Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry.

Electronic Supporting Information for

Solvent-sensitive Signs and Magnitudes of Circularly Polarised Luminescence and Circular Dichroim Spectra: Probing Two Phenanthrenes as Emitters Endowed with BINOL Derivatives

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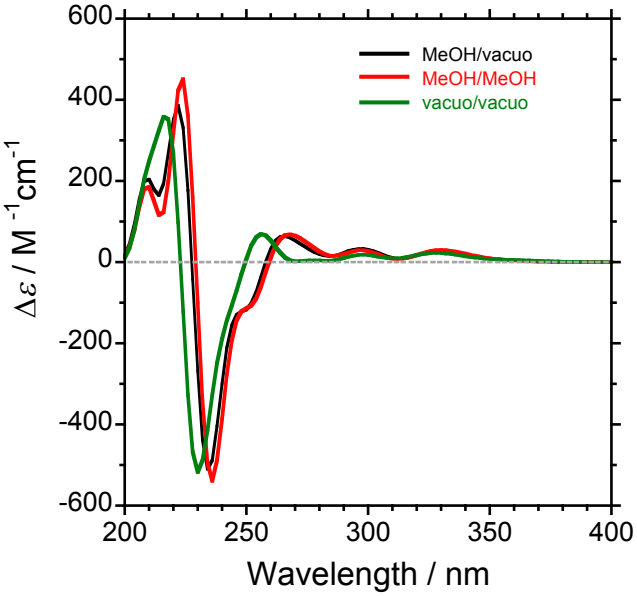

Fig. S1. CD spectra of (*R*)-**2a** calculated with or without solvent effect, using the methods of calculations for obtaining Fig. 6. MeOH/*vacuo* (black line) means the CD spectrum is simulated with the solvent effect of MeOH, and this calculation uses the gas phase geometry. MeOH/MeOH (red line) and *vacuo*/*vacuo* (green line) means the CD spectra are simulated with or without MeOH solvent effect, respectively, with the molecular geometries determined for the respective media.

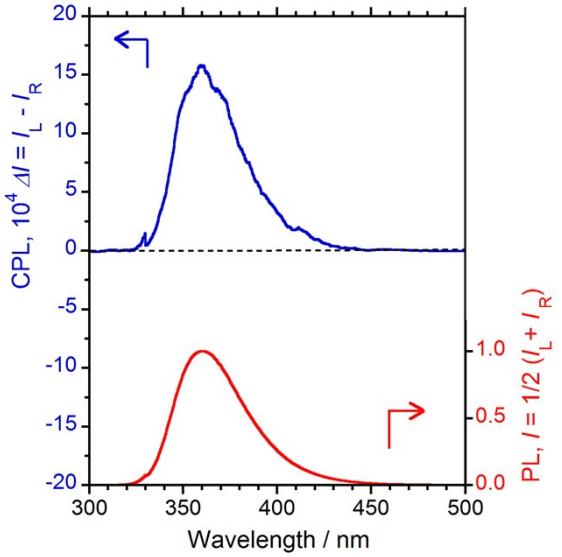

Fig. S2. CPL (upper blue plot) and PL (lower red plot) spectra of (*R*)-**2c** in MeOH. $[Conc]_0 = 1.0 \times 10^{-4}$ M. λ_{ex} = 300 nm. Path length = 10 mm. The g_{em} value is 1.6×10^{-3} at 361 nm.

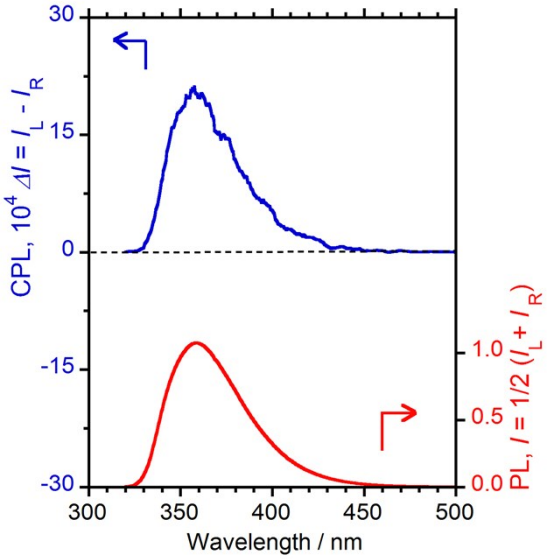

Fig. S3. CPL (upper blue plot) and PL (lower red plot) spectra of (*R*)-**2d** in DMF. $[Conc]_0 = 1.0 \times 10^{-4}$ M. λ_{ex} = 300 nm. Path length = 10 mm. The g_{em} value is 1.9×10^{-3} at 361 nm.

