Supporting Information

Versatile Photo/electricity Responsive Chromogenic Properties of a Coordination Polymer Based on Extended Viologen Ligands

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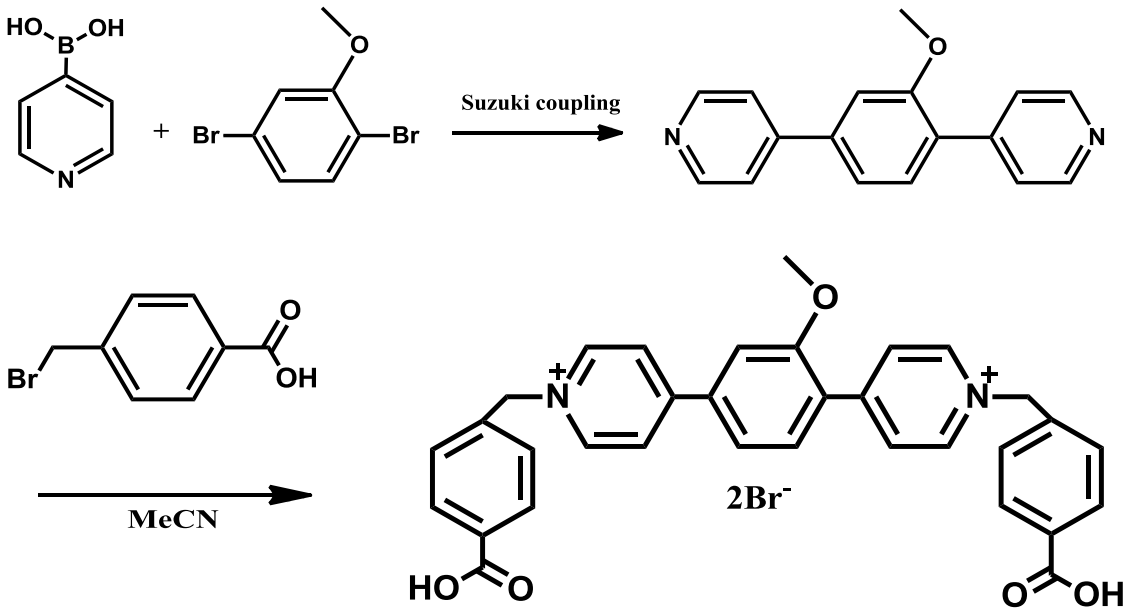

Figure S1. The synthetic route of (2-methoxy-1,4-phenylene)bis(1-carboxybenzy)-4,4'-bipyridinium dibromide (Oxv).−

