

Supplementary information

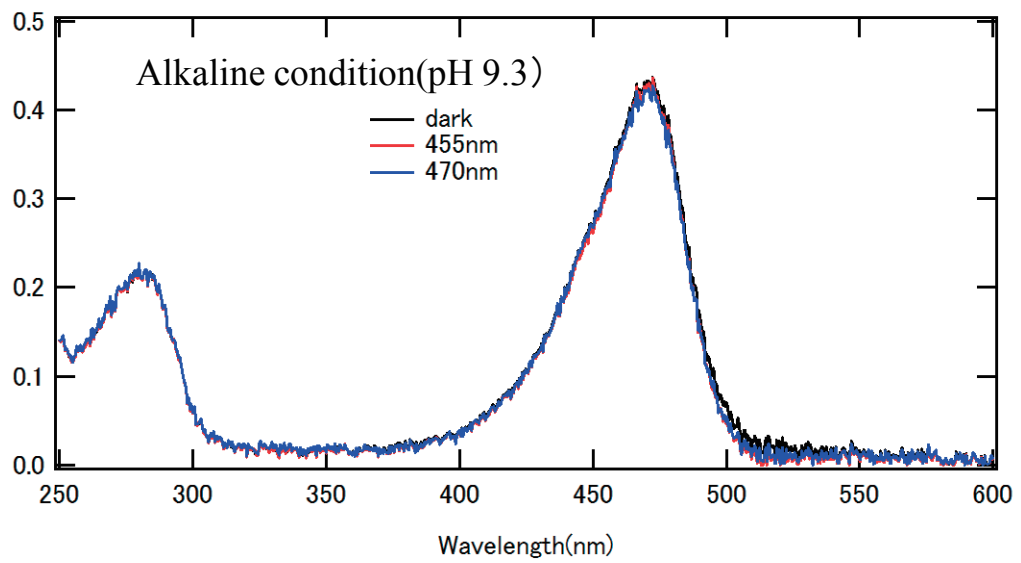
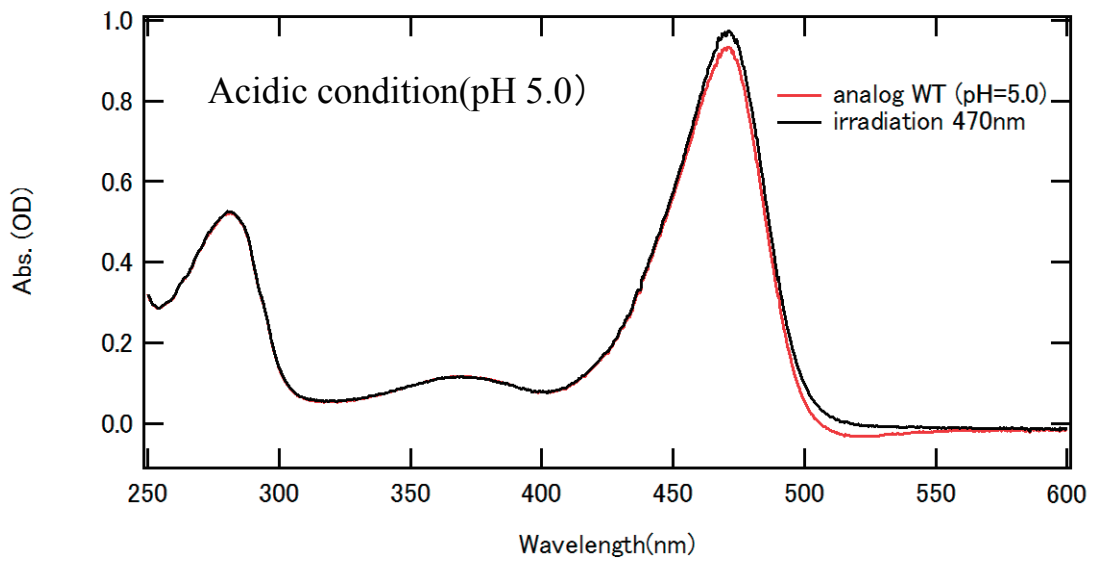
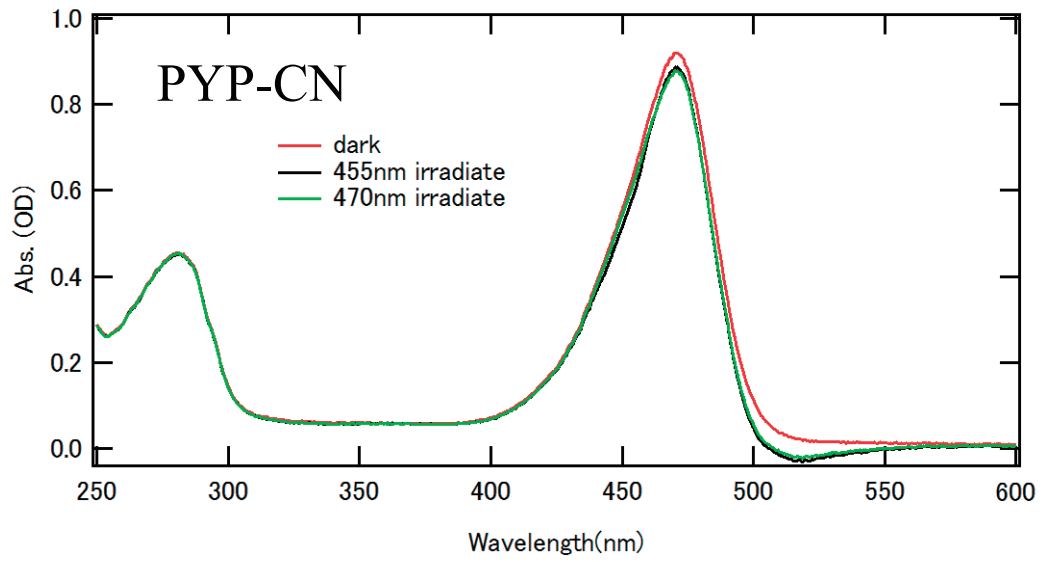
Figure legend

