

Ultrasmall Cu₂O Nanocrystals: Facile Synthesis, Controllable

Assembly and Photocatalytic Properties

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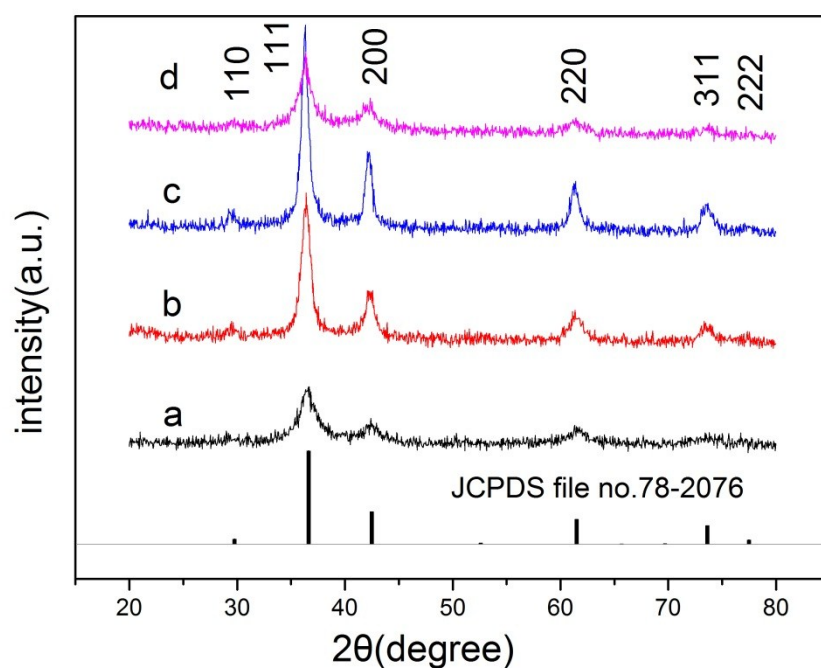


Figure S1 XRD patterns of Cu₂O USNCs with different amount surfactants: (a) 0.2g PVP and 0.2ml OA; (b) 0.2g PVP and 2ml OA; (c) 0.5g PVP and 0.5ml OA; (d) 0.5g PVP and 2ml OA.

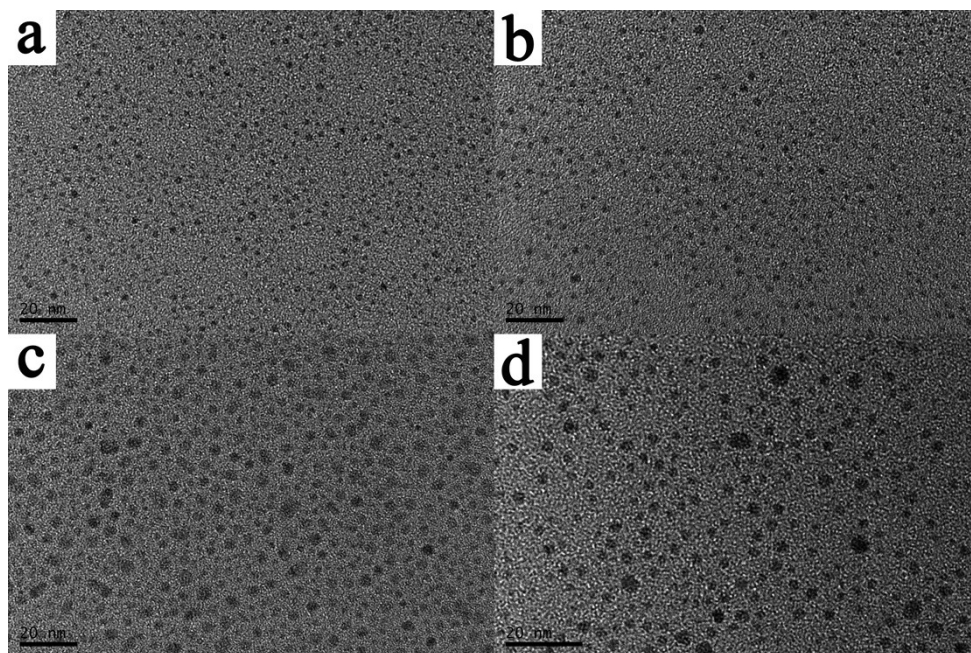


Figure S2. TEM images of Cu_2O USNCs: (a) 0.5g PVP and 0.5ml OA; (b) 0.5g PVP and 1ml OA; (c) 0.2g PVP and 0.2ml OA; (d) 0.2g PVP and 1ml OA.

