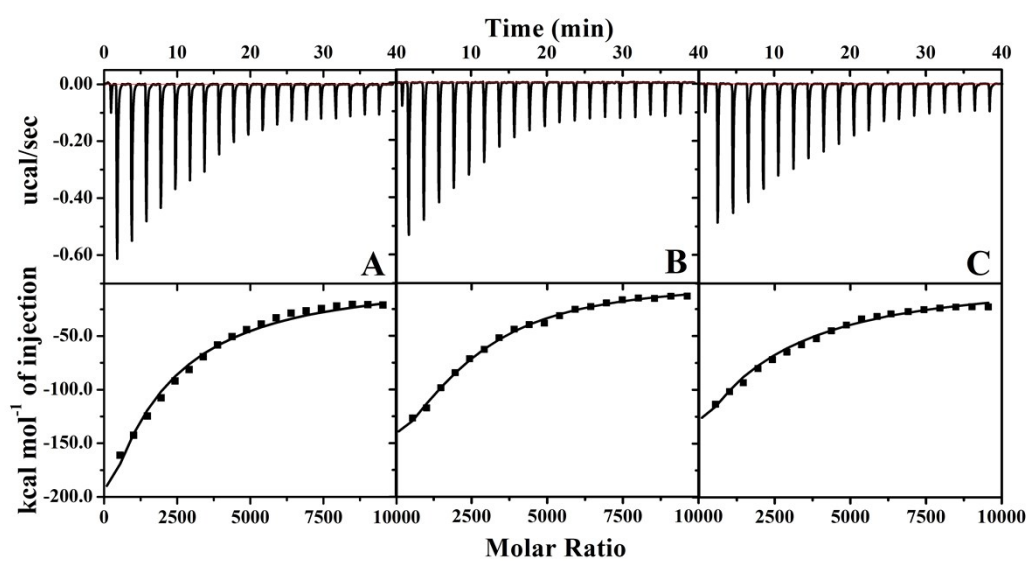


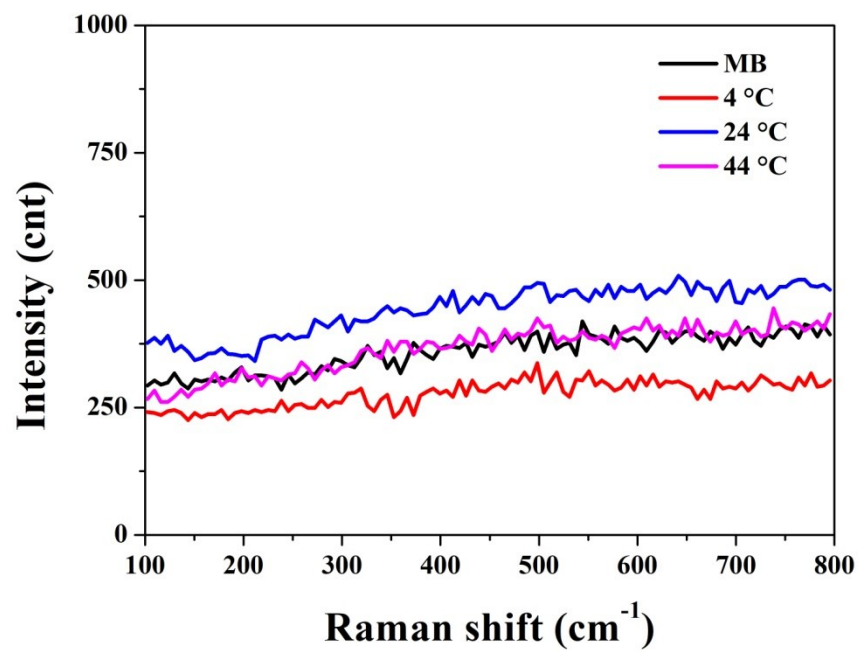
## Supporting information

Probing proteins dissociation from gold nanoparticles and influence factors from protein corona formation mechanism

