

Supporting Information

One-pot Synthesis of Acid-degradable Polyphosphazene Prodrugs for Efficient Tumor Chemotherapy

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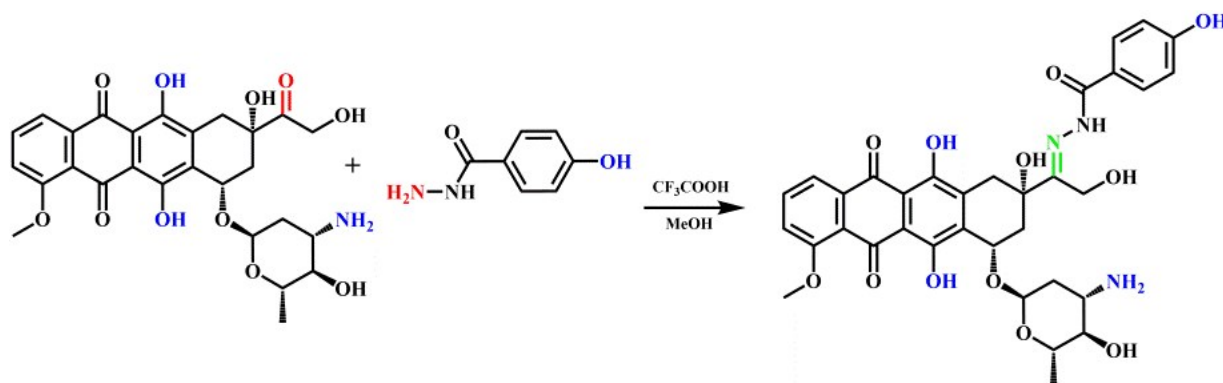
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Scheme.S1 Synthetic route of BMD.

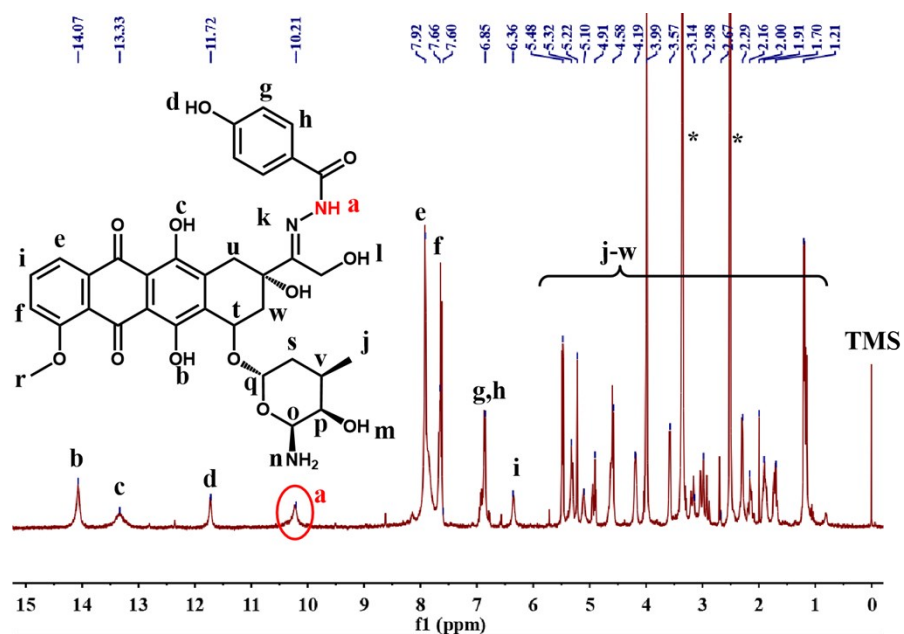


Fig.S1 ^1H -NMR spectrum of synthesized BMD.

