

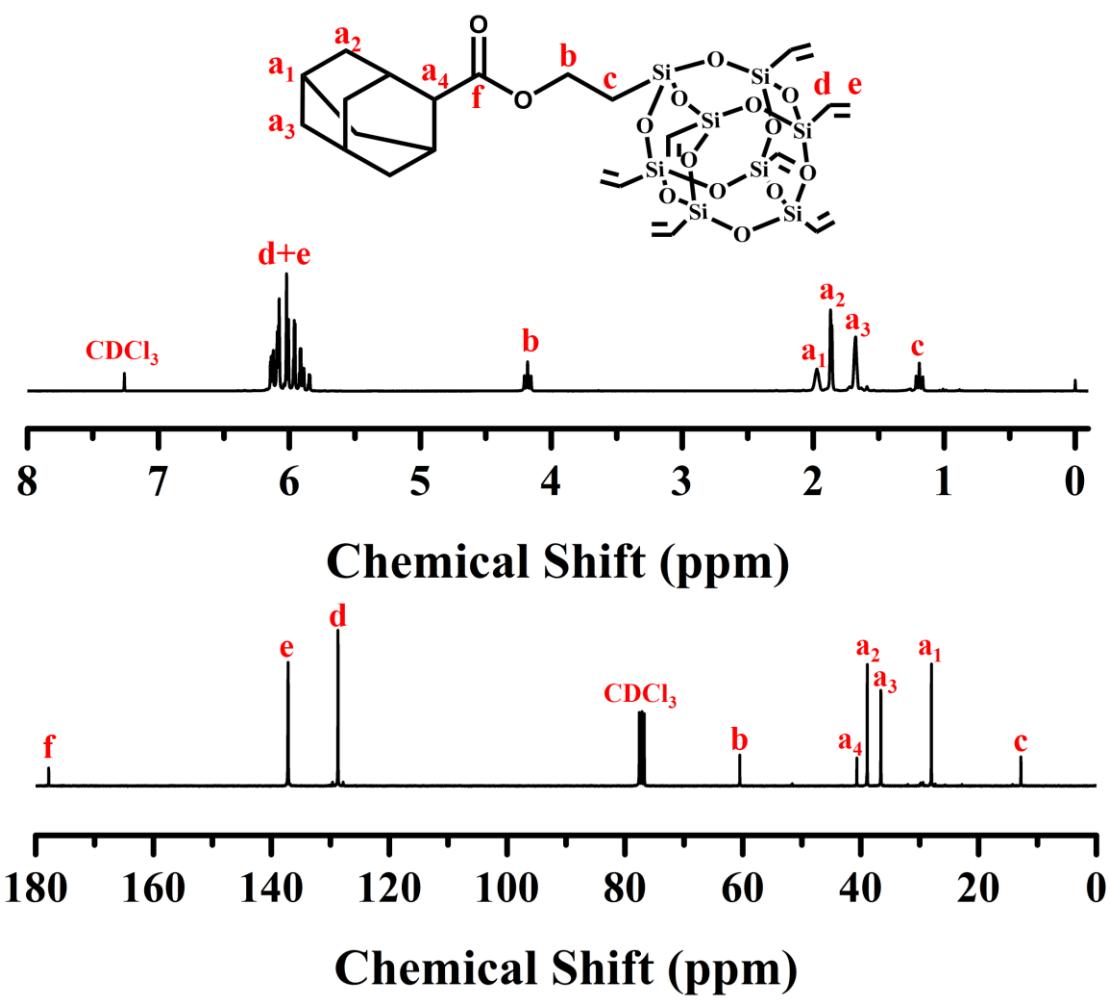
**POSS-based supramolecular amphiphilic zwitterionic complexes for drug delivery**

