

Photocatalytic hydrogen evolution reaction.

The photocatalytic reactions were carried out in a gas-closed circulation system. The photocatalyst powder (0.05 g) was dispersed in 100 ml aqueous methanol solutions (volume ratio 1/9) by a magnetic stirrer in an outer irradiation quartz reaction cell. The amounts of H₂ evolved were determined by gas chromatography (TCD, molecular sieve 5Å column, Ar carrier).

Figure S1 SEM image of (a) C- Ta₂O₅ and (b) Ta₂O₅ spheres.

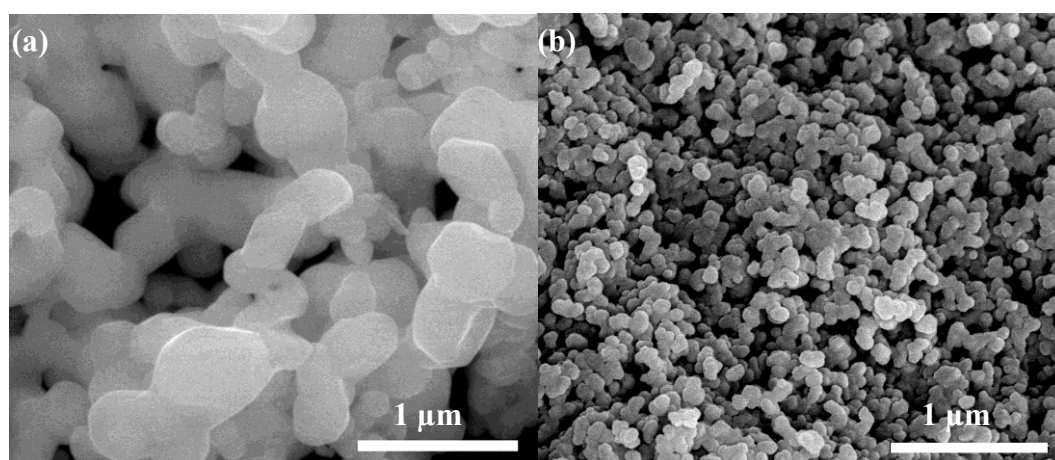


Figure S2 XRD patterns of Ta₂O₅ spheres obtained by co-precipitation.

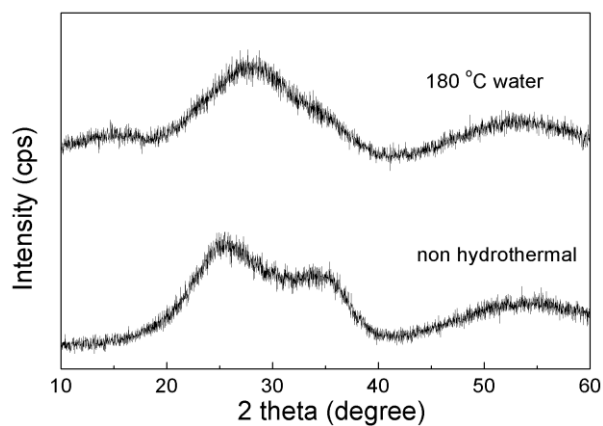


Table S1 Element analysis of the Ta₂O₅ spheres before and after the photocatalytic reaction.

	Ta / at%	F / at%	O / at%
before	24.01	25.09	50.90
after	26.62	23.97	49.40