Selective dehydrogenation of aromatic alcohols photocatalyzed by Pd-deposited CdS-TiO₂ in aqueous solution using visible light

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**Figure S1** Effect of CdS amounts (x wt.%) on the formation of benzaldehyde for the dehydrogenation of benzyl alcohol. Reaction conditions: 0.4Pd/xCdS-TiO$_2$ catalyst (50 mg); benzyl alcohol (50 µmol); argon (1 atm); blue LED ($\lambda_{max} = 460$ nm, ca. 10 mW/cm$^2$); reaction time (2h).
Figure S2  Effect of Pd amounts (y wt.%) on the formation of benzaldehyde for the dehydrogenation of benzyl alcohol. Reaction conditions: γPd/15CdS-TiO₂ catalyst (50 mg); benzyl alcohol (50 µmol); argon (1 atm); blue LED (λ_{max} = 460 nm, ca. 10 mW/cm²); reaction time (2h).
Figure S3 XRD patterns of (a) TiO₂ and (b) 0.4Pd/15CdS-TiO₂.
Figure S4  XPS spectrum of the Pd 3d5/2 peaks of 0.4Pd/15CdS-TiO₂. The spectrum can be deconvoluted into two gauss functions peaked at 336.3 and 335.3 eV.