

Supplementary Materials

Electric-Field-Assisted Femtosecond Laser Preparation of Au@TiO₂ Composites with Controlled Morphology and Crystallinity for Photocatalytic Degradation

Xiaojie Li, Xin Li *, Pei Zuo, Xiaozhe Chen, Misheng Liang and Le Ma

Laser Micro Nanofabricat Lab, Beijing Inst Technol, Beijing 100081, China; xjlj_08@163.com (X.L.); zuopei1990@163.com (P.Z.); tlz870240502@163.com (X.C.); 3120170227@bit.edu.cn (M.L.); 3120185107@bit.edu.cn (L.M.)

* Correspondence: lixin02@bit.edu.cn; Tel.: +86-010-68914524

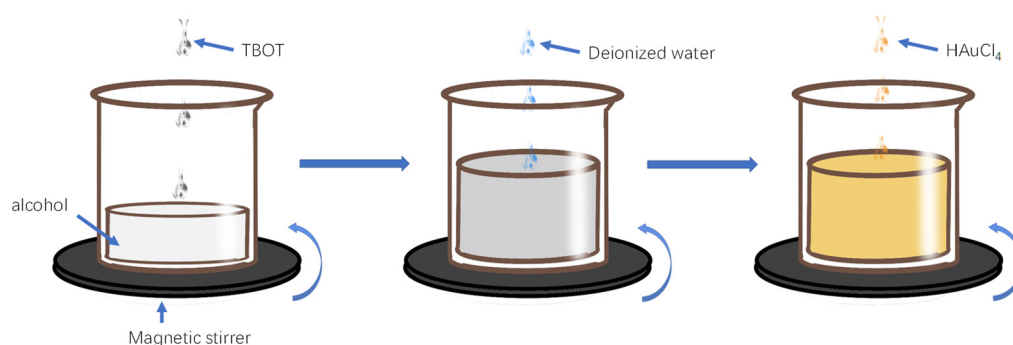


Figure S1. Schematic of Au³⁺ and TiO₂ hydrate suspension prepared by sol-gel method.

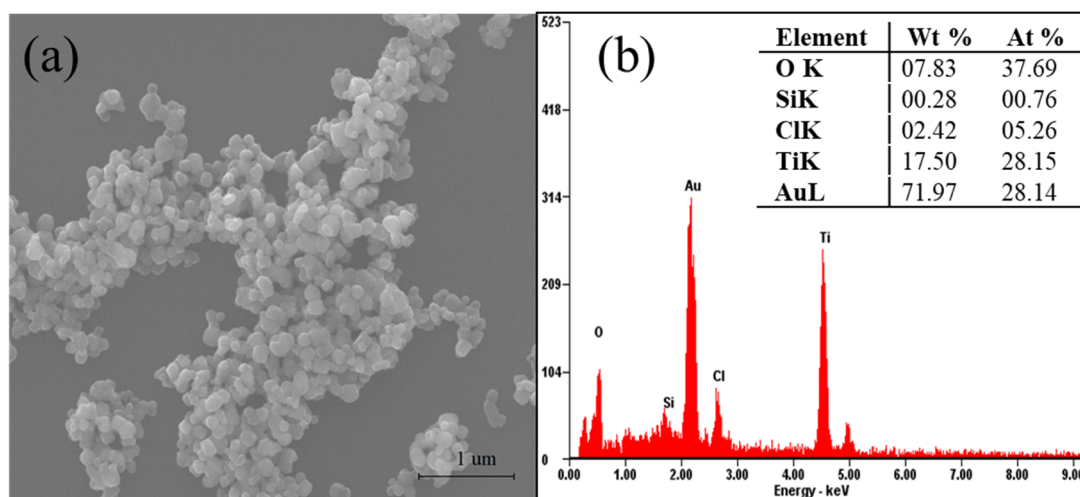


Figure S2. (a) SEM image of Au³⁺ and TiO₂ hydrate prepared by sol-gel method; (b) The EDS element distribution map of Au³⁺ and TiO₂ hydrate suspension.