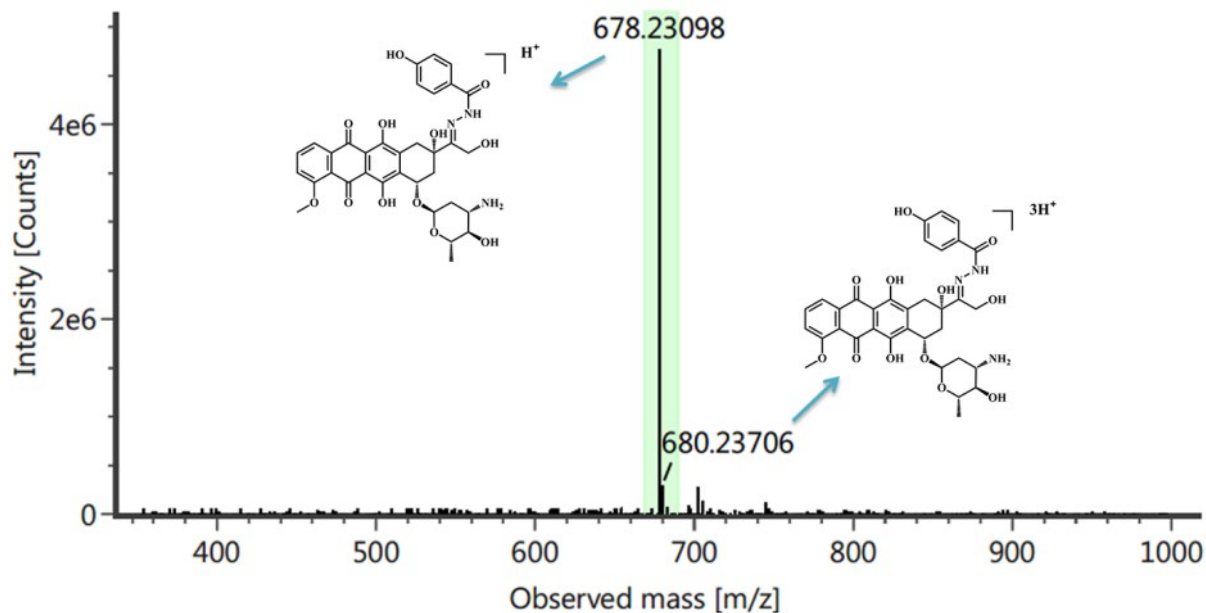


Fig.S2 LC-MS of synthesized BMD.

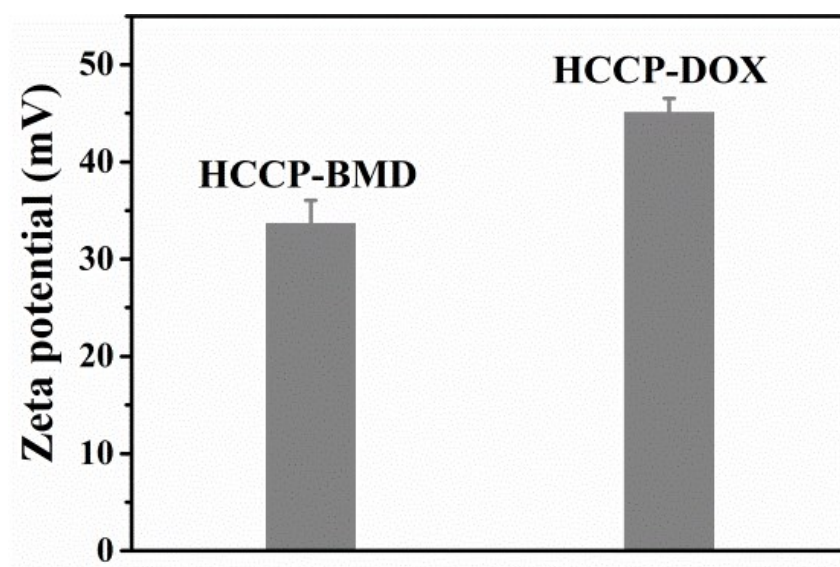


Fig. S3 Zeta potential of HCCP-DOX NPs and HCCP-BMD NPs in water dispersion.

