

SUPPORTING INFORMATION

for

pH-responsive niosome-based nanocarriers of antineoplastic agents

Viliana Gugleva ^a, Rositsa Mihaylova ^b, Georgi Momekov ^b, Katya Kamenova ^c, Aleksander Forsys ^d, Barbara Trzebicka ^d, Maria Petrova ^e, Iva Ugrinova ^e, Denitsa Momekova ^{*f} and Petar D. Petrov ^{*c}

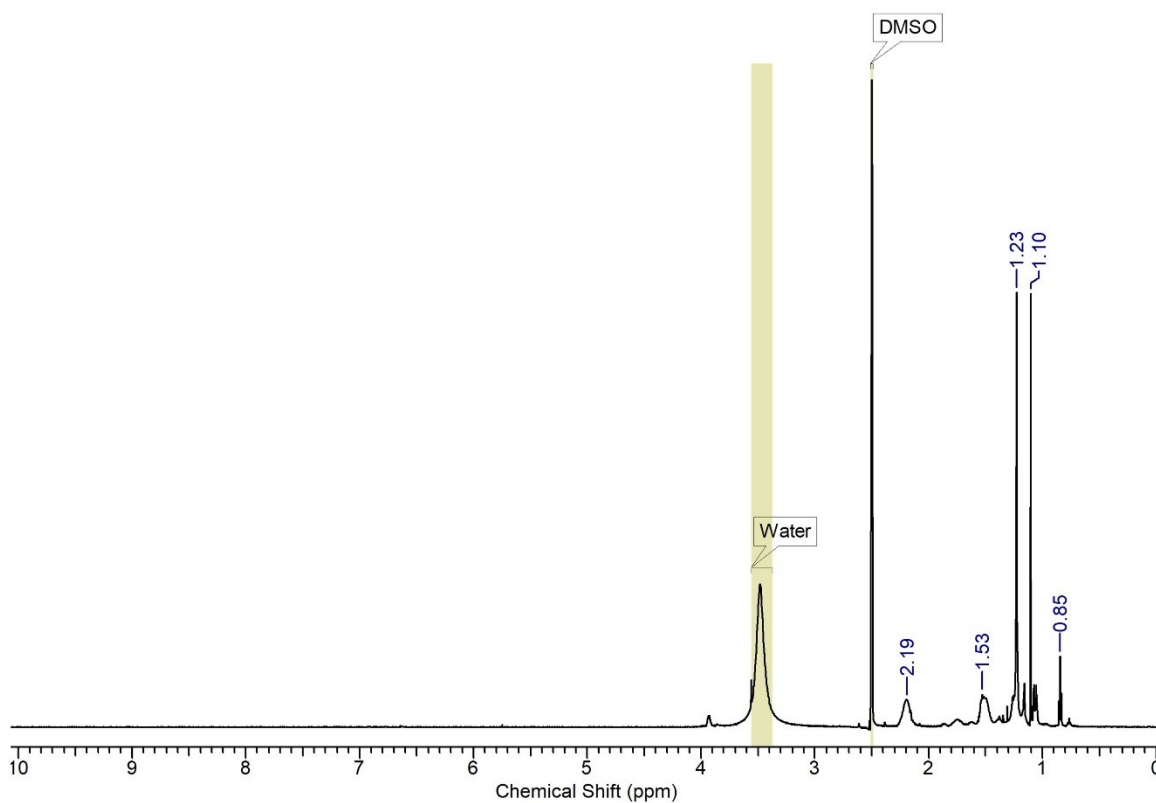


Figure. S1. ¹H-NMR spectrum of HD-PAA

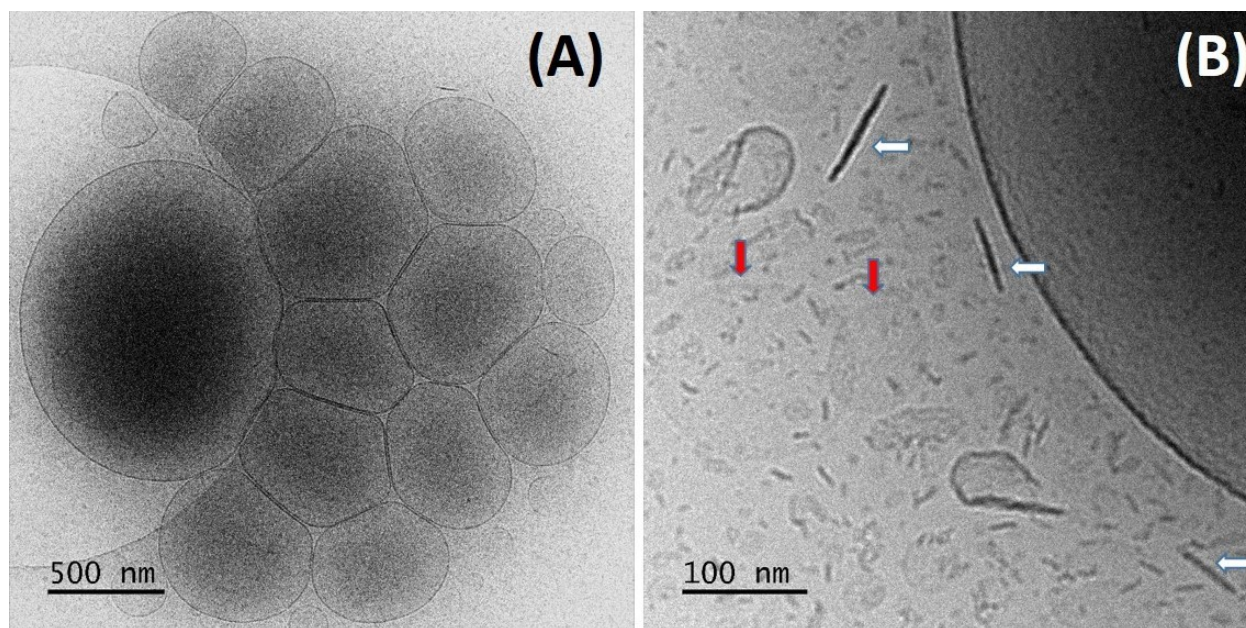