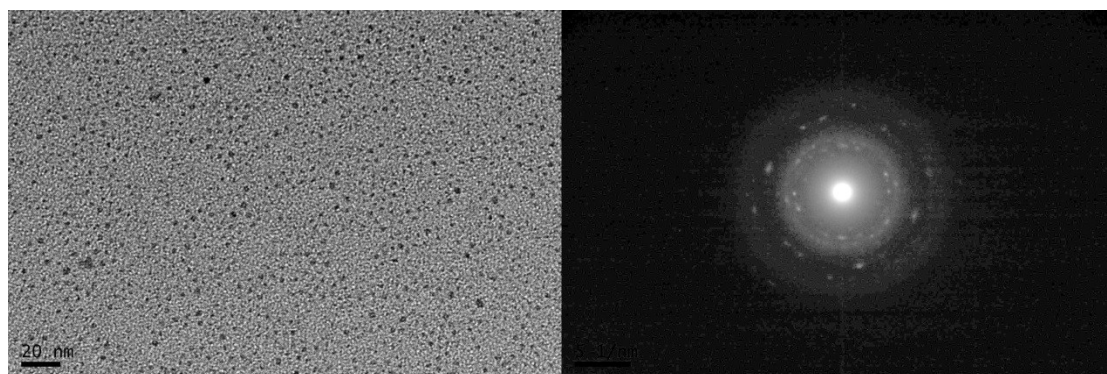


Figure S3. SAED images of the Cu_2O USNCs

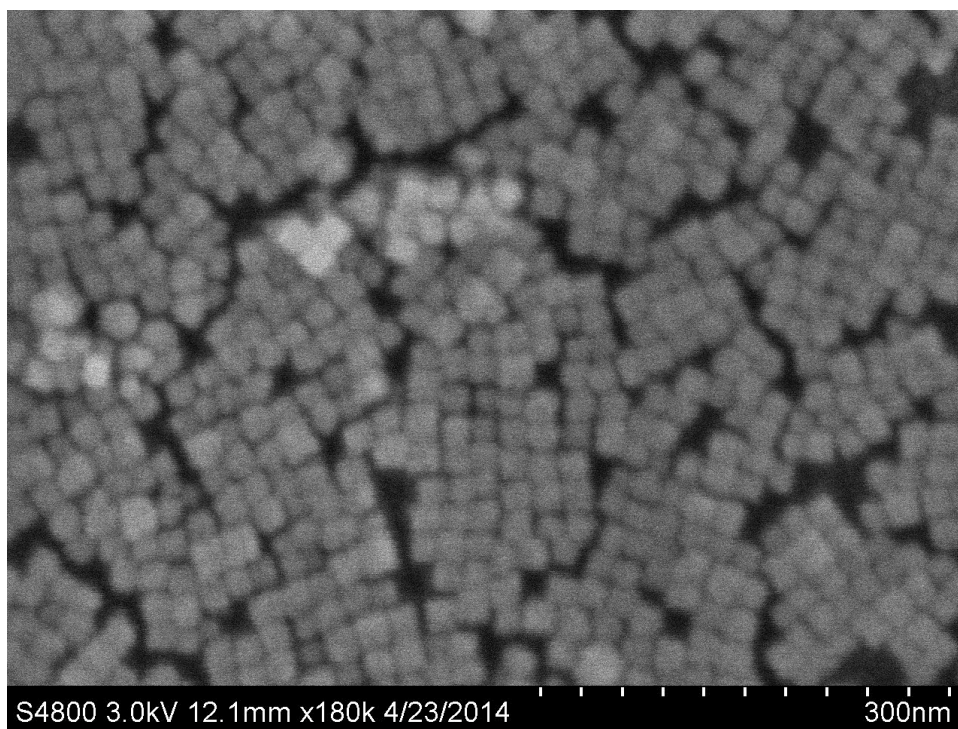


Figure S4 SEM image of the self-assembly Cu₂O superlattices with 3ml DEC in cyclohexane

