- **Supporting information of**

Novel Thermo-responsive Hydrogel Microsphere with Calixcrown Host Molecules as Cross-links for Highly-specific Binding and Controllable Release of Cesium

Rong Yi, Gang Ye, Dachao Lv, Jing Chen

Contents

Experimental

Chemicals. *N*-isopropylacrylamide (NIPAM) (> 98%) and *N,N'*-methylene-bisacrylamide (MBA) (99%) were purchased from Alfa Aesar, 2,2'-azobisisobutyronitrile (AIBN) (98%) was obtained from Sigma-Aldrich and recrystallized before use as initiator. 1,3-di(2-propoxy)calix[4]arene-crown-6 **(0)** were synthesized and purified according to a previous report.[1] Tetrahydrofuran (THF) was freshly distilled over sodium prior to use. Other chemicals and solvents were of analytical grade and used as received without further purification.

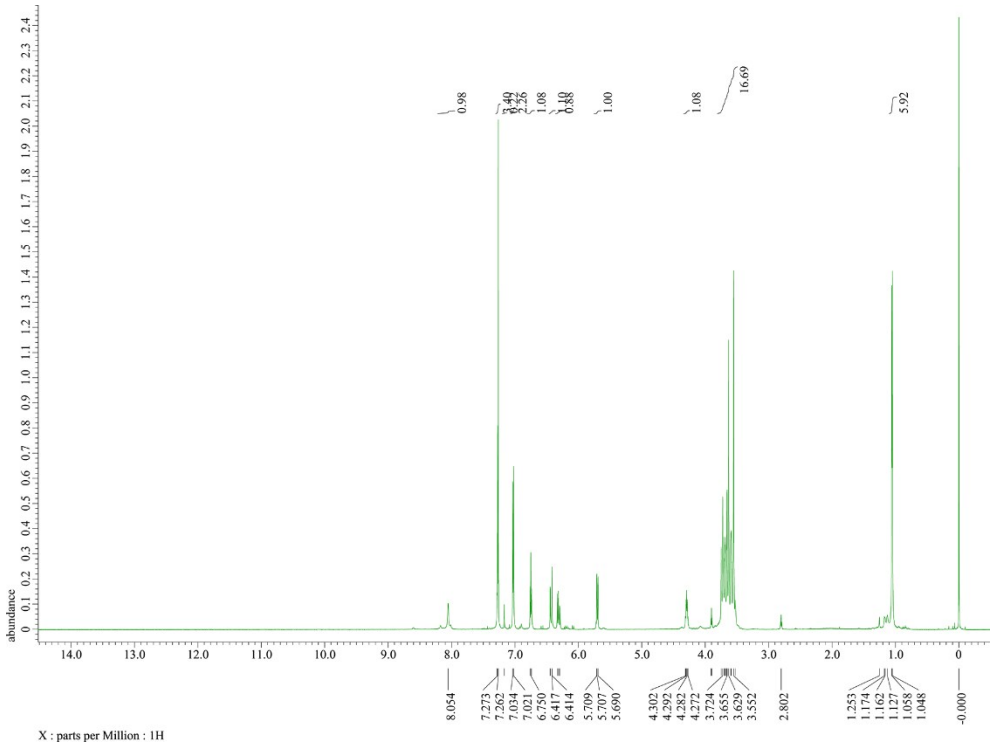

