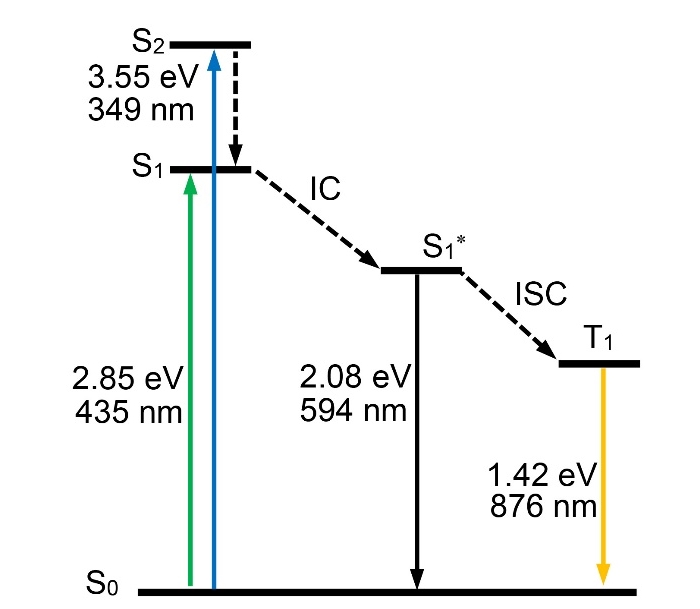
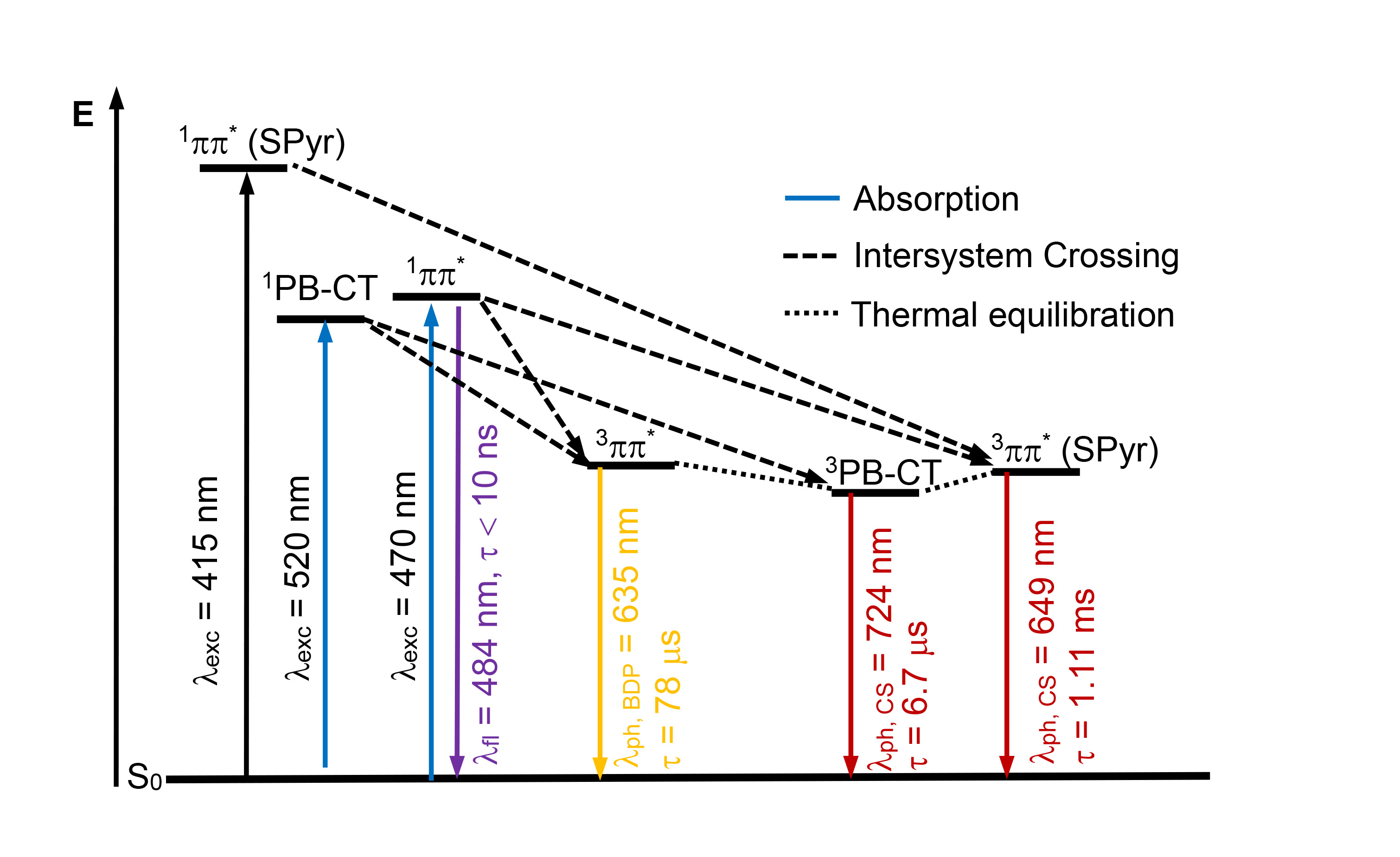
Supplementary Material



