Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supporting Information

Natural Solvent-Assisted Synthesis of Amphiphilic Co-Polymeric Nanomicelle for Prolonged Release of Camptothecin Delivery

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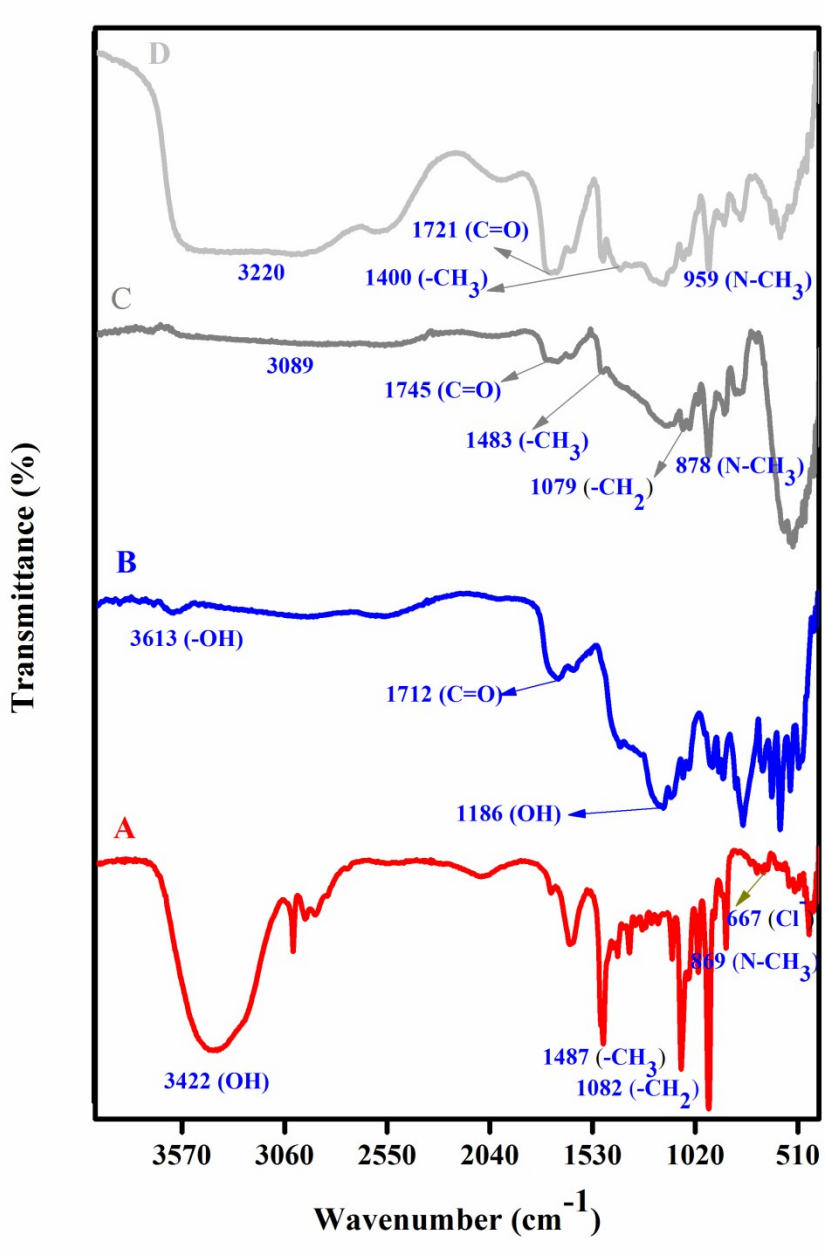
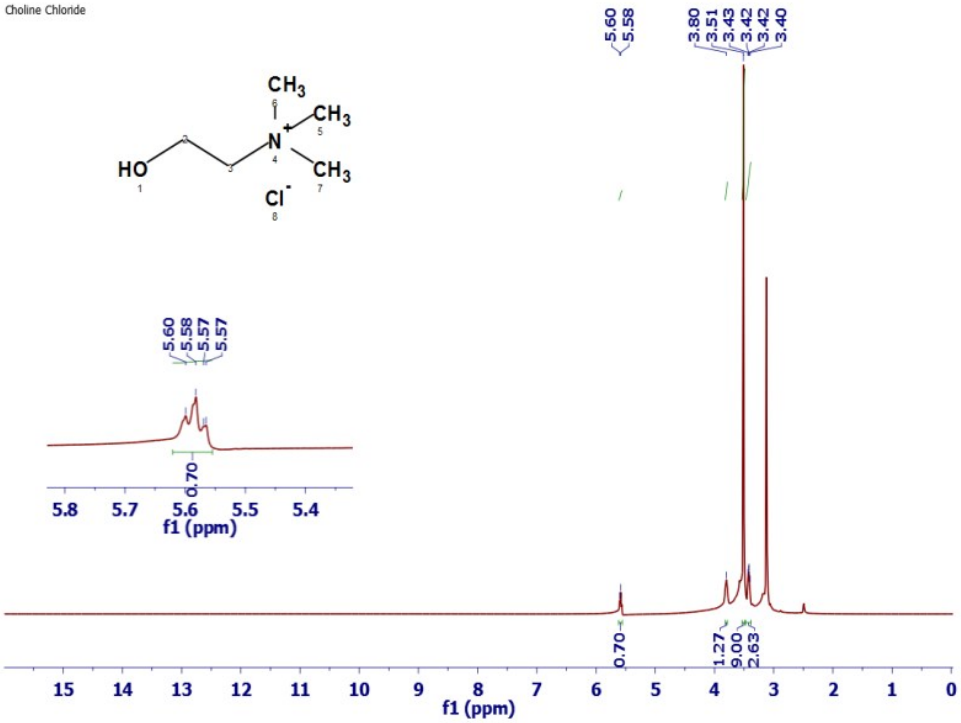
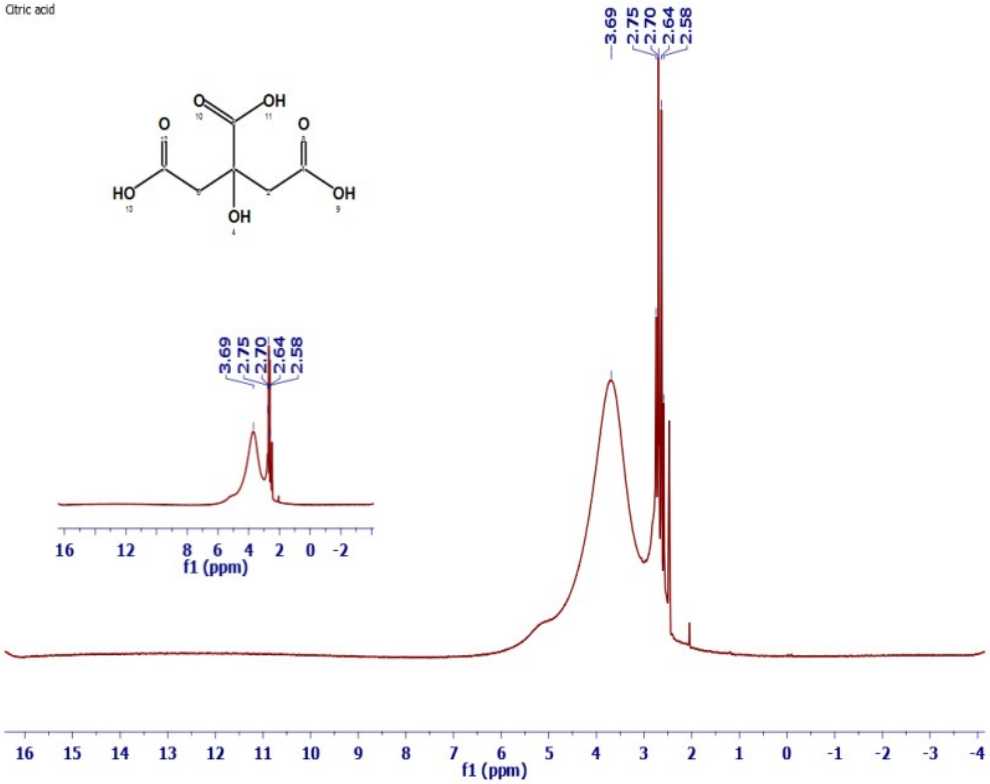


