

Supplementary Table 1. Organ distribution of free DOX, DOX-loaded CA NPs, DOX-loaded CMCA NPs, and DOX-loaded α -KAMCA NPs at 2 h of treatment ($n = 5$).

Organs	Free DOX (%)	DOX-CA (%)	DOX-CMCA (%)	DOX-α-KAMCA (%)
Liver	0.35	1.07	0.35	0.96
Spleen	0.08	0.14	0.08	0.14
Heart	0.41	0.2	0.17	0.11
Lungs	0.08	0.08	0.08	0.08
Brain	0.13	0.42	0.28	0.25
Kidney	0.42	0.2	0.37	0.22
Tumor	0.08	0.37	0.45	0.62

Supplementary Table 2. Organ distribution of free DOX, DOX-loaded CA NPs, DOX-loaded CMCA NPs, and DOX-loaded α -KAMCA NPs at 24 h of treatment ($n = 5$).

Organs	Free DOX (%)	DOX-CA (%)	DOX-CMCA (%)	DOX-α-KAMCA (%)
Liver	1.38	1.19	0.35	0.36
Spleen	0.08	0.14	0.09	0.08
Heart	0.62	0.4	0.17	0.11
Lungs	0.08	0.08	0.08	0.08
Brain	0.47	0.6	0.4	0.25
Kidney	0.42	0.32	0.37	0.16
Tumor	0.08	0.23	0.3	0.4

Supplementary Table 3. Estimation of serum drug concentration following an intravenous injection of free DOX, DOX-CA NPs, DOX-CMCA NPs, and DOX- α -KAMCA NPs ($n = 5$).

Formulations	2 h (%)	24 h (%)
Free DOX	2.02	1.71
DOX-CA	9.83	5.93
DOX-CMCA	6.19	4.33
DOX-α-KAMCA	16.02	8.04

Supplementary Table 4. Weight of different organs of mice from tumor-bearing untreated mice group, only DOX-treated group, and DOX-loaded NP-treated group ($n = 5$).

Organs	Tumor-bearing untreated group (mg)	DOX-treated group (mg)	DOX-loaded NP-treated group (mg)
Liver	1102	1102	1102
Spleen	509	509	509
Heart	116	116	116
Lungs	187	187	187
Brain	355	355	355
Kidney	230	230	230
Tumor	181	181	181