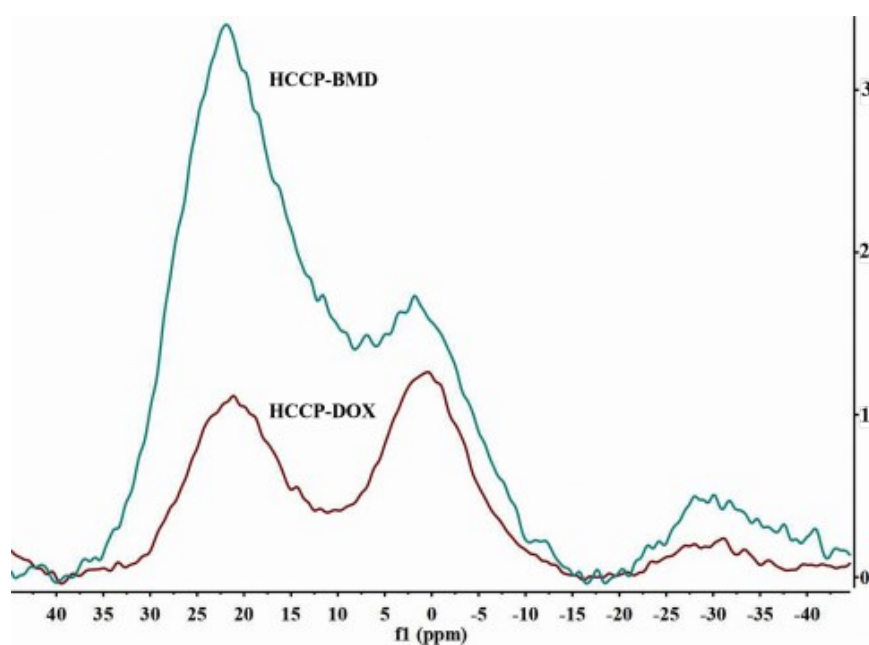


Fig.S4 ^{31}P -S-NMR spectrum of HCCP-BMD NPs and HCCP-DOX NPs.