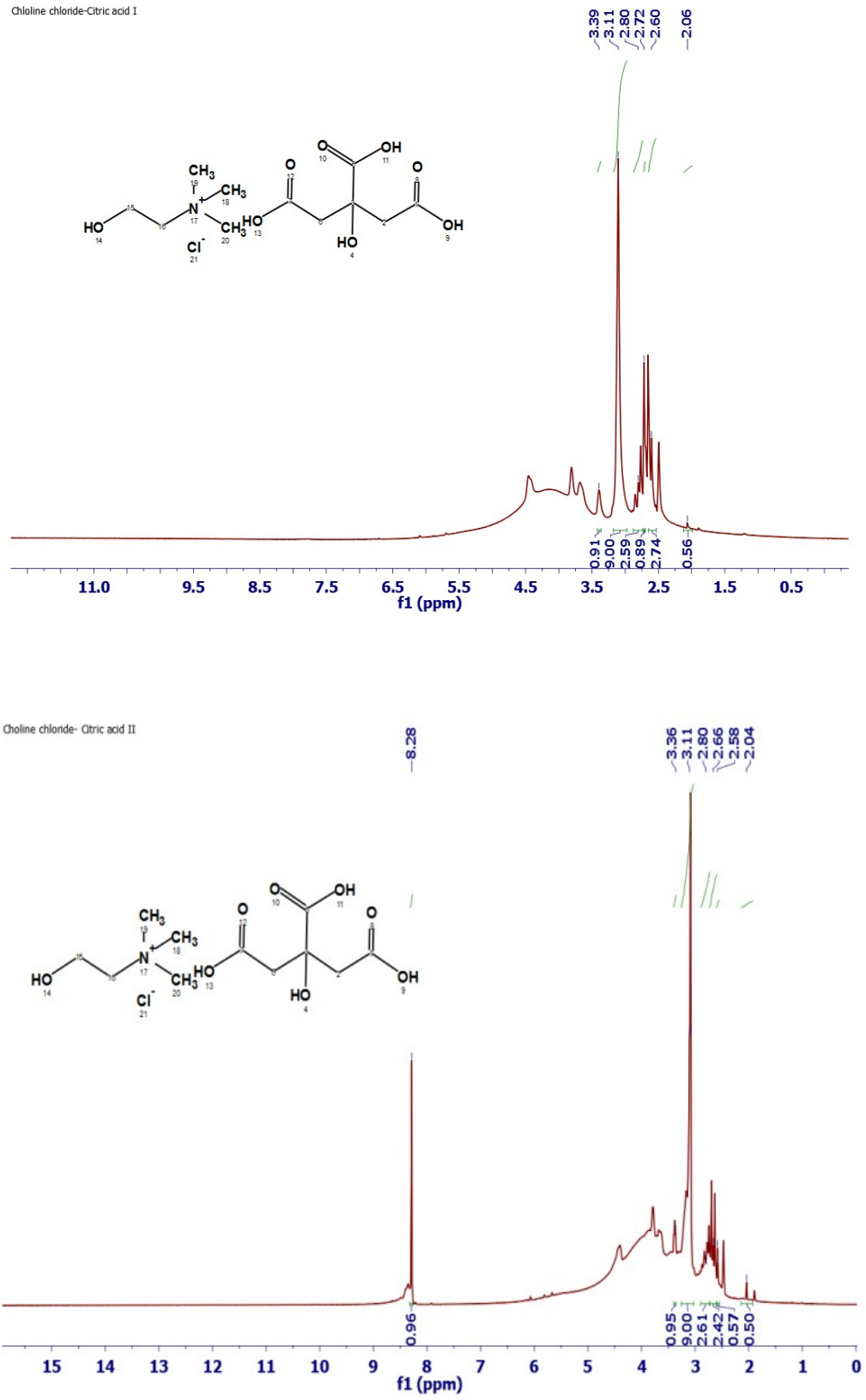
S.Figure1. FT-IR frequencies of (A) Choline chloride; (B) Citric acid; (C) DES-I solvent and (D) DES-II solvent.

