Effect of graphene between photoanode and sensitizer on the intramolecular and intermolecular electron transfer process

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Figure S1 Frontier molecular orbitals of YKP-88 and YKP-88/GR.
Figure S2 Electron density proportion of the individual groups in occupied orbitals (HOMO-2, HOMO-1, HOMO, LUMO, LUMO+1 and LUMO+2) of the dye and its graphene complexes (a represents dye; b represents its graphene complexes).
**Figure S3** Frontier molecular orbitals of YKP-88@(TiO$_2$)$_{16}$ and YKP-88/GR@(TiO$_2$)$_{16}$. 
Figure S4 Geometrical structure of YKP-88@GR.