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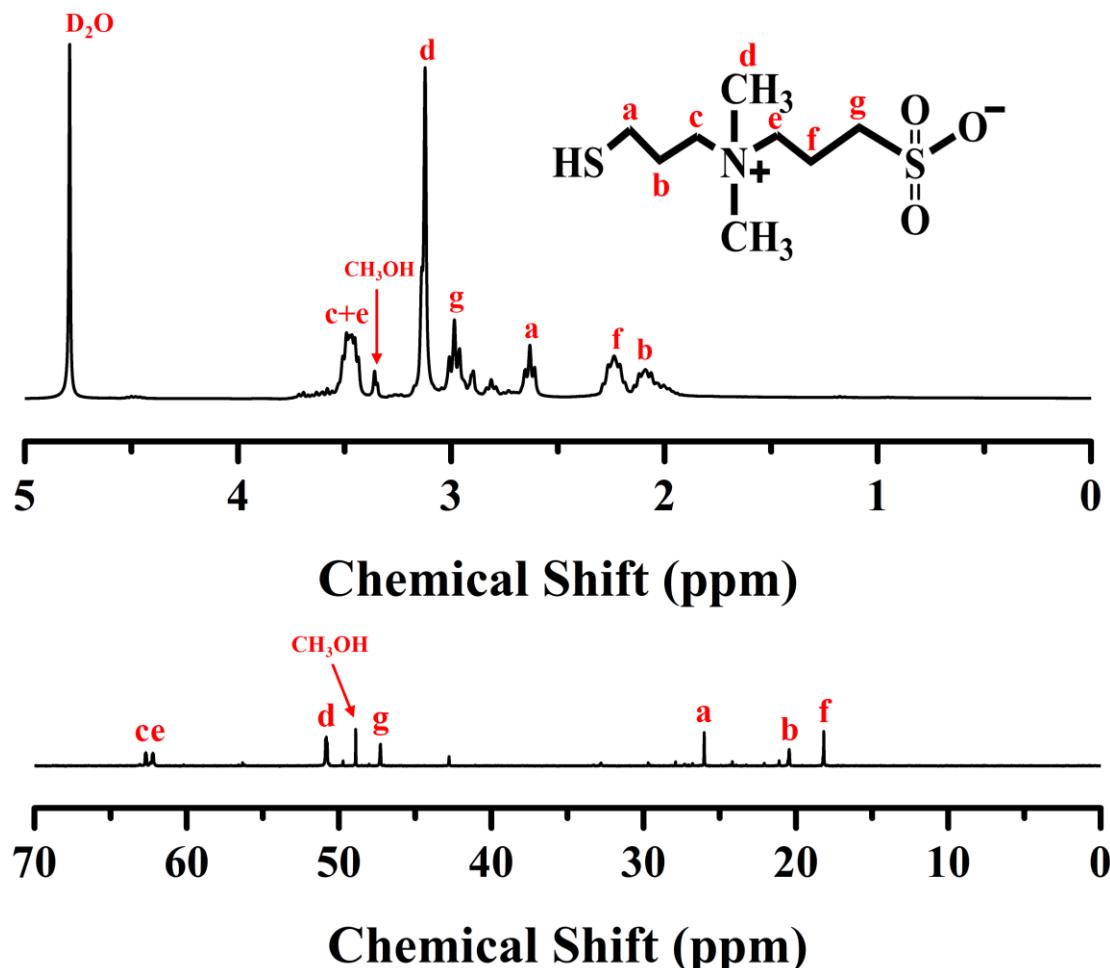
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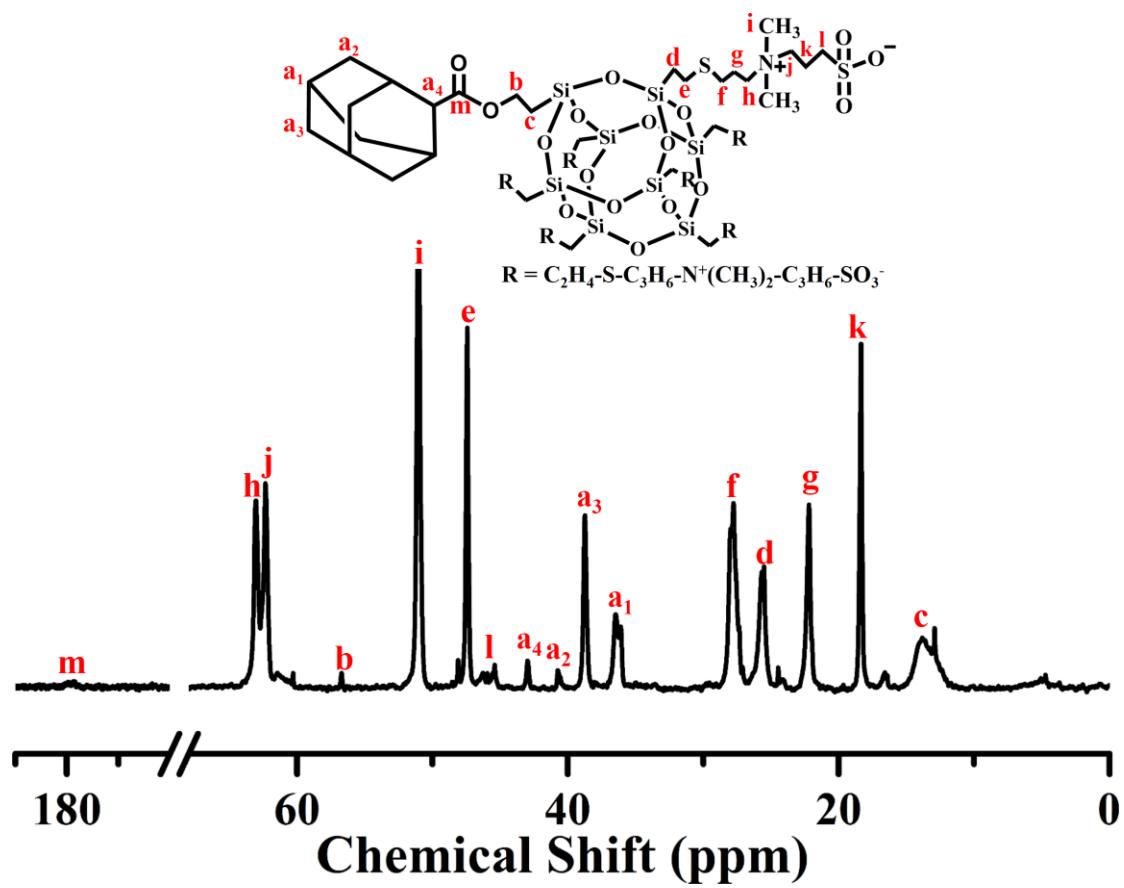
