

# Photoinduced Charge Transfer Involving a MoMo Quadruply Bonded Complex to a Perylene Diimide

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## Supporting Information

**Figure S1.** Cyclic voltammogram of **IA** in THF at room temperature

**Figure S2.** Kinetics traces from femtosecond transient absorption of films of **II** and 1:5 **IA:II**

**Figure S3.** Femtosecond transient absorption of film of **IA**

**Figure S4.** Time resolved infrared (TRIR) spectra of a solution of compound **IB** in THF

**Figure S5.** Kinetic traces from TRIR of **II**

**Figure S6.** Kinetic traces from TRIR of **IB**

**Figure S7.** Kinetic traces from TRIR of **IB:II**

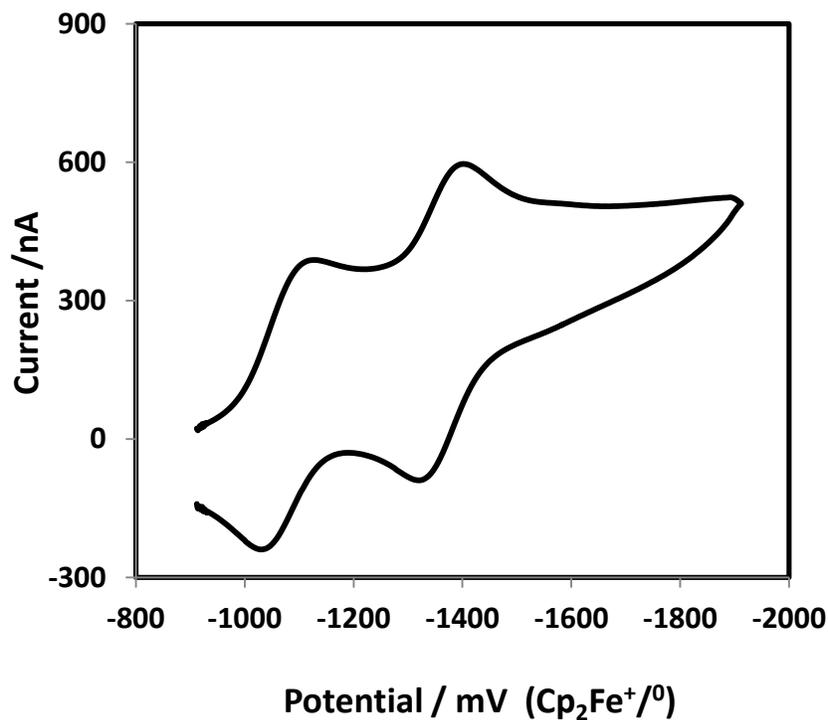


Fig. S1 Cyclic voltammogram of IA in THF at room temperature.

