

Supplementary sheet

Photo-induced orientation behaviors of azobenzene liquid crystal copolymers for photonic crystals

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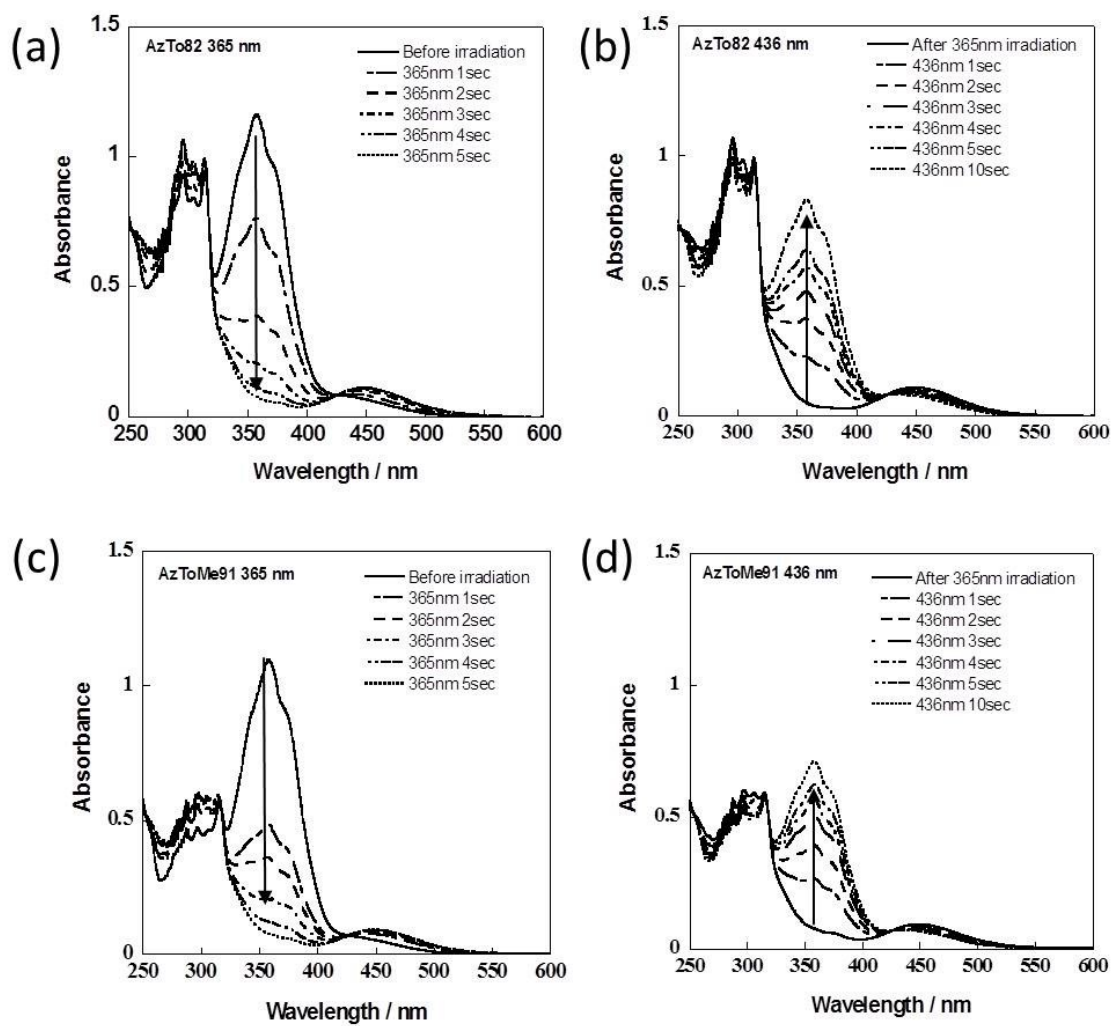


Figure S1. Absorption spectra of AzTo82 (a, b) and AzToMe91 (c, d) THF solutions under irradiation of UV light (365 nm, 8 mW/cm²) (a, c) and visible light (436 nm, 60 mW/cm²) (b, d).