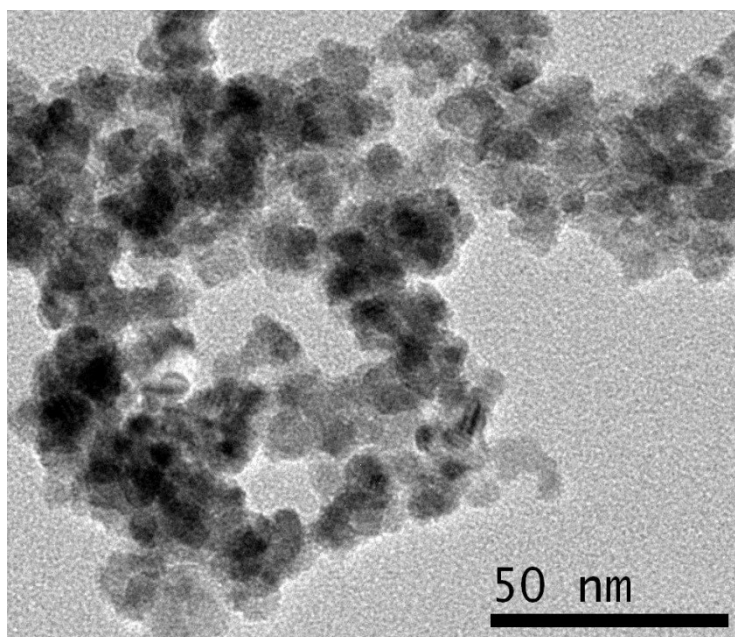


Figure S5 TEM image of the Cu₂O nanoparticles.

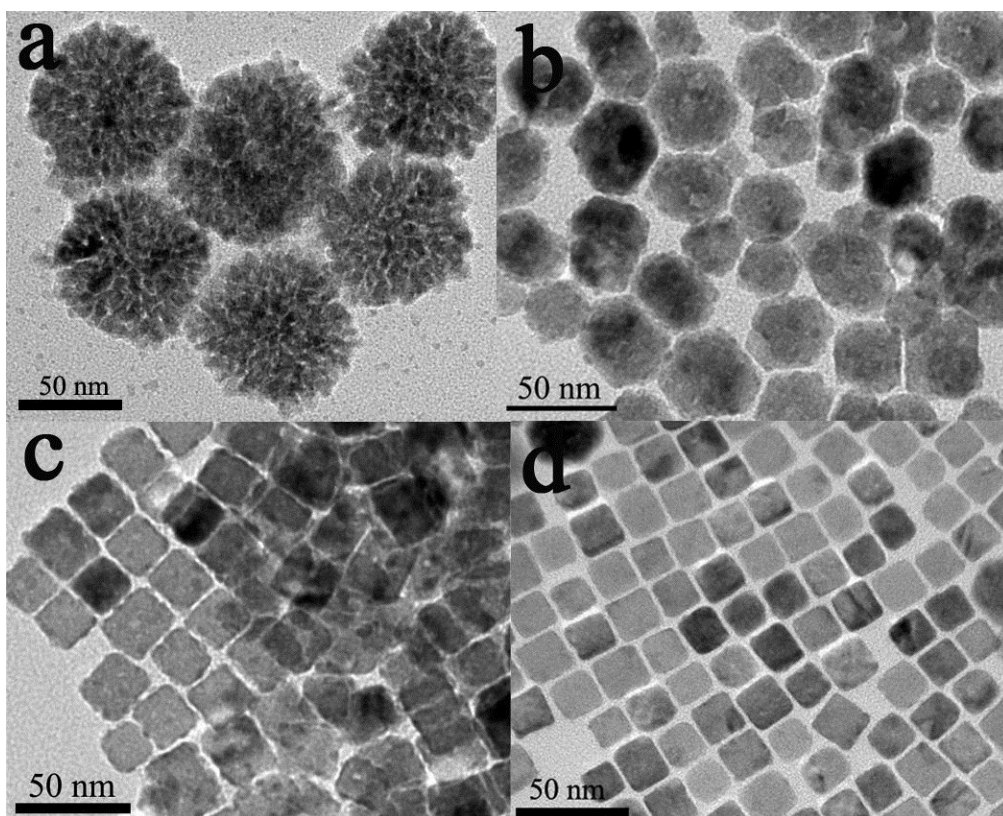


Figure S6 TEM images of the self-assembly of Cu₂O nanoparticles in cyclohexane: (a) 0.5ml DEC; (b) 1.0ml DEC; (c) 1.5ml DEC and; (d) 3ml DEC.

