SUPPORTING INFORMATION

Dual Functionality of Conjugated Polymer Nanoparticles as an Anticancer Drug Carrier and a Fluorescent Probe for Cell Imaging

Ö.Gezici,[a] İ. Durmaz, [b] E.Bilget Güven,[b] Ö. Ünal,[a] A. Özgün,[c] R. Cetin-Atalay,[b] D. Tuncel [a,c*]
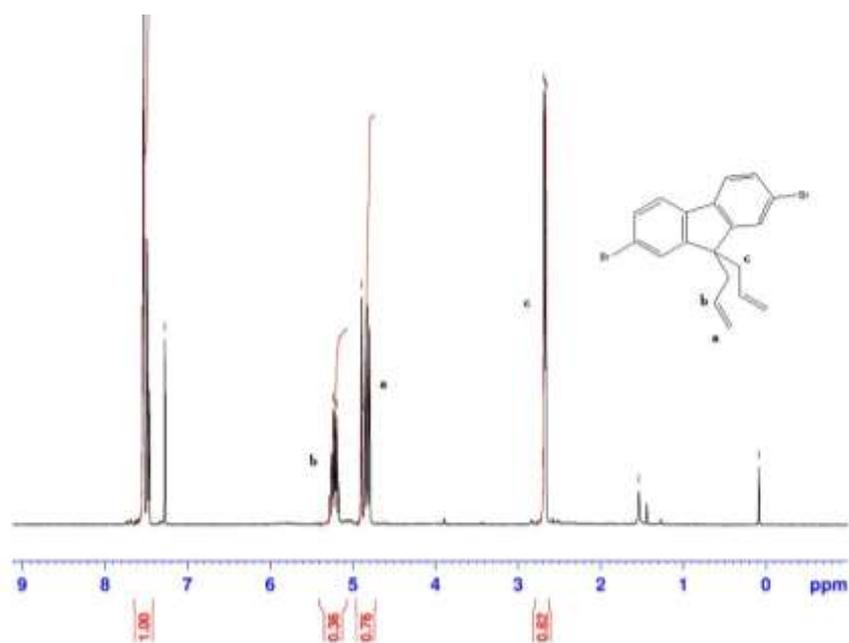

[a] Department of Chemistry, Bilkent University, 06800 Ankara, Turkey.
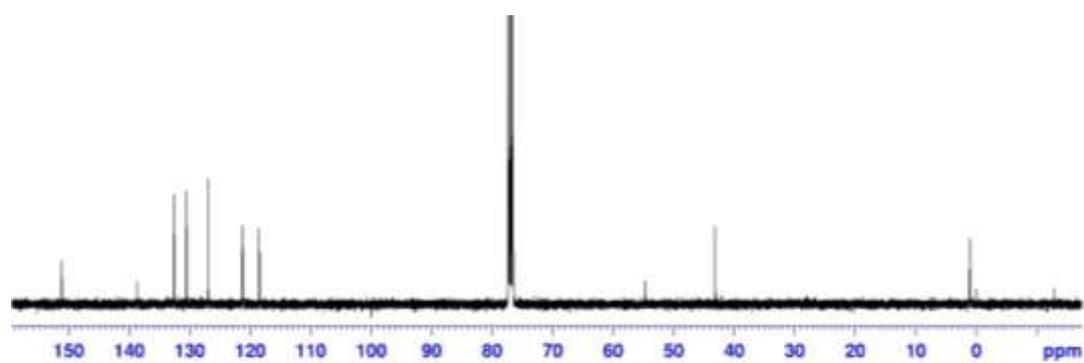
E-mail: dtuncel@fen.bilkent.edu.tr

[b] Department of Molecular Biology and Genetics, Bilkent University, 06800 Ankara, Turkey.