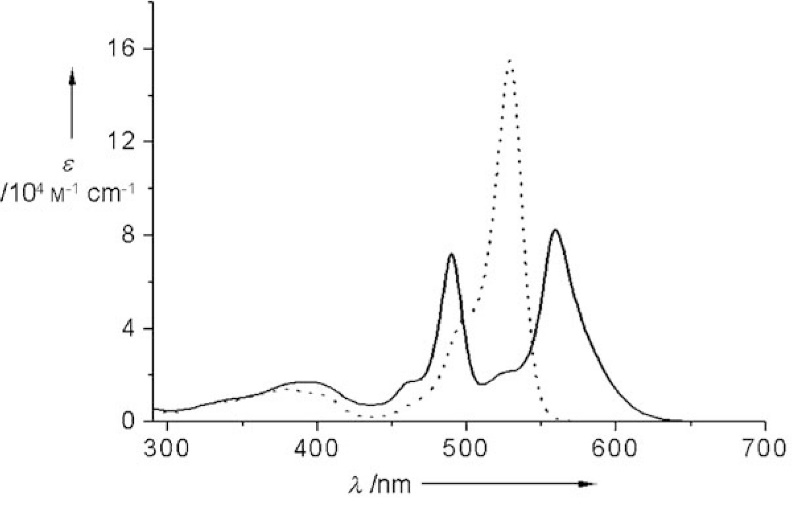
Supplementary Figure 1. 2,6-DiiodoBodipy showing ISC (Yogo et al., 2005).



