Electronic Supplementary Material (ESI) for Nanoscale.


# Magnetically responsive Silica-gold Nanobowls for targeted delivery and SERS-based sensing

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## Supplementary information

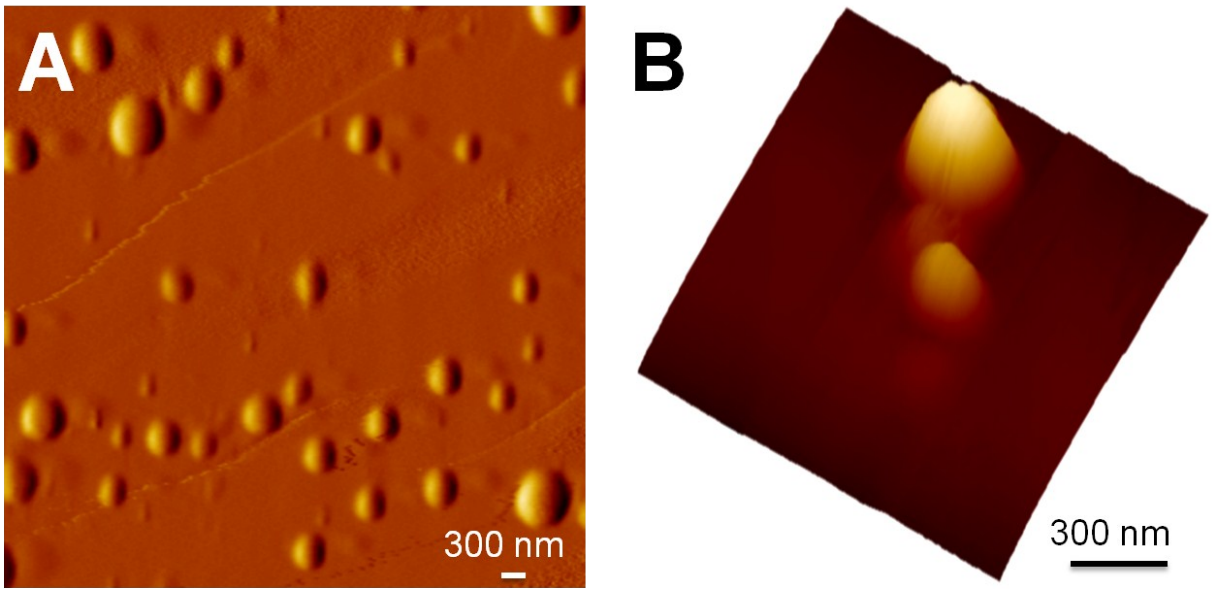


**Fig. S3 AFM images of Magnetically-responsive gold nanobowls. A)** AFM image demonstrating magnetic nanobowls circular shape and size distributed from ~250 to 700 nm. **B)** Smallest size of a nanobowl is ~250 nm. All images were recorded in AFM air tapping mode.

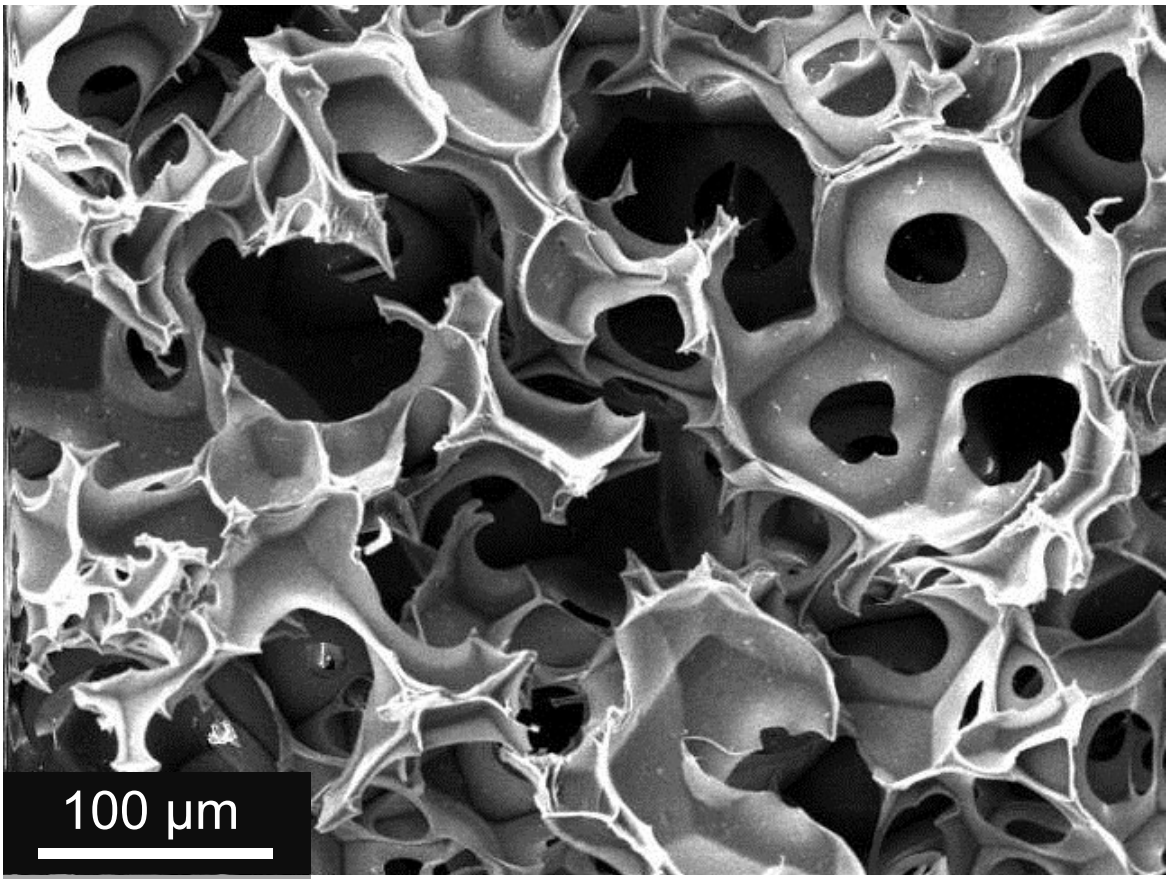


**Figure S2** SEM images revealed that GelMA-*co*-A6ACA porous hydrogels contain interconnected pores. The pore diameter of the hydrogels was determined to be 46.7 ± 2.8 µm in their dried state.

