Photocatalytic secondary amine synthesis from azobenzenes and alcohols by TiO$_2$ loaded with Pd nanoparticles

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Electronic Supplementary Information (ESI†)

Pd$_{0.5}$/TiO$_2$

![Image](image1)

$d_{\text{Pd}} = 2.6 \pm 0.5$ nm

Pd$_1$/TiO$_2$

![Image](image2)

$d_{\text{Pd}} = 4.1 \pm 0.9$ nm

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Pd$_2$/TiO$_2$

\[ d_{\text{Pd}} = 5.0 \pm 0.9 \text{ nm} \]

Pd$_4$/TiO$_2$

\[ d_{\text{Pd}} = 6.5 \pm 1.3 \text{ nm} \]

Au$_2$/TiO$_2$

\[ d_{\text{Pd}} = 3.7 \pm 0.5 \text{ nm} \]
Fig. S1  TEM images and size distribution of Pd particles on the catalysts.

Fig. S2  Diffuse-reflectance UV-vis spectra of Pdₓ/TiO₂ catalysts
Fig. S3  Time-dependent change in the amounts of substrate and products during photoreaction of benzyl alcohol and azobenzene on the respective catalysts.