PCCP

Electronic Supplementary Information

# Sequence selective photoinduced electron transfer of a pyrene-porphyrin dyad to DNA

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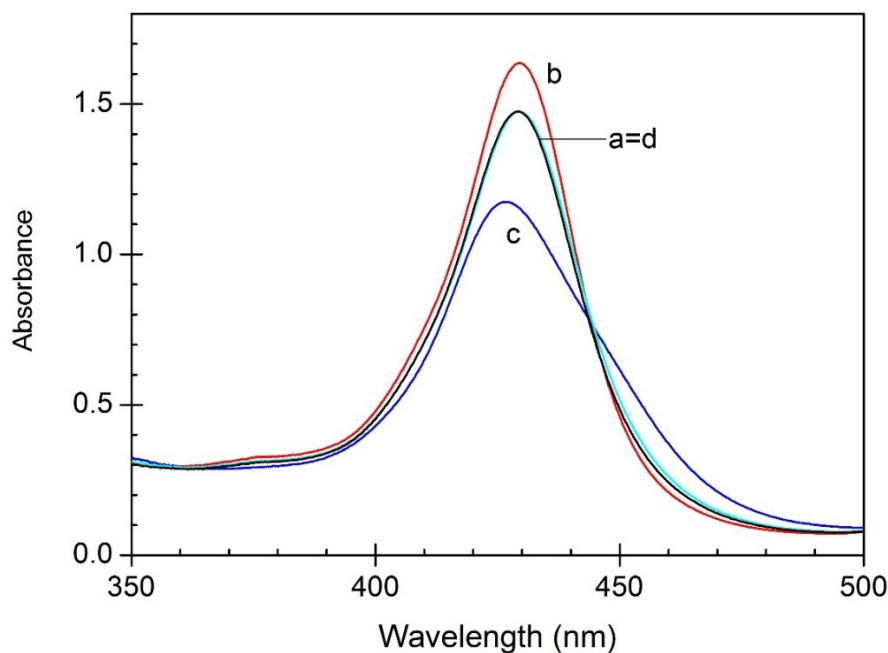
Fig. S1. Absorption spectrum of PyTMPyP associated with DNA (curve a, black), poly[d(A-T)$_2$] (curve b, red) and poly[d(G-C)$_2$] (curve c, blue). Combination of 0.75× (curve a) + 0.25 × (curve c) is the same as curve a, and denoted by curve d. [polynucleotide] = 50 μM and [PyTMPyP] = 5 μM.
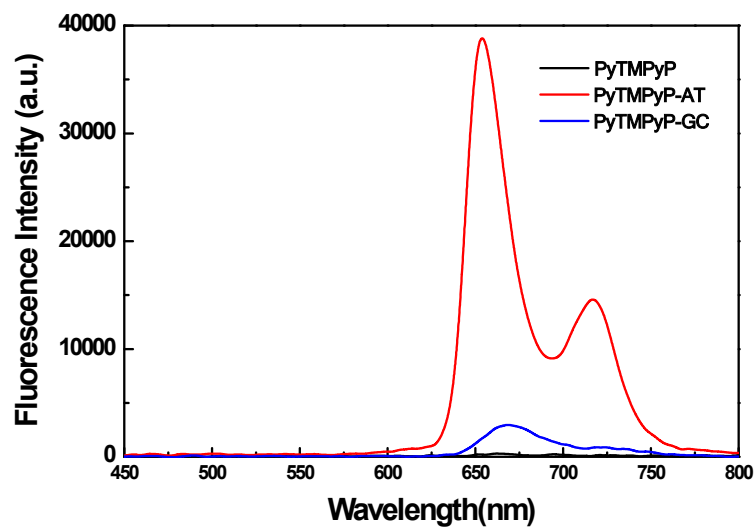
Fig. S2. Fluorescence emission spectrum of PyTMPyP (curve d, black dashed) and that bound to DNA (curve a, black, solid), poly[d(A-T)$_2$] (curve