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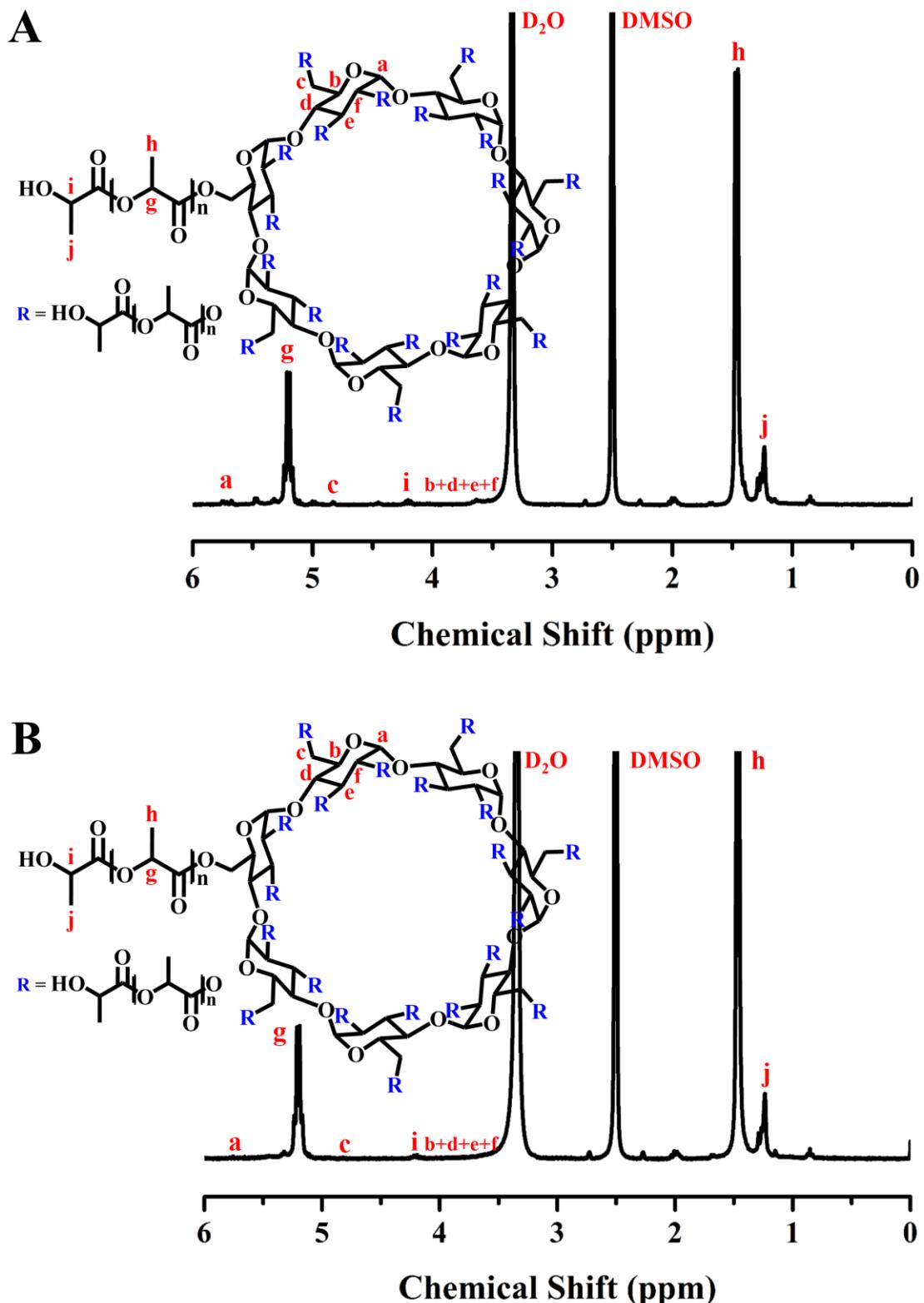
**Fig. S1**  $^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of the AD-POSS in  $\text{CDCl}_3$ .



