Supplementary Materials

Chitosan grafted poly(ethylene glycol) methyl ether acrylate submicronic pH sensitive hydrogels for drug delivery applications

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Table S1. Characteristic absorption bands of CS, PEGA, CS-PEGA

Compound	Wavelength (cm^{-1})	Absorption band
Chitosan	1076	Stretching vibrations of -C-O-C
	1379,1423,1659	Specific signals for deformation vibrations of acetylated amine (NHAc) (amide I, $-NH_2$, and amide III)
	2879	The vibration of CH groups
	3355	Axial stretching vibrations of OH and NH_2 groups
PEGA	1105	Stretching vibrations -C-O-C
	1724	The vibration signal corresponding to the C = O bonds
	2874	The vibration of CH groups
	3522	Axial stretching vibrations of OH groups
CS-PEGA	1083	Stretching vibrations -C-O-C
	1379, 1566,1649	Specific signals for deformation vibrations of acetylated amine groups
	1733	The vibration signal corresponding to the C = O bonds
	2880	The vibration of CH groups
	3470	Axial stretching vibrations of secondary amine groups

Table S2. CPH characteristic absorption bands

Compound	Wavelength (cm^{-1})	Absorption band
A8	846	The absorption band signal corresponding to the new bonds formed by the ionic crosslinking process between $P_3O_{10}^{5-}$ anions from TPP and NH_3^+ cations from CS-PEGA
	1074	Characteristic stretching vibrations -C-O-C
	1315	Band-specific bonding signal P = O
	1573	Signals specific to imine linkages -C=N-

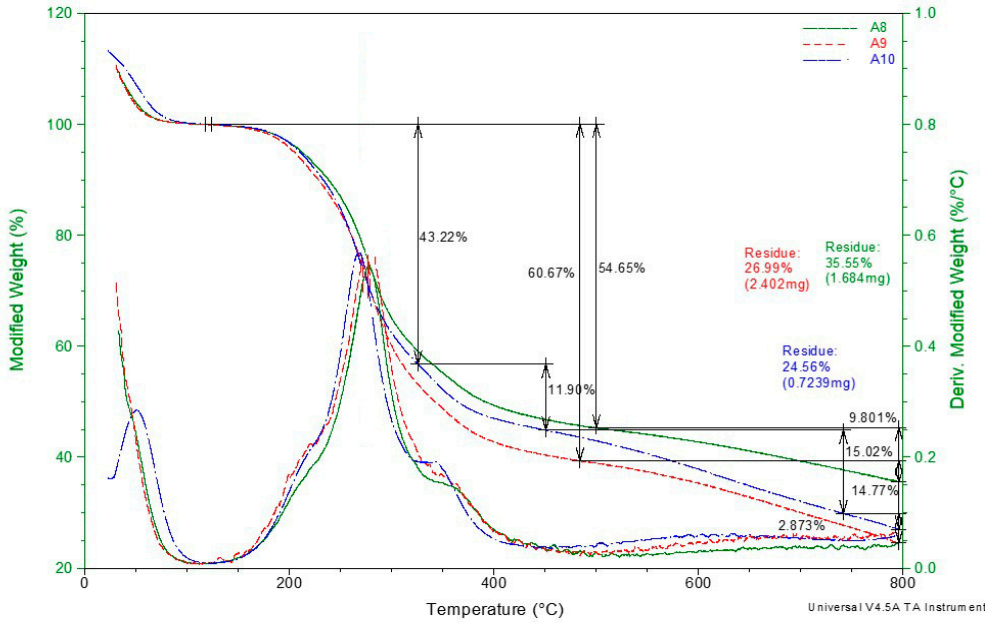


Figure S1. TGA analysis of chitosan particulate hydrogels (A8, A9, A10 samples)