Choline Chloride

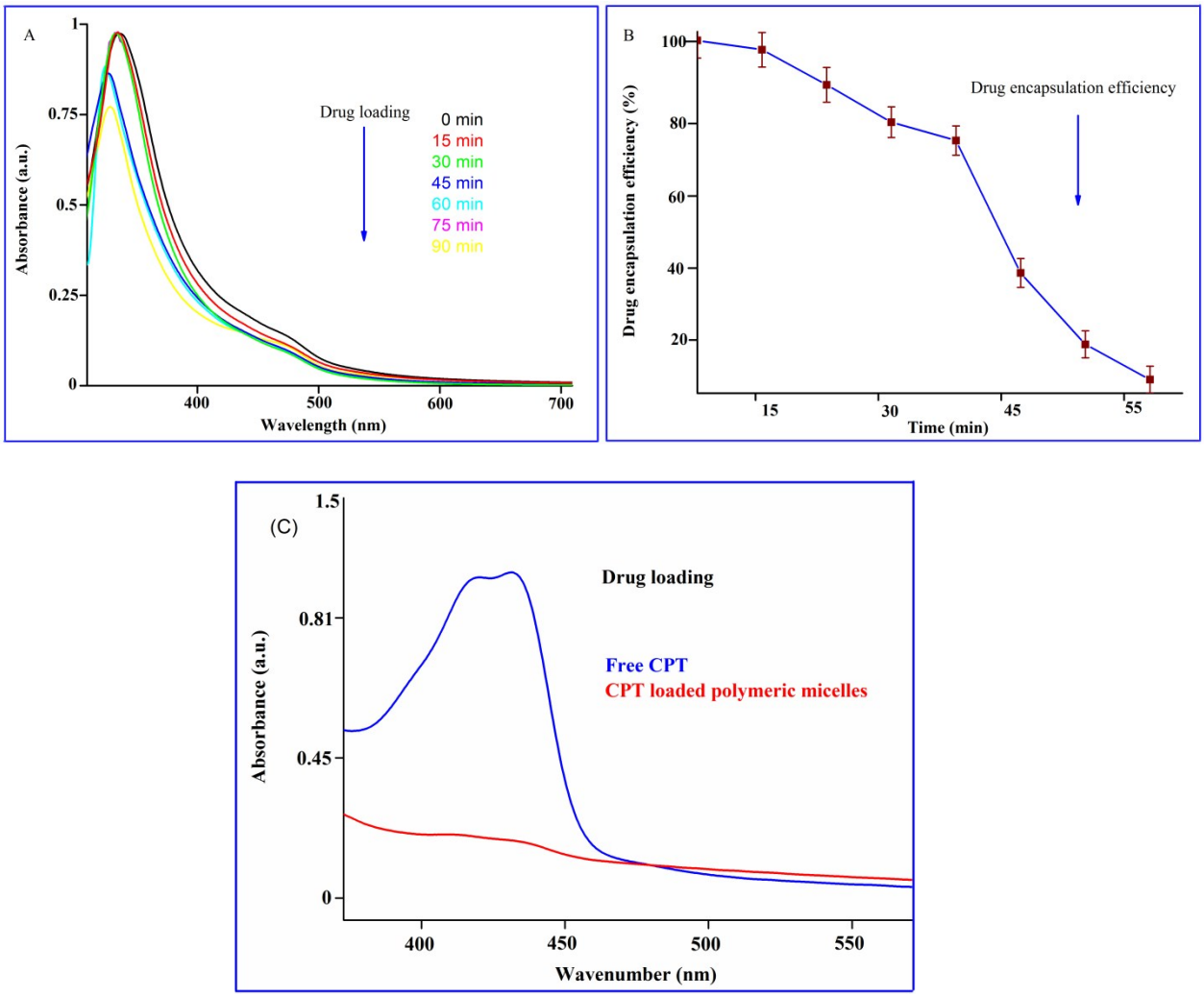


Citric acid

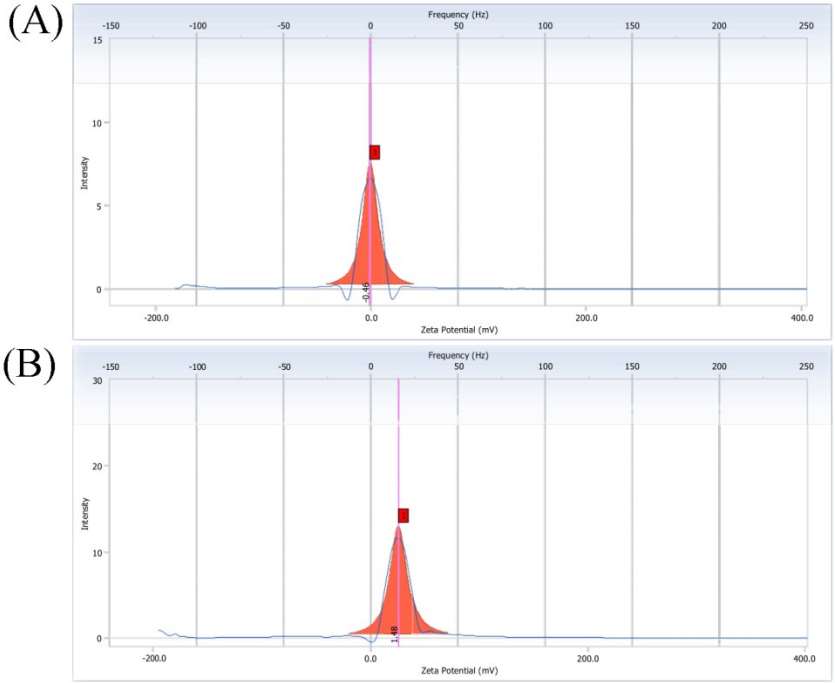