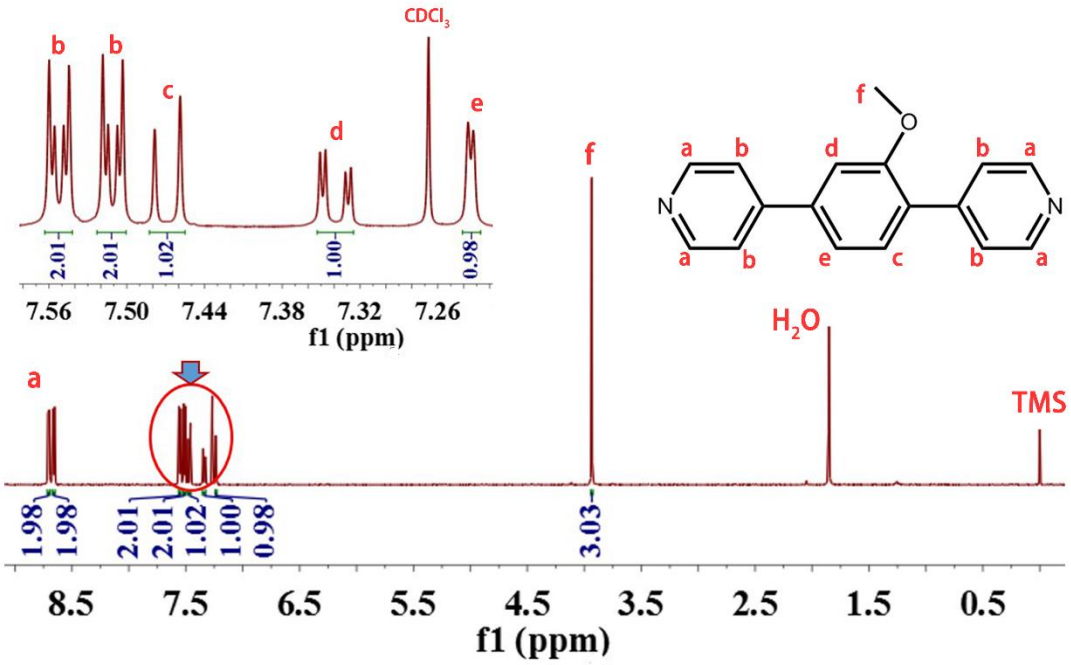

Figure S2. ^{1}H NMR spectrum of 2, 5-Di (4-pyridyl) anisole in $CDCl_3$.

^{1}H NMR (300 MHz, CDCl3–d6, ppm): δ 8.715–8.692 (d, 2H), δ 8.671–8.648 (d, 2H), δ 7.563–7.542 (d, 2H), δ 7.523–7.501 (d, 2H), δ 7.483–7.455 (d, 3H), δ 3.942–3.925 (s, 3H).

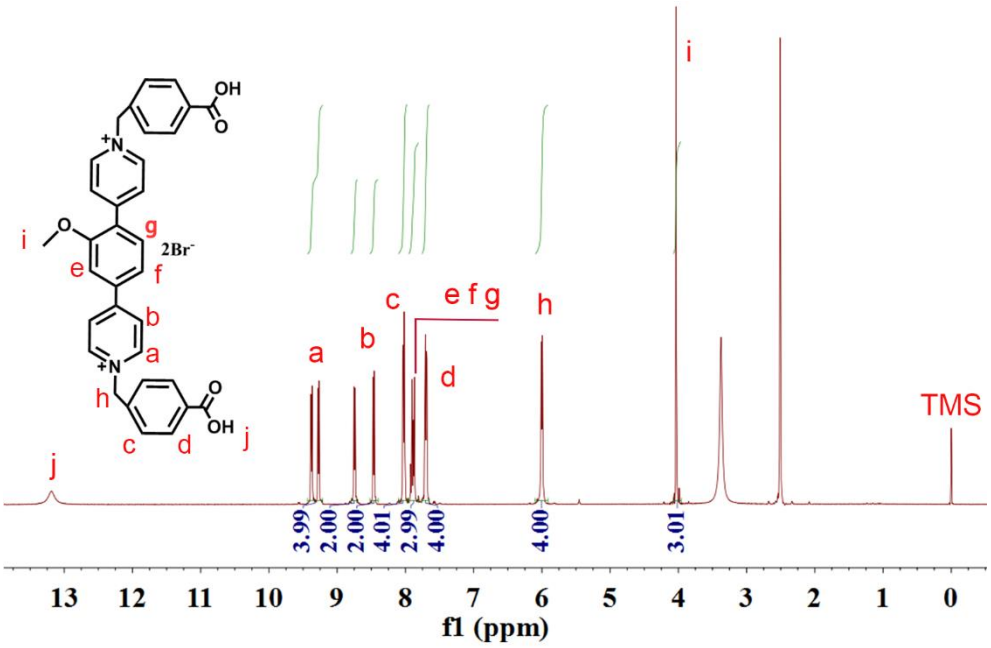

Figure S3. ^{1}H NMR spectrum of 2, 5-Di (4-pyridyl) anisole in $CDCl_3$.

^{1}H NMR (300 MHz, DMSO−d6, ppm): δ 9.394–9.359 (d, 2H), δ 9.296–9.255 (d, 2H), δ 8.769–8.732 (d, 2H), δ 8.769–8.732 (d, 2H), δ 8.048–7.999 (d, 4H), δ 7.927–7.854 (m, 3H), δ 7.732–7.666 (m, 4H), δ 6.037–5.973 (d, 4H), δ 4.059–4.010 (s, 3H).