**Fig. S2**  $^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of the zwitterionic-SH in  $\text{D}_2\text{O}$ .



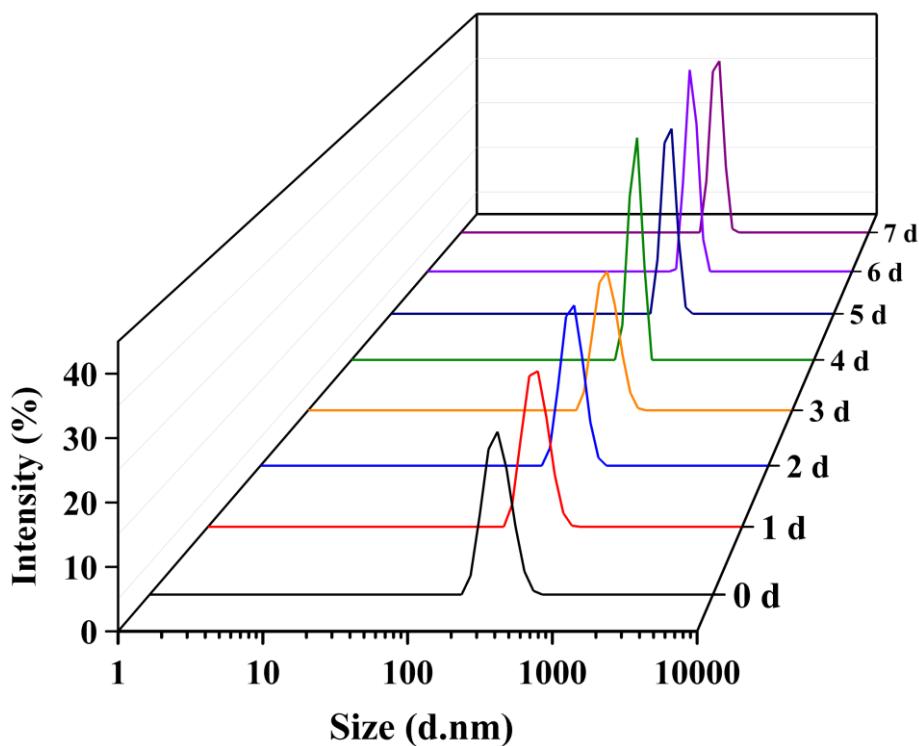
**Fig. S3**  $^{13}\text{C}$  NMR spectrum of the POSS-based guest molecule in  $\text{D}_2\text{O}$ .