[c] Institute of Material Science and Nanotechnology, Bilkent University, 06800 Ankara, Turkey.
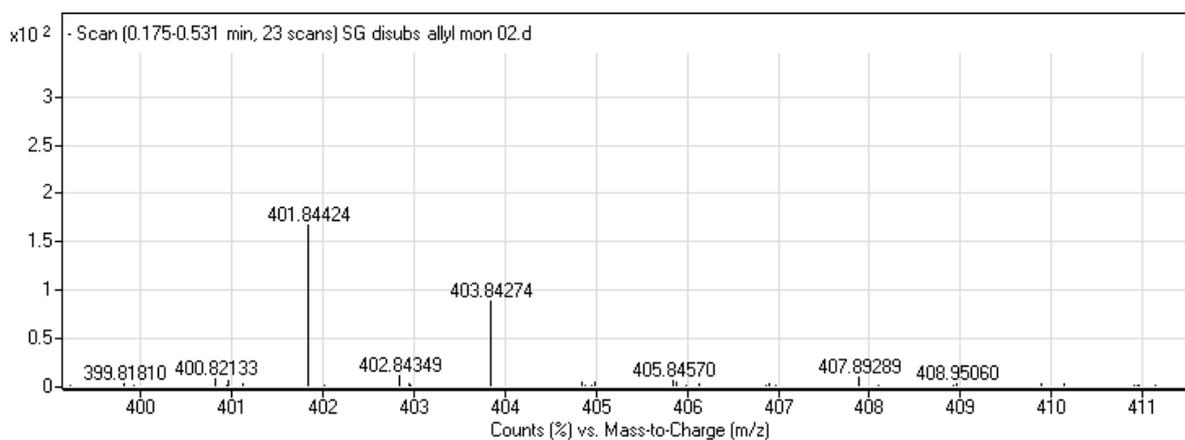

* Correspondence to: dtuncel@fen.bilkent.edu.tr

Fig.S1 ^{1}H-NMR (400 MHz, CDCl$_3$, 25 °C) spectrum of 2,7-dibromo-9,9-bis-(propenyl)-*9H*-fluorene.

**Fig.S2** ^{13}C-NMR (100 MHz, CDCl$_3$, 25 °C) spectrum of 2,7-dibromo-9,9-bis-(propenyl)-*9H*-fluorene.

x10 2 - Scan (0.175-0.531 min, 23 scans) SG disubs allyl mon 02.d

401.84424

403.84274

399.81810 400.82133   402.84349   405.84570   407.89289 408.95060

Counts (%) vs. Mass-to-Charge (m/z)

Fig.S3 ESI-MS spectrum of 2,7-dibromo-9,9-bis-(propenyl)-*9H*-fluorene.

.

(a)

		Diam. (nm)	% Intensity	Width (nm)
Z-Average (d.nm): 77.49	**Peak 1:**	76.01	100.0	22.30
PdI: 0.271	**Peak 2:**	0.000	0.0	0.000
Intercept: 0.947	**Peak 3:**	0.000	0.0	0.000
Result quality : Good				

Size Distribution by Intensity

Size (d.nm)

Record 13: VP6 A 1
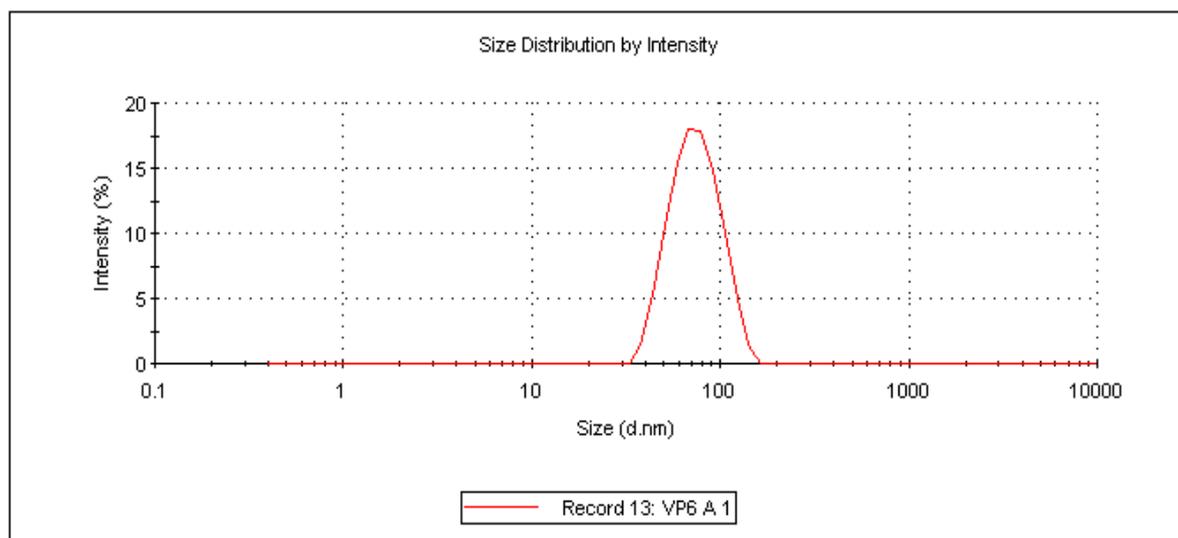
(b)