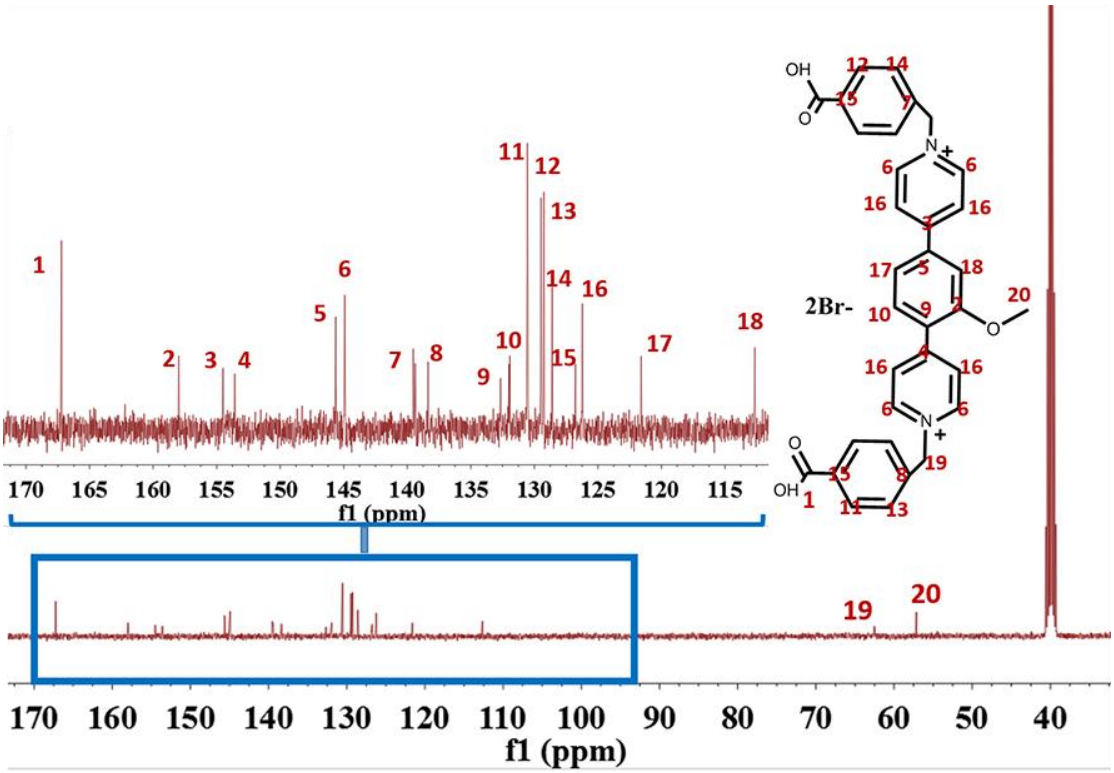

Figure S4. CNMR spectrum of the Oxv ligand.

^{13}C NMR (75 MHz, DMSO-d_6, ppm): 167.28, 158.06, 154.54, 153.62, 145.66, 144.96, 139.54, 138.42, 132.64, 132.07, 130.61, 129.55, 129.27, 128.63, 126.73, 126.16, 121.67, 62.54, 57.12.

