Electronic Supplementary Material (ESI) for Polymer Chemistry.

SUPPORTING INFORMATION

Anthraquinone-based oxime ester as visible-light photoinitiator for 3D photoprinting applications

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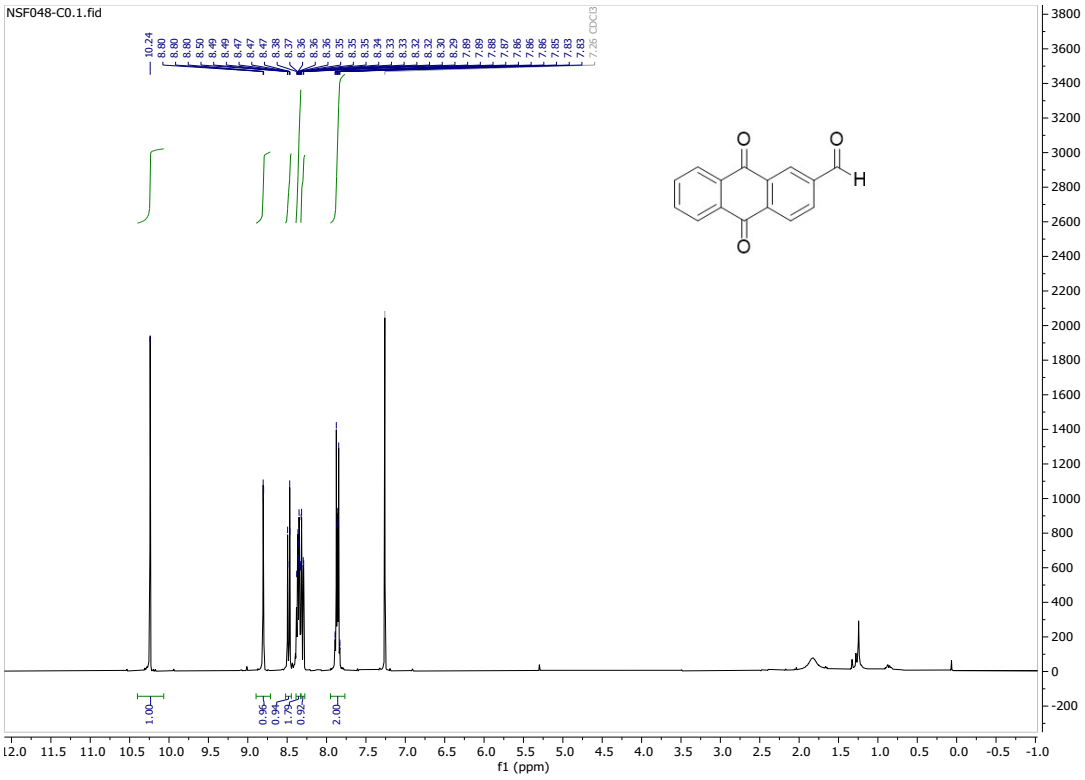

Figure S1: ^{1}H NMR (300 MHz) spectrum for 9,10-dioxo-9,10-dihydroanthracene-2-carbaldehyde (II) ($CDCl_3$ as a solvent).

