

Synergistic introduction of LSPR effect and Schottky junction: Cu@TiO₂ charge regulation achieves efficient, stable photocatalytic removal

Shuzhe Zhang^a, Xiumei Li^b, Ruyan Xie^a, Xiaozhen Zhang^a, He Wang^a, Yanhua Song^a
and Haifeng Zou^{*a}

^a Department of Chemical Engineering and Applied Chemistry, College of Chemistry, Jilin University, Qianjin Street 2699, Changchun 130012, China.

^b State Key Laboratory of Supramolecular Structure and Materials, College of Chemistry, Jilin University, Qianjin Street 2699, Changchun 130012, China.

Corresponding Author:

*E-mail: haifengzou0431@sohu.com

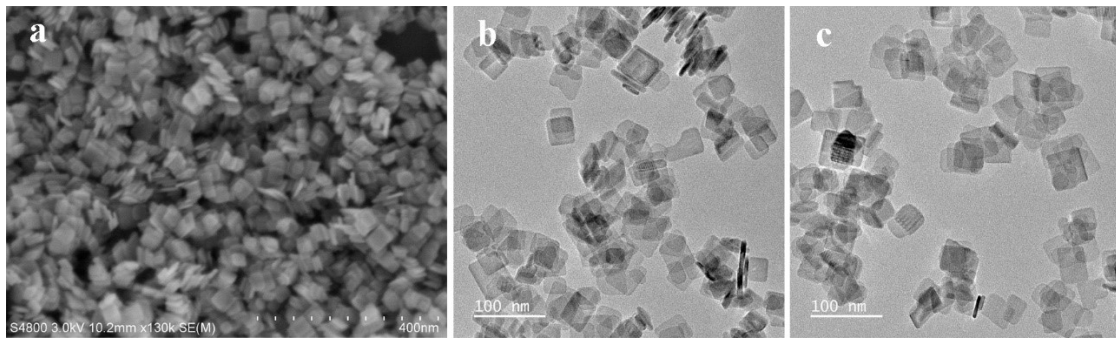


Fig. S1. (a) SEM and (b-c) TEM images of TiO_2 nanosheets.

