
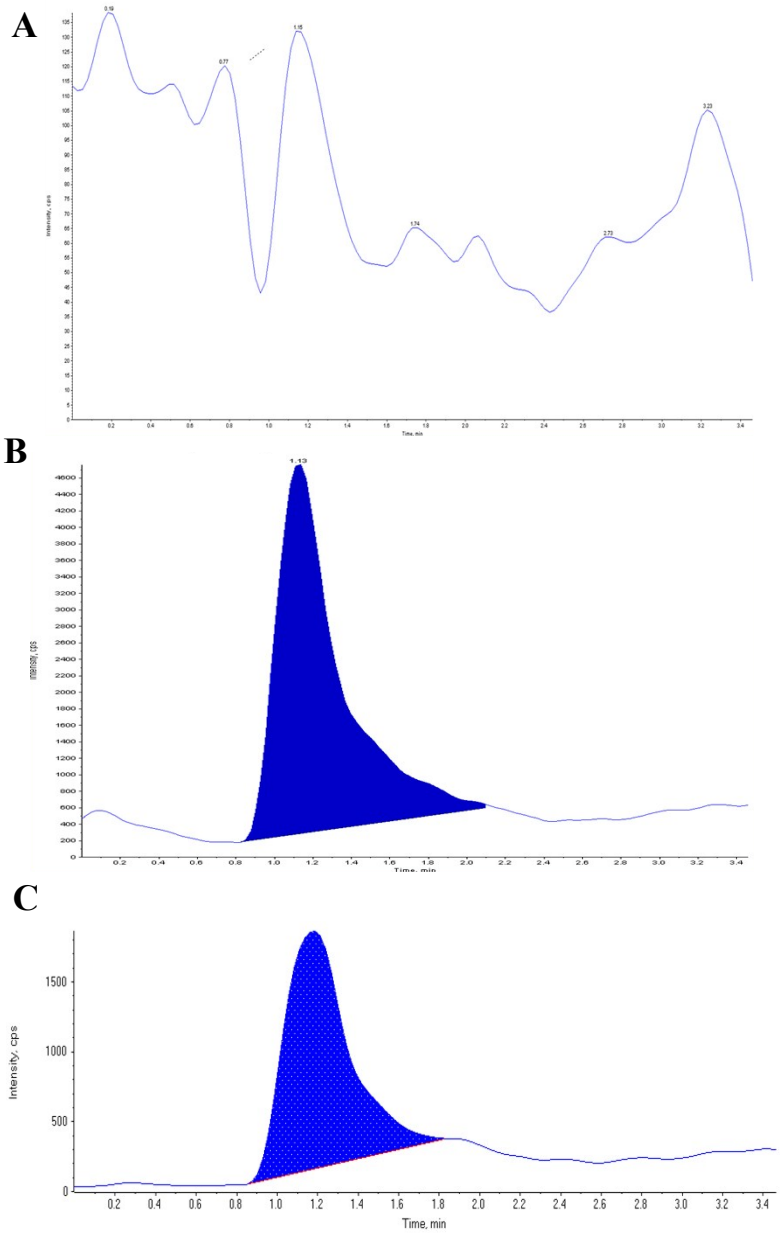
Electronic Supplementary Material (ESI) for RSC Advances.