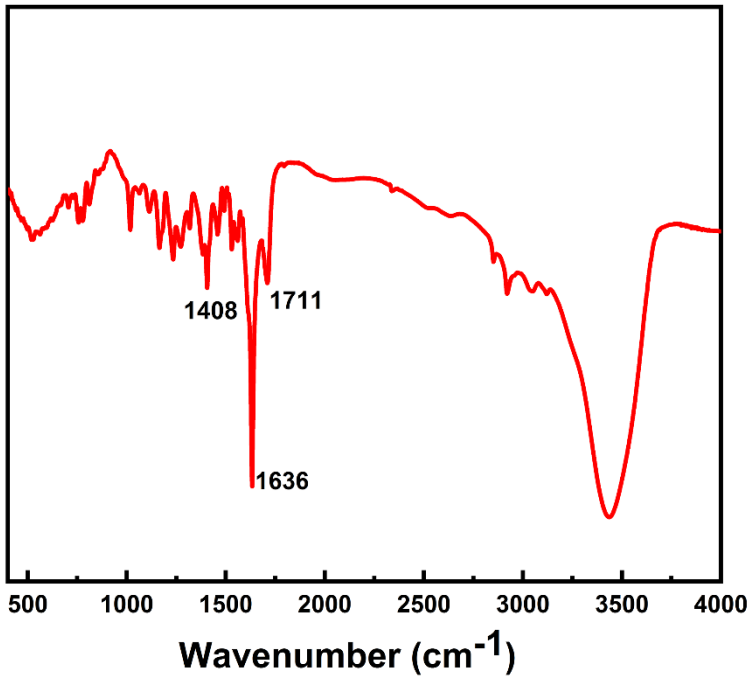

Figure S5. The FTIR spectrum of the Oxv ligand.

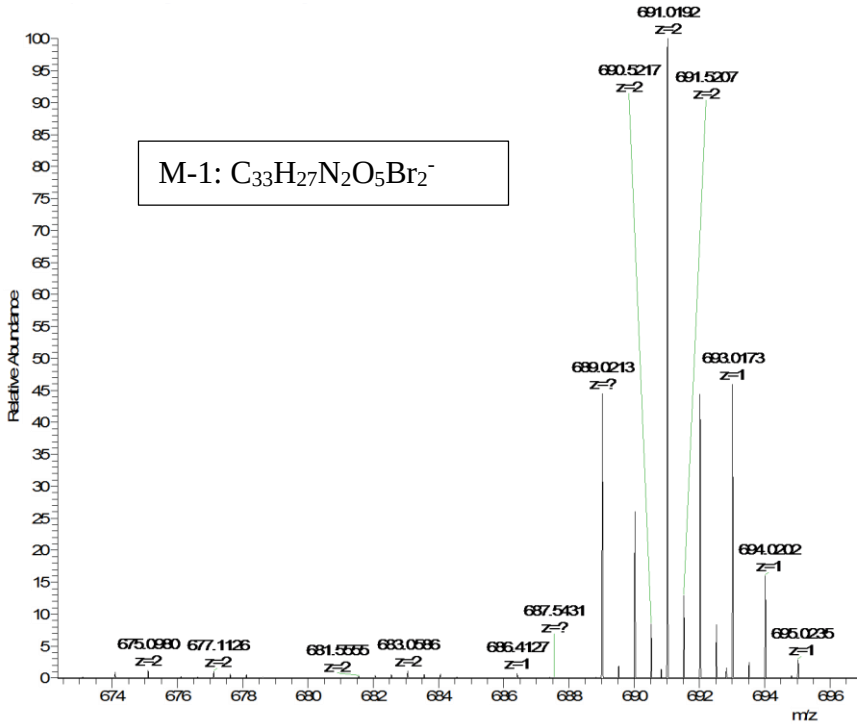

Figure S6. The MS spectrum of the Oxv ligand.

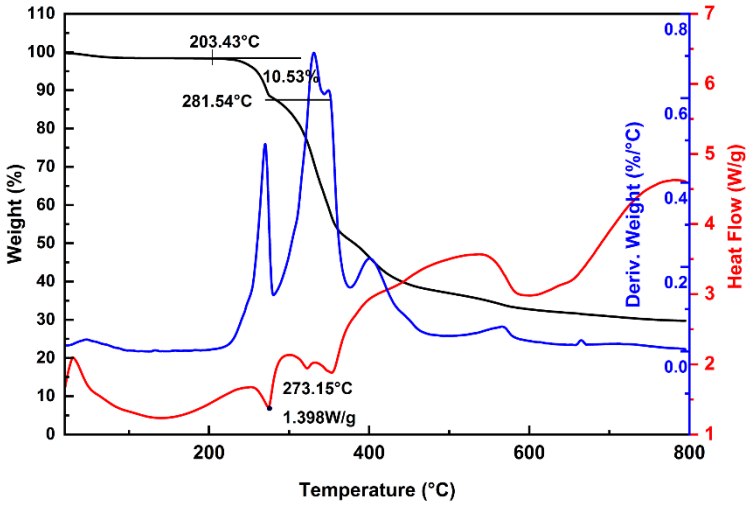

Figure S7. The TGA-DSC spectrum of the Oxv ligand.

