

Cu₂O hollow structures—microstructural evolution and photocatalytic property

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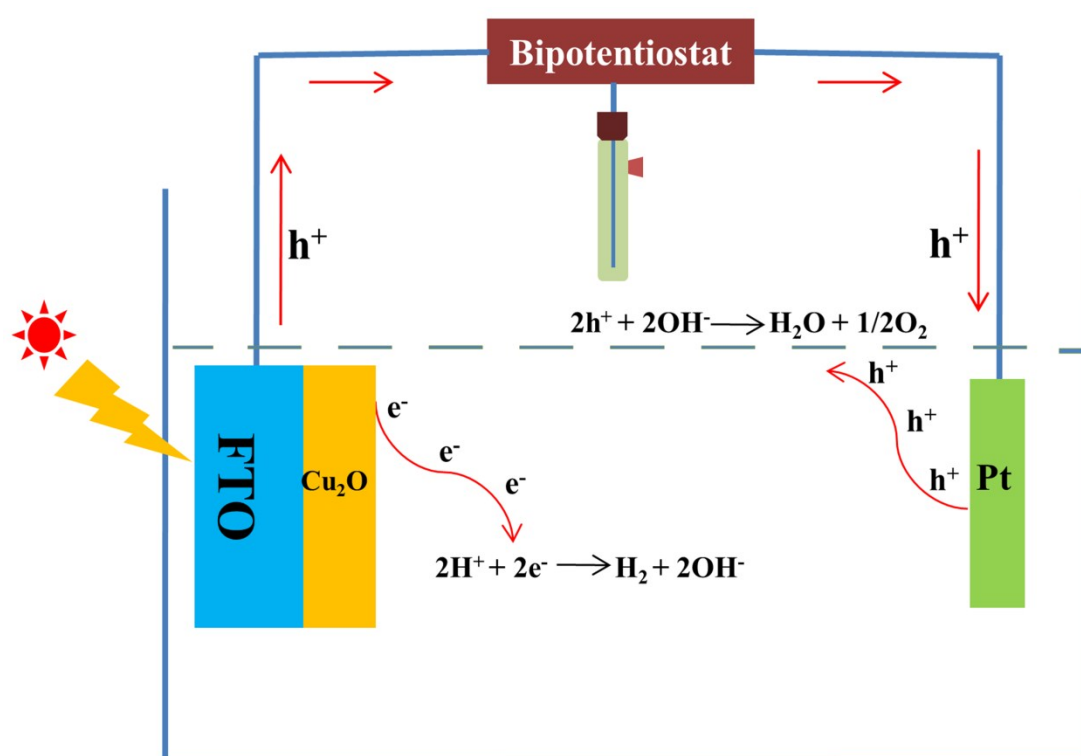


Fig. S1 Schematic diagram of the PEC device for photocurrent measurement.

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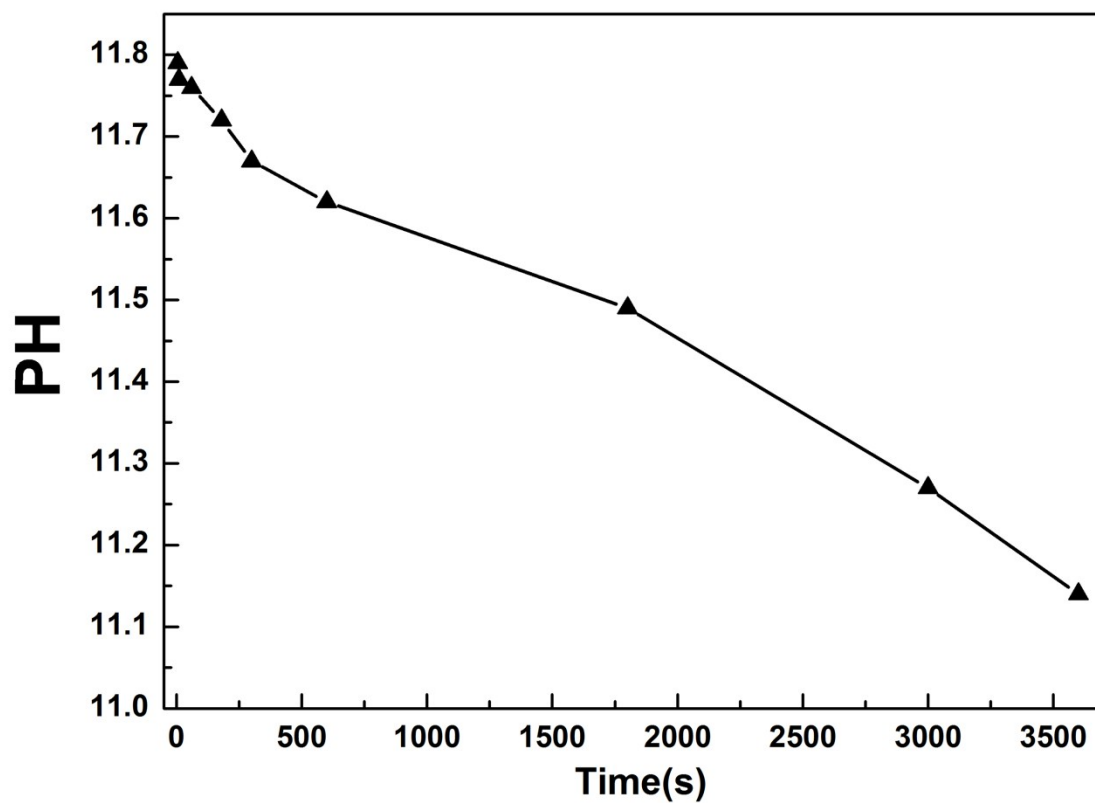