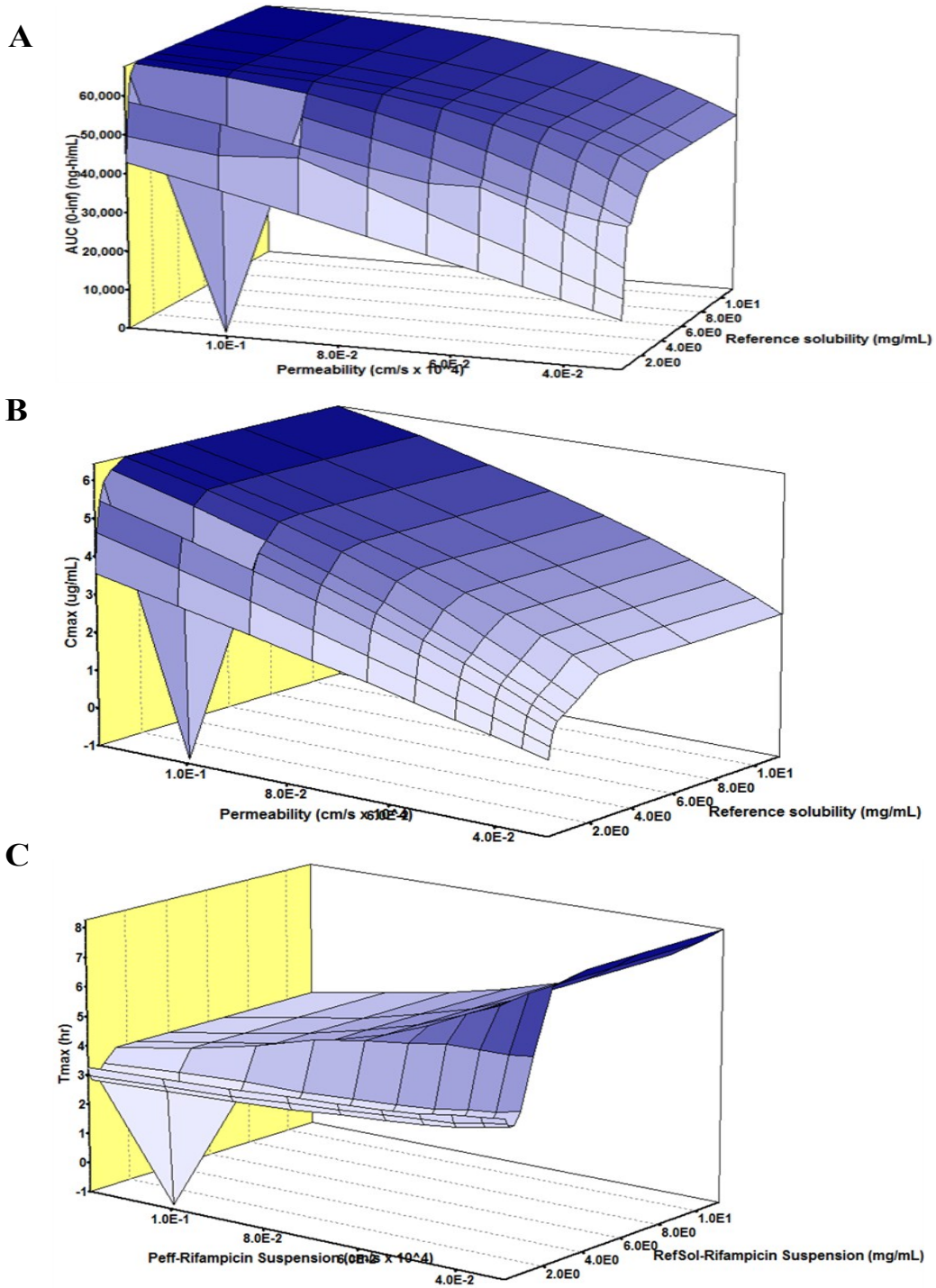
Supplementary Figure S1: The solubility values of drugs in various potential excipients: INH in lipids (A), INH in surfactants (B), RIF in lipids (C) and RIF in surfactants (D)