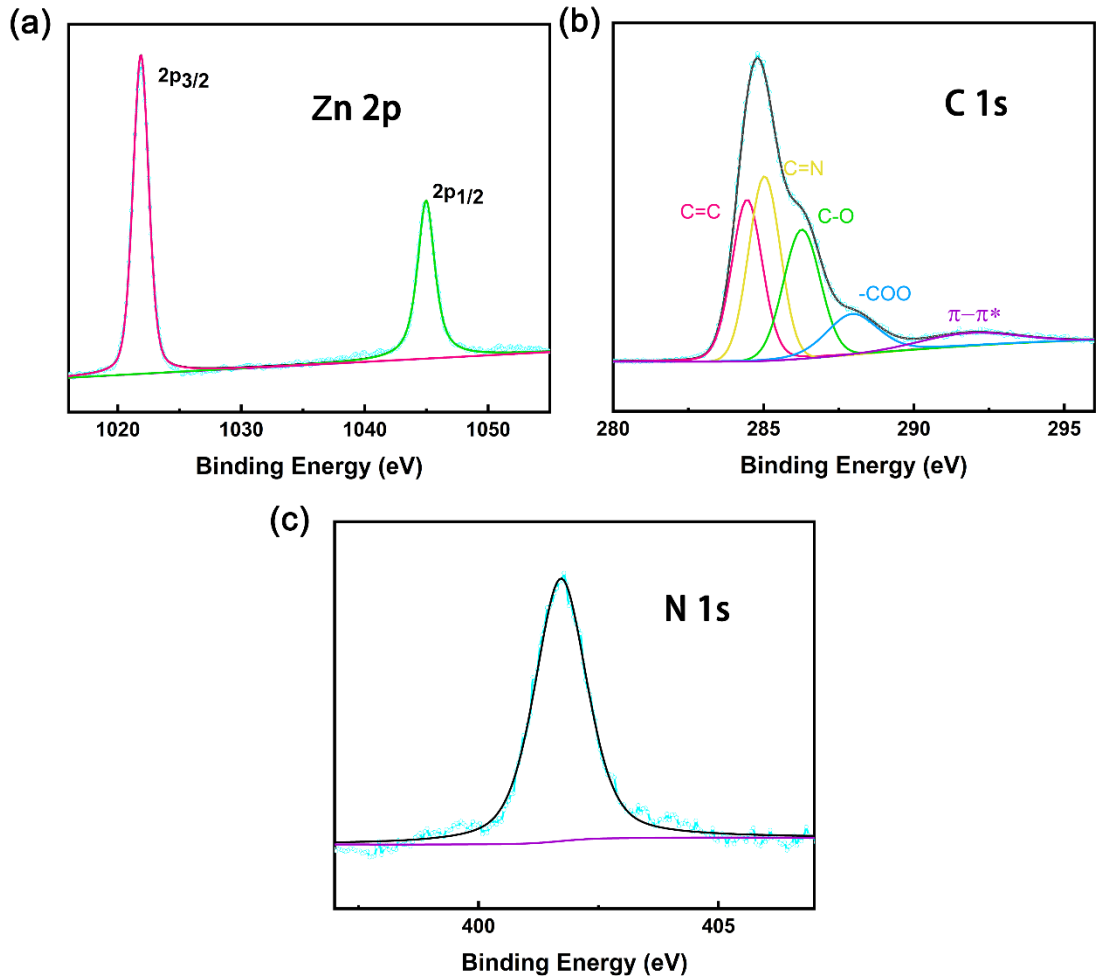

Figure S8. High-resolution XPS spectra of Zn 2p, C 1s and N 1s for the Zn-Oxv.