Figure S2. Cryo-TEM images of Tw60:Sp60:Chol (3.5:3.5:3) molar ratio, modified with 5 mol % pH-responsive HD-PAA₁₂ copolymer: (A) Well-defined spherical shaped niosomes, (B) Presence of concomitant small fraction of discs and micelles (red arrows indicate discs in horizontal position, white arrows discs in vertical position relative to the plane of observation).

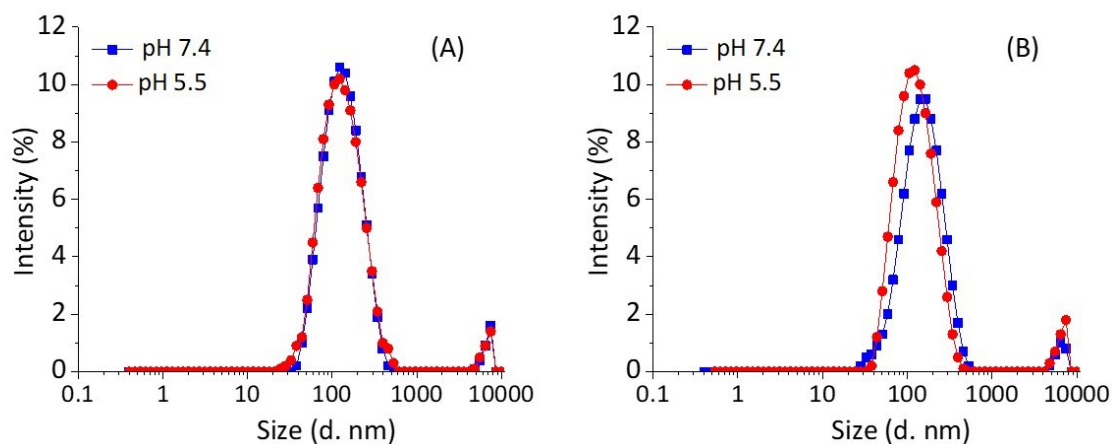


Figure S3. Size distribution of HD-PAA₁₇ modified niosomes (formulation S19) before (A) and after 10 min (B) of incubation at 37°C in isotonic media at pH 5.5 and pH 7.4.