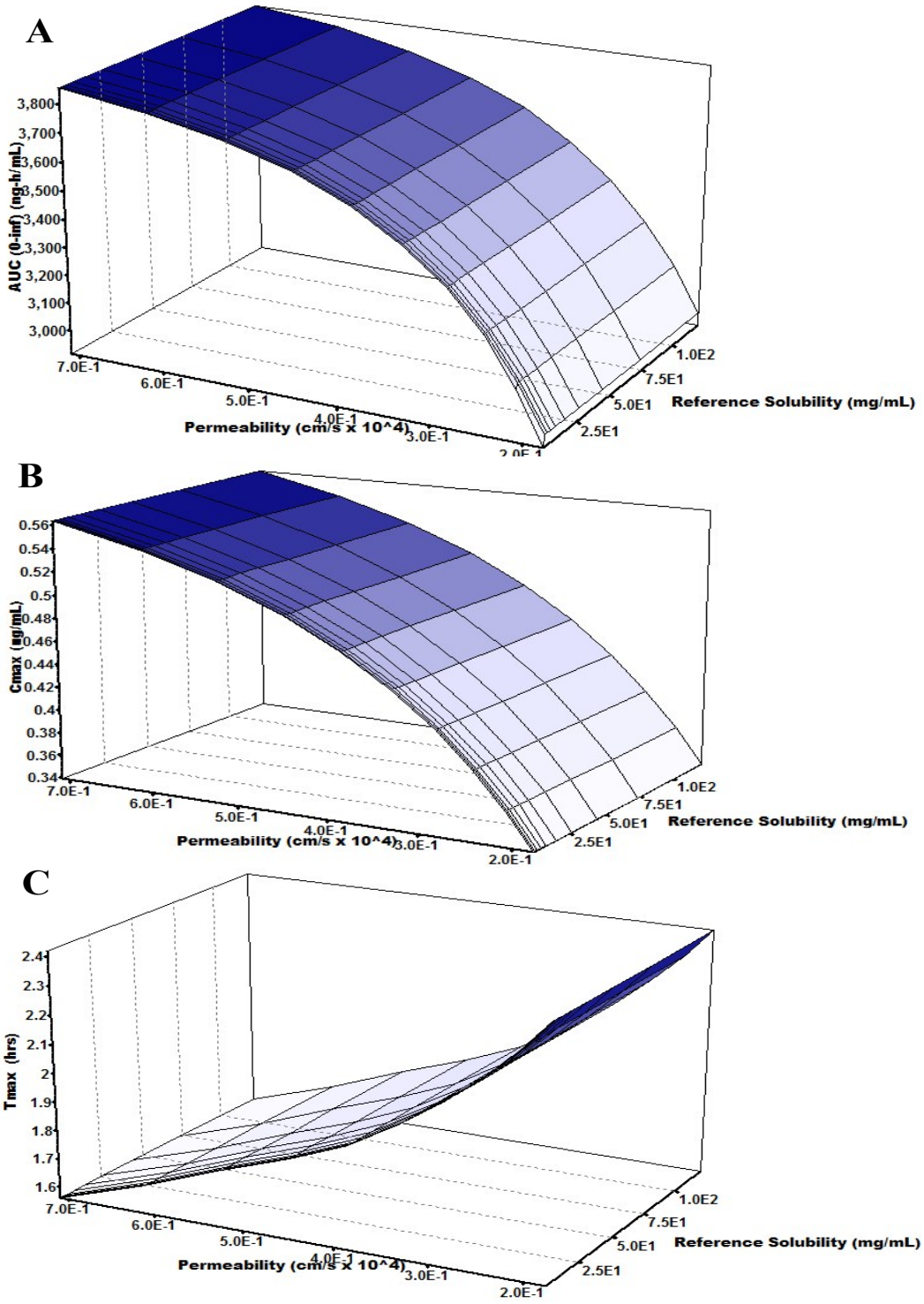
Supplementary Figure 2: Representative LC-MS/MS chromatograms: (A) blank plasma, (B) RIF spiked in rat plasma of standard calibration sample and (C) RIF in rat plasma at 4 hrs after oral administration of RIF-OF1.