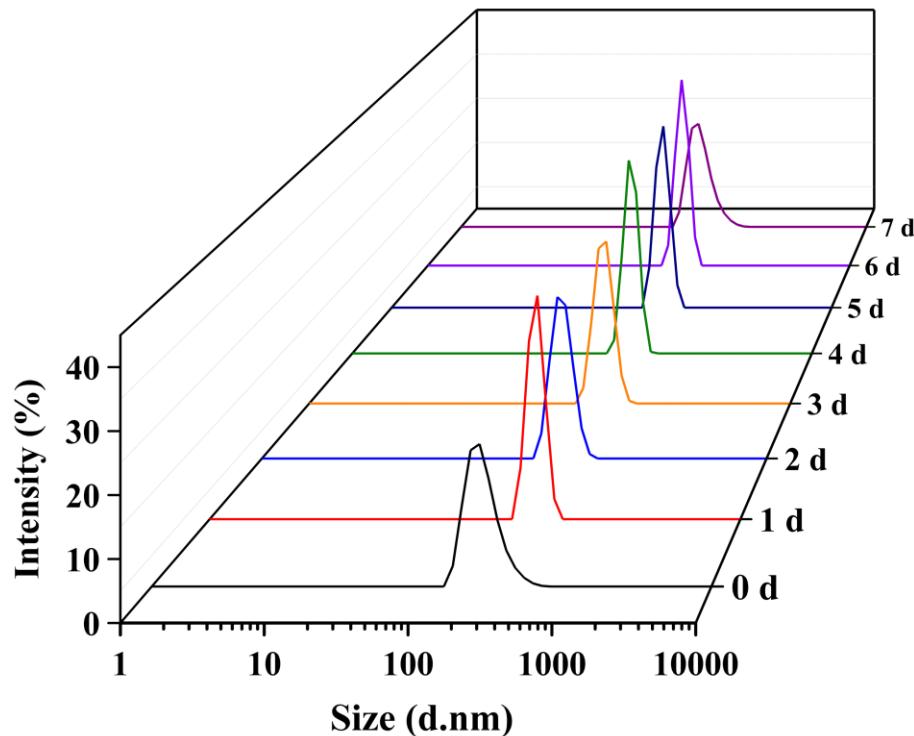
**Fig. S4**  $^1\text{H}$  NMR spectra of (A)  $\beta$ -CD-PLLA-15000 and (B)  $\beta$ -CD-PLLA-30000 host molecules in  $\text{D}_2\text{O}$ .

