materials

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Article

Successful Immobilization of Lanthanides Doped TiO_2 on Inert Foam for Repeatable Hydrogen Generation from Aqueous Ammonia

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Supplementary Materials

2.1. Preparation of Photocatalysts

VUKOPOR is the Al_2O_3 foam (Figure S1) with following parameters: specific surface area 0.6 cm^2/g, apparent density of ceramic body 2.35 g/cm^3, and porosity of ceramic body 33%. The utilized foam had a height of 1 cm and a diameter of 7 cm.

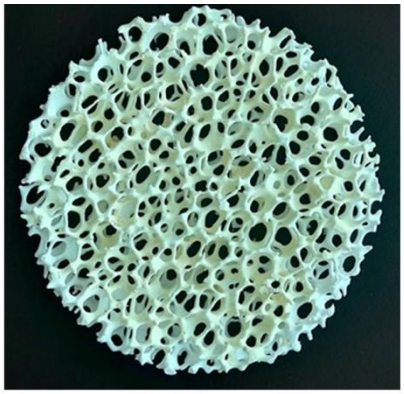

Figure S1. Photo of the Vukopor® A.

2.2 Photocatalytic Tests

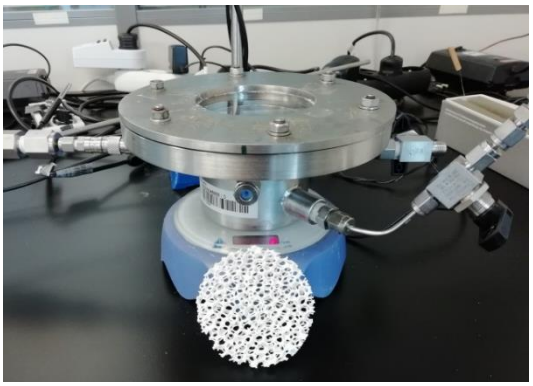

Figure S2. Picture of the reactor for photocatalytic study on the decomposition of ammonia over a photocatalyst immobilized on foam.

3. Results and Discussion

3.1. Structural and Textural Properties of Photocatalysts in Its Powder Form

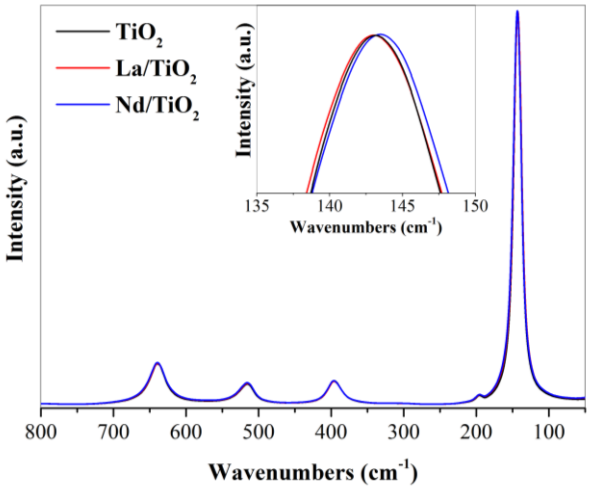

Figure S3. Raman spectra of TiO_2, La/TiO_2, and Nd/TiO_2 photocatalysts.

Table S1. Surface concentration of Ti and O elements determined by XPS.

Photocatalyst	Ti^{4+} in TiO_2 (at.%)	Oxygen Lattice O^{2-} (at.%)	OH^- (at.%)	Total O (at.%)	Carbon (at.%)
TiO_2	27.4	54.77	8.61	63.4	9.2
0.1 wt.% La/TiO_2	27.8	57.63	6.10	63.7	8.4
0.1 wt.% Nd/TiO_2	27.6	57.02	6.56	63.6	8.8