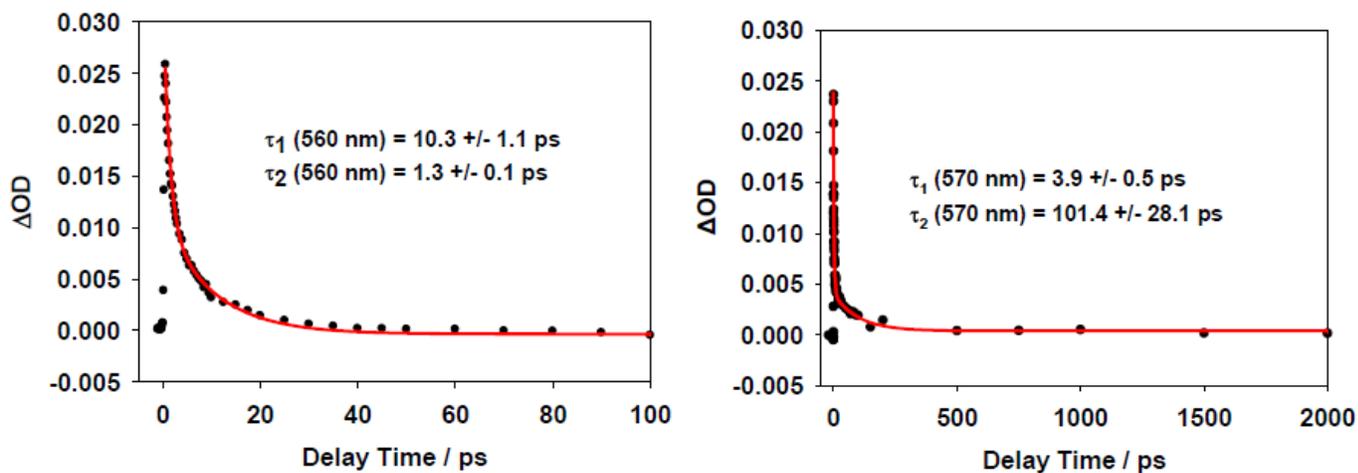
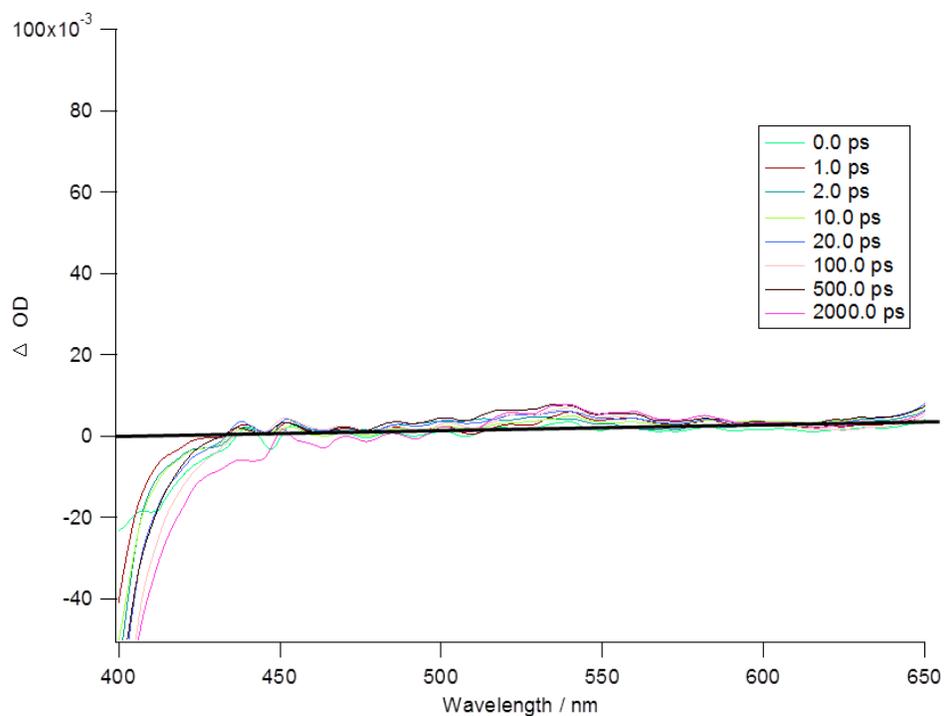
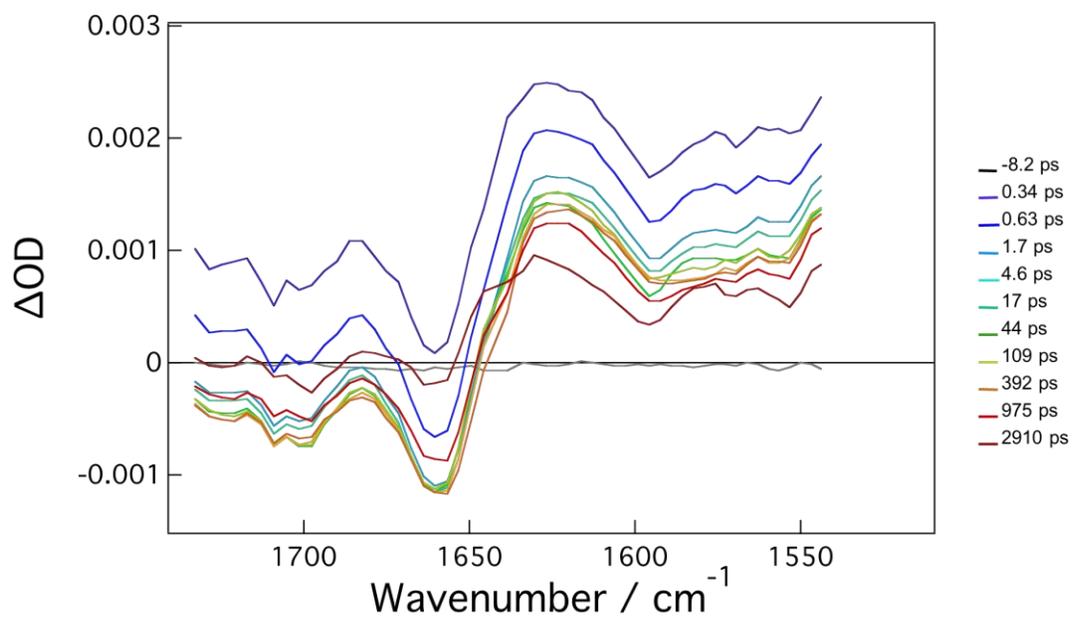