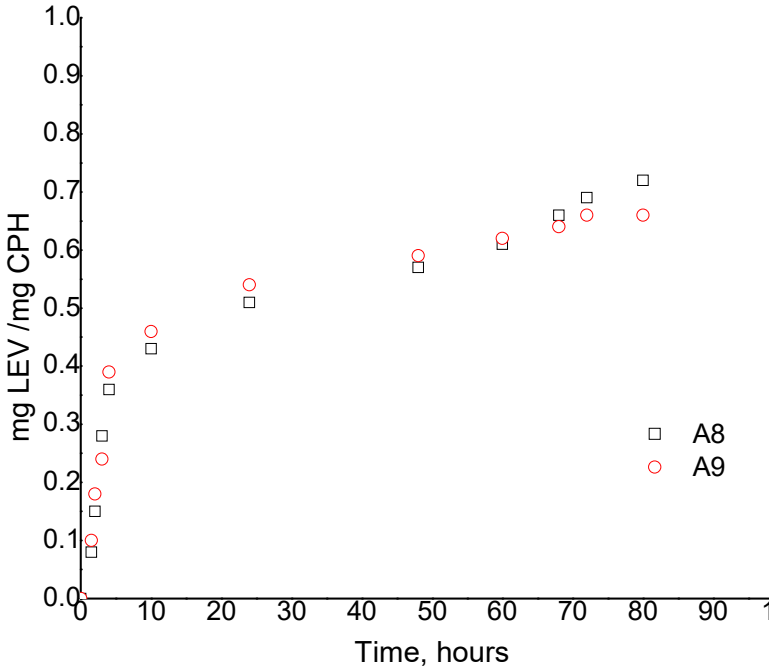


Figure S2. Kinetics of the LEV loading into the ABS from chitosan particulate hydrogels (A8 - A9 samples)

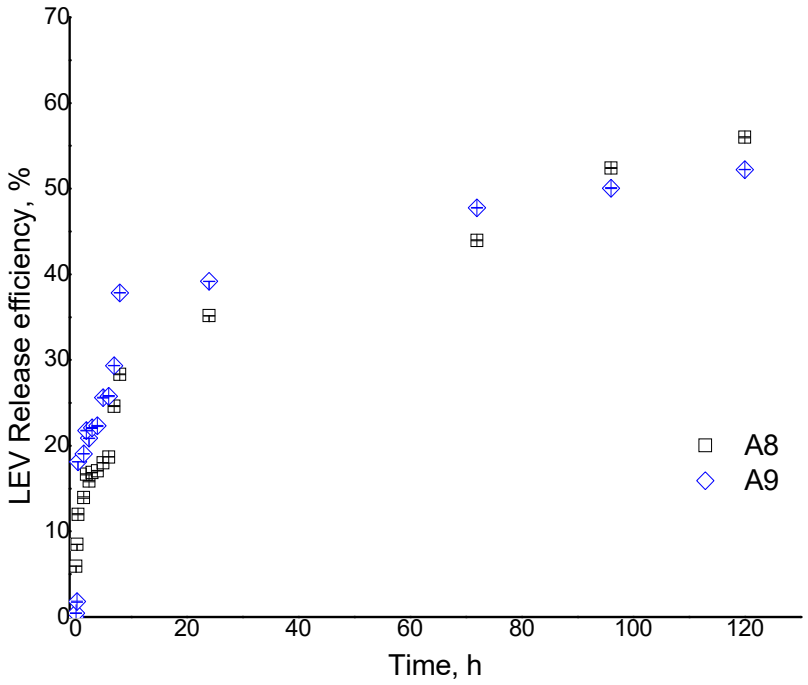
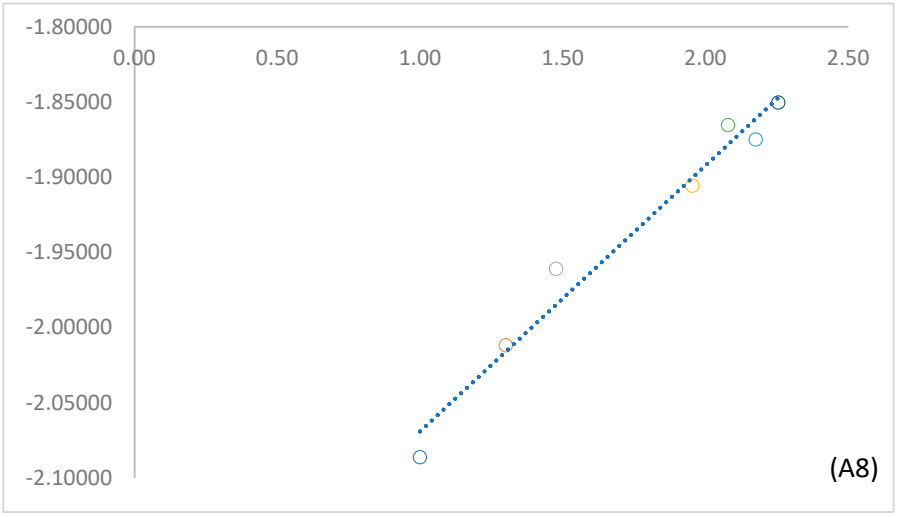