**Table S1 Molecular weights of  $\beta$ -CD-PLLA**

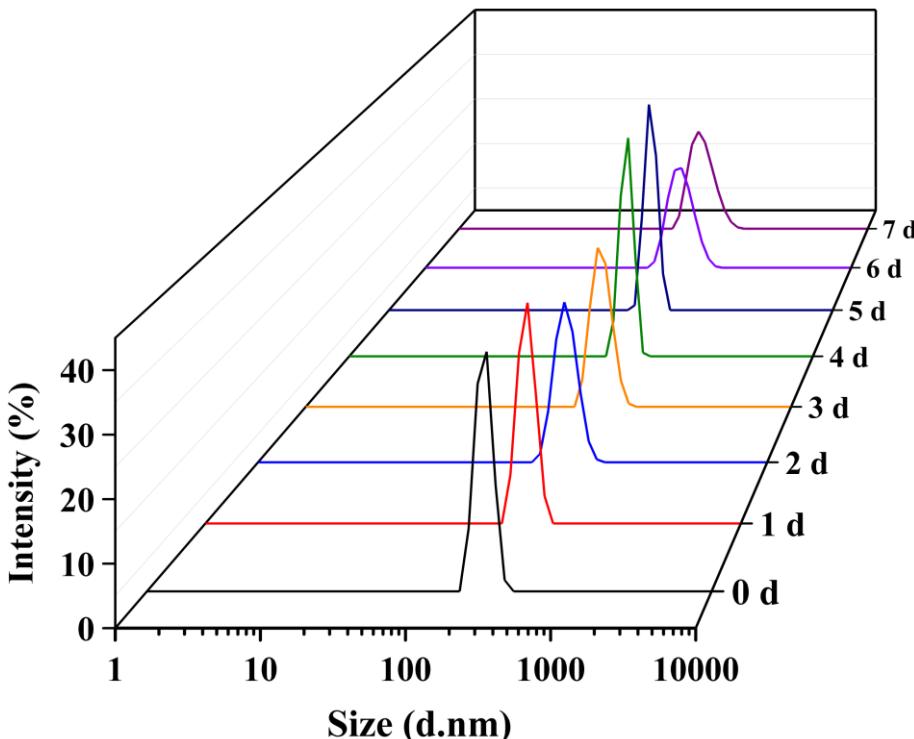
	$M_{n,\text{NMR}}$	$M_{n,\text{GPC}}$	$M_{w,\text{GPC}}$	PDI
<b><math>\beta</math>-CD-PLLA-7500</b>	7320	7200	9900	1.38
<b><math>\beta</math>-CD-PLLA-15000</b>	14700	14500	17800	1.23
<b><math>\beta</math>-CD-PLLA-30000</b>	28800	27800	35300	1.27



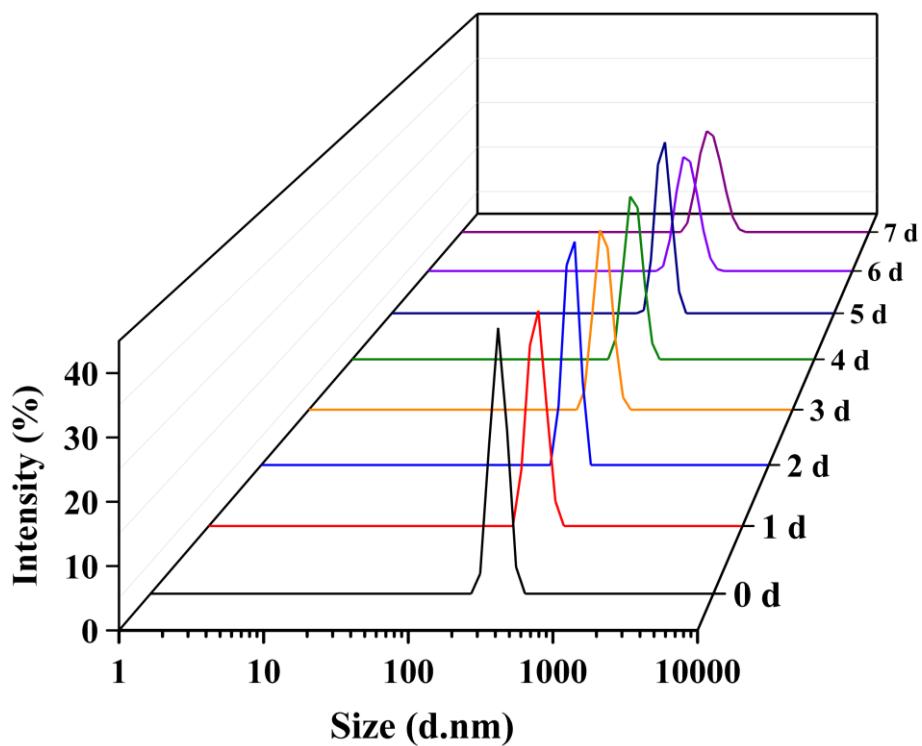
**Fig. S5** DLS Spectra of supramolecular zwitterionic complexes at pH = 3.5.