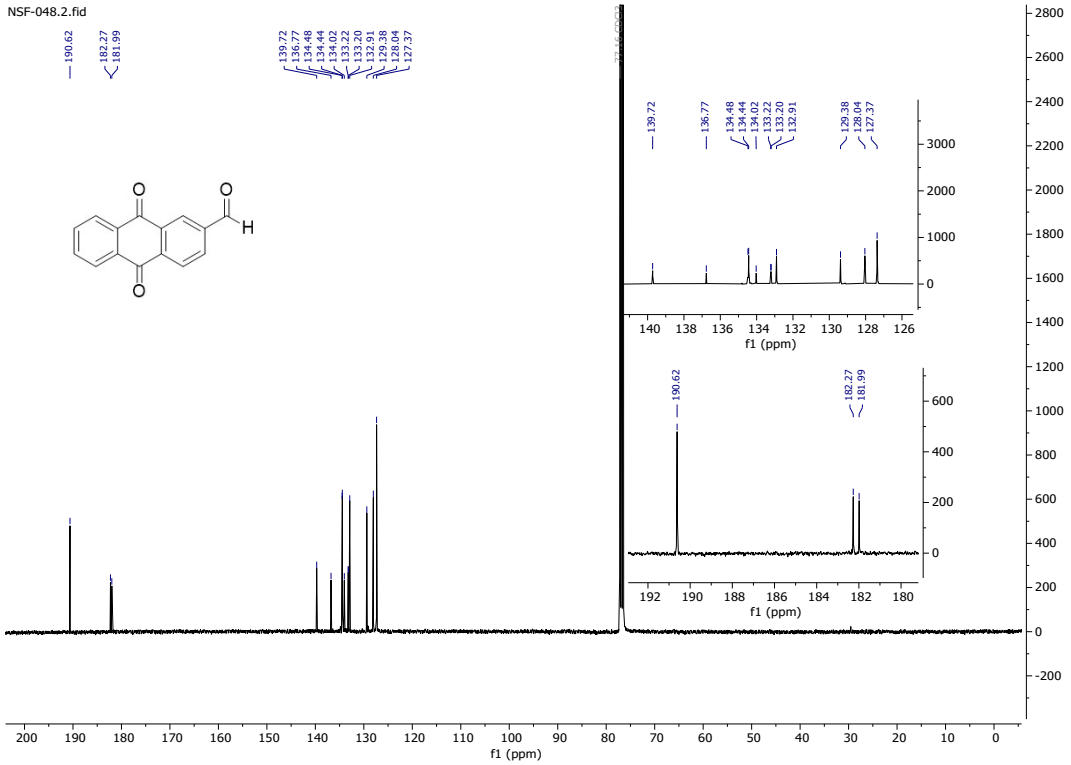

Figure S2: ^{13}C NMR (101 MHz) spectrum for 9,10-dioxo-9,10-dihydroanthracene-2-carbaldehyde (II) (THF_d^8 as a solvent).

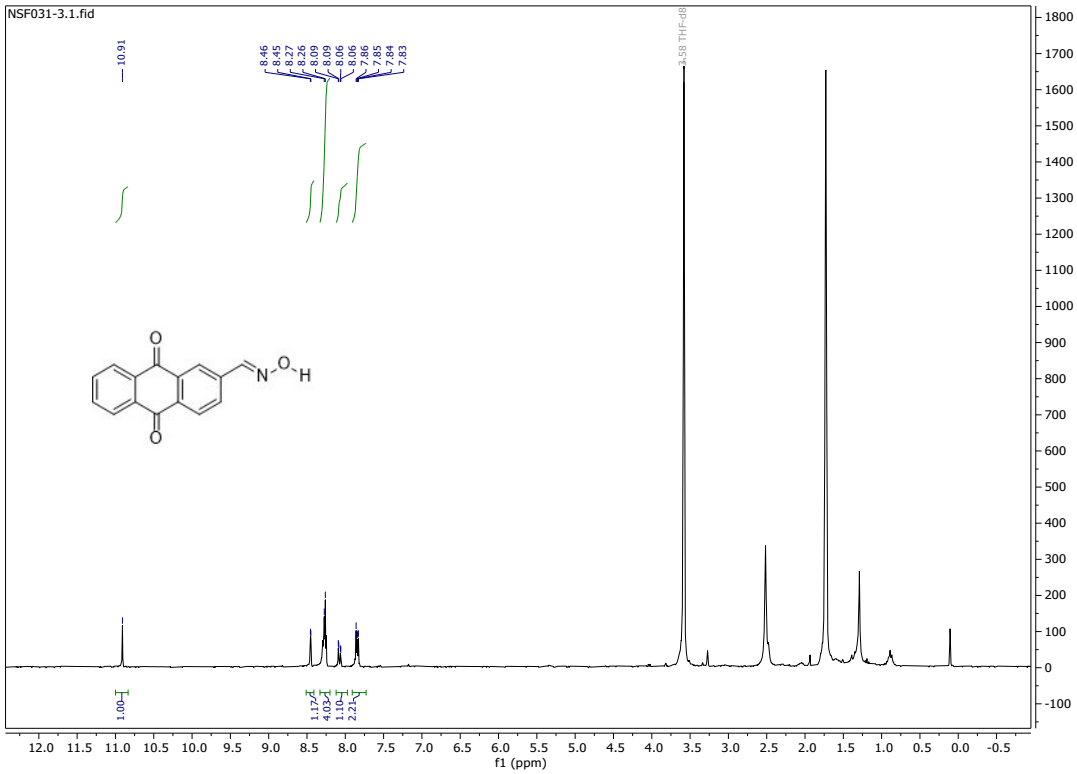

Figure S3: ^{1}H NMR (300 MHz) spectrum for (E)-9,10-dioxo-9,10-dihydroanthracene-2-carbaldehyde oxime (III) (THF-d^{8} as a solvent).

