

*Supporting Information for*

**Green method to fabricate porous microspheres  
for ultrasensitive SERS detection using UV light**

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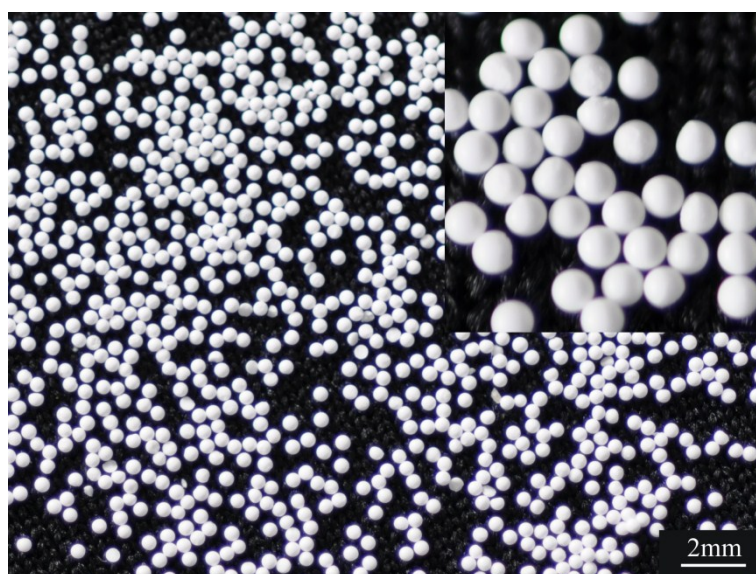
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**Table S1.** Detailed composition of different phases.

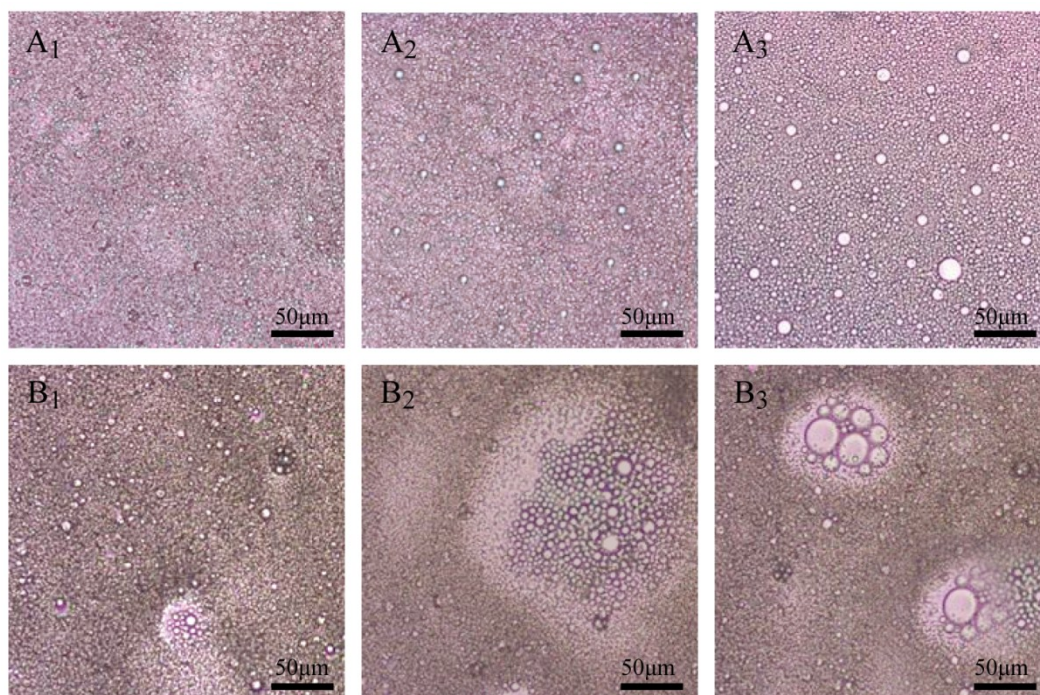
Different phases	Compositions
Inner phase	H <sub>2</sub> O <sub>2</sub> + 1wt% F-127+ HDODA + 5wt% PGPR 90 + 1wt% HMPP
Outer phase	Deionized water + 5wt% Glycerol + 1wt% F-127
Receiving phase	Deionized water + 5wt% Glycerol + 1wt% F-127 + AgNO <sub>3</sub> +PVP

**Table S2.** Detailed stirring parameters.

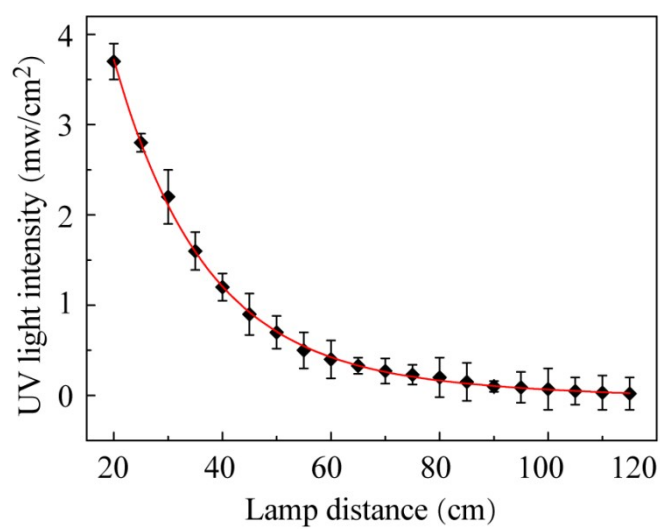
Order number	Stirring rate (rpm)	Stirring time (min)
A1	1600	1
A2	1600	2
A3	1600	3
B1	2500	1
B2	2500	2
B3	2500	3