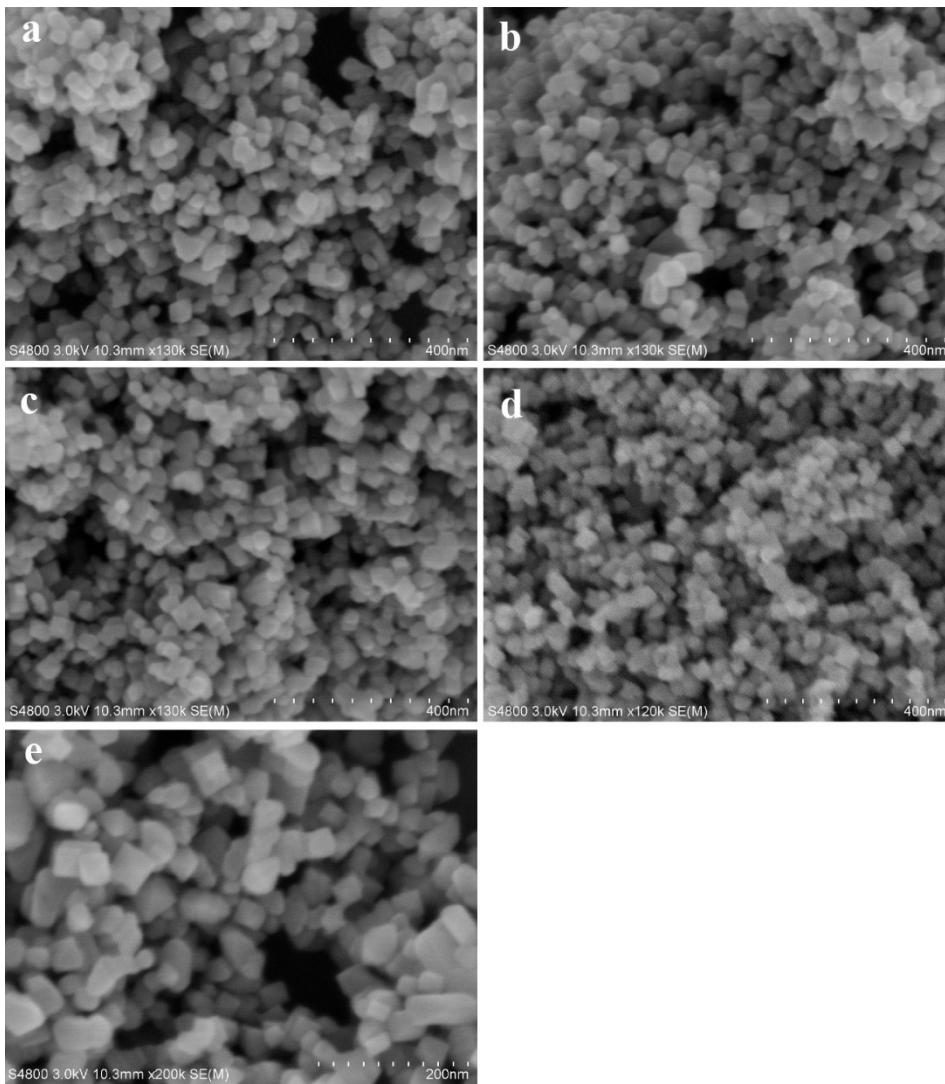


Fig. S2. SEM images of (a) $\text{Cu}_0@T$, (b) $\text{Cu}_5@T$, (c) $\text{Cu}_{10}@T$, (d) $\text{Cu}_{15}@T$ and (e) $\text{Cu}_{20}@T$, respectively.

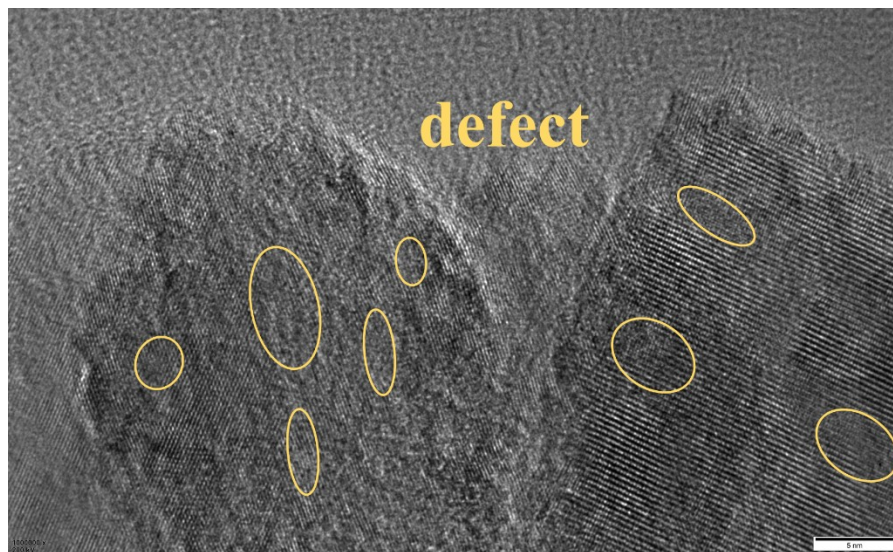


Fig. S3. HRTEM image of Cu₁₀@T.

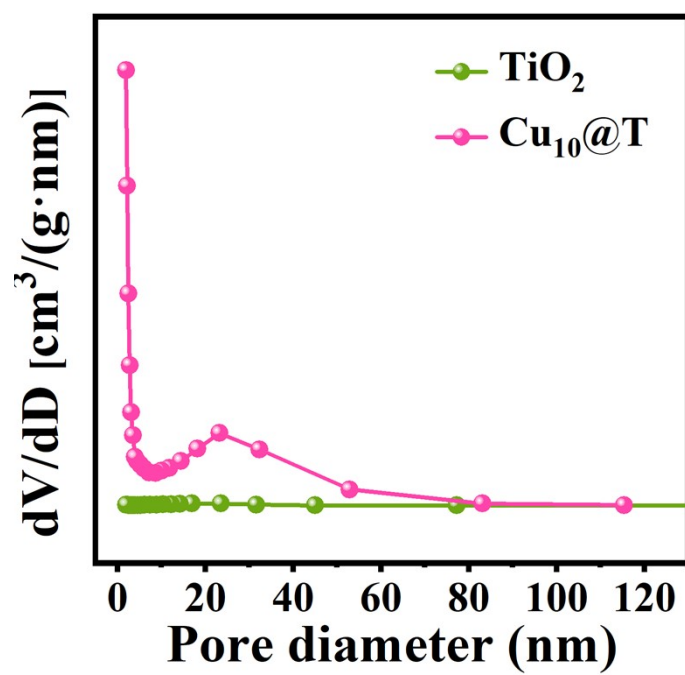


Fig. S4. BJH pore size distribution curves of TiO₂ and Cu₁₀@T.