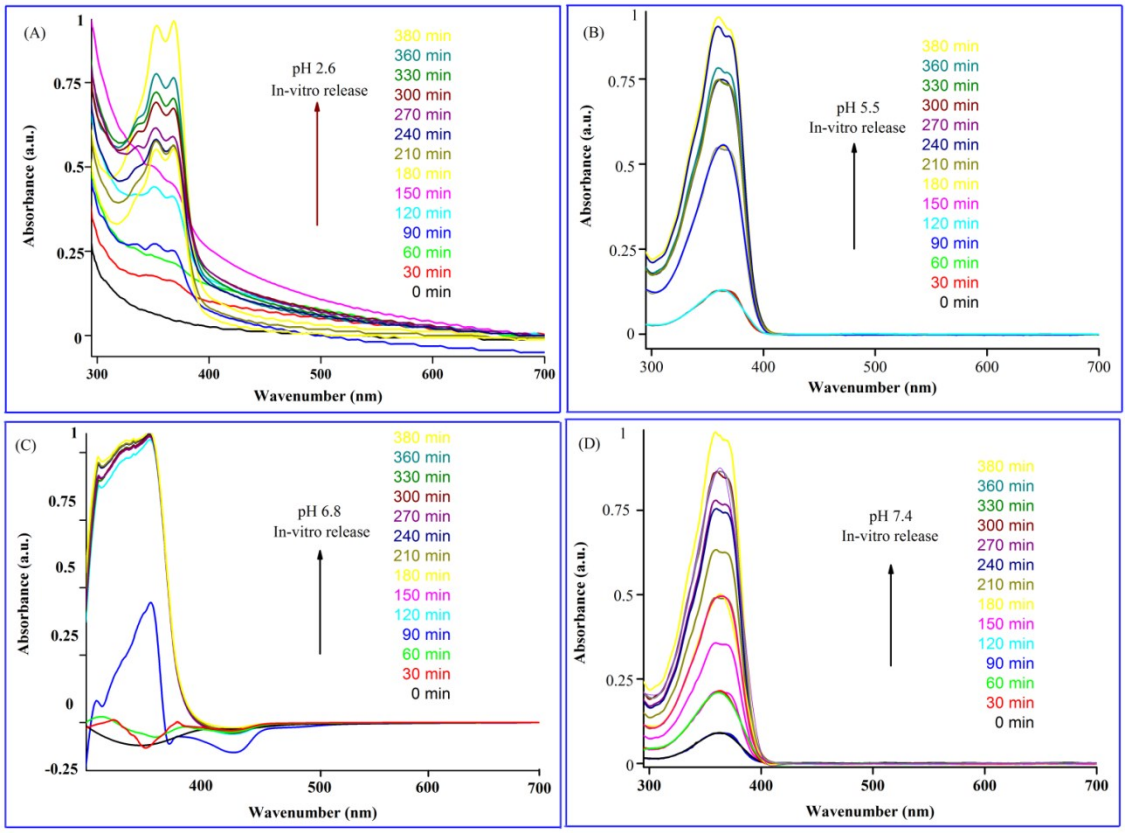
S. Figure 2. NMR spectrum of (A) Choline chloride; (B) Citric acid; (C) DES-I solvent and D) DES-II solvent