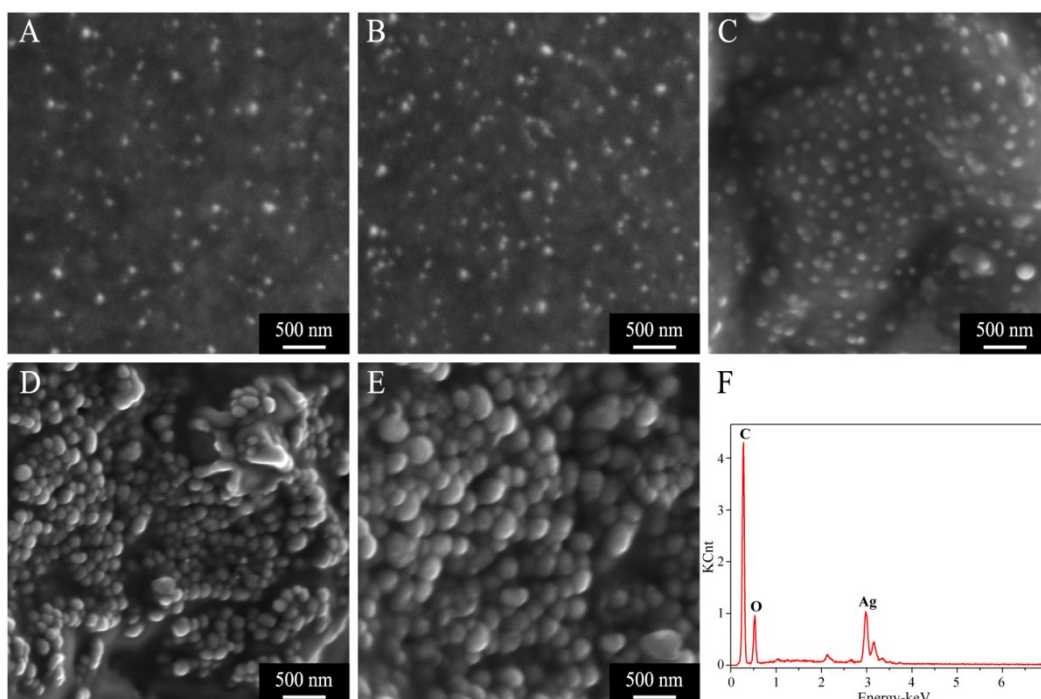
**Figure S1.** Representative photographs of microspheres



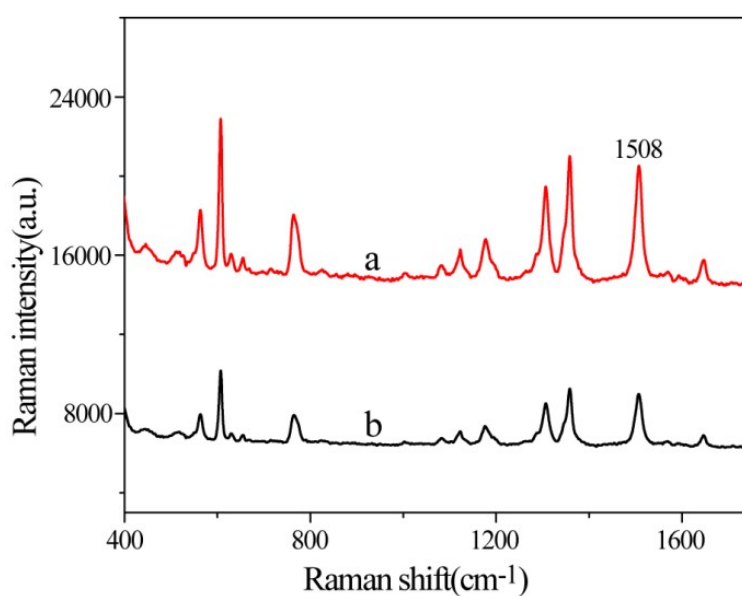
**Figure S2.** Photograph of emulsion under different stirring parameters from table S2.



**Figure S3.** Variation in UV light intensity as a function of lamp distance.



**Figure S4.** SEM photographs of Ag nanoparticle on the surface of microparticle from different illumination time (A-E: 10 min, 20 min, 40 min, 60 min, 80 min, respectively) as the UV light intensity was  $3.7 \text{ mw/cm}^2$  and F: representative EDS photographs of the surface of microparticle.



**Figure S5.** SERS spectrum of  $5.0 \times 10^{-8} \text{ M}$  R6G obtained on the surface of microparticle (a) and normal Raman spectrum of bulk R6G (b).