

Triplet Excited State Behavior of Naphthalene-based Pseudopeptides in the Presence of Energy Donors

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Figure S1: Absorption spectra of: **1** (black), **2** (red), **3** (blue) and (*S*)-**4** (green) at 1×10^{-4} M concentration, in MeCN. Inset: long-wavelength absorption band of (*S*)-**4** at 1×10^{-3} M concentration.

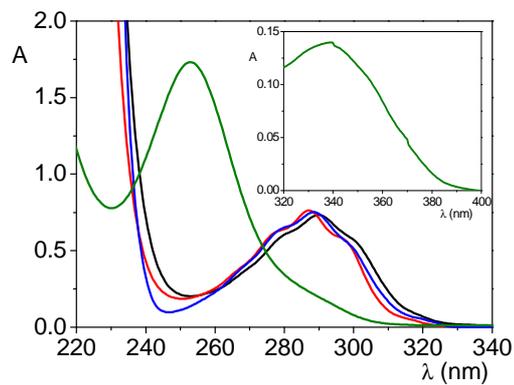


Figure S2: Laser flash photolysis of (*S*)-**4** ($\lambda_{\text{exc}} = 355 \text{ nm}$, $2.6 \times 10^{-4} \text{ M}$, MeCN, N_2). Transient spectra obtained in the presence of increasing amounts of **1-3**: 0 M (black), $1.0 \times 10^{-4} \text{ M}$ (red), $2.0 \times 10^{-4} \text{ M}$ (blue), $2.6 \times 10^{-4} \text{ M}$ (green), $4.0 \times 10^{-4} \text{ M}$ (orange).

A: **1**, 0.69 μs after the laser pulse.

B: **1**/HOAc 0.6 M, 0.69 μs after the laser pulse.

C: **2**, 0.69 μs after the laser pulse.

D: **2**/HOAc 0.6 M, 0.69 μs after the laser pulse.

E: **3**, 0.15 μs after the laser pulse.

F: **3**/HOAc 0.6 M 0.15 μs after the laser pulse.

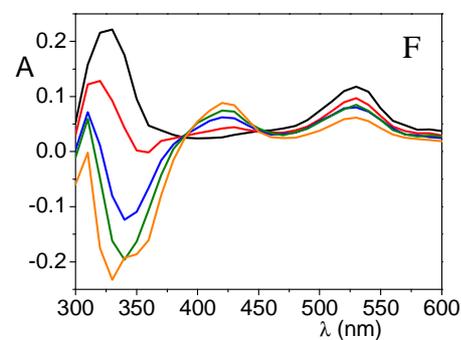
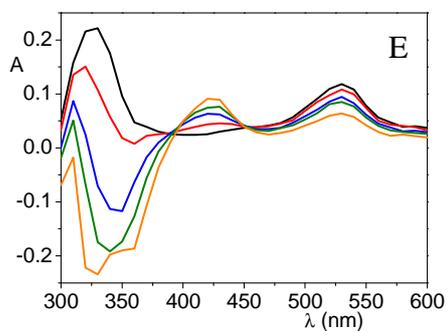
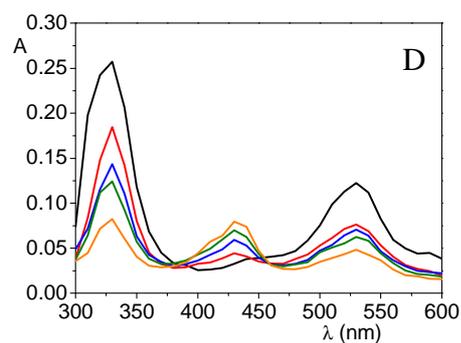
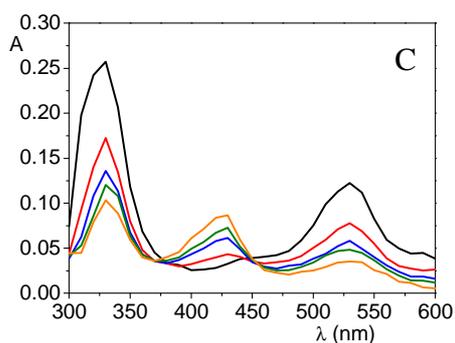
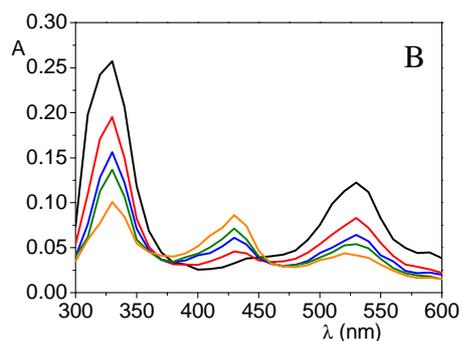
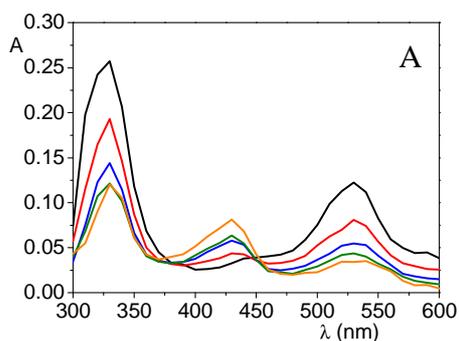


