

Supporting Information

Reaction Mechanism of Selective Photooxidation of Hydrocarbons over Nb_2O_5

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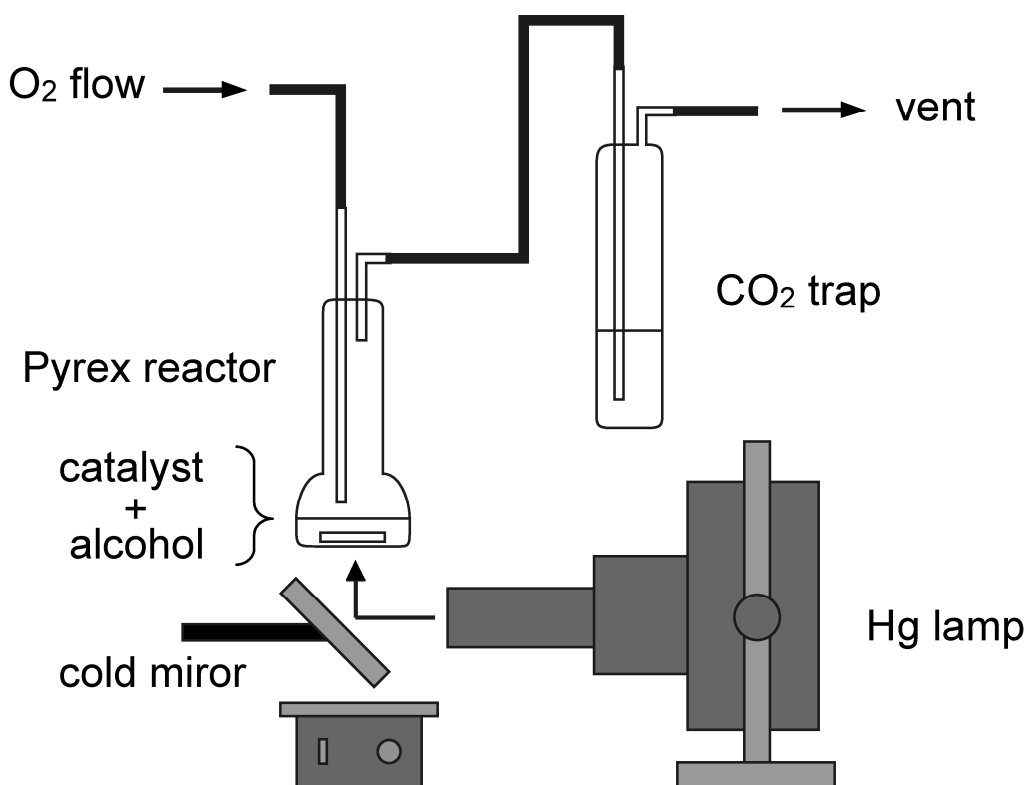


Figure S1. Setup of the quasi-flowing batch system for the liquid phase photocatalytic oxidation of alcohols.