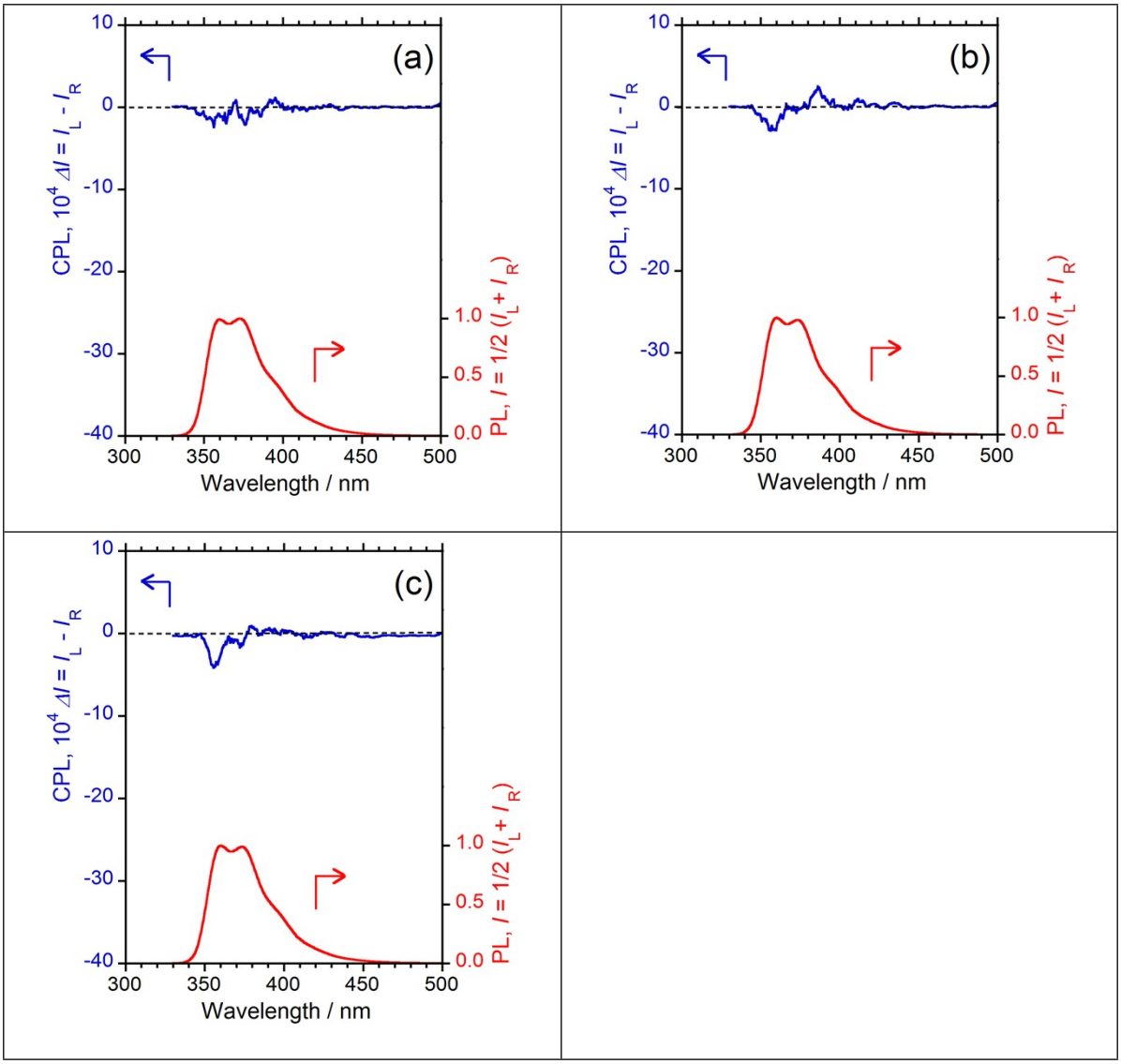

Fig. S4. CPL (upper blue plot) and PL (lower red plot) spectra of (*R*)-**2a** in (a) $CHCl_3$/DMF (2/1, v/v), (b) $CHCl_3$/DMF (1/1, v/v), and (c) $CHCl_3$/DMF (1/2, v/v). $[Conc]_0$ = 1.0 × 10^{-4} M. λ_{ex} = 300 nm. Path length = 10 mm. The g_{em} value is -1.0 × 10^{-4} at 358 nm for $CHCl_3$/DMF (2/1, v/v), -0.2 × 10^{-4} at 362 nm for $CHCl_3$/DMF (1/1, v/v), and -1.5 × 10^{-4} at 356 nm for $CHCl_3$/DMF (1/2, v/v).