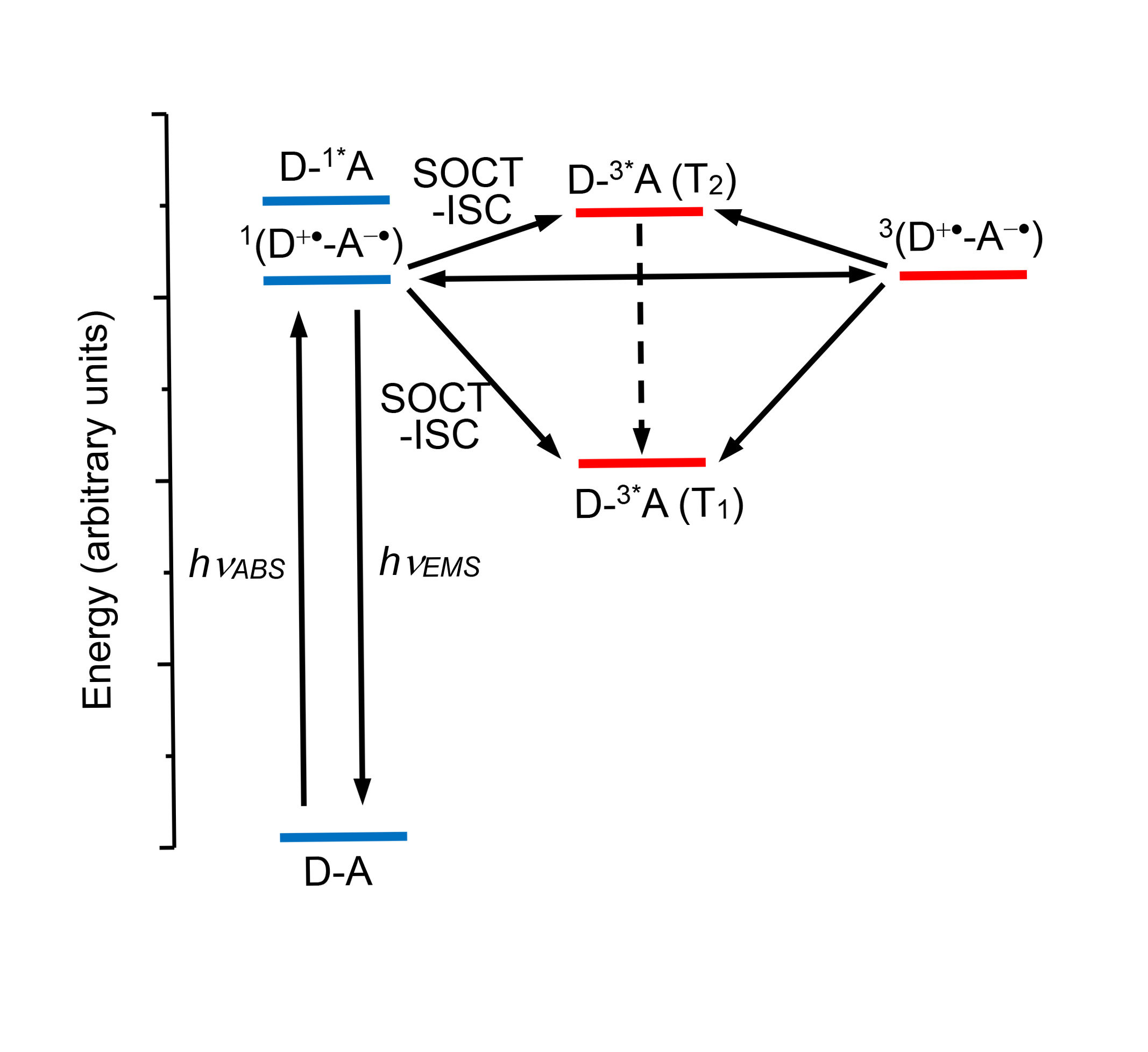
Supplementary Figure 2. The ISC mechanism of iodo-substituted Bodipy. IC denotes internal conversion. Figure reproduced from data in Nakashima et al. (2018).