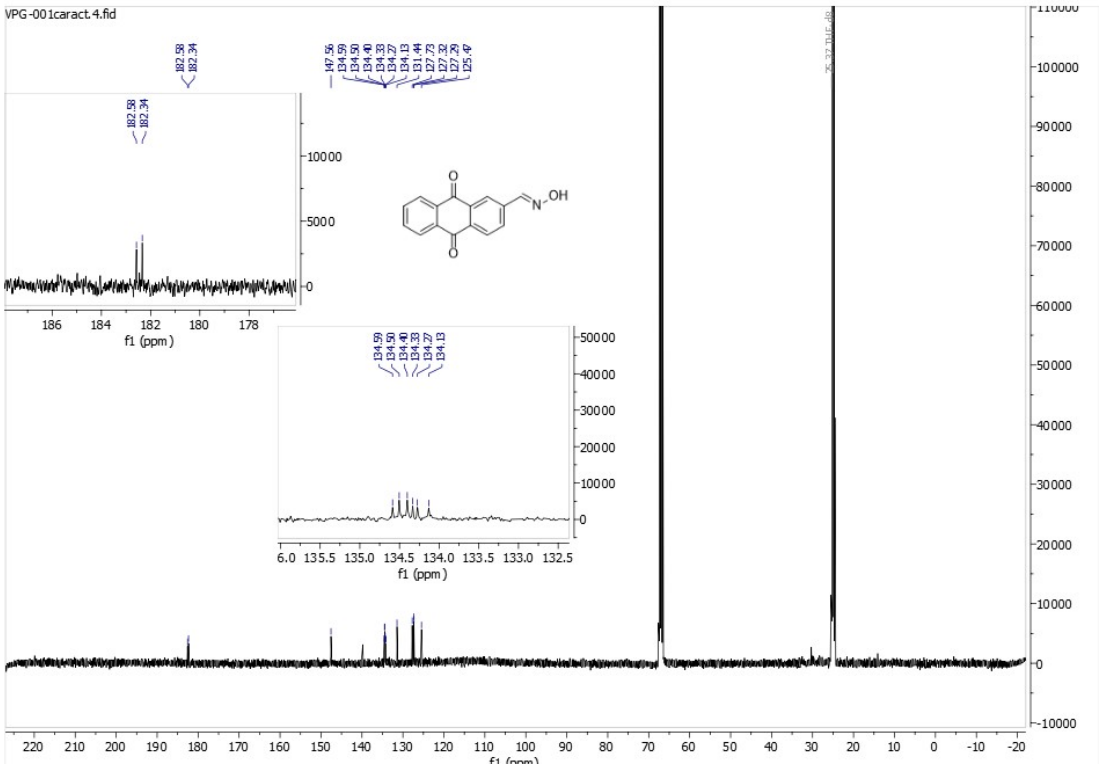

Figure S4: ^{13}C NMR (101 MHz) spectrum for (*E*)-9,10-dioxo-9,10-dihydroanthracene-2-carbaldehyde oxime (III) (THF-d^{8} as a solvent).

