

Supporting Information Available

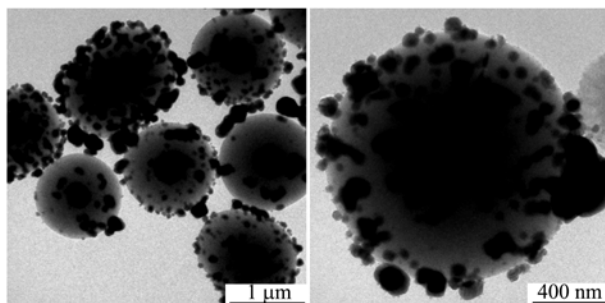


Fig. S1 TEM images of the product synthesized without seeding modification.

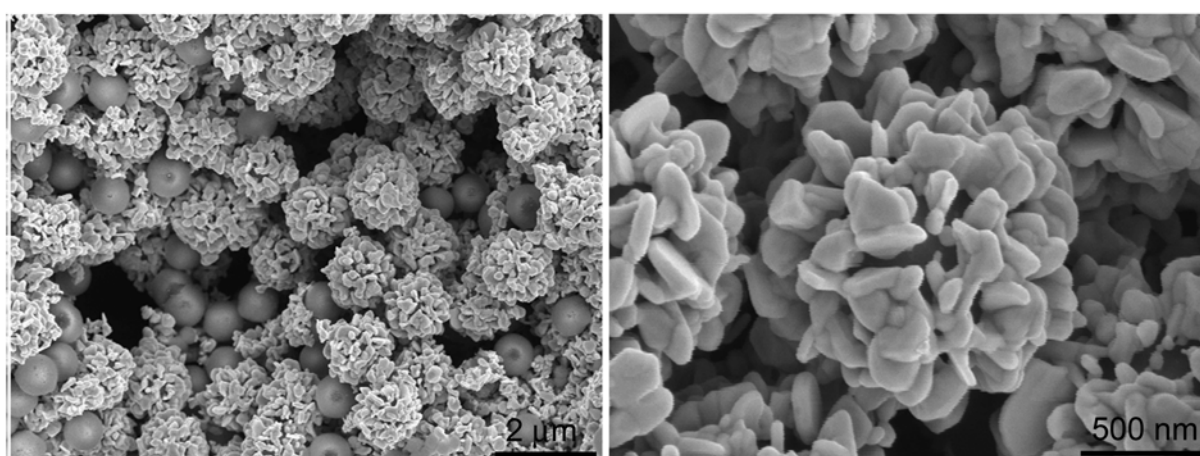


Fig. S2. SEM images of product synthesized by adding all AA in 1 minute.

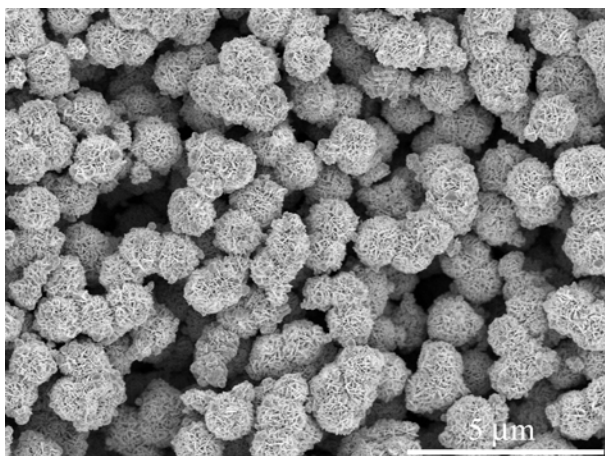


Fig. S3 SEM image of the product synthesized without sonicating technique.

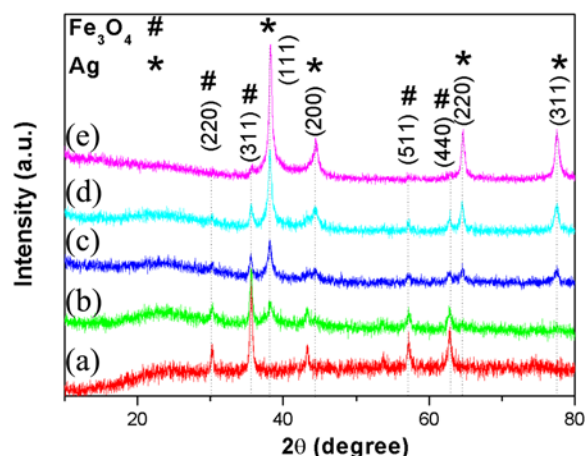


Fig. S4 XRD patterns of (a) $\text{Fe}_3\text{O}_4@/\text{SiO}_2$ microspheres, (b) $\text{Fe}_3\text{O}_4@/\text{SiO}_2$ microspheres with Ag seeds and the products obtained at different reaction intervals: (c) 2 min, (d) 4 min and (e) 15 min.

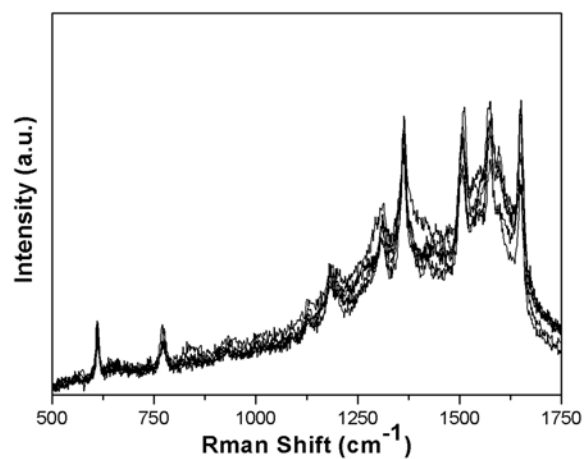


Fig. S5 SERS spectra of R6G from six different spots on the film assembled by $\text{Fe}_3\text{O}_4@/\text{SiO}_2@/\text{Ag}$ microspheres shown in Fig. 1g (10^{-12} M).



Fig. S6 An optical image of the $\text{Fe}_3\text{O}_4@/\text{SiO}_2@/\text{Ag}$ microspheres

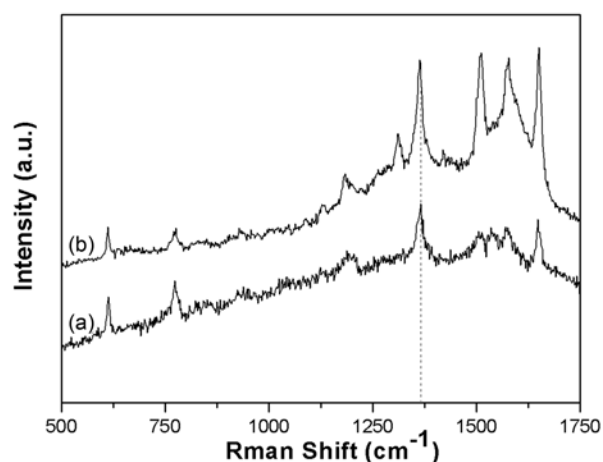


Fig. S7 Raman spectra of R6G. (a) Normal Raman spectrum of pure R6G, and (b) SERS spectrum of R6G at the concentration of 10⁻¹² M.