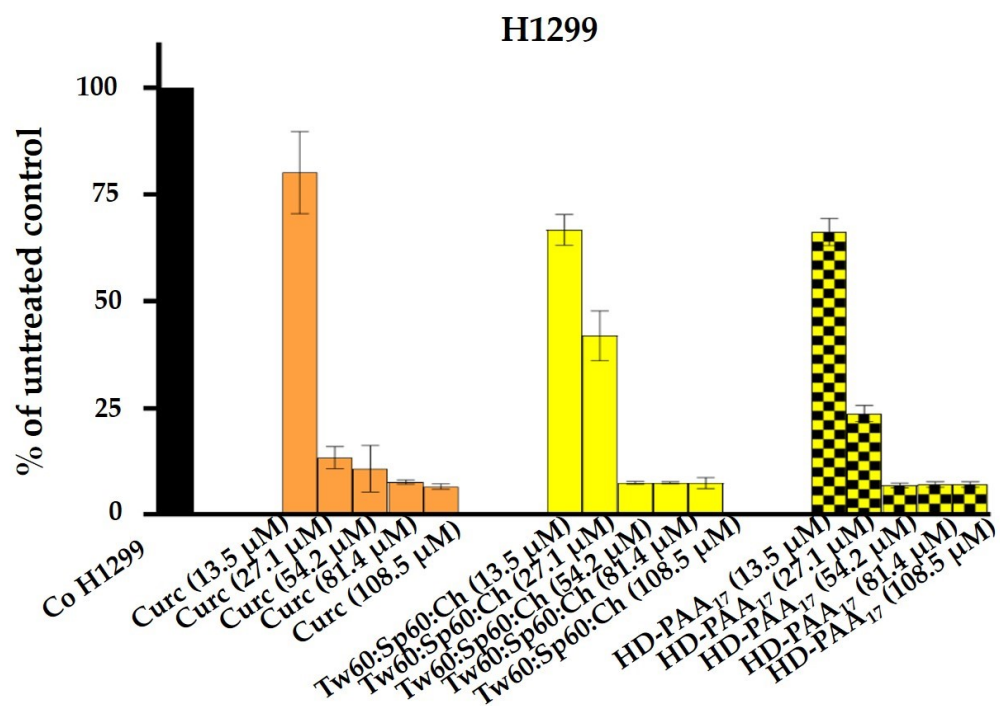


Figure S4. Cytotoxicity of curcumin loaded pH-responsive Tw60:Sp60:Ch:HD-PAA₁₇ and plain niosomes against H1299 cell line determined by a MTT-dye reduction assay after 72 h continuous exposure. \pm SD represents the mean values of 8 independent experiments.