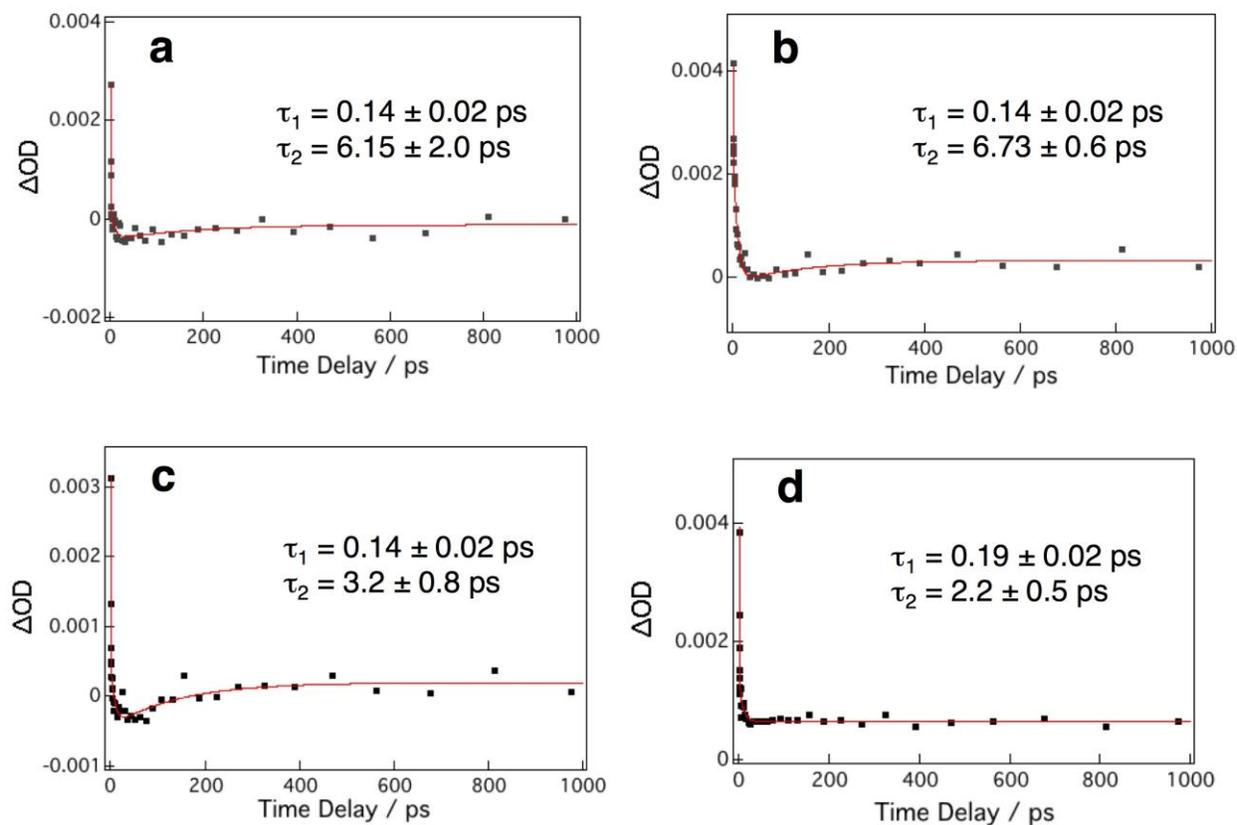
Fig. S2 Kinetic traces from fsTA of a film of II (left) and 1:5 IA:II (right),  $\lambda_{ex} = 340$  nm