Fig. S1 ^{1}H NMR of spectrum of acryl-calix[4]-crown-6

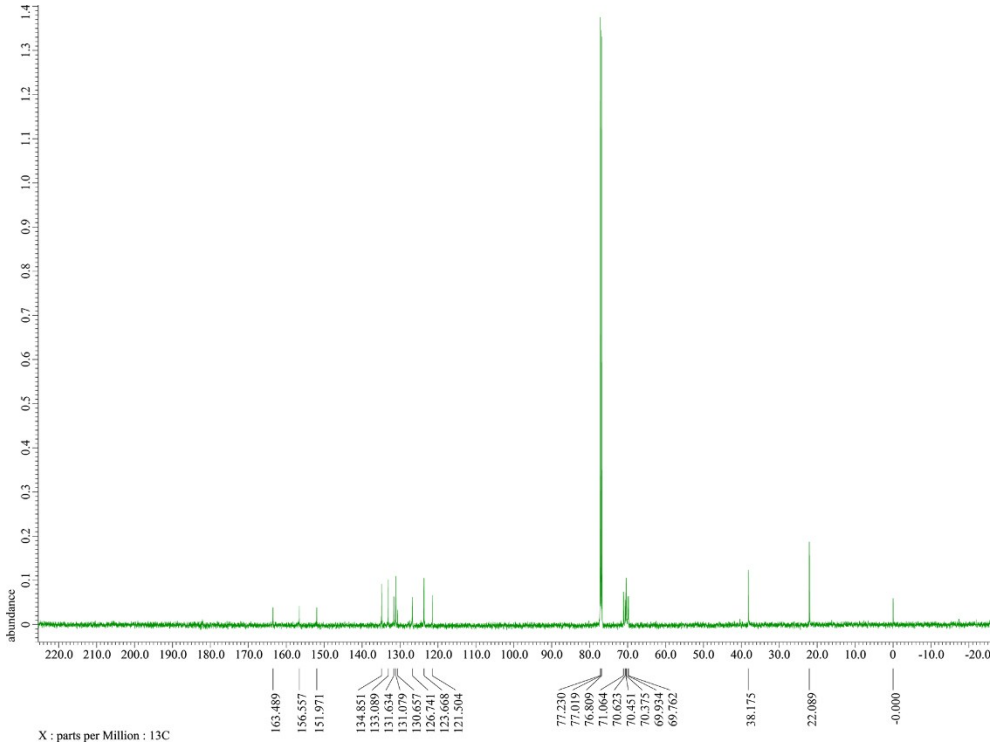

Fig. S2 ^{13}C NMR spectrum of acryl-calix[4]-crown-6.

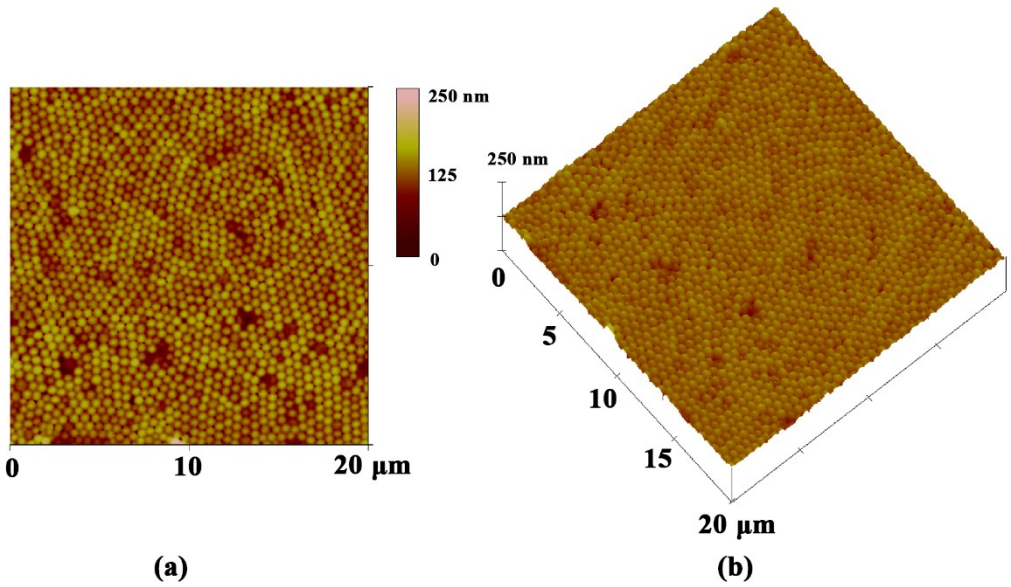

Fig. S3 Large-scaled AFM images of PNIPAM-*cl*-calixcrown microspheres.

Table S1 Elemental analysis of the pristine and calixcrown cross-linked PNIPAM hydrogel microspheres.

Samples	***C (wt.%)***	***H (wt.%)***	***N (wt.%)***
PNIPAM	63.79	10.01	12.17
PNIPAM-*cl*-calixcrown	64.46	9.82	11.38

REFERENCES

(1) Casnati, A.; Pochini, A.; Ungaro, R.; Ugozzoli, F.; Arnaud, F.; Fanni, S.; Schwing, M.; Egberink, R. J. M.; de Jong, F.; Reinhoudt, D. N. Synthesis, Complexation, and Membrane Transport Studies of 1,3-Alternate Calix[4]Arene-Crown-6 Conformers. *Journal of American Chemical Society*. **1995**, *117*, 2767-2777.