Supplementary information

pH-sensitive nanogels based on the electrostatic self-assembly of radionuclide 131-I labeled albumin and carboxymethyl cellulose for synergistic combined chemo-radioisotope therapy of cancer

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Table S1. Characterization of the BSA/CMC nanogels with different BSA to CMC mass ratios, pH, heating temperature and time

No.	BSA/CMC (w/w)	Time (min)	pH	Temperature (°C)	Size (nm)	ζ-potential (mV)	PDI
1	6:1	60	5.0	70	107.05 ± 3.46	-36.74 ± 0.94	0.29
2	4:1	60	5.0	70	90.12 ± 2.38	-38.66 ± 1.02	0.13
3	2:1	60	5.0	70	98.64 ± 1.97	-41.49 ± 0.98	0.24
4	1:1	60	5.0	70	124.05 ± 4.25	-35.25 ± 0.86	0.23
5	4:1	30	5.0	70	117.05 ± 2.44	-33.76 ± 1.56	0.27
6	4:1	45	5.0	70	121.05 ± 3.46	-36.94 ± 2.05	0.34
7	4:1	60	5.0	70	92.45 ± 2.18	-37.26 ± 1.14	0.19
8	4:1	75	5.0	70	99.05 ± 3.46	-32.62 ± 1.98	0.25
9	4:1	60	3.0	70	187.46 ± 5.06	-34.02 ± 2.64	0.34
10	4:1	60	4.0	70	164.92 ± 3.81	-36.24 ± 1.69	0.26
11	4:1	60	5.0	70	95.26 ± 2.11	-38.21 ± 1.76	0.21
12	4:1	60	6.0	70	99.06 ± 1.87	-34.07 ± 0.87	0.28
13	4:1	60	7.0	70	95.34 ± 3.37	-35.29 ± 1.27	0.19
14	4:1	60	8.0	70	108.59 ± 2.64	-36.92 ± 1.75	0.34
15	4:1	60	5.0	25	176.02 ± 2.47	-31.63 ± 1.54	0.24
16	4:1	60	5.0	40	142.54 ± 1.46	-34.27 ± 1.62	0.29
17	4:1	60	5.0	55	113.71 ± 1.59	-29.87 ± 2.02	0.32
18	4:1	60	5.0	70	89.04 ± 0.86	-41.23 ± 1.32	0.21
19	4:1	60	5.0	85	94.02 ± 0.97	-44.64 ± 2.37	0.25

Table S2. Characterization of nanogels

Samples	Size (nm)	ζ- potential (mV)	EE (%)	DLC (wt%)
BSA/CMC	90.12 ± 7.19	-35.77 ± 2.68	-	-
BSA-CMC-CPT	120.46 ± 10.13	-39.46 ± 4.52	89.42 ± 2.68	16.72 ± 2.68

Table S3. Stability of nanogels in different pH.

pH	Size (nm)	ζ- potential (mV)	PDI
3.0	129.62 ± 8.19	-27.67 ± 2.48	0.26
4.0	106.46 ± 6.13	-33.17 ± 4.02	0.23
5.0	92.55 ± 5.27	-38.33 ± 3.29	0.21
6.0	104.65 ± 9.22	-39.22 ± 4.24	0.25
7.0	99.12 ± 6.49	-36.28 ± 3.92	0.27
8.0	104.46 ± 7.14	-31.46 ± 2.87	0.31