Figure S3: Laser flash photolysis of (*S*)-**4** ($\lambda_{\text{exc}} = 355 \text{ nm}$, $2.6 \times 10^{-3} \text{ M}$, MeCN, N_2) in the presence of increasing amounts of **1-3**: 0 M (black), $1.0 \times 10^{-4} \text{ M}$ (red), $2.0 \times 10^{-4} \text{ M}$ (blue), $2.6 \times 10^{-4} \text{ M}$ (green), $4.0 \times 10^{-4} \text{ M}$ (orange). Kinetic traces monitored at 530 nm in the presence of **A: 1, B: 1/0.6 M HOAc, C: 2, D: 2/0.6 M HOAc, E: 3, F: 3/0.6 M HOAc**. Insets: Stern–Volmer plots for each $^3\text{BZP}^*$ quenching.

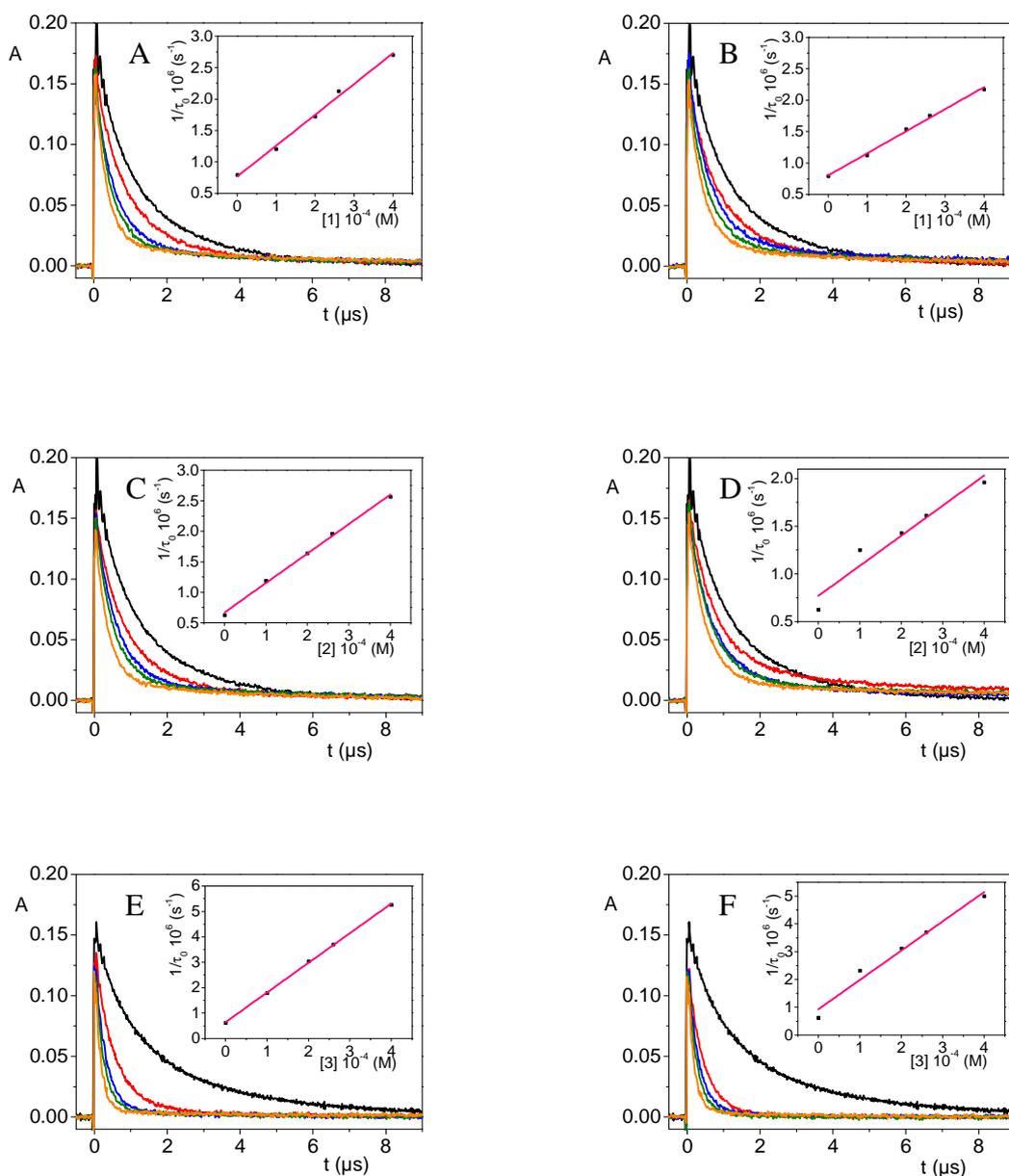


Figure S4: ^1H -RMN and ^{13}C -RMN spectra of (*S,S*)-**5**.

