

## Photocatalytic secondary amine synthesis from azobenzenes and alcohols by TiO<sub>2</sub> loaded with Pd nanoparticles

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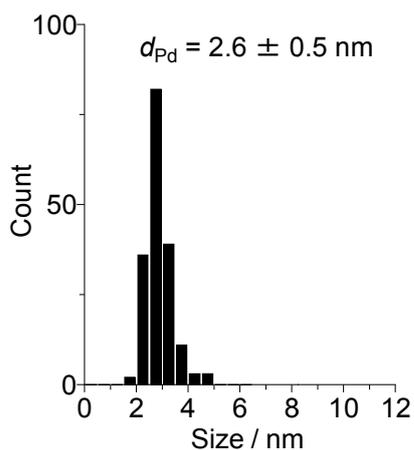
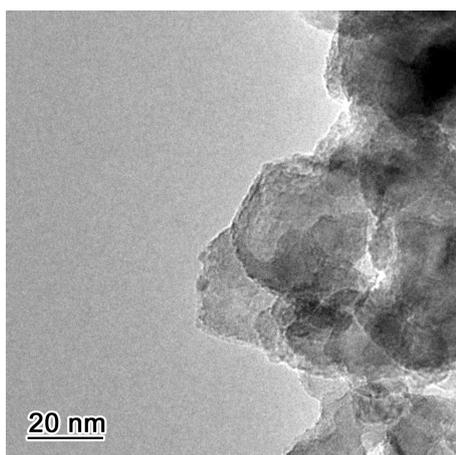
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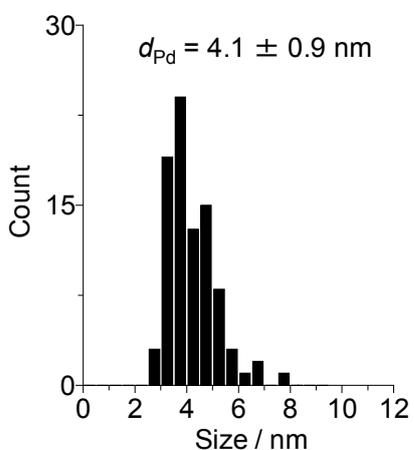
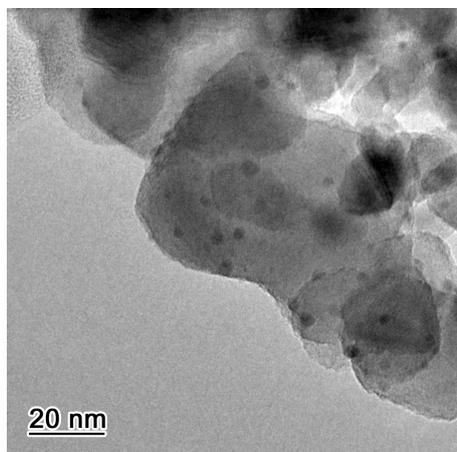
*E-mail: shiraish@cheng.es.osaka-u.ac.jp*

### Electronic Supplementary Information (ESI†)

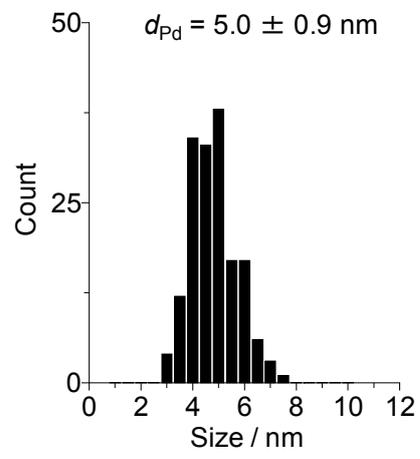
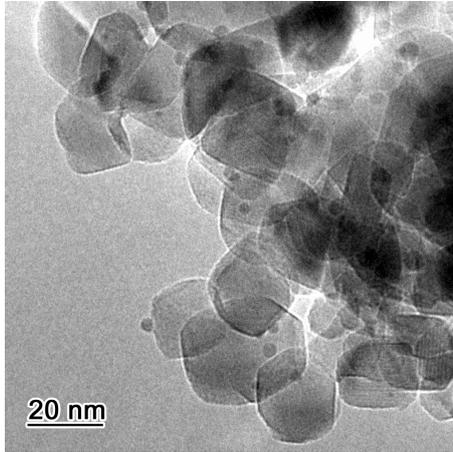
**Pd<sub>0.5</sub>/TiO<sub>2</sub>**



