Electronic Supplementary Material for PCCP

Electronic Supplementary Information

Efficient photocatalytic hydrogen evolution without an electron mediator using a simple electron donor-acceptor dyad

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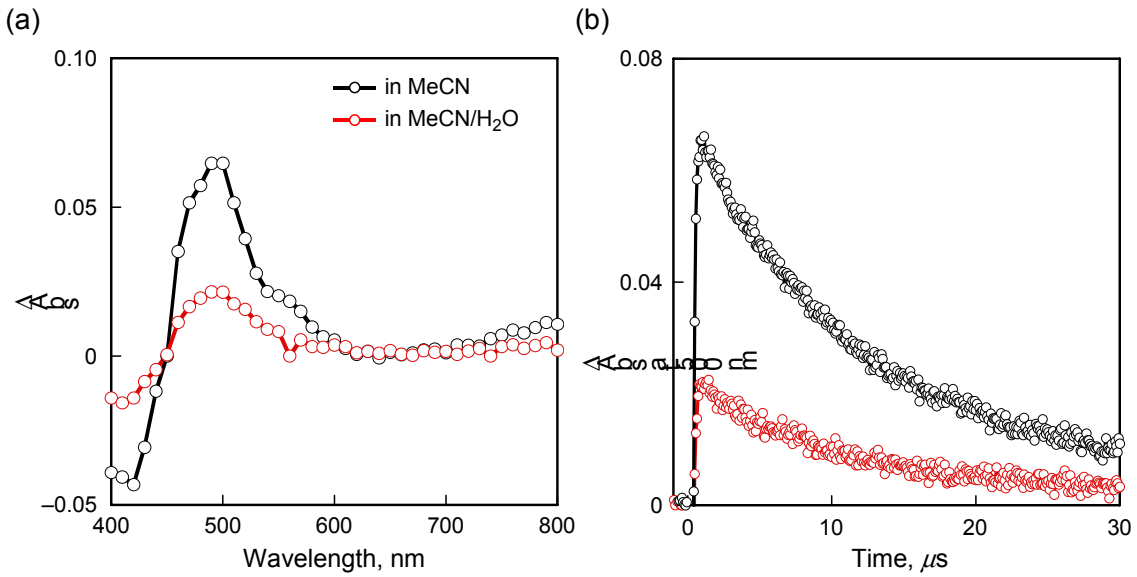

Fig. S1 (a) Transient absorption spectra of Acr^{+}–Mes (1.0×10^{-4} mol dm^{-3}) in deaerated MeCN (black) and MeCN/H_2O [1:1 (v/v)] (red) at 298 K taken at 1 μs after nanosecond laser excitation at 430 nm; (b) Decay time profiles of $Acr^{\bullet}$–$Mes^{\bullet+}$ at 500 nm in deaerated MeCN (black) and MeCN/H_2O [1:1 (v/v)] (red).

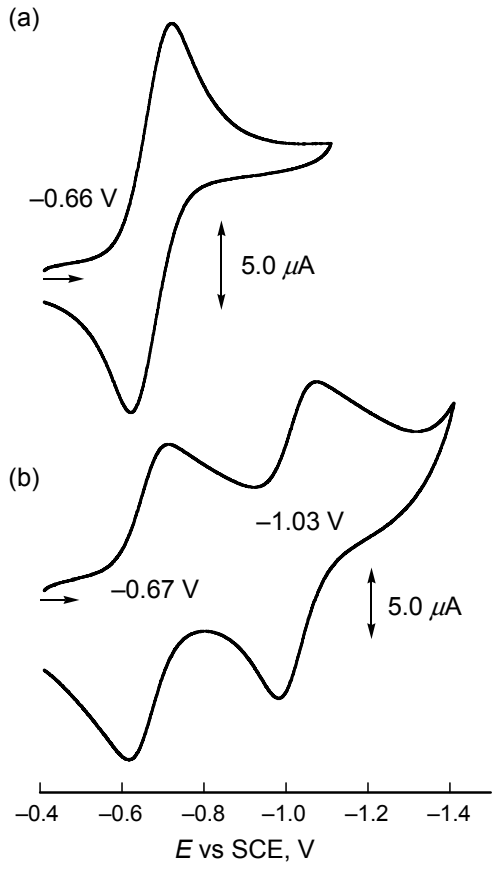

Fig. S2 Cyclic voltammograms of (a) Acr^+–Mes (2.0×10^{-3} mol dm^{-3}) and (b) MV^{2+} (2.0×10^{-3} mol dm^{-3}) in a deaerated H_2O and MeCN [1:1 (v/v)] mixed solution (5.0 cm^3) containing 0.10 mol dm^{-3} Bu_4NClO_4 (TBAP) at 298 K; sweep rate (100 mV s^{-1}).

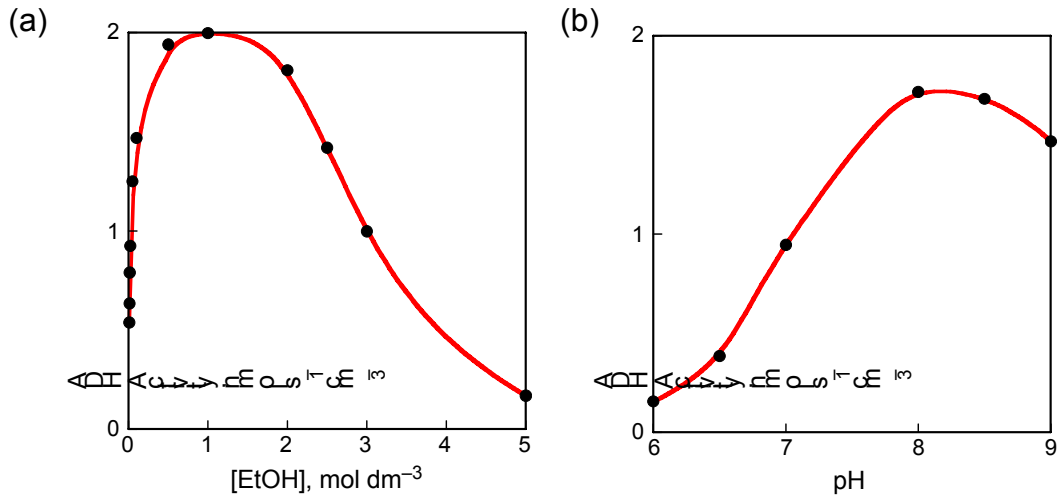

Fig. S3 ADH activity of NADH production *vs*. (a) [EtOH], (b) pH in a potassium phosphate buffer (pH 7.0, 50 mmol dm^{-3}) solution (2.0 cm^3) containing NAD^+ (0.30 mmol dm^{-3}), ADH (0.60 units).