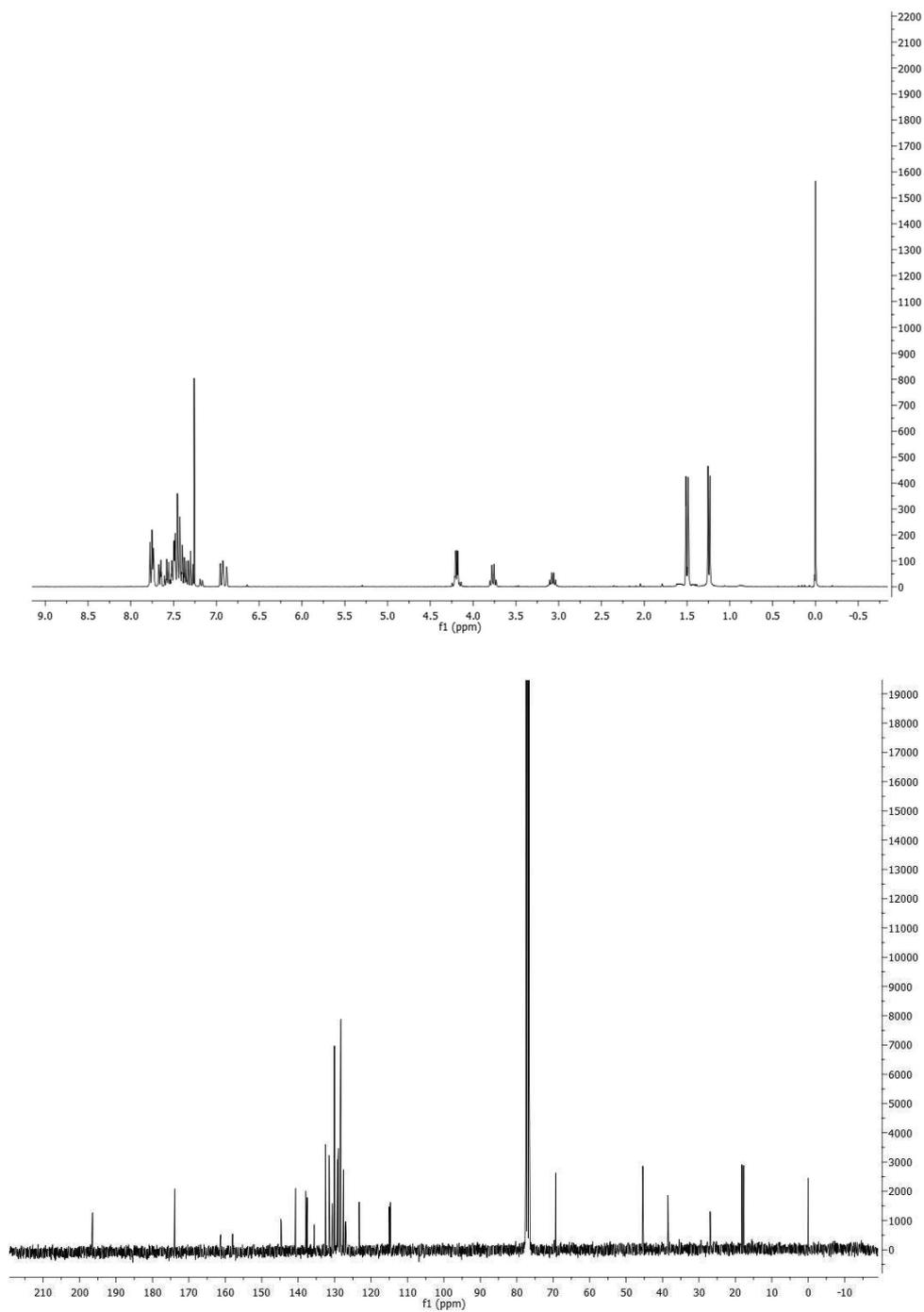


Figure S5: ^1H -RMN and ^{13}C -RMN spectra of (*S,R*)-**5**.