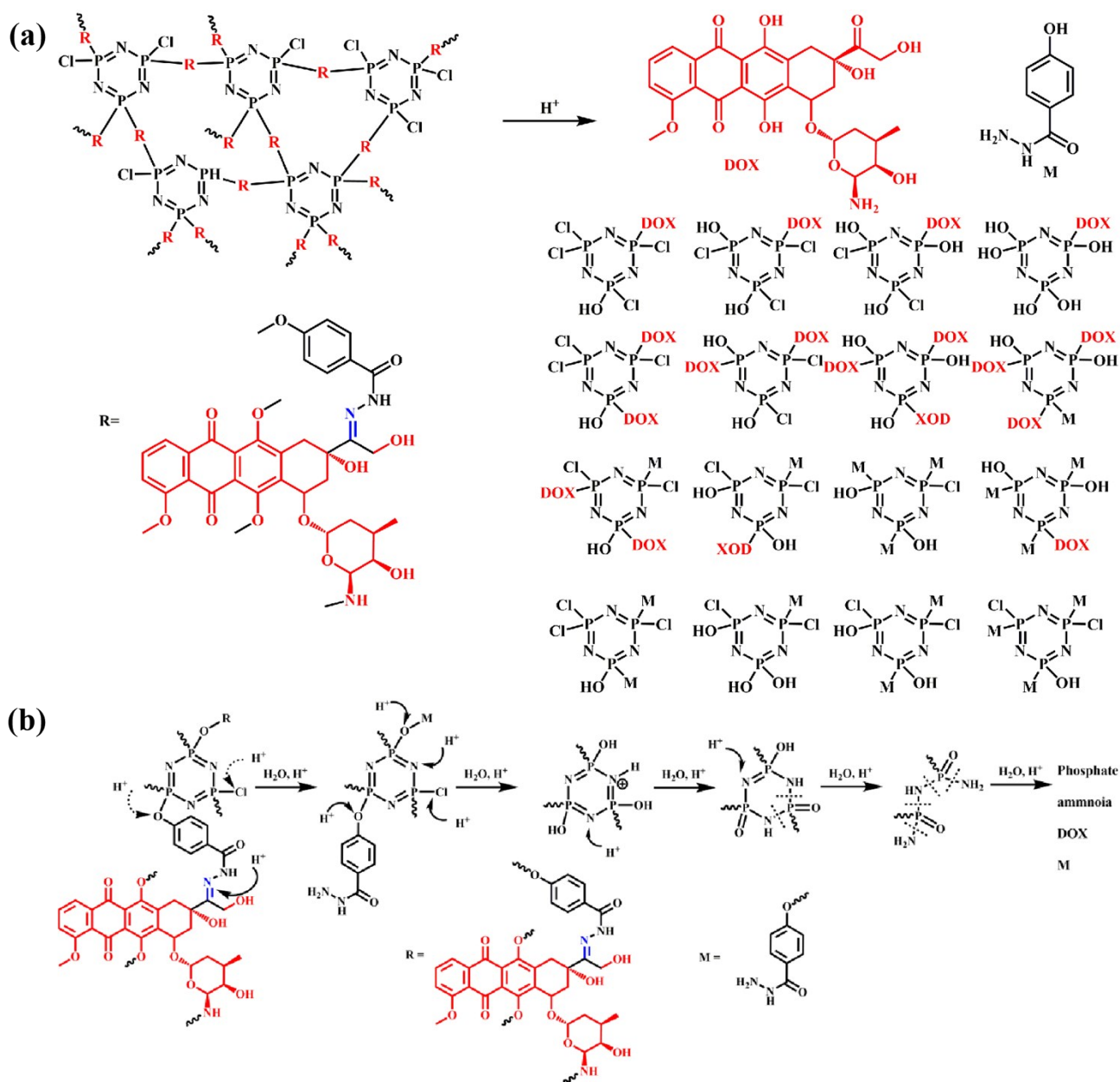


Table. S1 LC-MS results of main degradation species containing DOX of ‘HCCP-BMD’.

Number	Species	Proportion	Molecule Wight
A	DOX	0.67	544.1882
B	HCCP-BMD	1.21	988.8657
C	HCCP-2DOX-OH	0.85	1341.2537
D	HCCP-2DOX-2OH	3.72	1323.1826
E	HCCP-DOX-OH	5.30	833.9758
F	HCCP-DOX-2OH	3.24	816.0046
G	HCCP-DOX-3OH	2.35	799.0446
H	HCCP-DOX-4OH	4.22	782.5928
I	HCCP-DOX-M	0.98	972.0353
J	HCCP-DOX-2M	4.02	1088.1172
K	HCCP-DOX-3M	2.86	1204.1991
L	HCCP-DOX-M-OH	1.92	953.0613
M	HCCP-DOX-M-2OH	5.37	934.0873
N	HCCP-DOX-M-3OH	4.71	915.1133
O	HCCP-DOX-2M-OH	1.21	1069.1432
P	HCCP-2DOX-M-OH	0.86	1460.2586
Q	HCCP-2DOX-M-2OH	1.20	1441.2846
R	HCCP-2DOX-2M-OH	0.31	1576.3405

M: p-hydroxythiolphenol

Table. S2 LC-MS results of main degradation species containing DOX of ‘HCCP-DOX’.

Number	Species	Proportion	Molecule Wight
A	DOX	1	543.1749
B	HCCP-DOX-OH	1.21	832.9672
C	HCCP-DOX-2OH	0.85	817.0083
D	HCCP-DOX-3OH	4.31	799.0476
E	HCCP-DOX-4OH	0.67	782.6307
F	HCCP-2DOX	0.84	1359.1446
G	HCCP-2DOX-OH	0.99	1341.1642
H	HCCP-2DOX-2OH	0.56	1323.2072
I	HCCP-2DOX-3OH	1.89	1305.2482
J	HCCP-2DOX-4OH	1.20	1288.2745