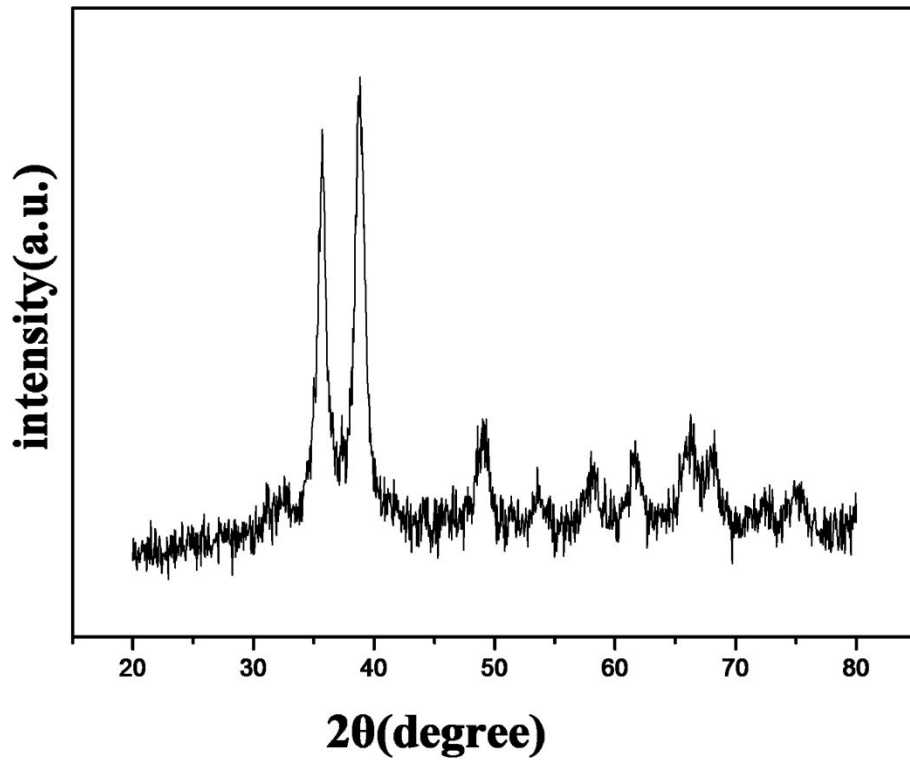


Figure S7 XRD pattern of CuO sample by directly evaporating in air in a beaker

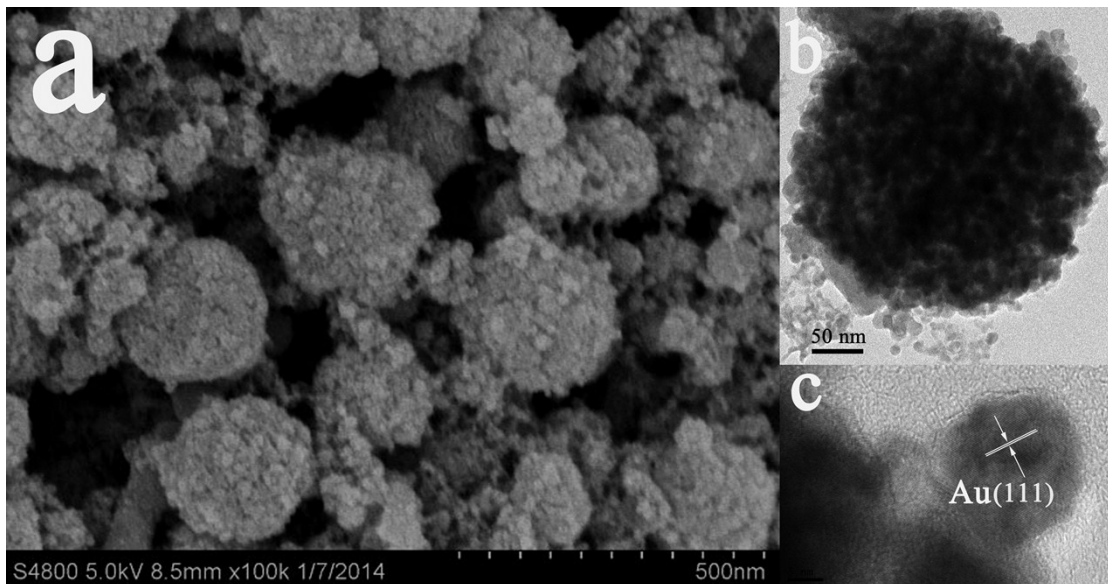


Figure S8 SEM and TEM image of the as-obtained $\text{Cu}_2\text{O-Au}$ samples: (a) SEM image of the $\text{Cu}_2\text{O-Au}$; (b) TEM image of the single $\text{Cu}_2\text{O-Au}$ colloidal spheres; (c) HRTEM image of the Au nanoparticle

