

Electronic Supplementary Information for

One-step preparation of multifunctional alginate microspheres loading *in situ*-formed gold nanostars as a photothermal agent

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Additional experimental data

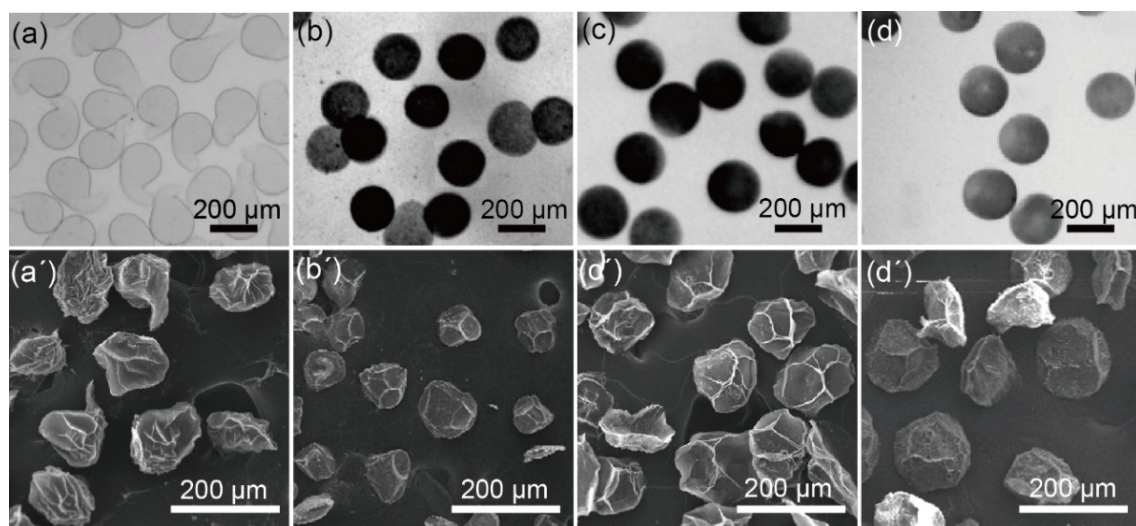


Fig. S1 a-d Optical micrographs; and a'-d' the corresponding SEM images of microspheres. (a, a') CA; (b, b') Au@CA-2.5; (c, c') Au@CA-5 and (d, d') Au@CA-20 microspheres

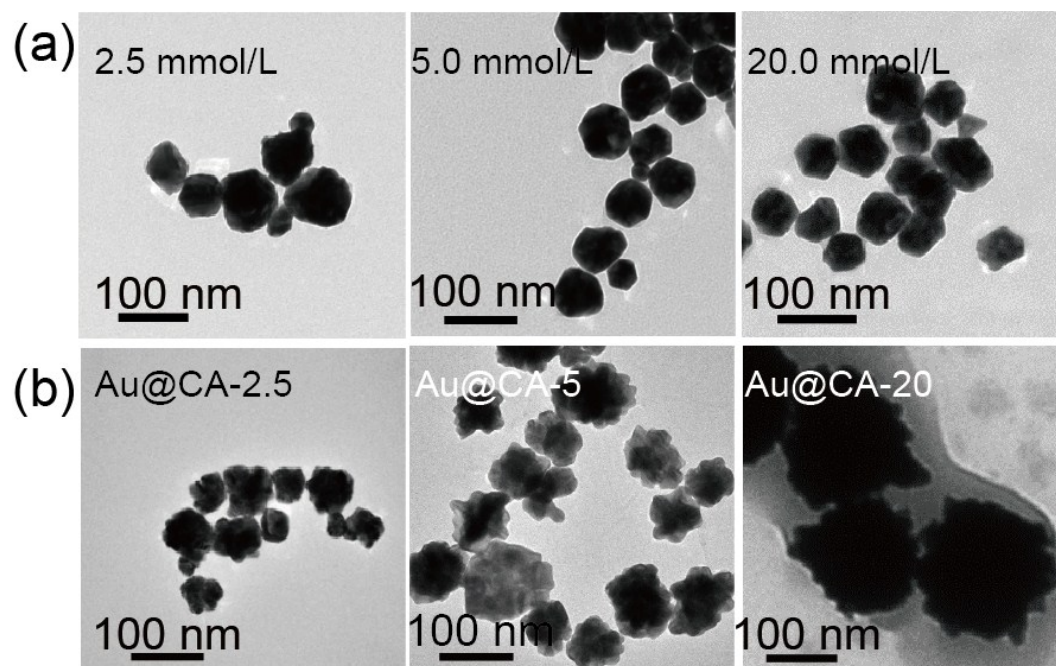


Fig. S2 a TEM images of the *in situ*-formed Au NPs in the dispersed phase; b TEM images of Au NSs disintegrated from Au@CA microspheres

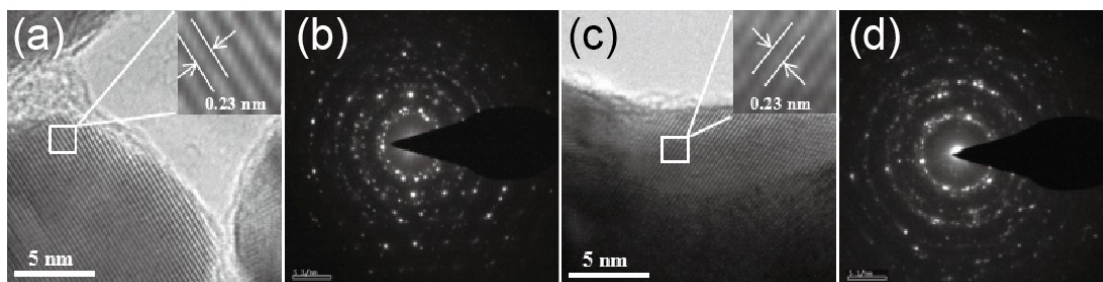


Fig. S3 HRTEM images and the corresponding SAED pattern of the *in situ*-formed Au NS in Au@CA-2.5 microspheres (**a, b**) and Au@CA-10 microspheres (**c, d**).

Tab. S1 Content of gold in Au@CA microspheres

gold content (wt%)	Au@CA-2.5	Au@CA-5	Au@CA-10	Au@CA-20
theoretical value	2.40	4.69	8.97	16.46
measured value	2.80 ± 0.05	4.76 ± 0.03	8.87 ± 0.06	13.50 ± 0.71