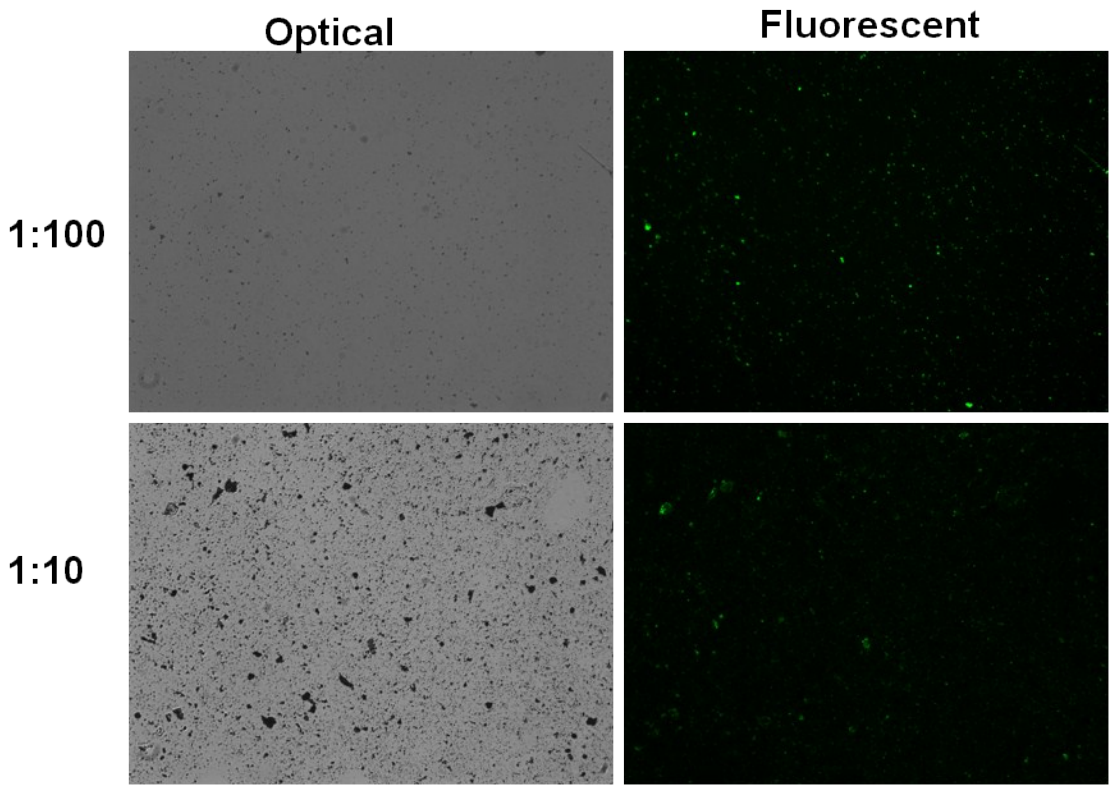


**Fig. S3**: FITC-PEG-mGNB on glass slides. Fluorescence and optical images of FITC-PEG-AuMN particles on glass slides at different dilutions. The false color green see in the images indicates successful modification of the AuMNs.

**Table S1**. Rhodamine B typical peaks, SERS and EF with AuMNs.

| Probe molecule (Non-SERS) | SERS ($cm^{-1}$) | EF |
|---|---|---|
| **1645** | **1645** | $1.6x10^6$ |
| **1596** | **1596** | $5.7x10^5$ |
| - | 1580 | |
| **1529** | **1526** | $1.0x10^6$ |
| **1509** | **1509** | $7.2x10^5$ |
| - | 1431 | |
| **1358** | **1358** | $5.4x10^5$ |
| **1280** | **1280** | $5.1x10^5$ |
| **1201** | **1201** | $4.4x10^5$ |
| **1183** | **1182** | $4.3x10^5$ |
| 1127 | 1129 | |
| - | 1080 | |
| - | 1010 | |
| **939** | **933** | $2.5x10^5$ |
| - | 824 | |
| - | 789 | |
| - | 768 | |
| - | 731 | |
| **618** | **620** | $1.7x10^5$ |

**Table S2.** 4/MBA typical peaks, SERS and EF with AuMNs.

| Probe molecule (Non-SERS) | SERS ($cm^{-1}$) | EF |
|---|---|---|
| **633** | **633** | $7.6x10^4$ |
| - | 697 | |
| - | 761 | |
| **807** | **807** | $1.5\ x10^5$ |
| - | 908 | |
| | 1021 | |
| **1099** | **1099** | $9.0\ x10^4$ |
| - | 1140 | |
| - | 1154 | |
| **1183** | **1183** | $3.1\ x10^5$ |
| - | 1282 | |
| **1293** | **1293** | $6.5x10^5$ |
| - | 1317 | |
| - | 1404 | |
| - | 1453 | |
| - | 1491 | |
| - | 1556 | |
| **1596** | **1596** | $2.0x10^5$ |
| **-** | 1654 | |