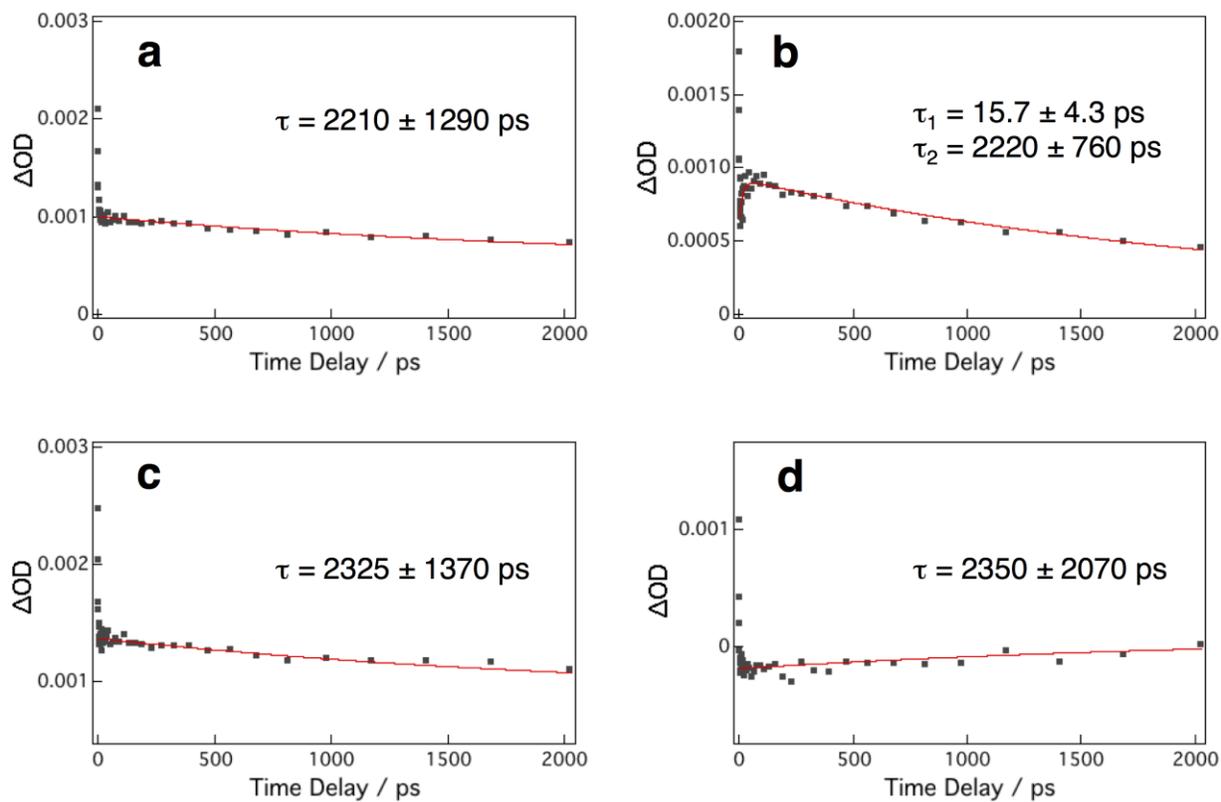
**Fig. S3** fsTA of a film of **IA**,  $\lambda_{\text{ex}} = 340$  nm.