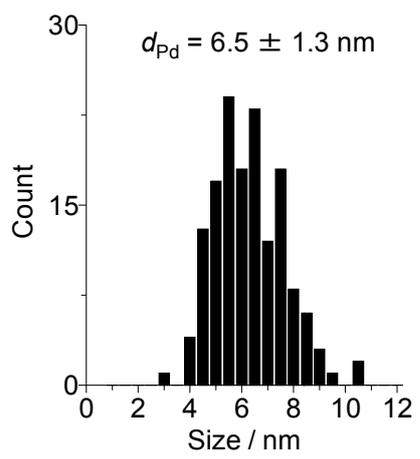
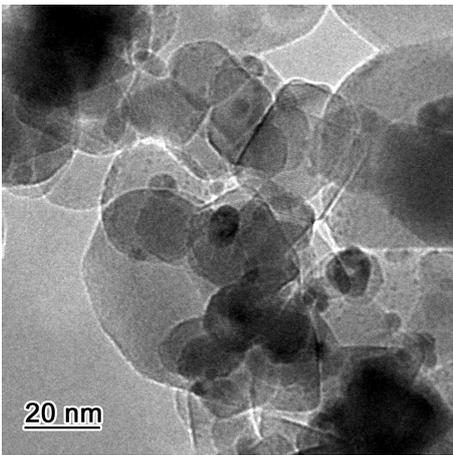
**Pd<sub>1</sub>/TiO<sub>2</sub>**



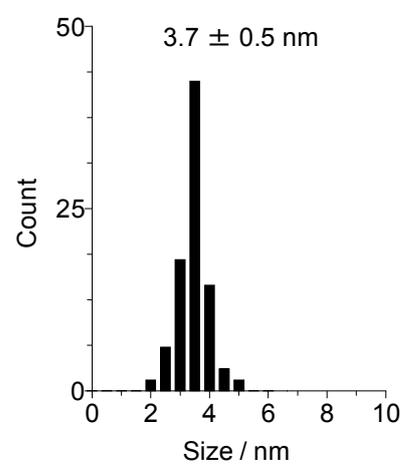
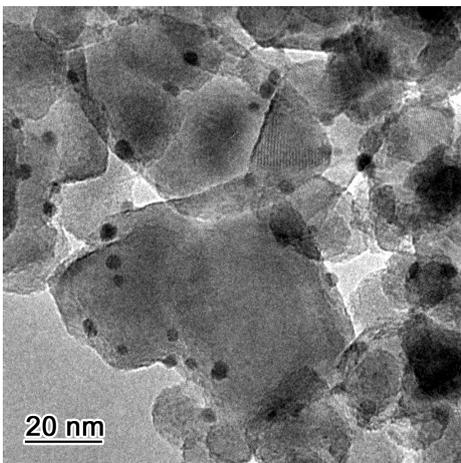
**Pd<sub>2</sub>/TiO<sub>2</sub>**



**Pd<sub>4</sub>/TiO<sub>2</sub>**



**Au<sub>2</sub>/TiO<sub>2</sub>**



Pt<sub>2</sub>/TiO<sub>2</sub>

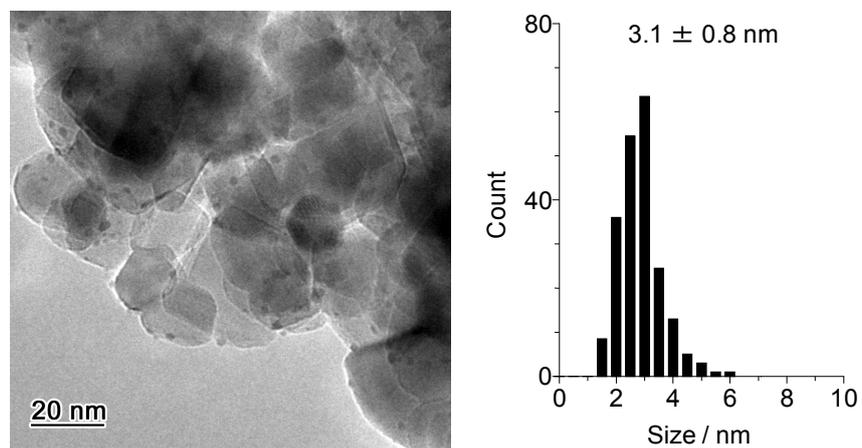


Fig. S1 TEM images and size distribution of Pd particles on the catalysts.