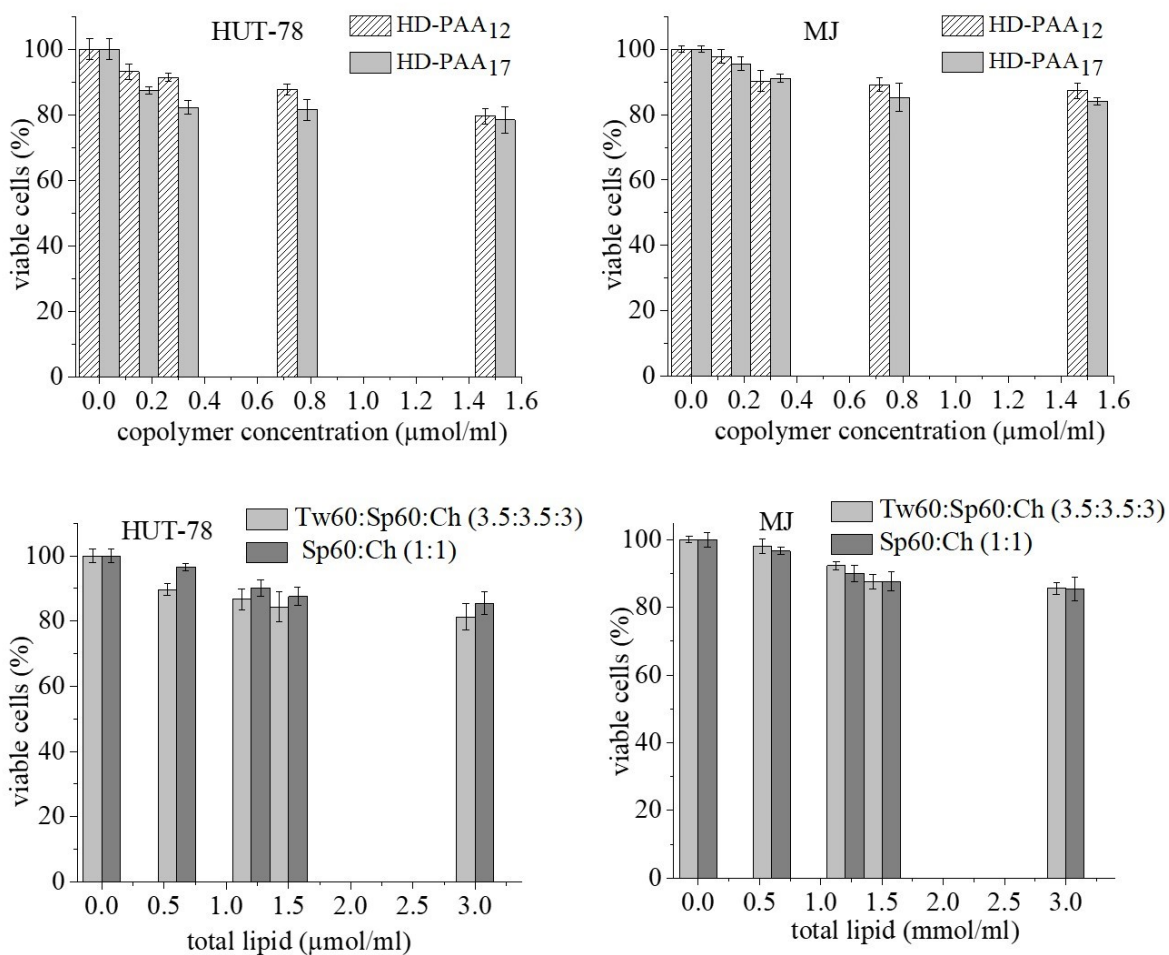


Figure S5. Cytotoxicity of pH-responsive HD-PAA copolymers and non-loaded plain niosomes against HUT-78 and MJ human malignant cell lines determined by a MTT-dye reduction assay after 72 h continuous exposure. \pm SD represents the mean values of 8 independent experiments.

Table S1. IC₅₀ (μM ± SD) values of free and curcumin-loaded pH-responsive Tw60:Sp60:Ch:HD-PAA₁₇ (2.5%) and plain niosomes (Tw60:Sp60:Ch) in the screened malignant cell line

IC₅₀ (μM ± SD) in terms of curcumin concentration	
Sample/Cell line	H1299
Pure Curc	15.1 ± 1.5
curcumin-loaded plain niosomes (Tw60:Sp60:Ch)	19.1 ± 2.7
Curcumin-loaded pH-responsive Tw60:Sp60:Ch:HD-PAA ₁₇ niosomes	17 ± 2.4