

# Plasmonic Au nanoparticles supported on both sides of TiO<sub>2</sub> hollow spheres for maximising photocatalytic activity under visible light

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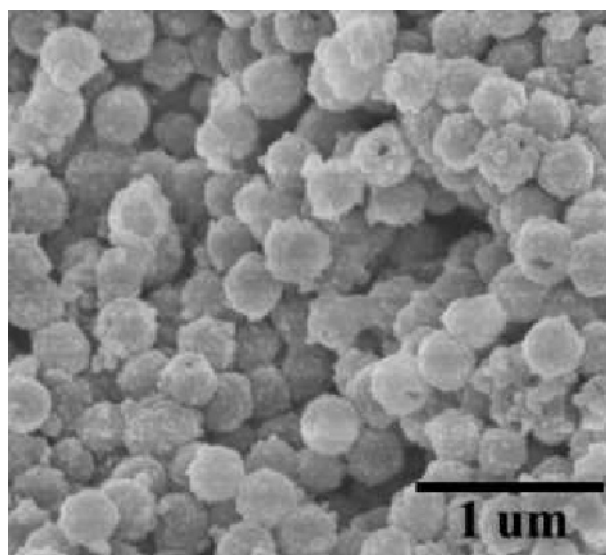
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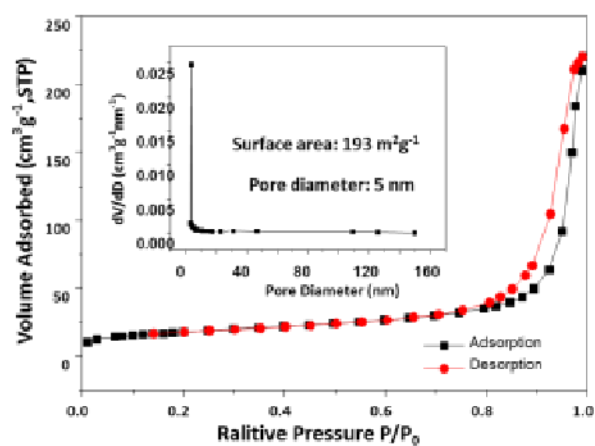
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## Electronic Supplementary Material



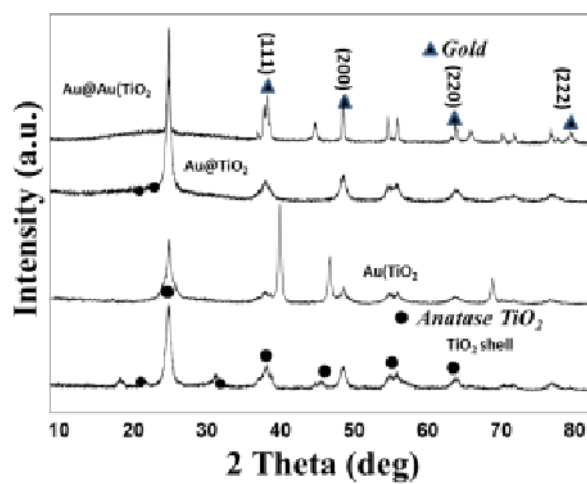
**Figure S1.** SEM images of pure TiO<sub>2</sub> hollow sphere sample.



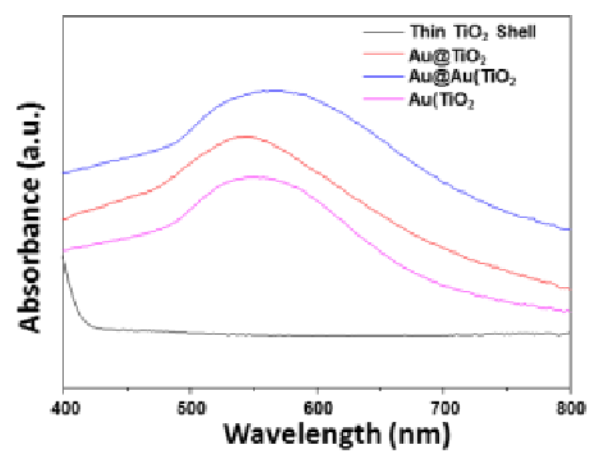
**Figure S2.** Nitrogen adsorption-desorption isotherms and pore size distribution of yolk-shell Au(TiO<sub>2</sub>).

**Table S1.** BET surface areas of materials.

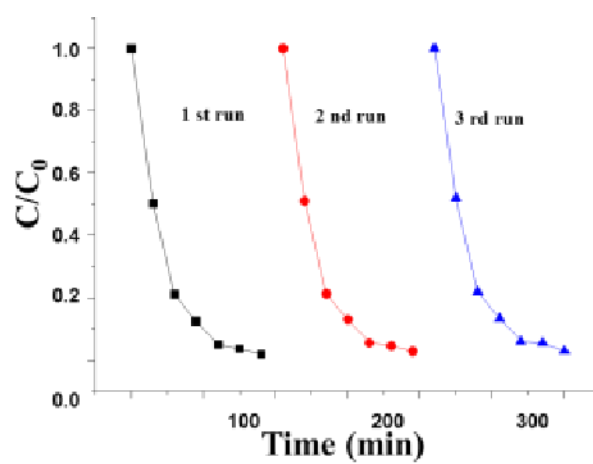
| Materials              | S <sub>BET</sub> /m <sup>2</sup> g <sup>-1</sup> |
|------------------------|--------------------------------------------------|
| TiO <sub>2</sub> HSs   | 223                                              |
| Au@TiO <sub>2</sub>    | 193                                              |
| Au@Au(TiO <sub>2</sub> | 187                                              |
| Au@P25                 | 36                                               |



**Figure S3.** XRD patterns of materials.



**Figure S4.** UV-vis diffuse reflectance spectra (DRS) of as-prepared samples.



**Figure S5.** Recyclability of Au@Au(TiO<sub>2</sub>) in the photocatalytic degradation of MB in its aqueous solution under visible light.