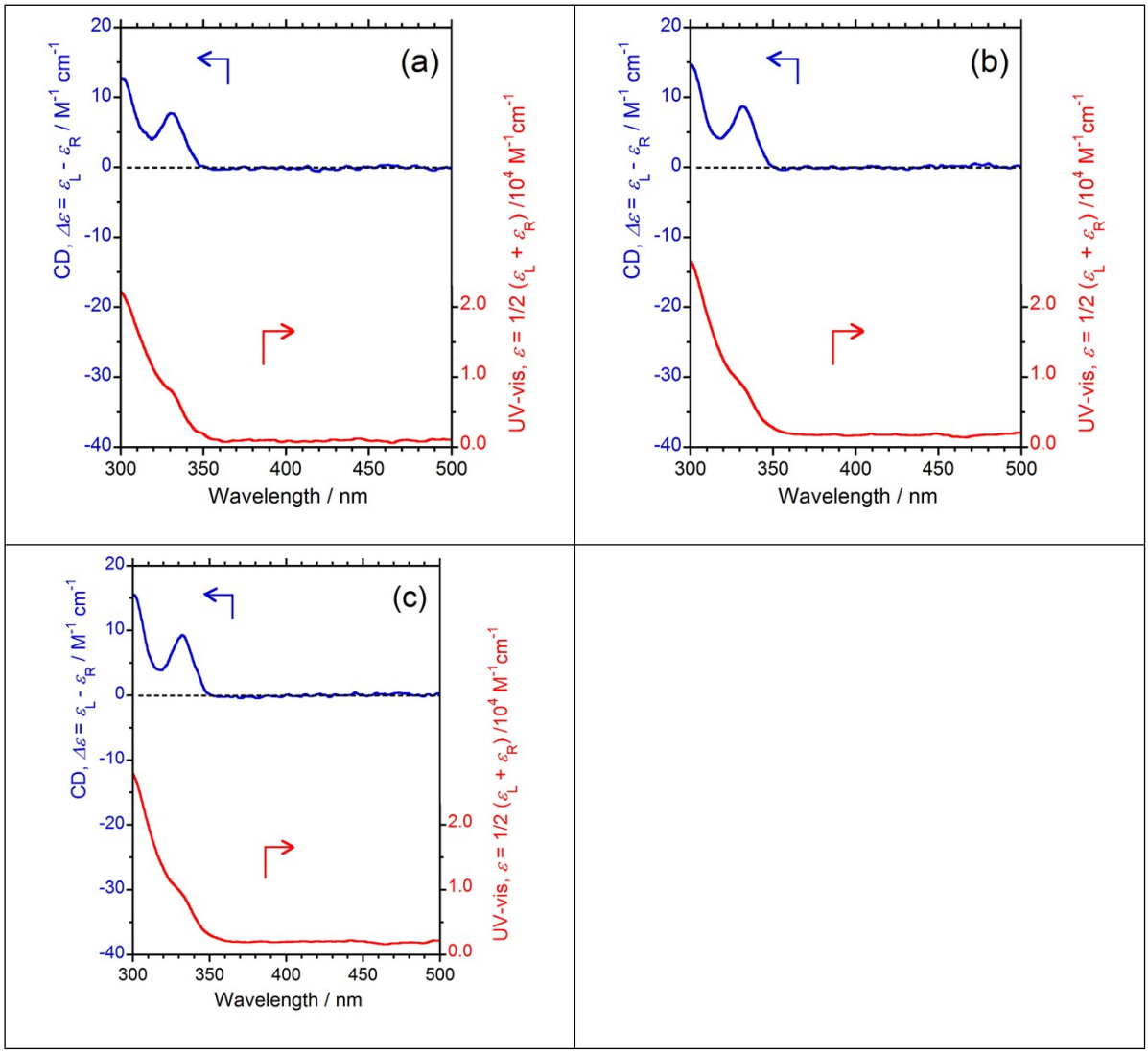

Fig. S5. CD (upper plot) and UV absorption (lower plot) spectra of (*R*)-**2a** in (a) $CHCl_3$/DMF (2/1, v/v), (b) $CHCl_3$/DMF (1/1, v/v), and (c) $CHCl_3$/DMF (1/2, v/v). Conc. = 1.0×10^{-4} M. Path length = 1 mm.