	Diam. (nm)	% Intensity	Width (nm)
Z-Average (d.nm): 87.13	Peak 1: 103.2	97.4	50.28
PdI: 0.235	Peak 2: 4663	2.6	802.2
Intercept: 0.939	Peak 3: 0.000	0.0	0.000
Result quality : Good			

Size Distribution by Intensity

Record 16: VP6 B1
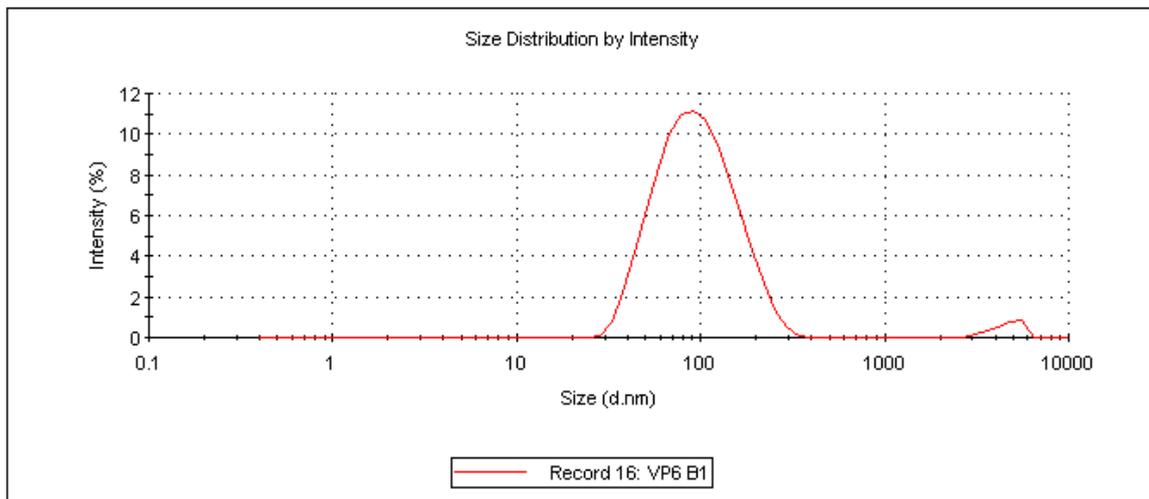
(c)

	Diam. (nm)	% Intensity	Width (nm)
Z-Average (d.nm): 133.3	Peak 1: 154.9	100.0	61.04
PdI: 0.142	Peak 2: 0.000	0.0	0.000
Intercept: 0.930	Peak 3: 0.000	0.0	0.000
Result quality : Good			