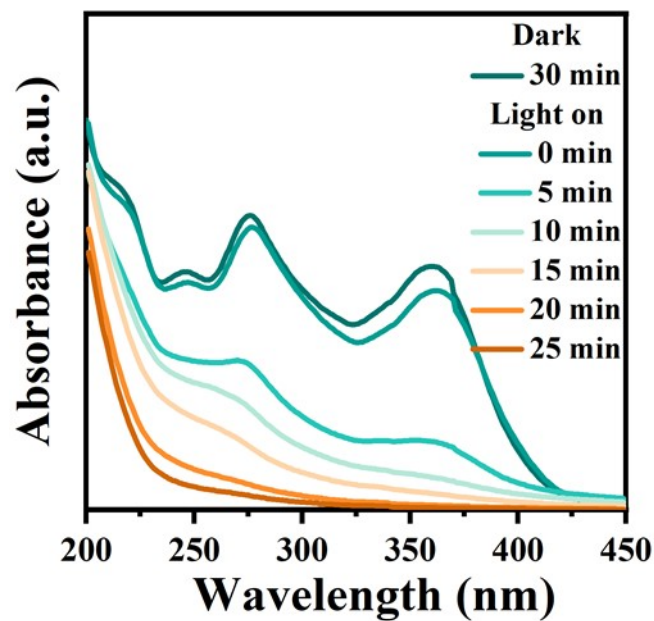


Fig. S5. UV-vis spectral changes of TC at different times after the addition of $\text{Cu}_{10}@\text{T}$.

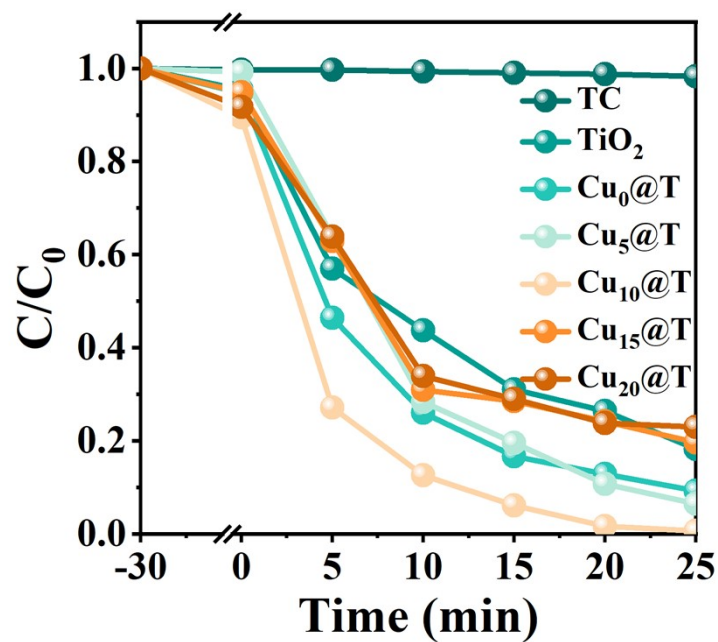


Fig. S6. Photodegradation performance of TC by different samples.

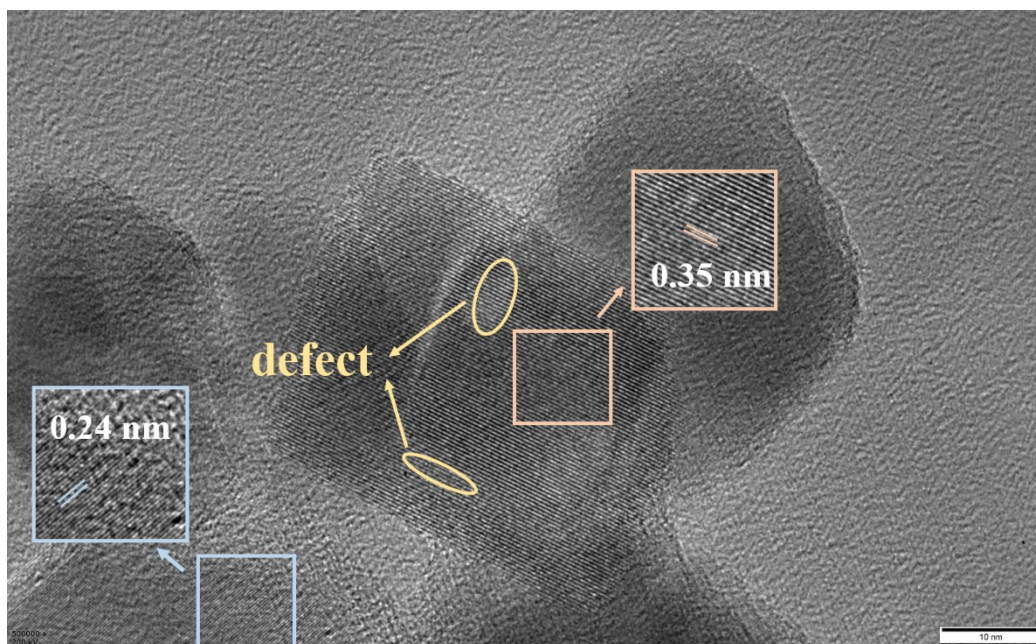


Fig. S7. The HRTEM image of the used Cu₁₀@T.

Table. S1 Elemental content of the Cu₁₀@T sample.

Element	Mass fraction (%)	Atomic percent (%)
O	47.43	73.17
Ti	50.59	26.07
Cu	1.98	0.77