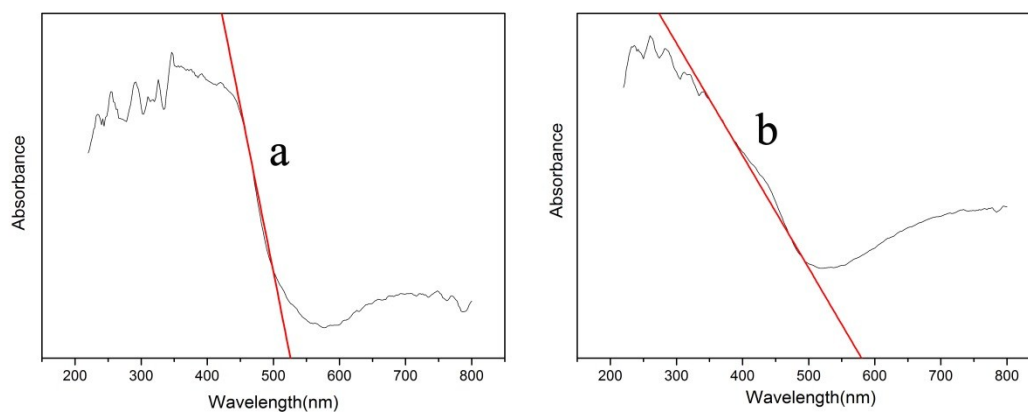


Figure S9 UV-vis diffuse reflectance spectra of Cu₂O(a) and Cu₂O-Au(2)(b)

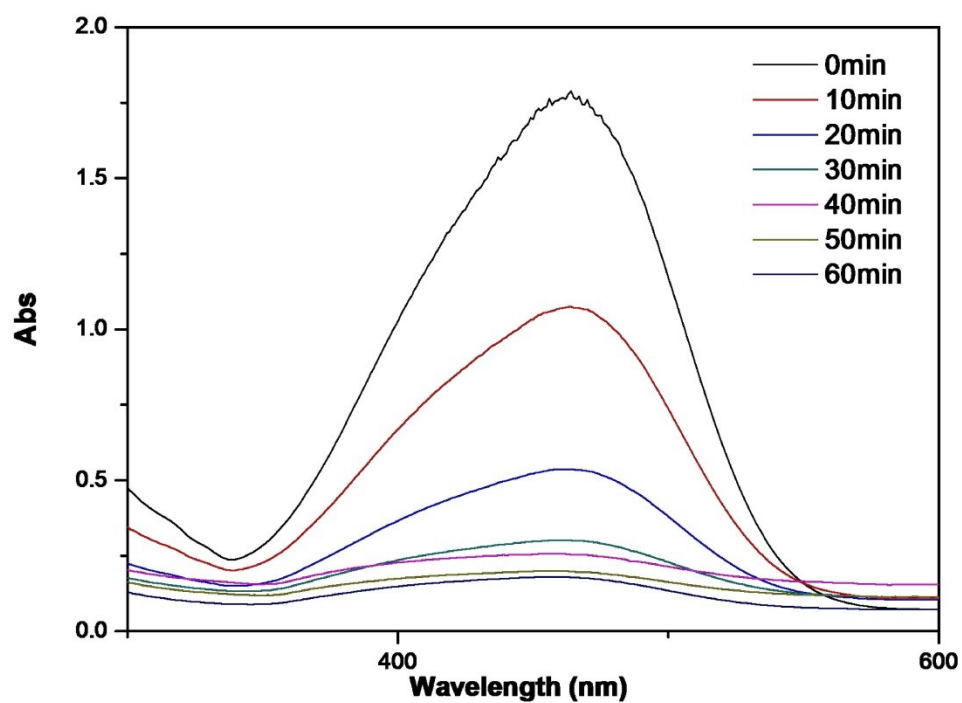


Figure S10 UV-vis absorption spectra of MO aqueous solution with the Cu₂O-Au(2).