Size Distribution by Intensity

Record 18: VP6 C 1
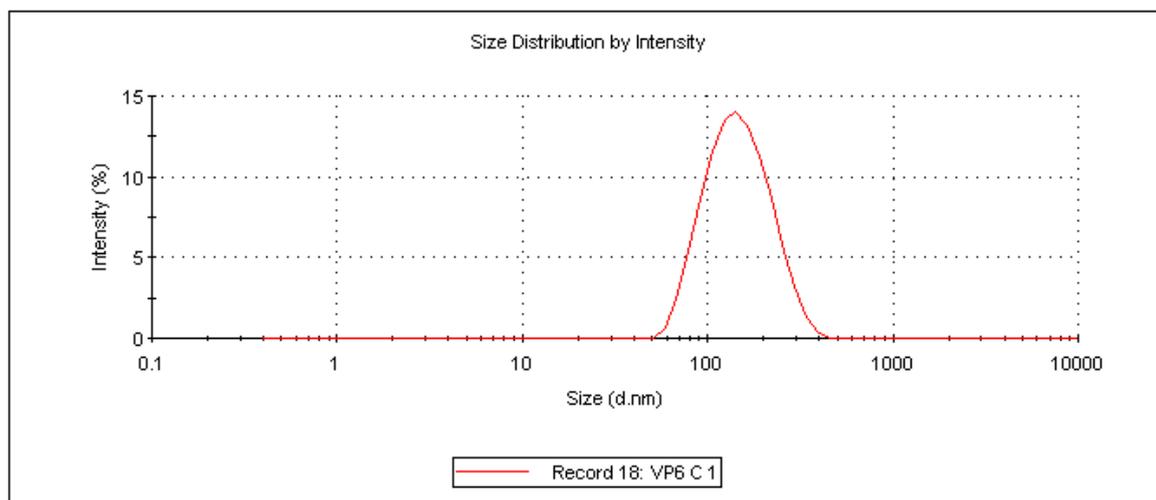
Fig.S4 Dynamic light scattering (DLS) measurements histograms (a, b and c) of CPNs prepared with different concentrations of polymer solutions.
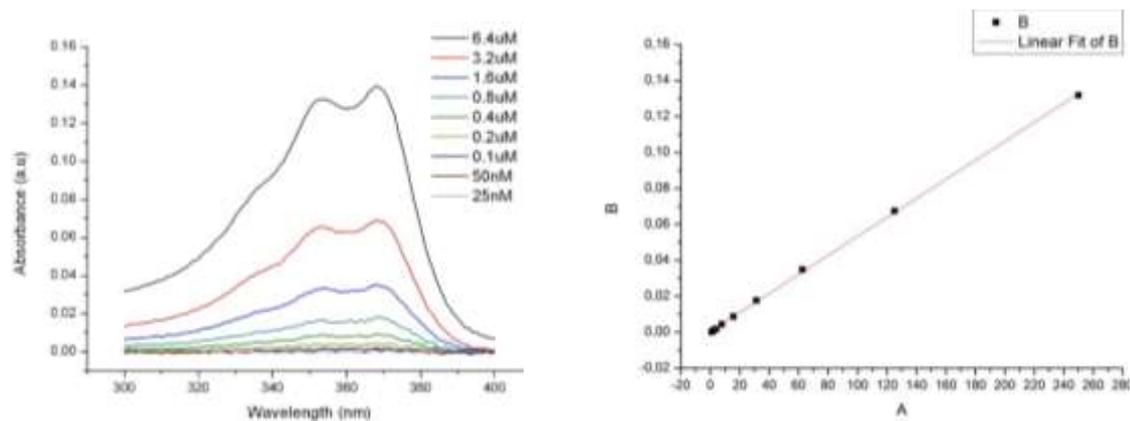
Fig.S5 Known concentrations of CPT dissolved in water containing Tween 20 (0.2 %, v/v) were used to obtain calibration curves of CPT.
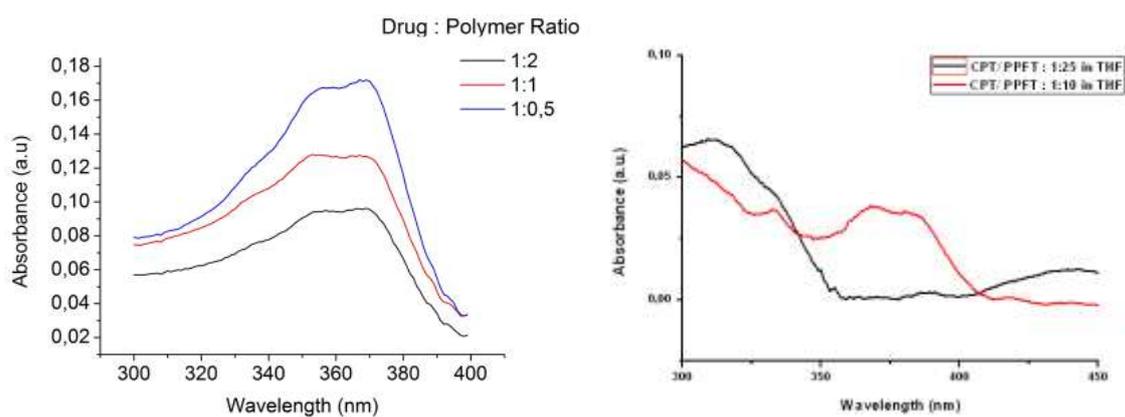