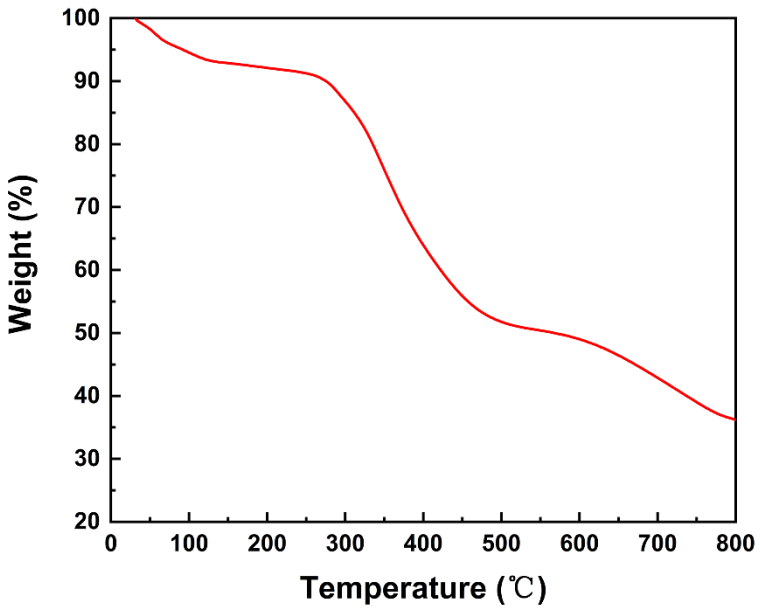

Figure S9. The TGA curve of Zn-Oxv CPs.

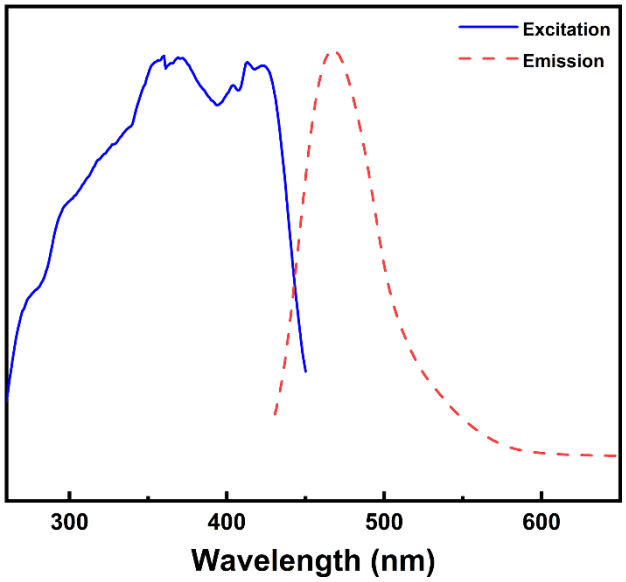

Figure S10. Fluorescence spectra of Zn-Oxv sample.