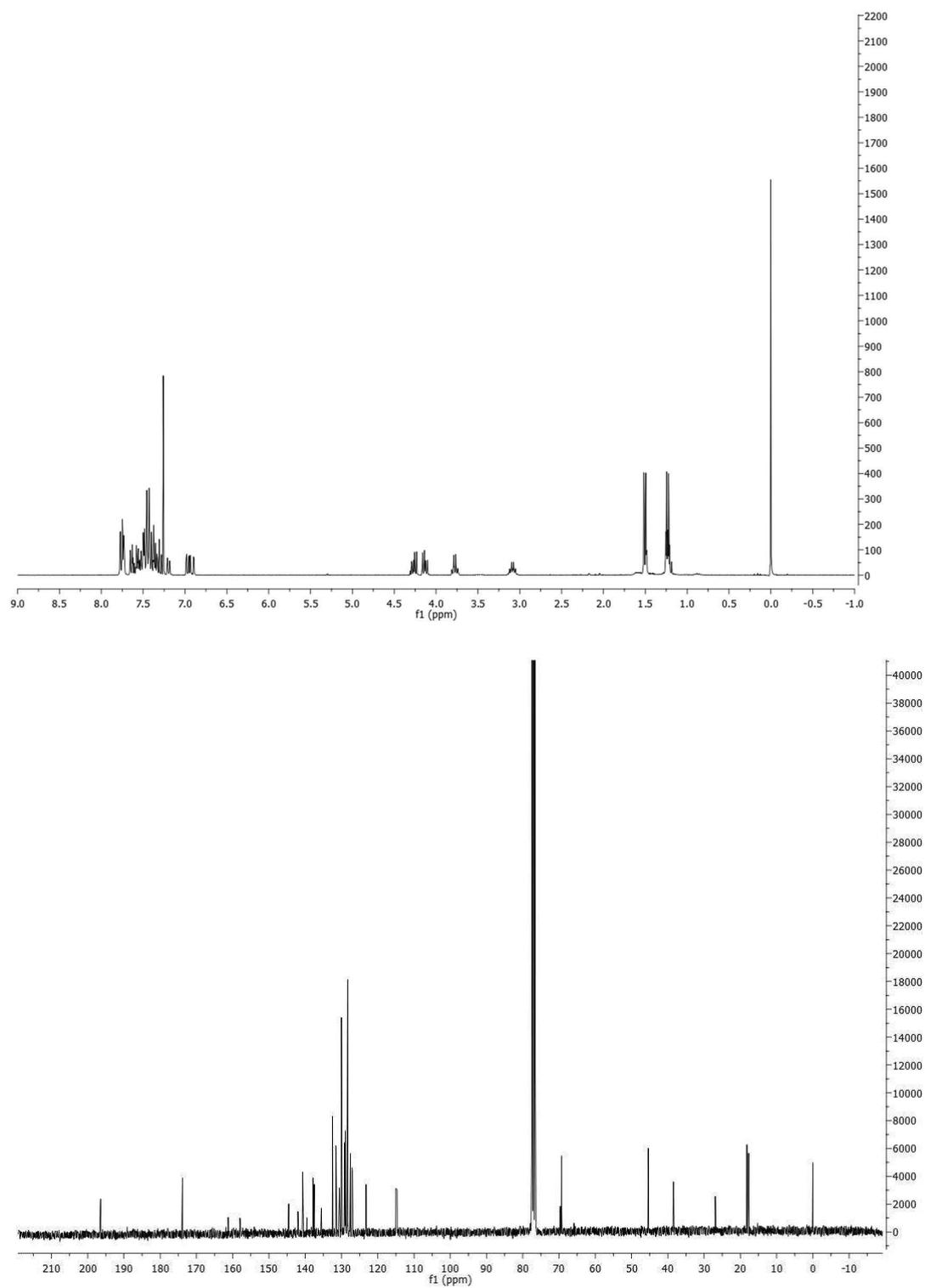


Figure S6: Absorption spectra of (*S*)-FBPOH (black), (*S*)-**4** (red), (*S,S*)-**5** (blue) and (*S,R*)-**5** (green) at 5.0×10^{-5} M concentration, in MeCN. Inset: Long wavelength absorption band of (*S*)-**4**, (*S,S*)-**5** and (*S,R*)-**5** at 2.6×10^{-3} M concentration (LFP excitation conditions).

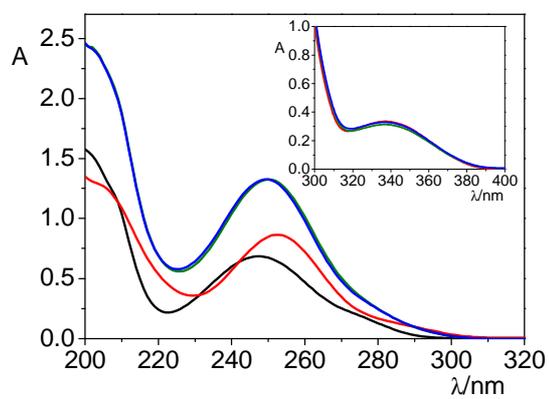


Figure S7: Laser flash photolysis ($\lambda_{\text{exc}} = 355 \text{ nm}$, $2.6 \times 10^{-3} \text{ M}$, MeCN, N_2) of dyads **5**. Transient spectra obtained 0.20 μs (black), 1.00 μs (red), 5.36 μs (green), 16.23 μs (blue) after the laser pulse. **A:** (S,S)-**5**. **B:** (S,R)-**5**