Figure S3. Kinetics of the LEV release efficiency into the PBS from chitosan particulate hydrogels (A8 - A9 samples)



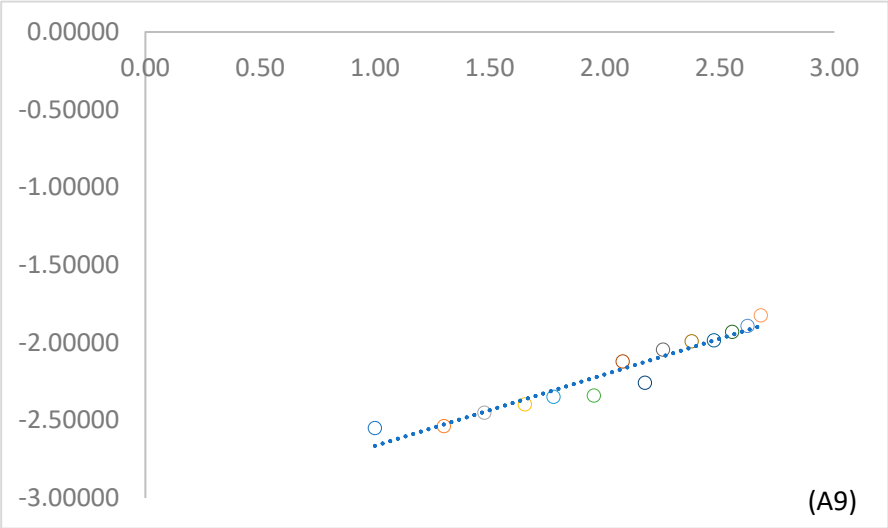


Figure S4. Korsmeyer-Peppas model for samples A8-A9

Table S3. ***n*** and ***k*** values obtained based on the Korsmeyer-Peppas model (0 – 480 min)

Sample code	Equations	k	n	R^2
A5	$y = 0.4593 \cdot x - 3.1908$	0.1306	0.4593	0.9277
A6	$y = 0.4517 \cdot x - 3.3124$	0.1327	0.4517	0.9664
A7	$y = 0.4018 \cdot x - 3.1908$	0.1726	0.4218	0.9318
A8	$y = 0.4294 \cdot x - 3.351$	0.4214	0.4294	0.9778
A9	$y = 0.4176 \cdot x - 2.2459$	0.2433	0.4176	0.9230
A10	$y = 0.4228 \cdot x - 2.2956$	0.1575	0.4228	0.9314
A11	$y = 0.6035 \cdot x - 31561$	0.0319	0.6035	0.9378

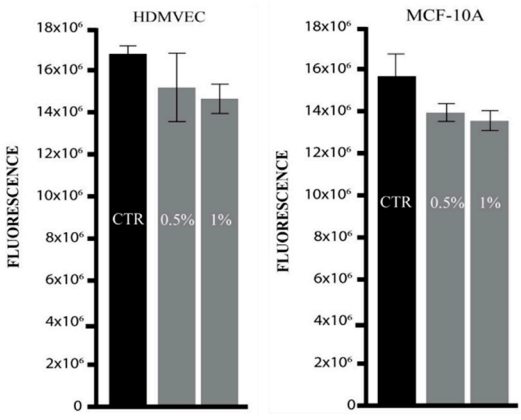


Figure S5. Viability of HDMVEC and MCF-10A cells for chitosan particulate hydrogels (sample A9)