

Article

Upcycling of Wastewater via Effective Photocatalytic Hydrogen Production Using MnO₂ Nanoparticles—Decorated Activated Carbon Nanoflakes

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■ Photocatalytic Trapezoidal Reactor

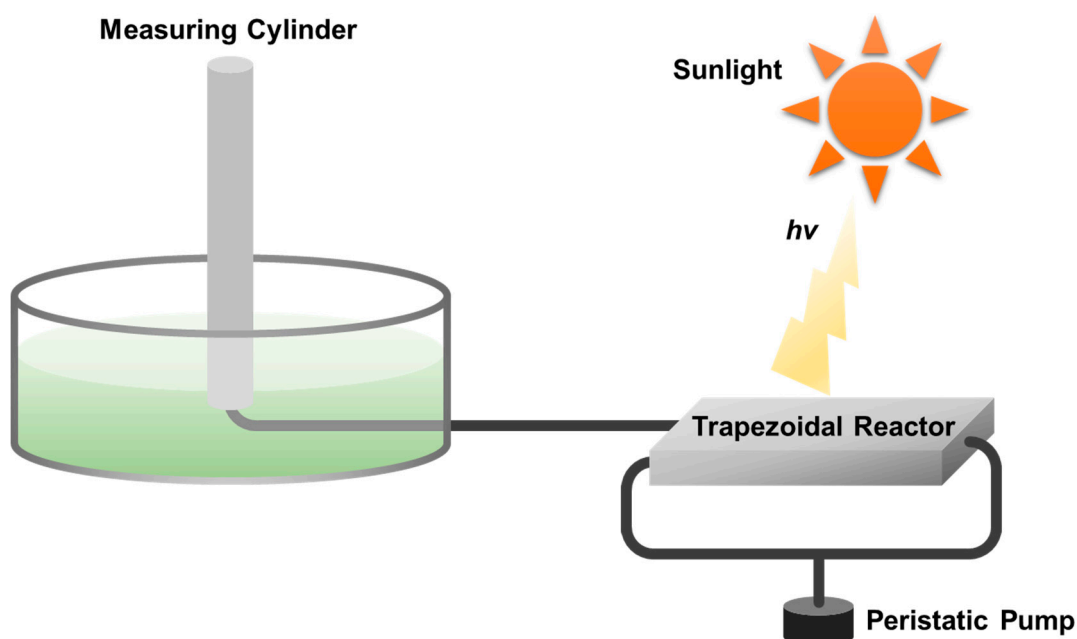


Figure S1. Schematic illustration of photocatalytic trapezoidal reactor.

■ Textural Characteristics Biomass Activated Carbon

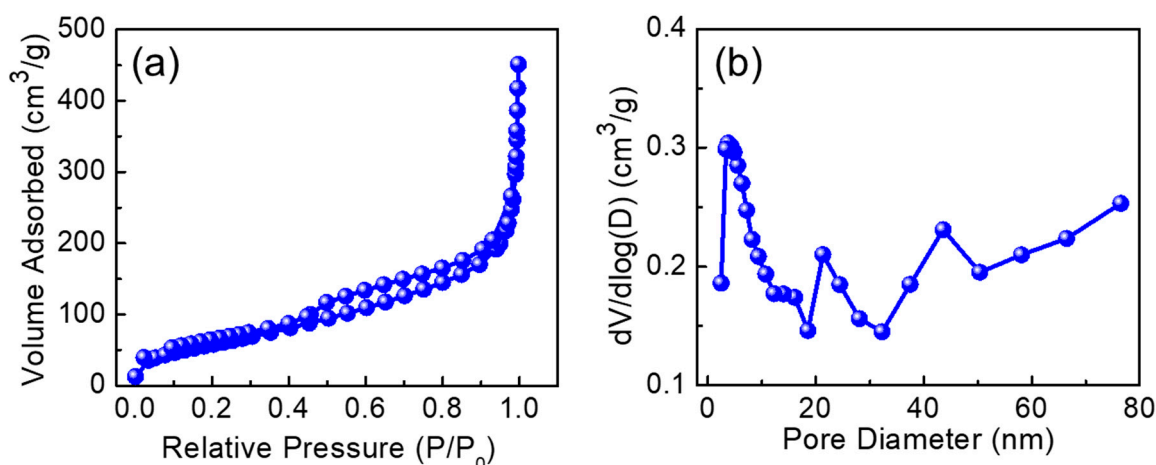


Figure S2. (a) Nitrogen adsorption–desorption isotherm characteristics and (b) Pore distribution properties of activated carbon.

Table S1. Comparison of hydrogen production activity of MnO₂ and MnO₂-AC with other oxide-based photocatalysts reported in previous studies.

Catalyst	Light Source	Hydrogen Production (mL/h/g)	Reference
MnO ₂ -AC	Solar light	395	This work
MnO ₂	Solar light	190	This work
NiSe/MnO ₂ -CdS	Xenon lamp	10	[1]
PtS-ZnIn ₂ S ₄ /WO ₃ -MnO ₂	UV lamp	142	[2]
CNT- CdZnS/Fe ₂ O ₃	Solar light	450	[3]
Cu ₂ S@TiO ₂	UV lamp	41.6	[4]
TiO ₂ /Fe ₂ O ₃	UV lamp	2700 μ	[5]

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