Suppl. Fig. 1

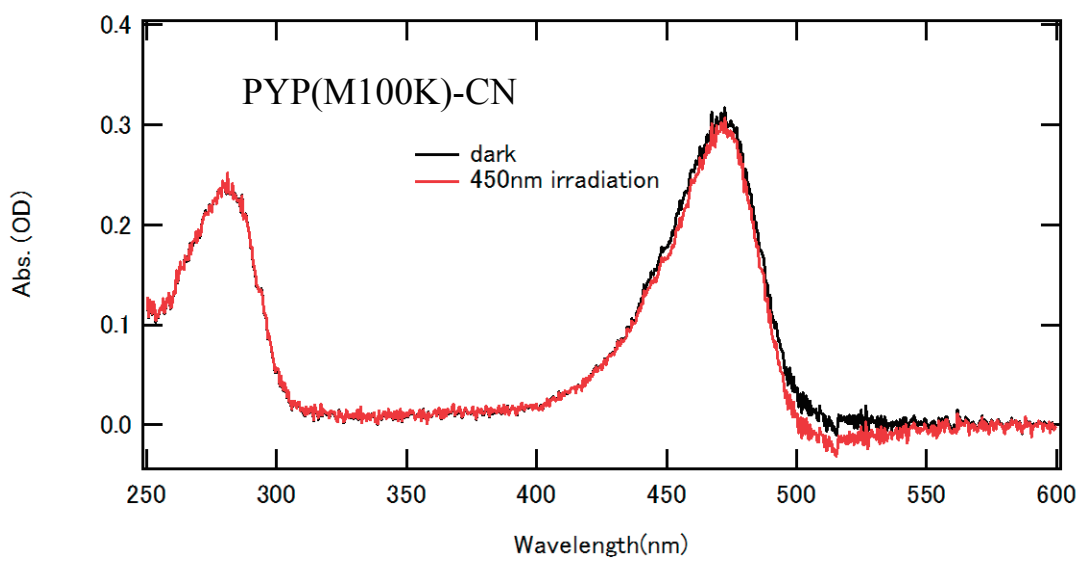
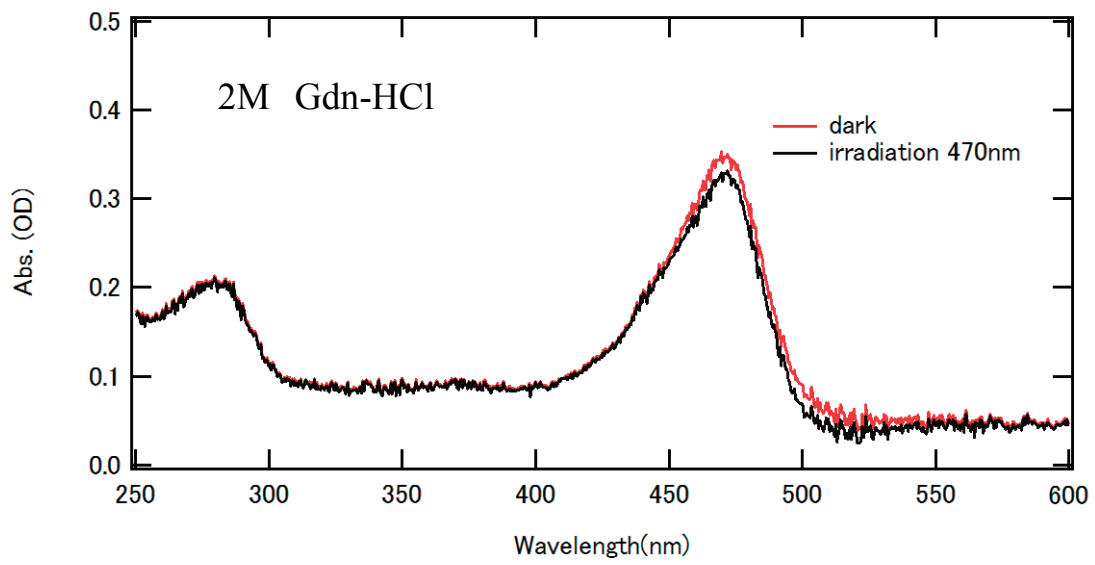
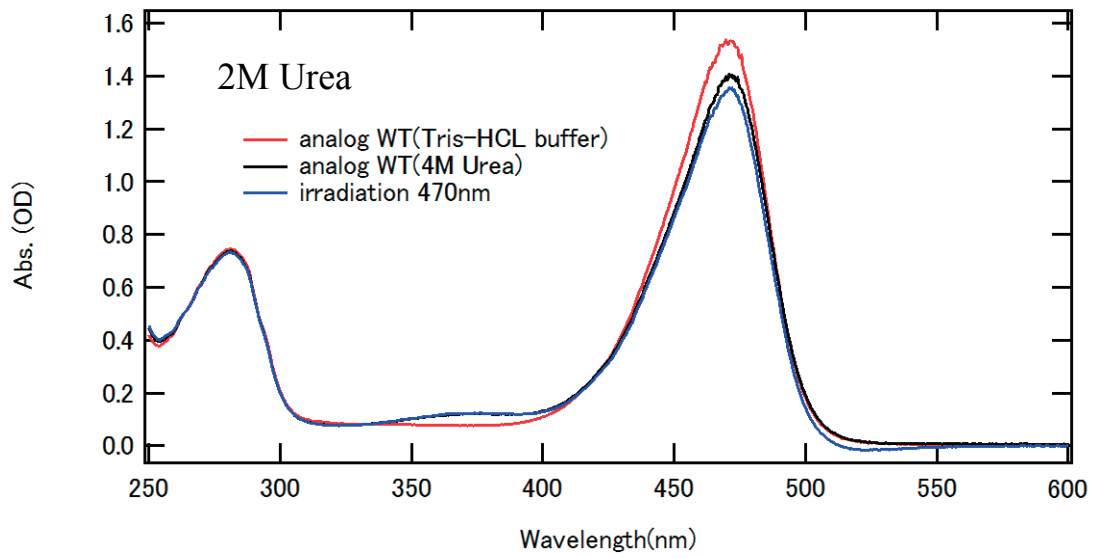
Absorption spectra of PYP-CNs at various conditions, dark state, and 80msec after illumination.