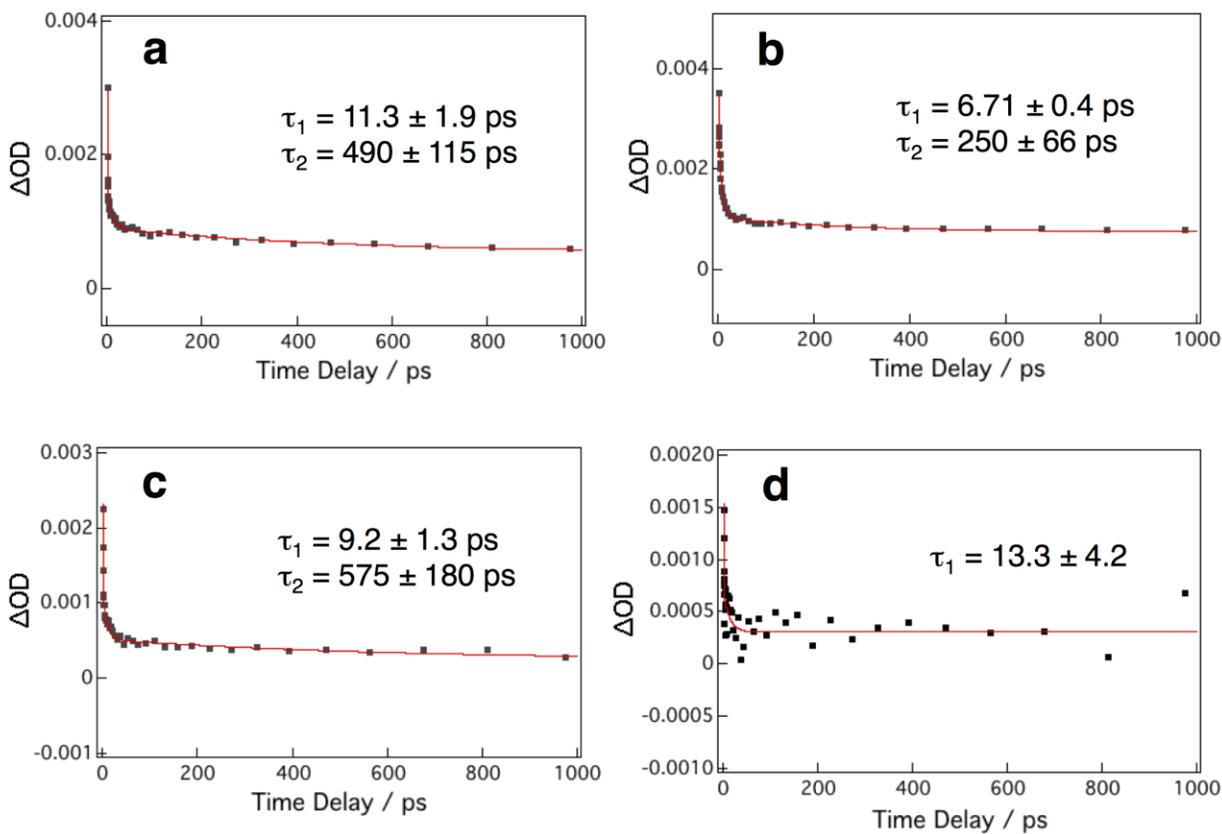
**Fig. S4** fsTRIR spectra of a solution of compound **IB** in THF,  $\lambda_{\text{ex}} = 340$  nm.



**Fig. S5** Kinetic traces from fsTRIR of **II**,  $\lambda_{\text{ex}} = 340$  nm, monitored at (a)  $1481 \text{ cm}^{-1}$ , (b)  $1563 \text{ cm}^{-1}$ , (c)  $1629 \text{ cm}^{-1}$ , and (d)  $1636 \text{ cm}^{-1}$ .



**Fig. S6** Kinetic traces from fsTRIR of **IB**,  $\lambda_{ex} = 340$  nm, monitored at (a) 1563  $\text{cm}^{-1}$ , (b) 1600  $\text{cm}^{-1}$ , (c) 1630  $\text{cm}^{-1}$ , and (d) 1683  $\text{cm}^{-1}$ . A fast component ( $<0.5$  ps) was unable to be resolved.



**Fig. S7** Kinetics traces from fsTRIR of 1:1 **1B:II** solution,  $\lambda_{\text{ex}} = 340$  nm, monitored at (a) 1487  $\text{cm}^{-1}$ , (b) 1563  $\text{cm}^{-1}$ , (c) 1629  $\text{cm}^{-1}$ , and (d) 1713  $\text{cm}^{-1}$ .