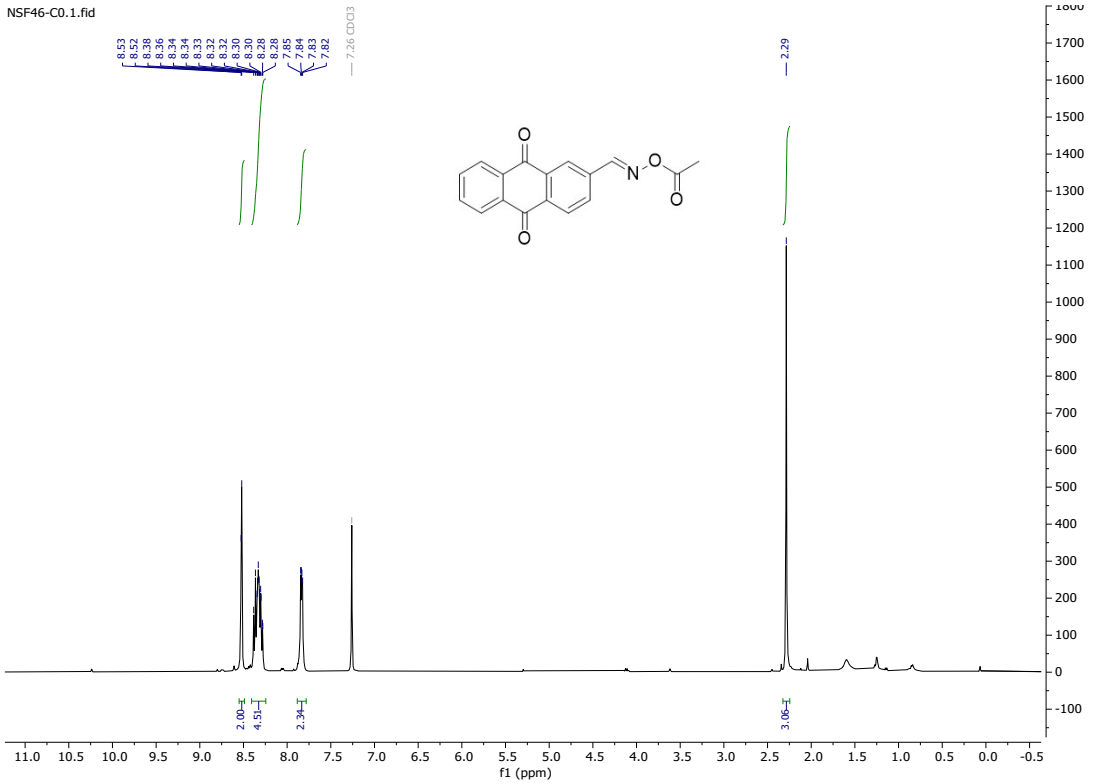

Figure S5: ^{1}H NMR (300 MHz) spectrum for (E)-9,10-dioxo-9,10-dihydroanthracene-2-carbaldehyde O-acetyl oxime (IV) ($CDCl_3$ as a solvent).

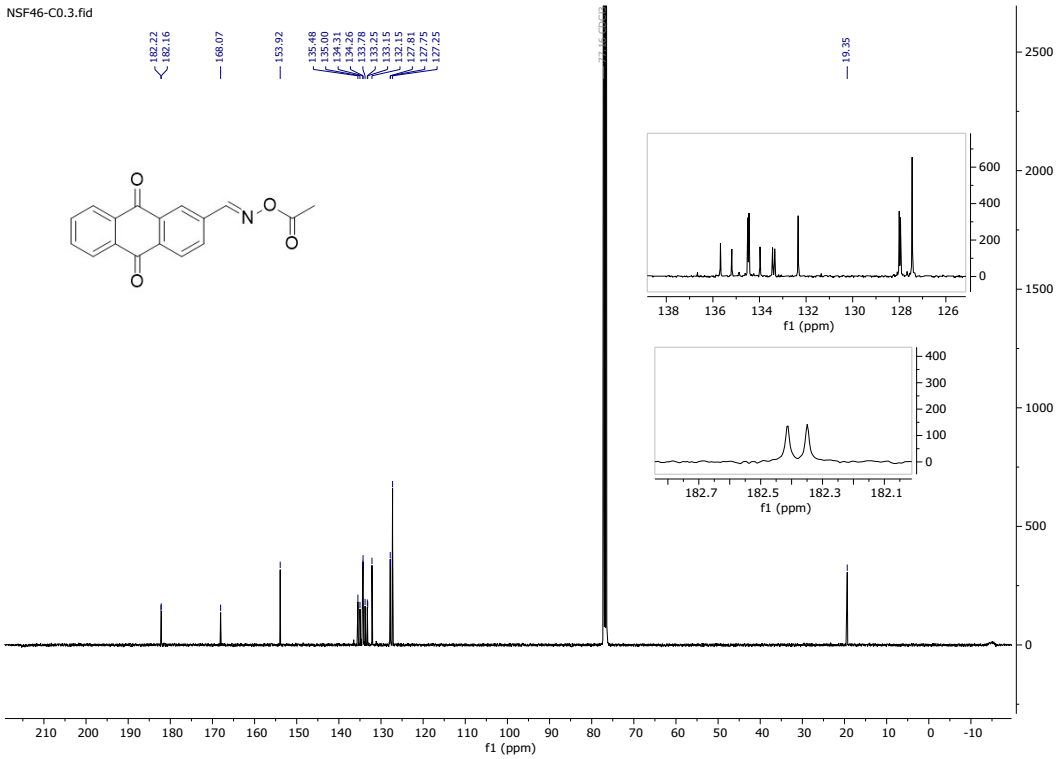

Figure S6: ^{13}C NMR (101 MHz) spectrum for (E)-9,10-dioxo-9,10-dihydroanthracene-2-carbaldehyde O-acetyl oxime (IV) ($CDCl_3$ as a solvent).