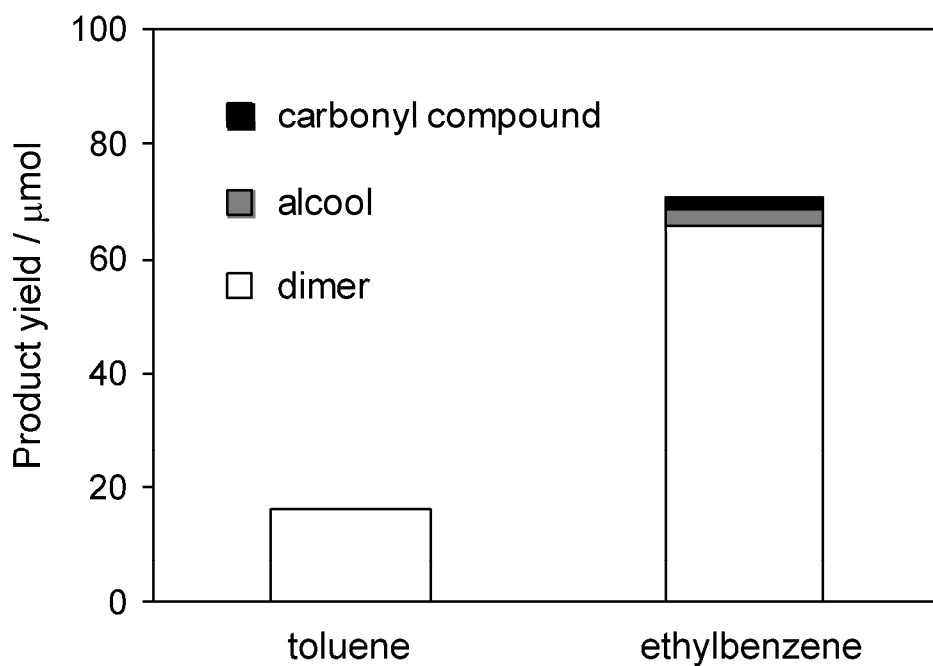


Figure S2. Product yield after 12 h of photooxidation of toluene and ethylbenzene under 1 atm N₂. Reaction condition: catalyst (Nb₂O₅); 100 mg, hydrocarbon; 10 ml, $\lambda > 300$ nm. Dimer corresponds to 1,2-diphenylethane for toluene and 2,3-diphenylbutane for ethylbenzene, respectively.

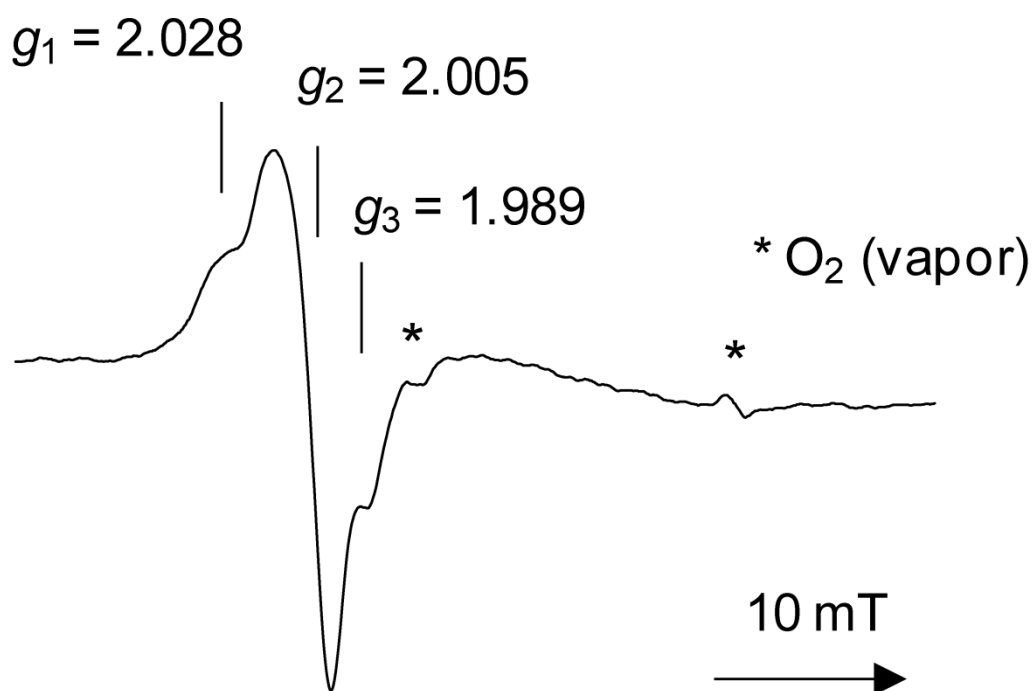


Figure S3. ESR spectrum obtained when ethylbenzene adsorbed on Nb₂O₅ was irradiated at 77 K, followed by being exposed to O₂.