

Supplementary Materials:

Fabrication of micron-sized BSA-imprinted polymers with outstanding adsorption capacity based on poly(glycidyl methacrylate)/polystyrene (PGMA/PS) anisotropic microspheres

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1 SEM images before and after seed polymerization.

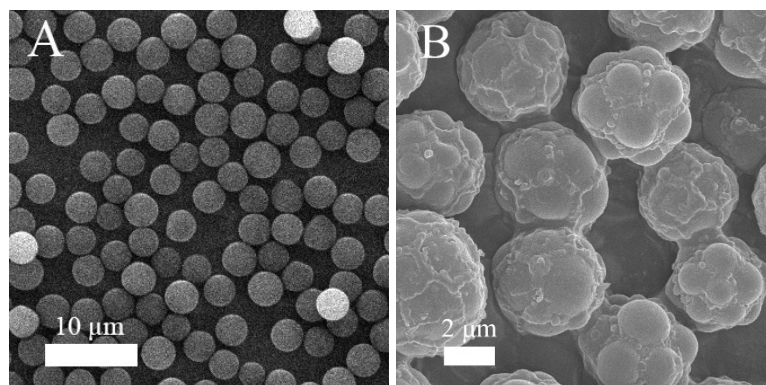


Fig. S1. SEM images of before seed polymerization (A) and after seed polymerization (B).

2 Element content of raspberry-shape, golf-shape and porous microspheres

Table S1. element content of the samples determined by XPS

PGMA/PS microspheres	Carbon element content (%)	Oxygen element content (%)
Raspberry-shape	73.99	26.01
Golf-shape	76.19	23.81
Porous	82.25	17.75

From the table 1, the oxygen content of the golf-shape microspheres decreases slightly compared with the raspberry-shape microspheres, indicating that content of the PGMA distributed on the surface of the golf-shape microspheres is less than that of the raspberry-shape microspheres. Compared with the golf-shape microspheres, the content of oxygen in the porous microspheres decreases significantly, owing to the greater solubility of PGMA in the DMA solvent than PS. This case implies that the surface of the porous microspheres is mostly composed of PS.

3 monomer conversion

100 mL PGMA seeded emulsion prepared by dispersion polymerization with a solid content of 1 wt% was poured into a three-necked flask. Then, 0.25 g emulsifier SDS, 1.0 g swelling agent DBP and 1.0 g styrene monomer were introduced. After swelling at 40 °C for 24 h, 2.0 g styrene and 50 mg AIBN were added into the mixture. The reaction system was immersed into a water bath at 80 °C for 6 h. After 6 hours, W_1 g mixture was got out, and added W_2 g inhibitor hydroquinone, washed with methanol for 3 times by centrifugation, and vacuum drying. Then, the dried mixture was weighted (W_3). The corresponding monomer conversion was calculated according to the formula as follows:

$$Conversion(\%) = \frac{W_3 - W_2 - W_1 \times 1.0/100}{W_1 \times (1.0 + 2.0)/100} \times 100\%$$

By calculation, the conversion of monomer is 16.3%, about 0.49 g polystyrene was immobilized by the PGMA microspheres.