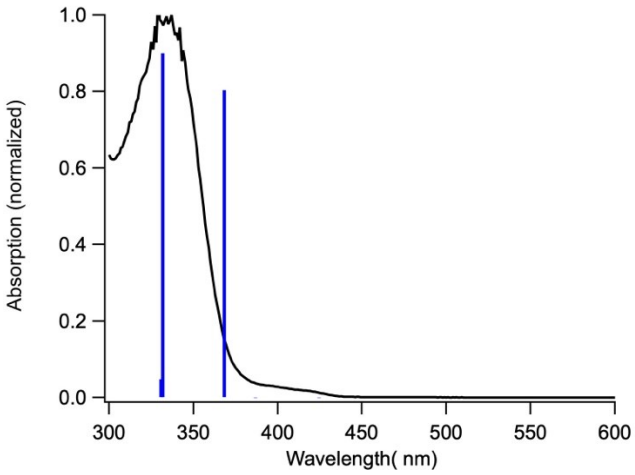

Figure S7. Normalized experimental UV-vis absorption spectrum of AQ-Ox in CH_2Cl_2 (black curve) and electronic transitions calculated by TD-DFT (blue lines, height is proportional to oscillator strength).

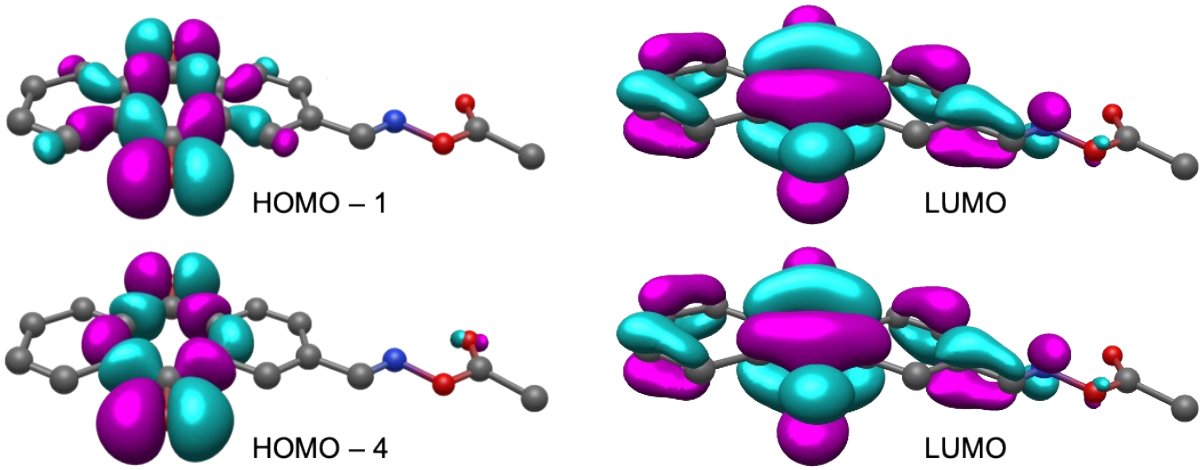

Figure S8. Main orbital pairs contributors for the electronic transitions calculated at 425 nm (top) and 387 nm (bottom).