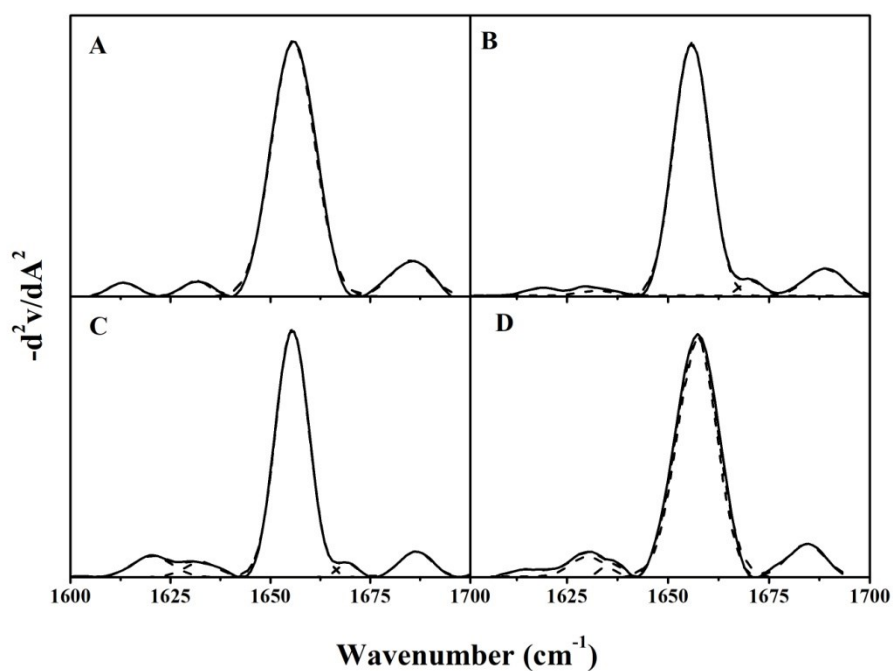
Xiaoning Zhang<sup>a</sup>, Sining Li<sup>c</sup>, Xiaoqing Shao<sup>a</sup>, Huixian Chen<sup>a</sup>, Lei Lv<sup>a,\*</sup>, Meifeng Li<sup>b,\*</sup> and Xiaowen Huang<sup>d,\*</sup>



**Figure S1** Raw ITC data of MB (30  $\mu\text{M}$ ) titrated into AuNPs solution ( $4 \times 10^{-4} \mu\text{M}$ ) at different temperature. (A) 4 °C; (B) 24 °C; (C) 44°C.



**Figure S2** Raman spectra of MB and AuNPs-MB conjugates at different temperature.



**Figure S3** The Curve-fitted inverted second-derivative amide I (1600~1700  $\text{cm}^{-1}$ ) spectrum of MB in native status or AuNPs-MB coronas condition. (A) native MB; (B) MB in AuNPs-MB corona prepared at 4  $^{\circ}\text{C}$ ; (C) MB in AuNPs-MB corona prepared at 24  $^{\circ}\text{C}$ ; (D) MB in AuNPs-MB corona prepared at 44  $^{\circ}\text{C}$ .

**Table S1.** Secondary structure components of native  $\beta$ Ig, AuNPs- $\beta$ Ig coronas, separated  $\beta$ Ig by centrifugation or ultracentrifugation.

Proteins	$3_{10}$ -helix <sup>a</sup>	$\alpha$ -helix <sup>b</sup>	$\beta$ -sheet <sup>c</sup>	$\beta$ -turn <sup>d</sup>	Random coils <sup>e</sup>
native	0	66%	5%	20%	9%
corona	0	70%	4%	22%	4%
centrifugation	0	67%	5%	19%	9%

<sup>a</sup> $3_{10}$ -helix is 1663  $\text{cm}^{-1}$ , <sup>b</sup> $\alpha$ -helix is 1658  $\text{cm}^{-1}$ , <sup>c</sup> $\beta$ -sheet is 1628 and 1637  $\text{cm}^{-1}$ , <sup>d</sup> $\beta$ -turn is 1667 and 1675  $\text{cm}^{-1}$ ,

<sup>e</sup>Random coils is 1648  $\text{cm}^{-1}$  in the FTIR spectrum.