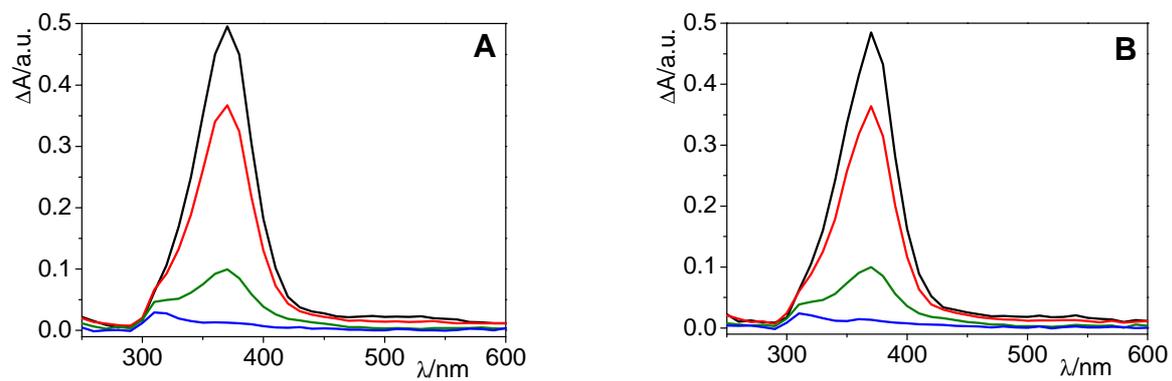


Figure S8: Laser flash photolysis ($\lambda_{\text{exc}} = 355 \text{ nm}$, $2.6 \times 10^{-3} \text{ M}$, MeCN, N_2) of (*S,S*)-**5** in the presence of **A: 1**, **B: 2** or **C: 3** at $2.6 \times 10^{-4} \text{ M}$ concentration. Transient spectra obtained 0.20 μs (black), 1.00 μs (red), 5.36 μs (green), 16.23 μs (blue) after the laser pulse.

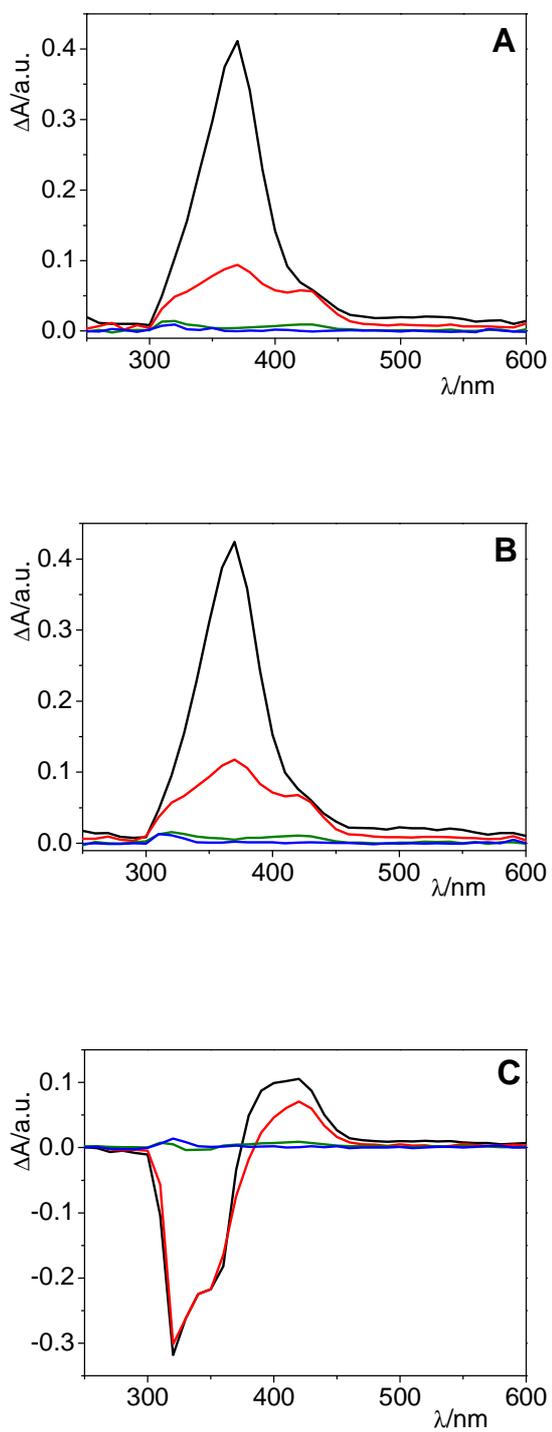


Figure S9: Laser flash photolysis ($\lambda_{\text{exc}} = 355 \text{ nm}$, $2.6 \times 10^{-3} \text{ M}$, MeCN, N_2) of (*S,R*)-**5** in the presence of **A: 1**, **B: 2** or **C: 3** at $2.6 \times 10^{-4} \text{ M}$ concentration. Transient spectra obtained 0.20 μs (black), 1.00 μs (red), 5.36 μs (green), 16.23 μs (blue) after the laser pulse.