Fig. S2 The corresponding solution PH value of different reaction time.

Fig. S2 shows the PH of the solution at different time. We have found that the PH value of the solution decrease gradually with the increase of reaction time.

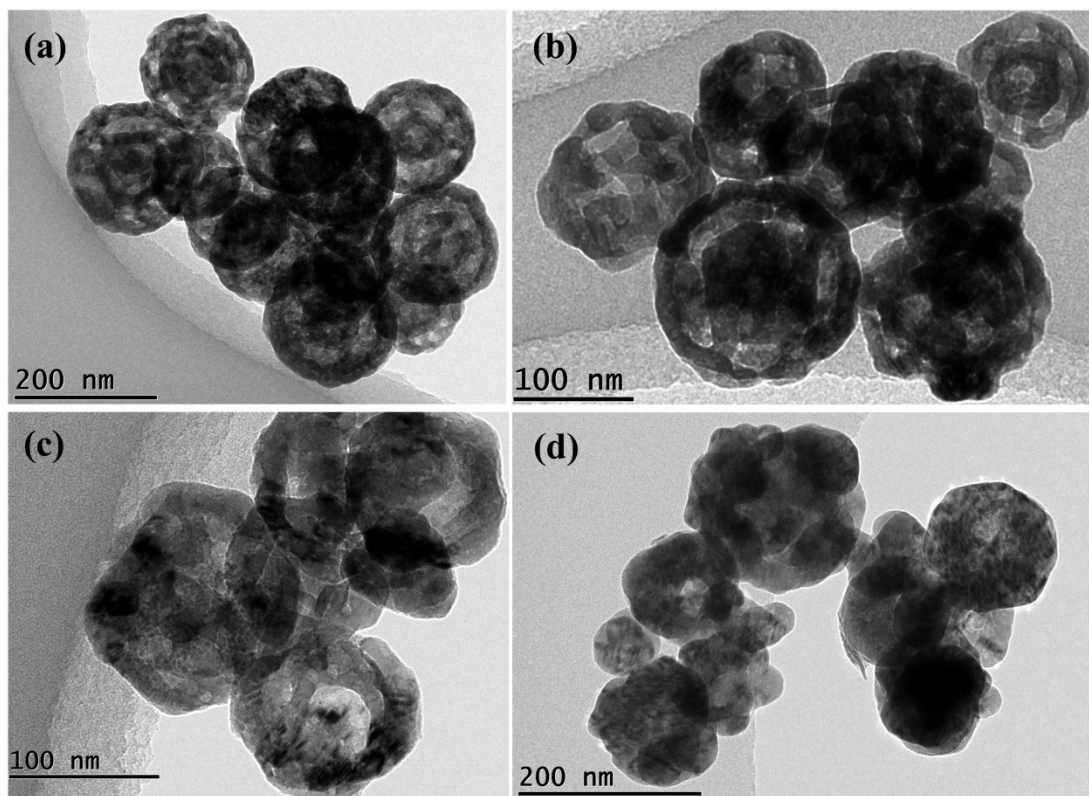


Fig. S3 TEM images of Cu_2O sub-micron structures obtained at different concentrations of NaOH respectively, (a) 0.2 M, (b) 0.3M, (c) 0.5M, (d) 2.5M..

Fig. S3 shows the different structure of Cu_2O hollow spheres obtained at different NaOH concentrations. As shown in Fig. S3(a), (b), (c), (d), the NaOH concentration are 0.2 M, 0.3M, 0.5M, 2.5M, respectively, while the other reaction conditions unchanged (keep the reaction for 5 minutes). We found that with the increase of alkaline, Multi-Shelled Hollow Spheres Cu_2O (Fig. S3(a)) gradually changed into Multi-Shelled Porous Spheres Cu_2O (Fig. S3(c)), with the further increase of alkaline, Single-Shelled Hollow Spheres Cu_2O (Fig. S3(d)) were formed. At the same time, we can find that the shell thickness of the particles increases gradually with the increase of time. So we can confirm that the different structure of Cu_2O hollow nanoparticles can be adjusted by changing alkalinity of the solution.