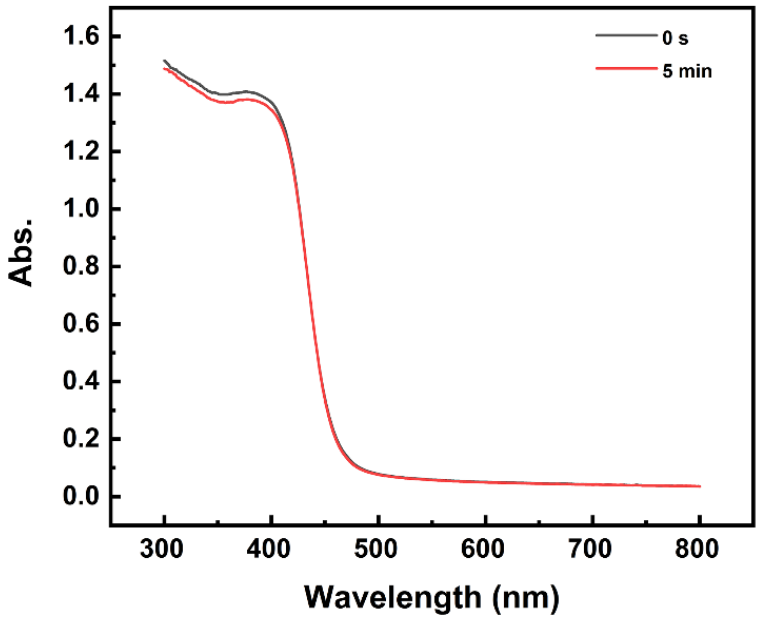

Figure S11. Solid-state UV−vis spectra of free ligand (Oxv) before and after irradiation.

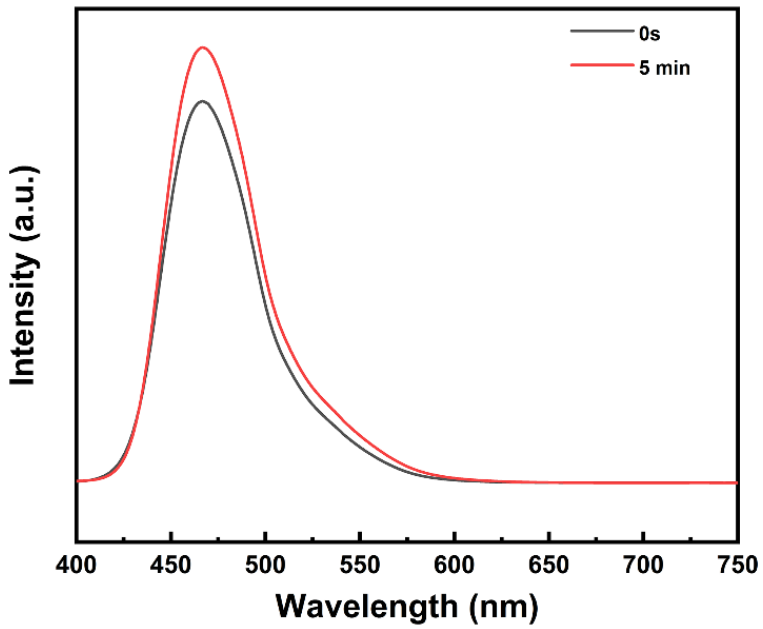

Figure S12. Emission spectra of free ligand (Oxv) before and after irradiation.

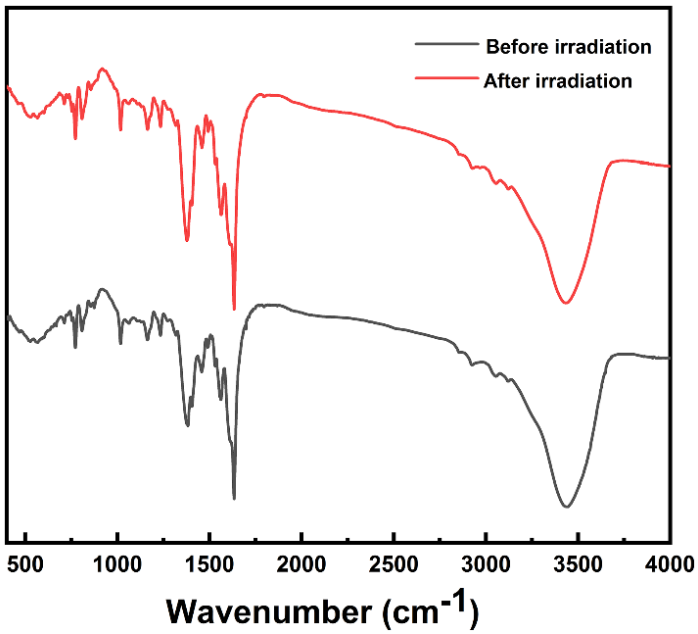

Figure S13. FTIR spectra of Zn-Oxv compound before and after irradiation.