Supplementary Figure 3: Representative LC-MS/MS chromatograms: (A) Blank plasma, (B) INH spiked in rat plasma of standard calibration sample and (C) INH in rat plasma at 4 hrs after oral administration of INH-OF1



Supplementary Figure 4: 3-Dimensional parameter sensitivity analysis (PSA) to assess the effect of drug solubility and permeability on major PK parameters of RIF suspension ($C_{max,}$ AUC and T_{max}) determined from the *in silico* Gastroplus^{TM} simulation software: (A) effect on AUC in 3-D, (B) effect on C_{max} in 3-D plot and (C) effect of RIF suspension on T_{max} in 3-dimensional plots



Supplementary Figure 5: 3-Dimensional parameter sensitivity analysis (PSA) to assess the effect of drug solubility and permeability on major PK parameters of INH OF1 ($C_{max,}$ AUC and T_{max}) determined from the *in silico* Gastroplus^{TM} simulation software (3-Dimrnsional plots): (A) effect on AUC, (B) effect on C_{max} and (C) effect on T_{max}

Supplementary Table S1: Selection of RIF-SNEDDS and INH-SNEDDS formulations

Formulations	Homogeneous blend reconstituted in aqueous media (10 ml)				
	Drug (mg)	Homogeneous	Precipitation	Dispersibility test	Emulsification time (sec)*
RIF-OF1	40	√	×	Grade A	12±1.1
	80	√	×	Grade A	19± 1.7
	100	√	×	Grade A	24 ±2.4
	150	√	×	Grade A	32 ±2.8
	175	×	√	Grade C	74±5.4
RIF-OF2	40	√	×	Grade A	15±0.8
	80	√	×	Grade A	17±1.2
	100	√	×	Grade A	29±2.5
	150	√	×	Grade A	41±4.2
	175	×	√	Grade C	88±8.4
RIF-OF3	40	√	×	Grade A	16±1.0
	80	√	×	Grade A	20±1.5
	100	√	×	Grade A	34±3.6
	150	√	×	Grade A	52±5.6
	175	×	√	Grade C	117±12.6
INH-OF1	25	√	×	Grade A	6.3±0.5
	50	√	×	Grade A	6.8±0.2
	75	√	×	Grade A	11.9±1.1
	100	×	×	Grade A	25.7±3.2
INH-OF2	25	√	×	Grade A	8.21±1.0
	50	√	×	Grade A	12.9±1.2
	75	√	×	Grade A	17.9±1.8
	100	×	×	Grade A	32.4±4.5
INH-OF3	25	√	×	Grade A	14.8±2.2
	50	√	×	Grade A	27.2±3.7
	75	√	×	Grade A	35.6±4.7
	100	×	×	Grade B	45.9±8.1

*Value represented as mean±standard deviation (n=3, ±sd)

Supplementary Table S2: Comparison of MIC values against different *Mycobacterium* species by CFU (colony forming unit/ml) techniques

	Minimum inhibitory concentration (C)[a]		
	Mycobacterium smegmatis (MTCC 995)	*Mycobacterium smegmatis* (MTCC 942)	*M. tuberculosis* H_{37} *Rv* (ATCC (25618)
Formulations	MIC	MIC	MIC
RIF (µg/ml)	0.5±0.04	1.0±0.04	0.2±0.01
INH (µg/ml)	0.31±0.05	0.62±0.03	0.4±0.01
CMC8 (mg/ml)	12.5±0.5	18.75±0.8	18.4±1.5
LAB (mg/ml)	25.0±1.0	25.0±1.0	30.8±7.4
OF1 (mg/ml)	9.14±1.1	8.6±0.4	8.8±0.56
RIF-OF1 (µg/ml)	0.025±0.001	0.05±0.002	0.02±0.001
INH-OF1(µg/ml)	0.05±0.002	0.1±0.02	0.04±0.001

[a]Values are mean ± SD (mm) from the experiments in triplicate. RIF. INH, CMC8, LAB and OF1 stand for rifampicin, isoniazid, capmul MCM C8, labrasol and optimized formulation OF1 respectively.