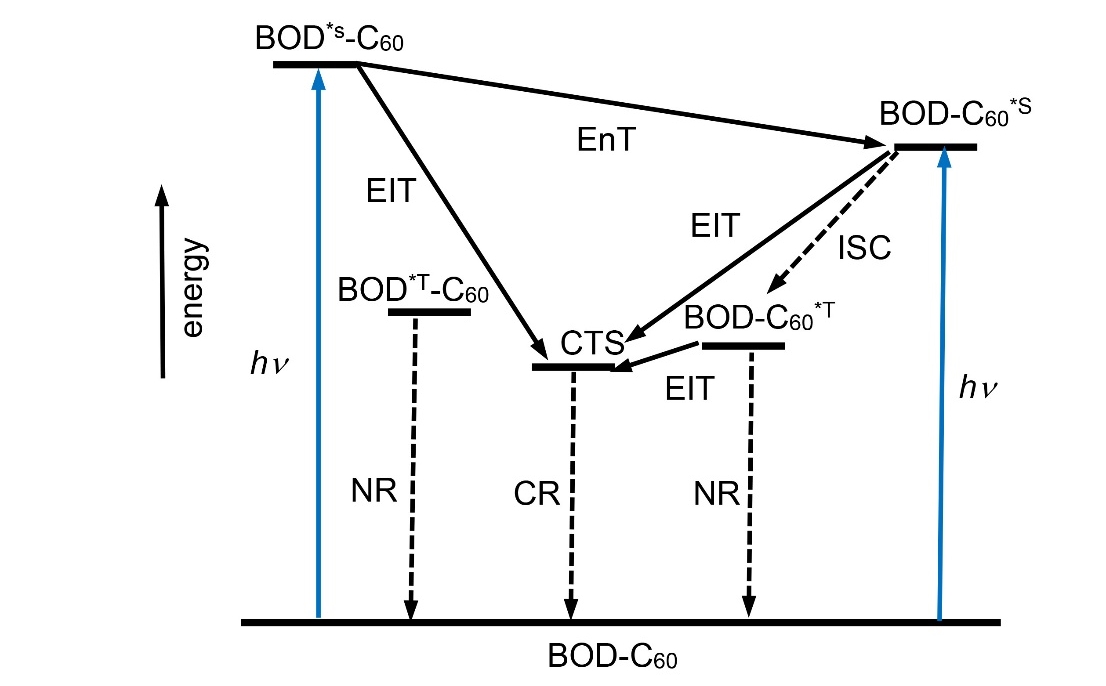
Supplementary Figure 3. The ISC mechanism of σ-Pt-BODIPY complexes. BDP: Bodipy, SPyr: mercaptopyrene, PB-CT: charge-transfer from the mercaptopyrene to BDP ligand. Figure reproduced from data in Irmler et al. (2019b).



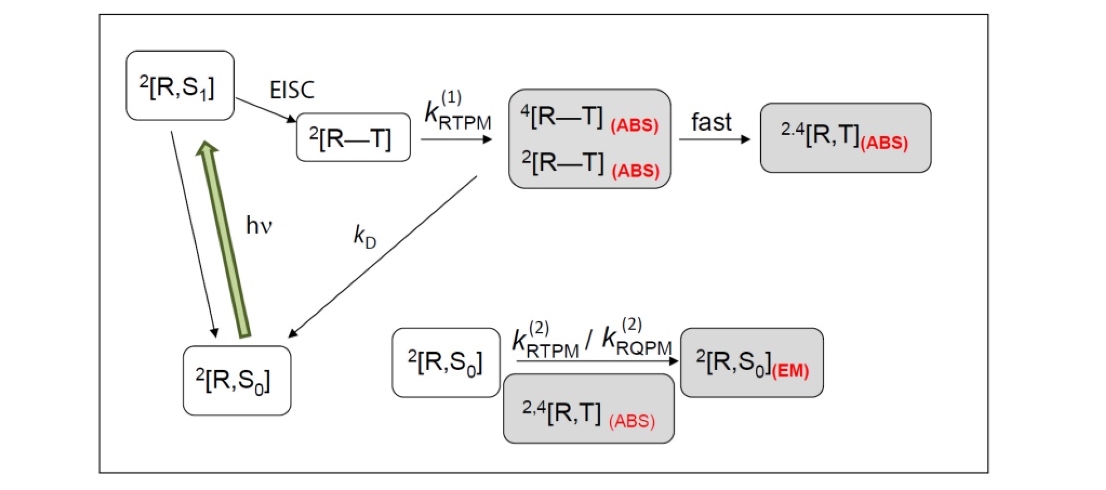
**Supplementary Figure 4.** The molecular structure and the Uv-vis absorption spectra of Bodipy dimer. Figure reproduced from data in Bröring et al. (2008)



**Supplementary Figure 5.** SOCT-ISC mechanism. Figure reproduced from data in Dance et al. (2008)



**Supplementary Figure 6.** The photophysical processes of Bodipy-C60 dyad derivatives. Figure reproduced from data in Ziessel et al. (2009)



**Supplementary Figure 7.** The radical enhanced ISC mechanism of **44**. Figure reproduced from data in Wang et al. (2017)

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