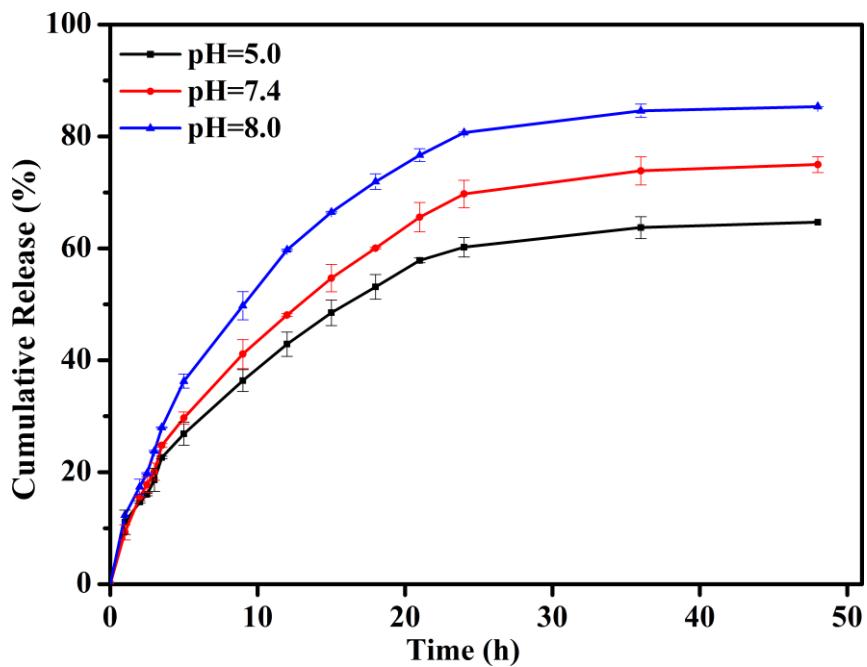
**Fig. S6** DLS Spectra of supramolecular zwitterionic complexes at pH = 5.0.



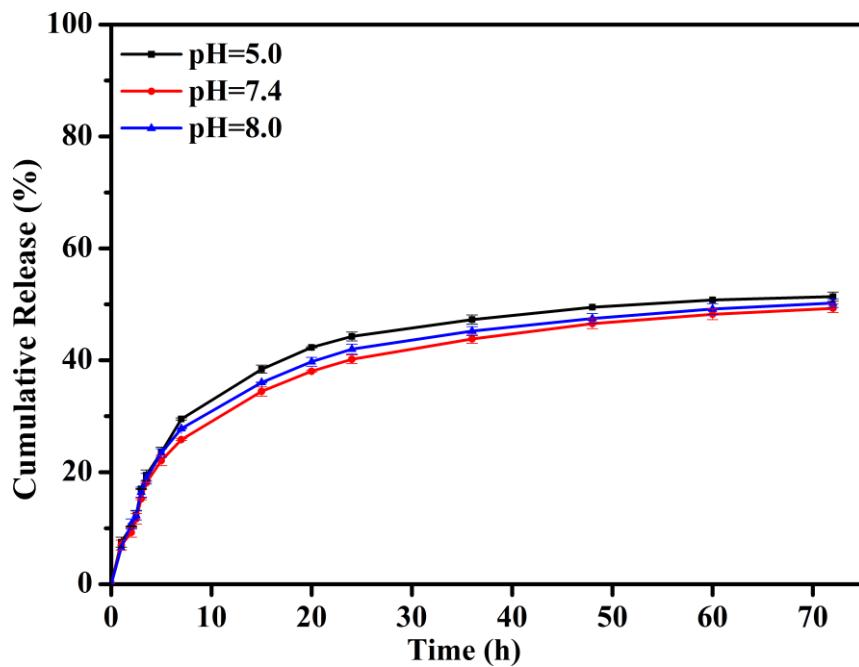
**Fig. S7** DLS Spectra of supramolecular zwitterionic complexes at pH = 7.0.



**Fig. S8** DLS Spectra of supramolecular zwitterionic complexes at pH = 8.0.



**Fig. S9** *In vitro* release profiles of the DOX·HCl-loaded supramolecular zwitterionic complexes at 37 °C under different pH conditions (5.0, 7.4 and 8.0).



**Fig. S10** *In vitro* release profiles for the neutral drug loaded supramolecular zwitterionic complexes at 37 °C under different pH conditions (5.0, 7.4 and 8.0).