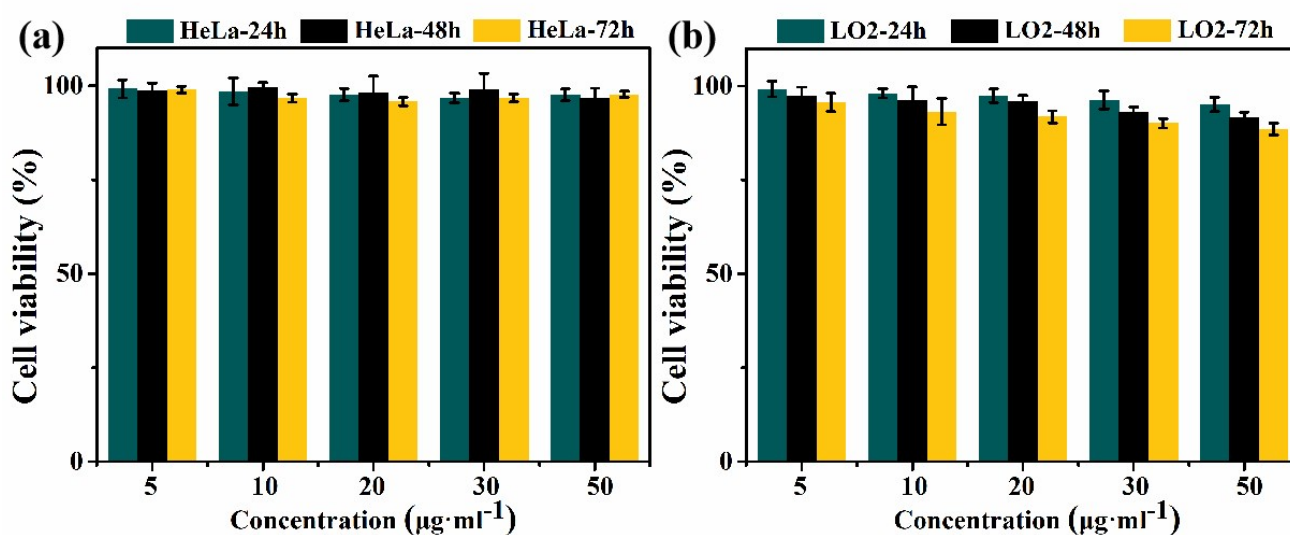


Fig. S6 Cell viability of (a) LO2 cells and Hela cells (b) after incubation with HCCP at various concentrations for different periods of time (24 h, 48 h and 72 h).

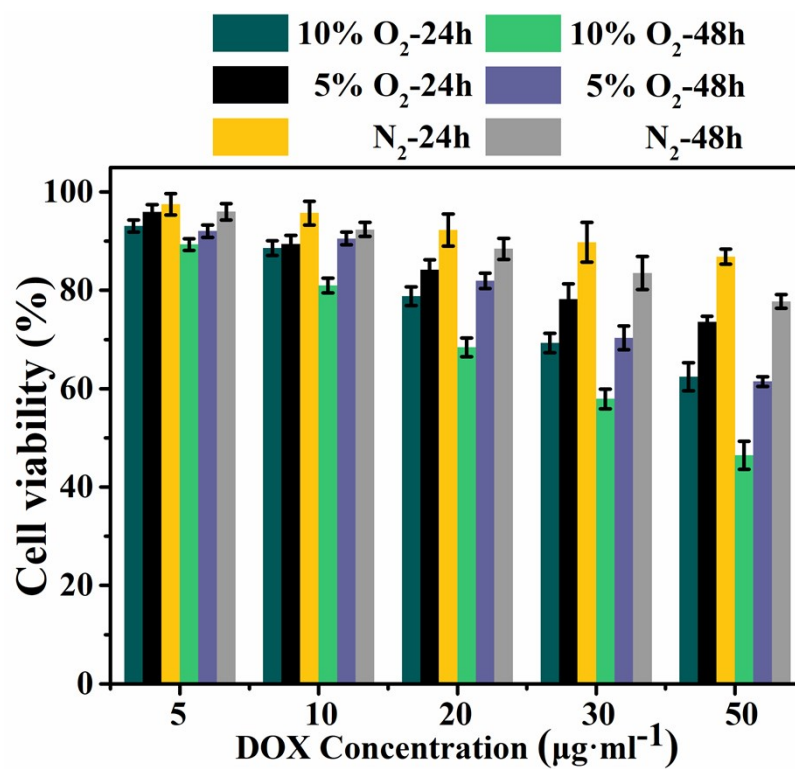


Fig. S7 Cell viability of HeLa cells after incubation with HCCP-BMD prodrugs at various concentrations under different O₂ content.