Fig.S6 UV-Vis spectra of dialysates obtained from the drug loading experiments. For drug to polymer ratios 1:2, 1:1 and 1:0.5, the aliquotes taken directly from the dialysates were analyzed, however, for drug to polymer ratios 1:25 and 1:10, the dialysates were evaporated to dryness and the residue was dissolved in THF and analyzed by UV-Vis spectrophotometer.
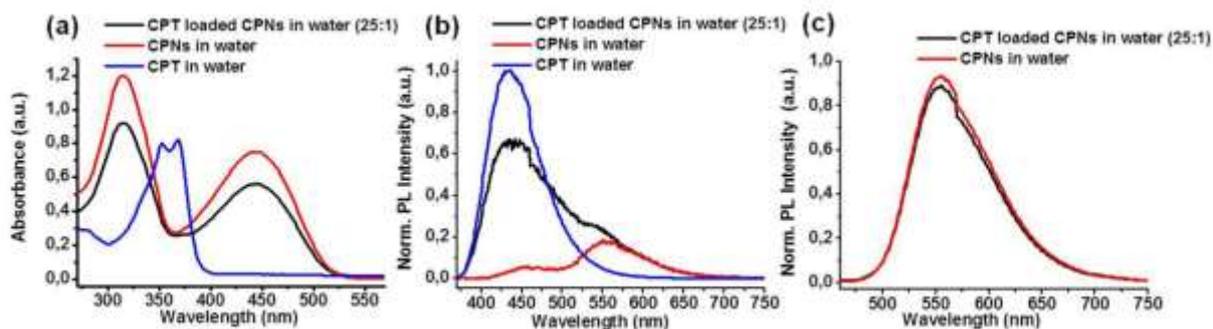
Fig. S7 UV−vis absorption (a) and the emission spectra (b, c) of CPT loaded CPNs, CPNs dispersions in water and CPT in water containing Tween 20 (0.2 %, v/v) (b) $\lambda_{exc.}$= 365 nm (c) $\lambda_{exc.}$= 447 nm.