Suppl. Fig.2

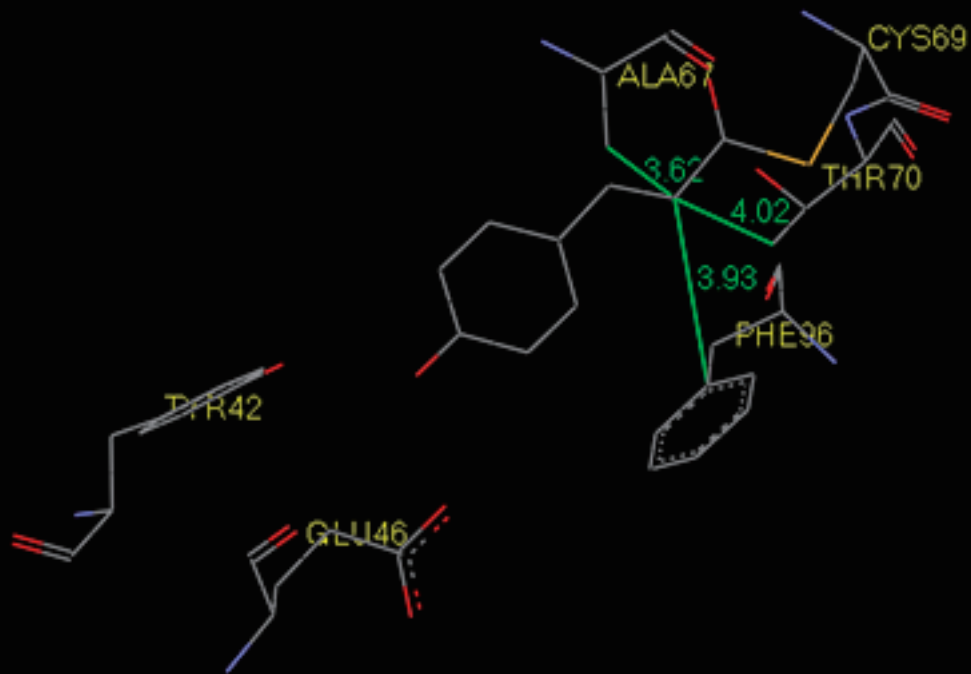
Model around the chromophore (PDBcode: 2phy). Figures show the distance between C atom at C=C double bond (attached with CN of CHCA analogue) and the closest atom of the near residues to the chromophore.



Suppl. Fig.1



Suppl. Fig.1



Suppl. Fig.2