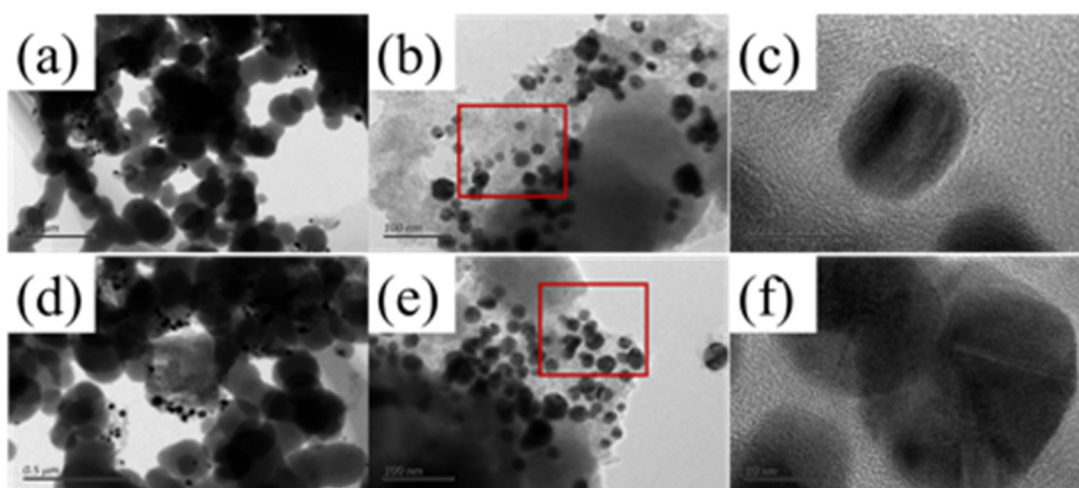


Figure S3. (a) The TEM images of AuNPs @a-TiO₂ prepared via femtosecond laser liquid-phase ablation the hydrate suspensions of Au³⁺ and TiO₂; (b) and (c) are the HRTEM images; (d) The TEM images of AuNPs @a-TiO₂ prepared via temporally-shaped femtosecond laser liquid-phase ablation the hydrate suspensions of Au³⁺ and TiO₂; (e) and (f) are the HRTEM images, the scale bars are shown in the lower left corner of the images.

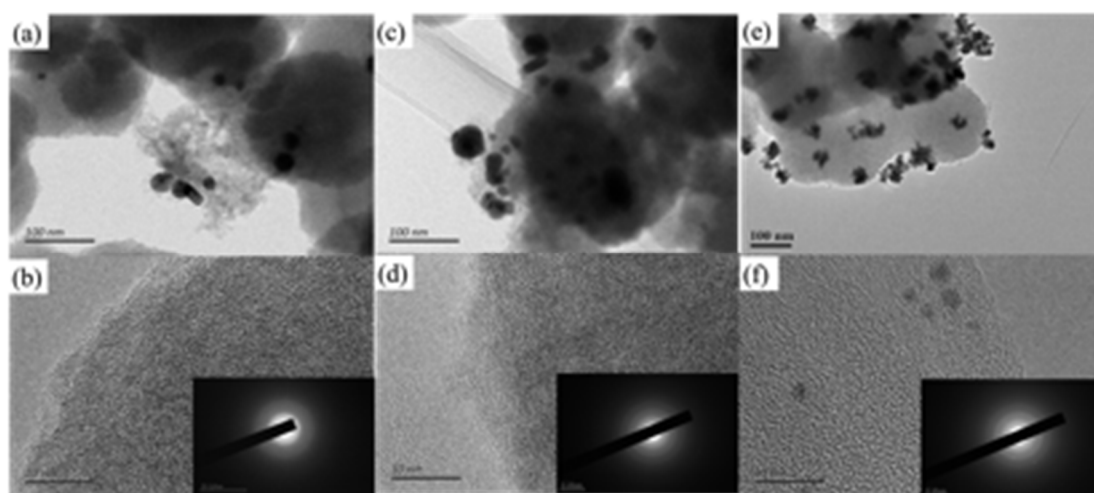


Figure S4. (a) The TEM images of AuNPs @a-TiO₂ prepared via femtosecond laser liquid-phase ablation; (b) The HRTEM images of the TiO₂ in (a), the insets of (b) is the diffraction map of the corresponding image positions; (c) The TEM images of AuNPs @a-TiO₂ prepared via temporally-shape femtosecond laser liquid-phase ablation; (d) The HRTEM images of the TiO₂ in (c), the insets of (c) is the diffraction map of the corresponding image positions; (e) The TEM images of AuNCs @mix-TiO₂ prepared via electric-field-assisted femtosecond laser liquid-phase ablation; (f) The HRTEM images of the TiO₂ in (e), the insets of (e) is the diffraction map of the corresponding image positions.