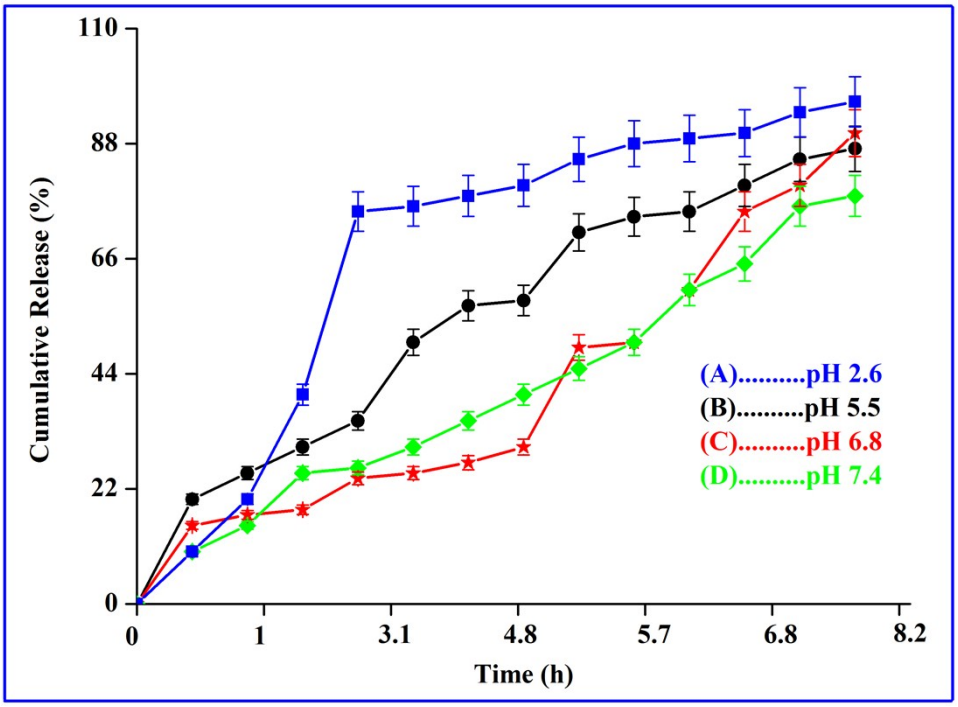
S. Figure 3. A) Encapsulation efficiency of CPT on the poly (ε-cap-co-CA) carrier; B) Encapsulation pattern of CPT loaded poly (ε-cap-co-CA), C) Drug loading capacity of poly (ε-cap-co-CA) carrier.