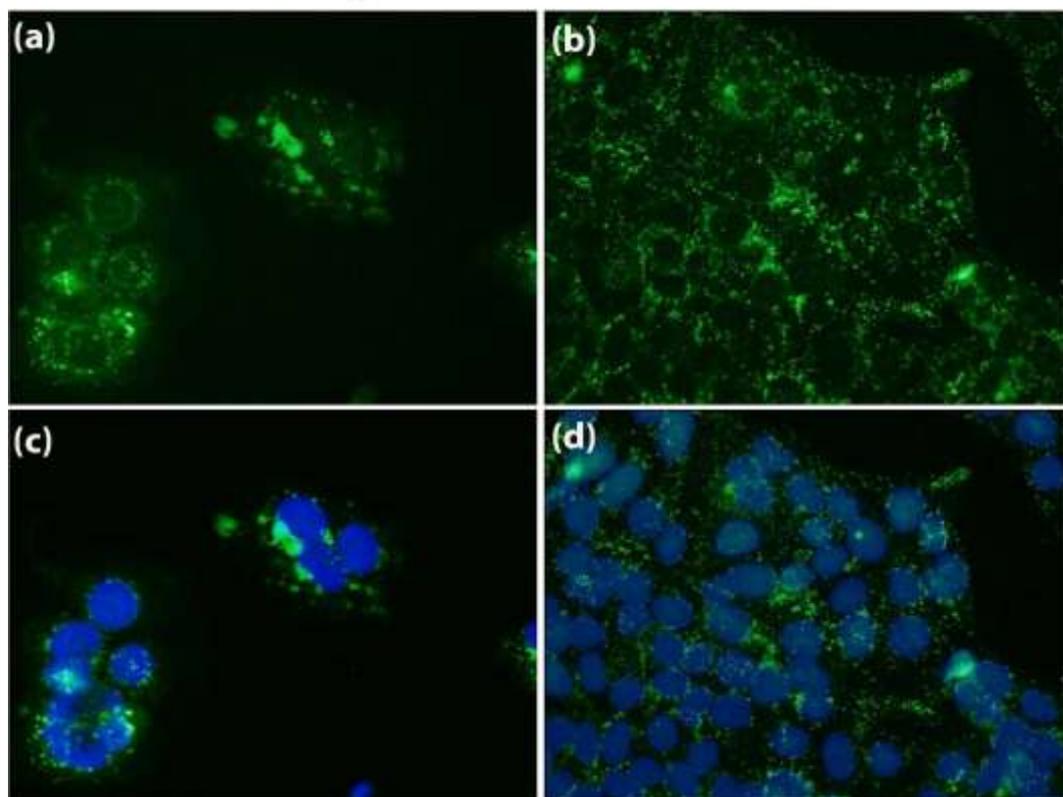
Fig. S8 Fluorescence images of Huh7 cells plated on coverslips and treated with green emitting CPNs (b, d) and CPT-loaded CPNs (a, c) for the concentration of 0.125 μM after 72 hr incubation. Blue fluorescence from the nuclear stain Hoechst 33258 (c, d). Images were acquired with a 40X objective.
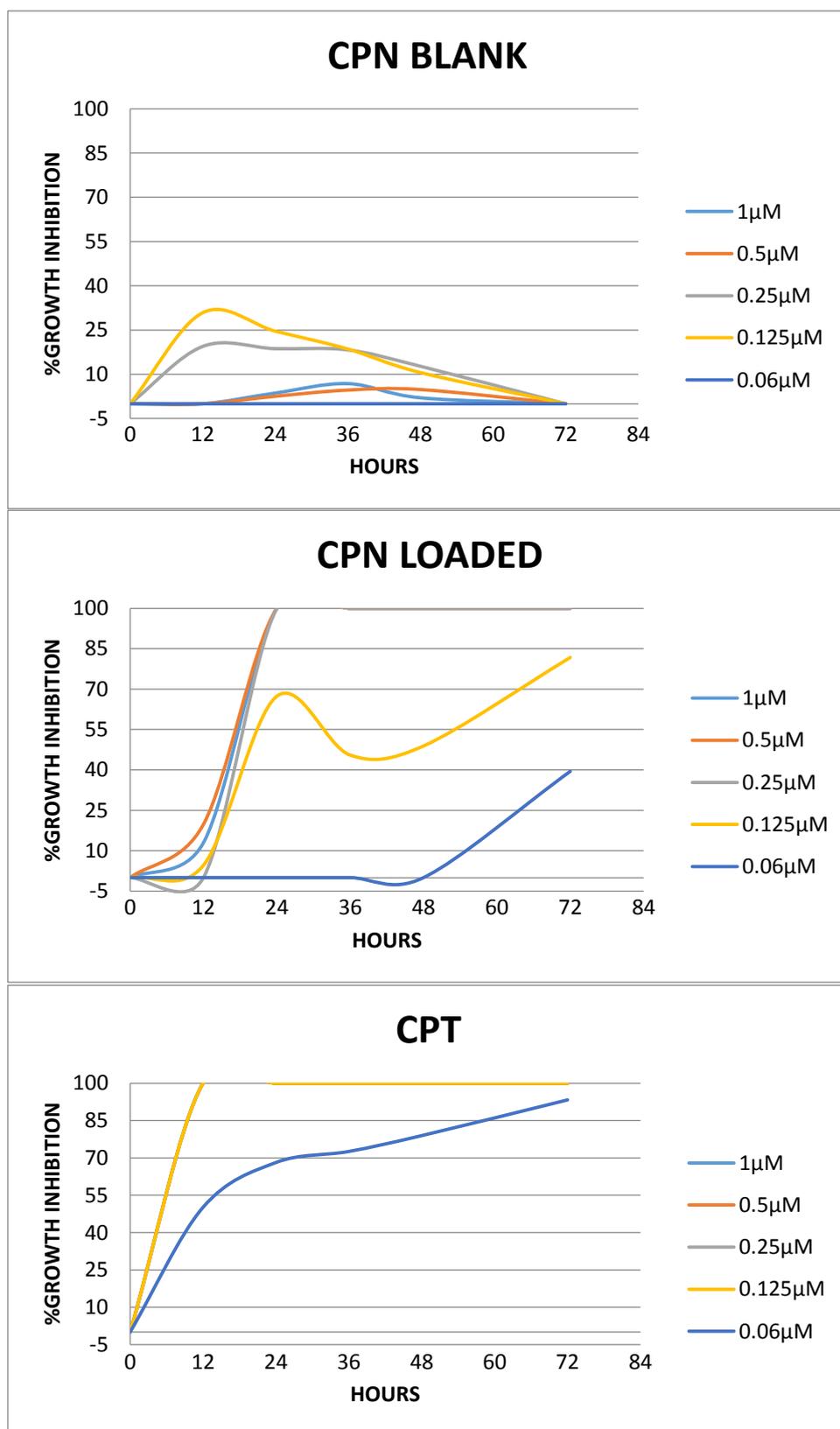
Fig. S9 Real-time growth inhibitory effects of loaded and unloaded CPN together with CPT. The bioactivities of the compounds was assessed by RT-CES system. The experiment was done in triplicate.