b, red) and poly[d(G-C)$_2$] (curve c, blue) upon excitation at 430 nm. The slit widths were 5 nm for both excitation and emission. [Polynucleotide] = 10 μM and [PyTMPyP] = 0.5 μM.
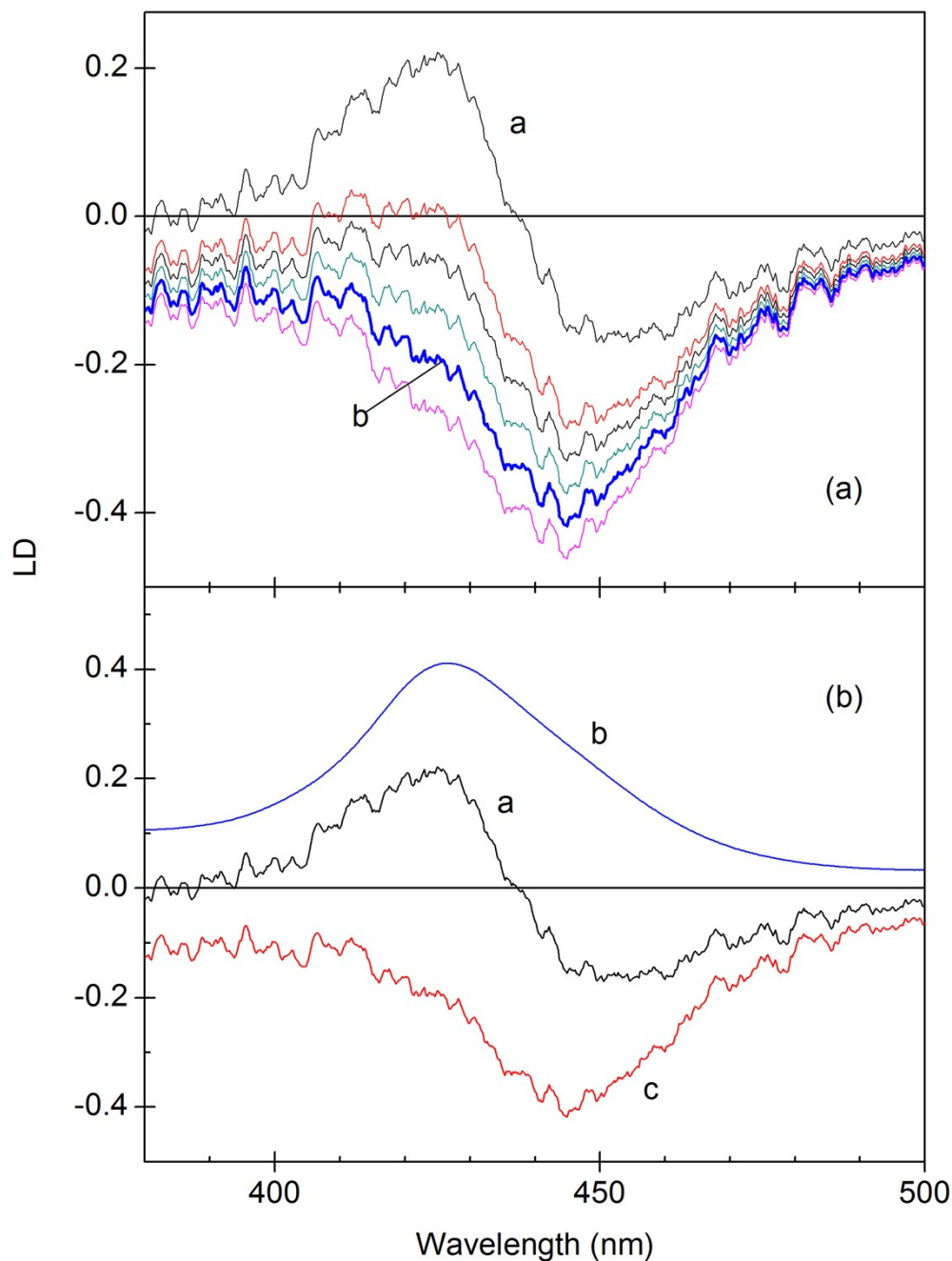
Fig. S3. (a) Step-wise reduction of absorption spectrum from measured LD spectrum (curve a) to obtain $T_3(\lambda)$, according to the equation (4) in the text. The curve b was selected to represent LD spectrum of $T_3(\lambda)$. The κ value varied between 0.15 and 3.5 with an increment of 0.5. (b) LD spectrum of the PyTMPyP-poly[d(G-C)$_2$] complex resolved into the contributions from two transitions (curves b and c) in the Soret region. Curve a denotes measured LD.