# *In situ* encapsulating silver nanocrystals into hydrogels. A "green" signaling platform for thiol-containing amino acids or small peptides

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## Supporting Information

## Chemicals and characterizations

All chemicals commercially available at AR grade were used as received.

Field emission scanning electron microscopy (FESEM) experiments were carried out on HITACHI S-4800 working at an accelerating voltage of 20 kV. Transmission electron microscopy (TEM) experiments were performed on HITACHI H-7650 system. X-Ray powder diffractions (XRD) were performed on Panalytical X'pert PRO diffractometer equipped with Cu K$\alpha$ radiation ($\lambda$ = 1.5418 Å) at room temperature.

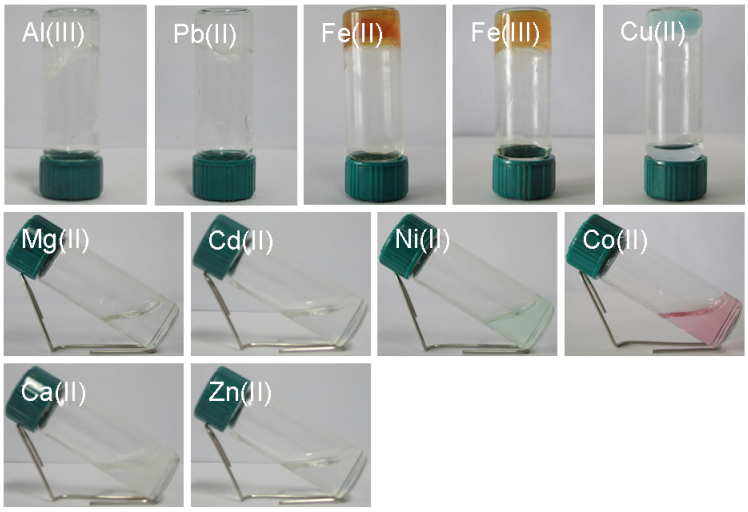


**Fig. S1**. The photos of NaCMC (0.8 %, wt) in the presence of Al(III), Pb(II), Fe(II), Fe(III), Cu(II), Mg(II), Cd(II), Ni(II), Co(II), Ca(II), and Zn(II), respectively. All metal ions concentrations are 0.045 M.

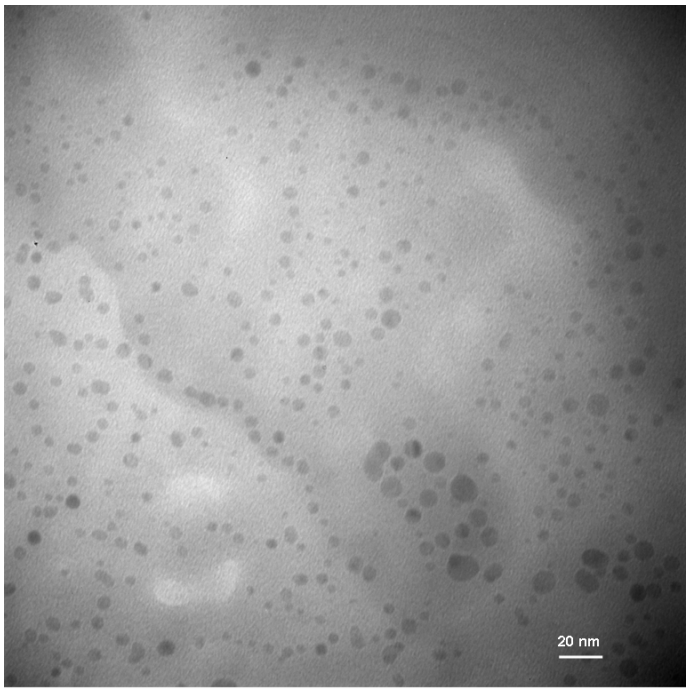


**Fig. S2** TEM image of xerogel from the corresponding original irradiated hydrogel of NaCMC-Ag(I). The scale bar is 20 nm.

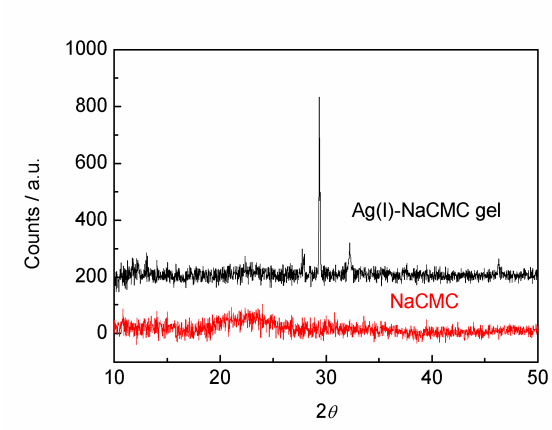


**Fig. S3** Powder X-ray diffraction patterns of the xerogel from the corresponding original irradiated hydrogel of NaCMC-Ag(I) and of NaCMC.