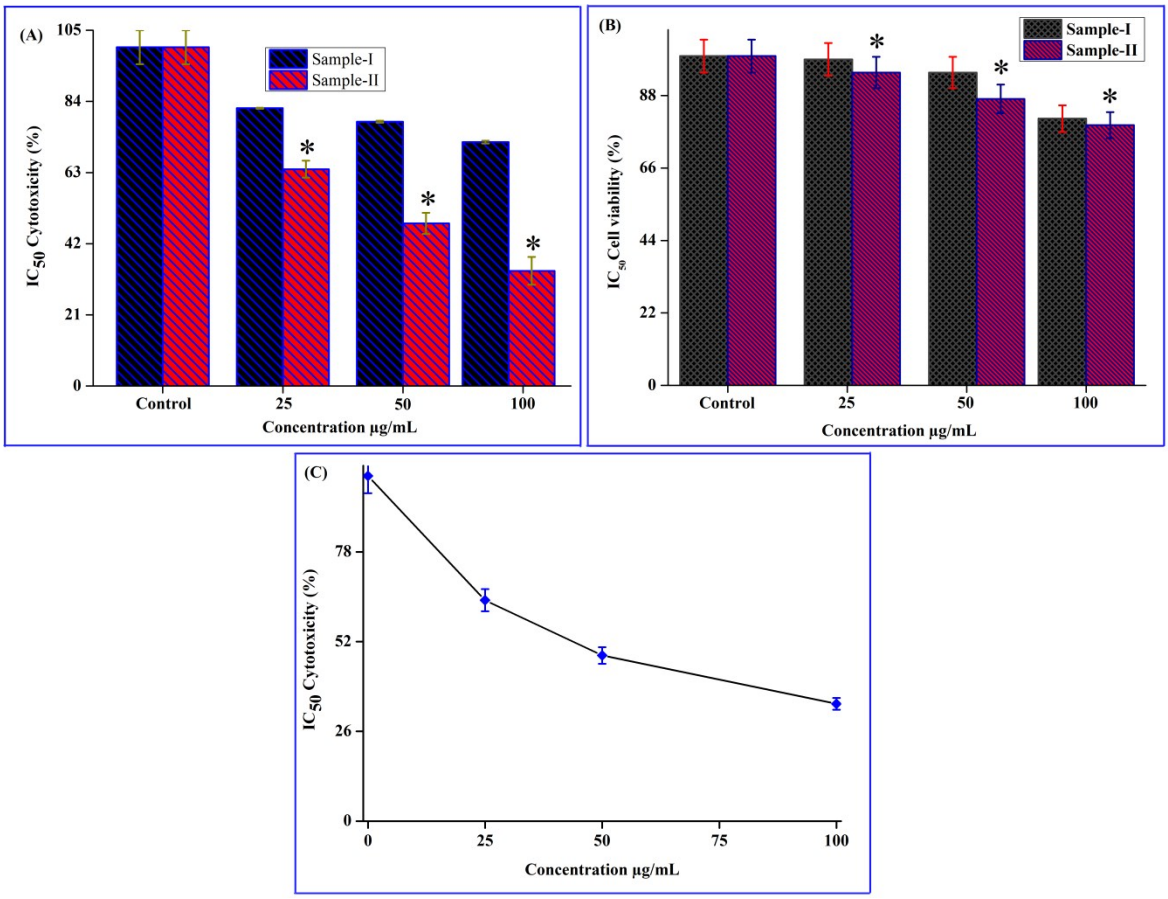
S. Figure 4. Zeta potential of the (A) poly (ε-cp-*co*-CA) micelle and (B) CPT drug loaded poly (ε-cp-*co*-CA) micelle.



S.Figure 5. *In-vitro* drug releasing UV-Visible spectroscopy pattern of CPT loaded poly (ε-cap-co-CA) carrier in various physiological environments (A) pH 2.6; (B) pH 5.5; (C) pH 6.8 and (D) 7.4.



S. Figure 6. *In-vitro* drug releasing profile of CPT loaded poly (ε-cap-co-CA) carrier in various physiological environments (A) pH 2.6; (B) pH 5.5; (C) pH 6.8 and (D) 7.4



S. Figure 7. (A) cytotoxicity and (B) cell viability of Poly (ε-cp-*co*-CA) micelle and CPT loaded Poly (ε-cp-*co*-CA) carrier with different concentrations like 25 µg, 50 µg, and 100 µg on the A549 lung cancer cells and normal L929 cell line respectively, C) line graph of the IC_{50} value, $P<0.005$, (n=3).

S. Table 1. Chemical shifts values from ^{1}H NMR spectrum with the reference solvent DMSO-d_6 of (A) Choline chloride; (B) Citric acid, and DESs mixtures C) DES-I, D) DES-II.

δ (ppm)

Samples	Choline chloride	Citric acid	DES-I	DES-II
Choline chloride (A)	OH-CH_2(5.57), N-CH_3 (3.42), $N(CH_3)_3$	-	-	-
Citric acid (B)	-	Double of doublet Methylene protons (2.70, 2.60)	-	-
DES-I (C)	-	-	-OC-CH_2(2.06),N $(CH_3)_3$(3.11),OH-CH_2(2.80),CH_2-CH_2 (2.60), OH (2.72)	-
DES-II (D)	-	-	-	-OC-CH_2(2.06),N $(CH_3)_3$(3.11),OH-CH_2(2.80),CH_2-CH_2 (2.60), OH (2.72), OH (8.28)