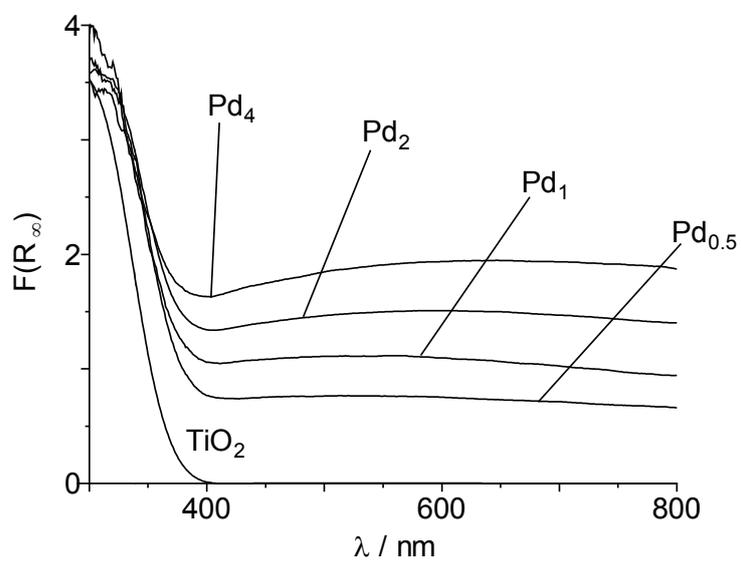
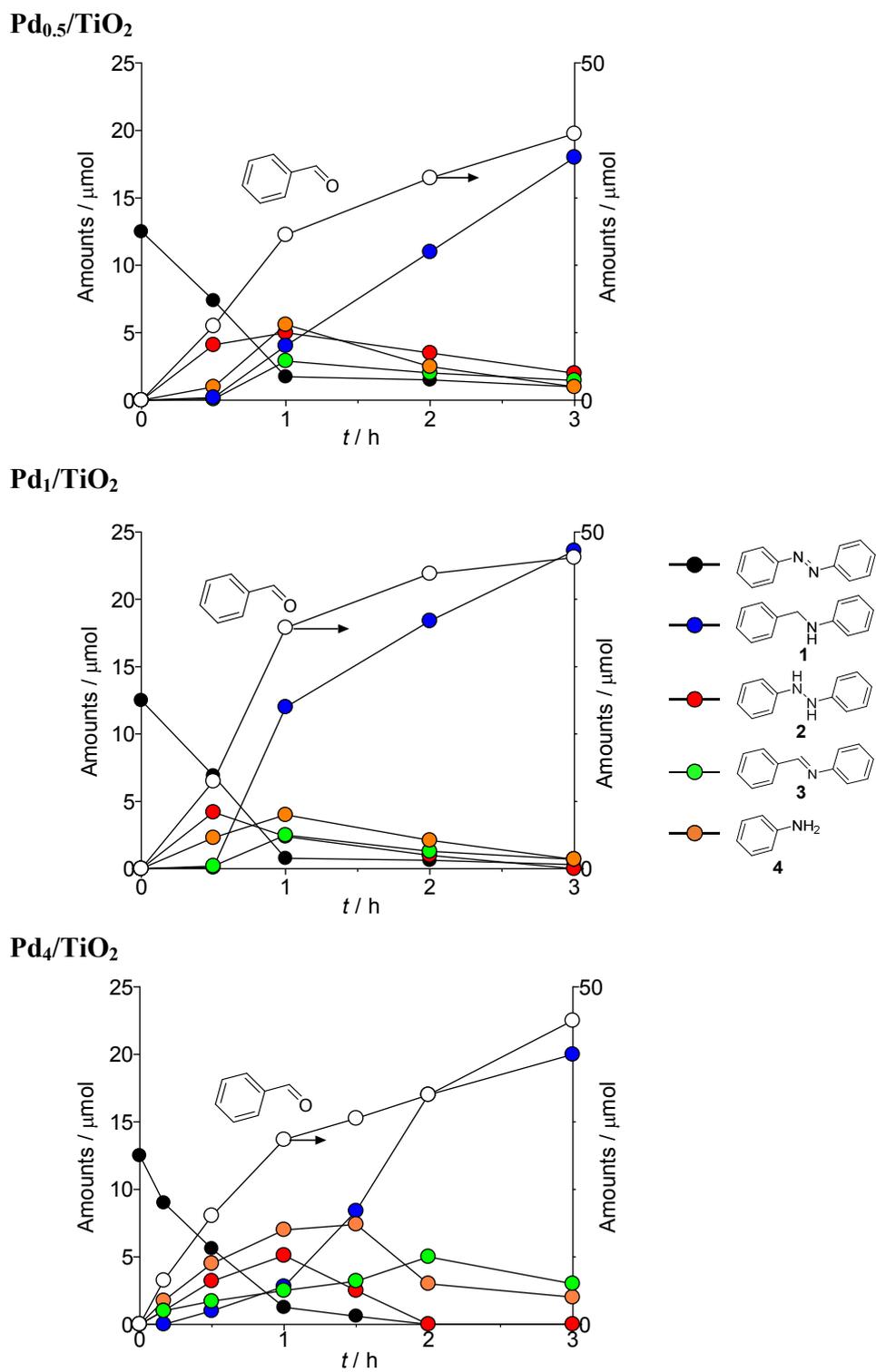


Fig. S2 Diffuse-reflectance UV-vis spectra of Pd<sub>x</sub>/TiO<sub>2</sub> catalysts



**Fig. S3** Time-dependent change in the amounts of substrate and products during photoreaction of benzyl alcohol and azobenzene on the respective catalysts.