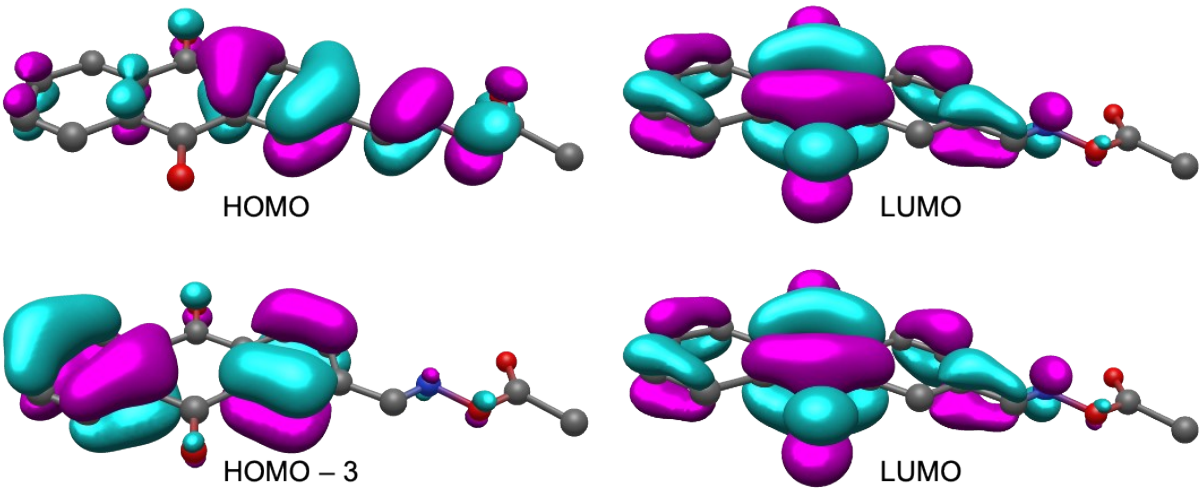

Figure S9. Main orbital pairs contributors for the electronic transitions calculated at 368 nm (top) and 332 nm (bottom).

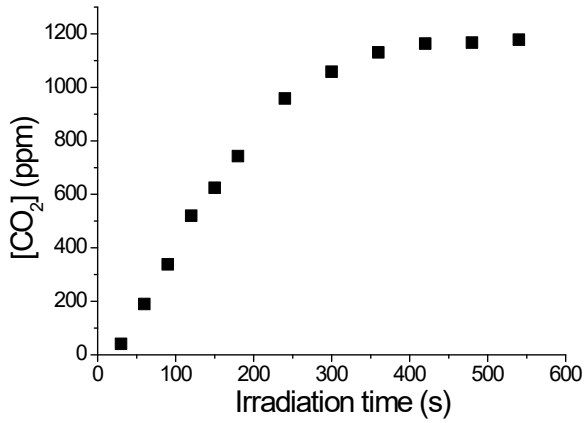

Figure S10. Micro-GC experiments. Formation of CO_2 under LED@405 nm irradiation of a DCM solution of AQ-Ox. [AQ-Ox] = 1.2 mg in 1.5 mL DCM solution. Intensity of LED@405 nm irradiation = 25 mW/cm^2

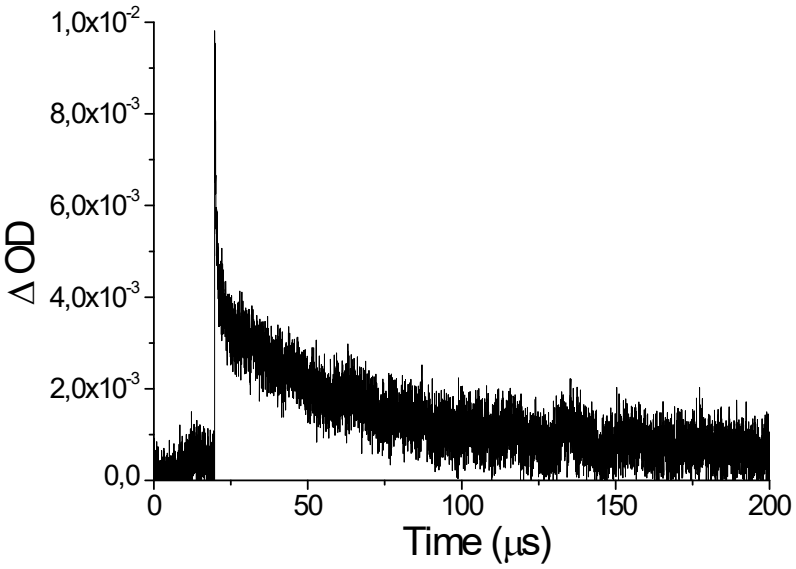

Figure S11. Transient absorption spectrum of the iminyl radicals at 300 nm after irradiation of a DCM solution of AQ-Ox. λ_{ex} = 266 nm.