Supporting Information

UV-Vis-NIR full-range responsive carbon-rich carbon nitride nanotubes for enhanced photocatalytic performance

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Photocatalytic activity measurements

Table S1. Comparison of apparent hydrogen evolution amounts of the reported R-CN and other the similar g-C$_3$N$_4$ based photocatalysts.

Photocatalyst	Light Source	Reaction Conditions	Hydrogen Evolution Rate (μmol g^{-1} h^{-1})	Ref.
R-CN	**300 W Xe lamp, λ > 500 nm**	**3 wt% of Pt co-catalyst, TEOA (10%)**	**157.8**	**This work**
Au NRs/g-C$_3$N$_4$	λ > 700 nm	TEOA	63.1	[1]
g-C$_3$N$_4$ with nitrogen defects and cobalt-nitrogen (CoAN) bonds (g-C$_3$N$_4$-Co-K)	300 W Xe lamp, NIR	TEOA (15%)	470	[2]
black phosphorus/tungsten nitride (BP/WN)	320 W Xe lamp, λ > 700 nm	/	10.77	[3]
Protonated g-C$_3$N$_4$ (pCN) was modified by pyropheophorbide-a (Ppa) Ppa/pCN	300 W Xe lamp, λ > 780 nm	3 wt% of Pt co-catalyst, TEOA (10%)	68.5	[4]
Protoporphyrin-modified pGCN (Pp/pGCN)	300 W Xe lamp, λ > 780 nm	3 wt% of Pt co-catalyst, TEOA (10%)	307.8	[5]
A$_2$BC-type asymmetric zinc phthalocyanine derivative (Zn-di-PcNcTh-2) g-C$_3$N$_4$	300 W Xe lamp, λ > 420 nm	1 wt% of Pt co-catalyst, AA (50 mM)	23200	[6]
graphited carbon ring domain (CN-GP)	300 W Xe lamp, λ = 700/800/900 nm	2 wt% of Pt co-catalyst, TEOA (10%)	560.8/398.4/322.8	[7]
carbon/potassium-doped red polymeric carbon nitride (RPCN)	300 W Xe lamp, 500 ≤ λ ≤ 780 nm/ 700 ≤ λ ≤ 780 nm	3 wt% of Pt co-catalyst, TEOA (10%)	640/140	[8]
graphitic carbon nitride by meso-tetrahydroxyphenylchlorin (mTHPC/pCN)	300 W Xe lamp, λ > 780 nm	3 wt% of Pt co-catalyst, TEOA (10%)	78.8	[9]
Black Phosphorus/Graphitic Carbon Nitride (BP/CN)	320 W Xe lamp, λ > 780 nm	/	101	[10]

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