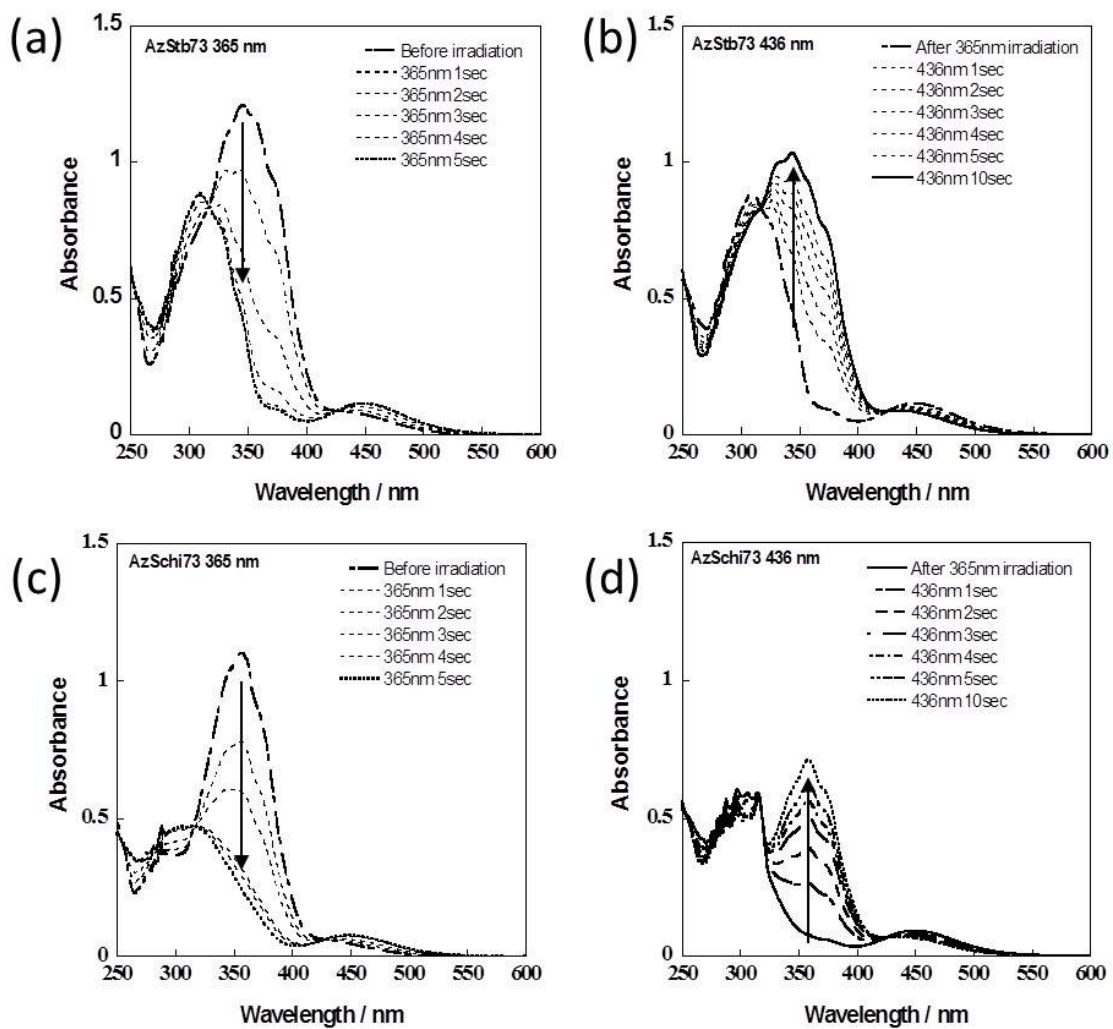


Figure S2. Absorption spectra of AzStb73 (a, b) and AzSchi73 (c, d) THF solutions under irradiation of UV light (365 nm, 8 mW/cm²) (a, c) and visible light (436 nm, 60 mW/cm²) (b, d).

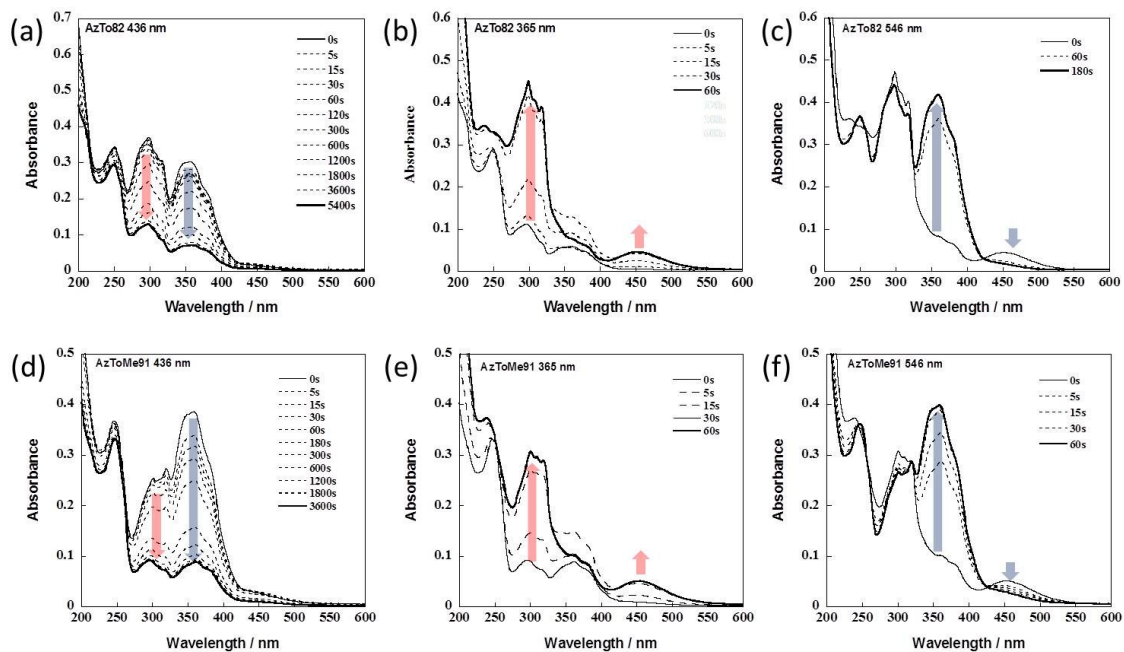


Figure S3. Absorption spectra of AzTo82 (a, b, c) and AzToMe91 (d, e, f) films under irradiation of 436 nm light (150 mW/cm^2) (a, d), 365 nm light (30 mW/cm^2) (b, e) and 546 nm light (100 mW/cm^2) (c, f).

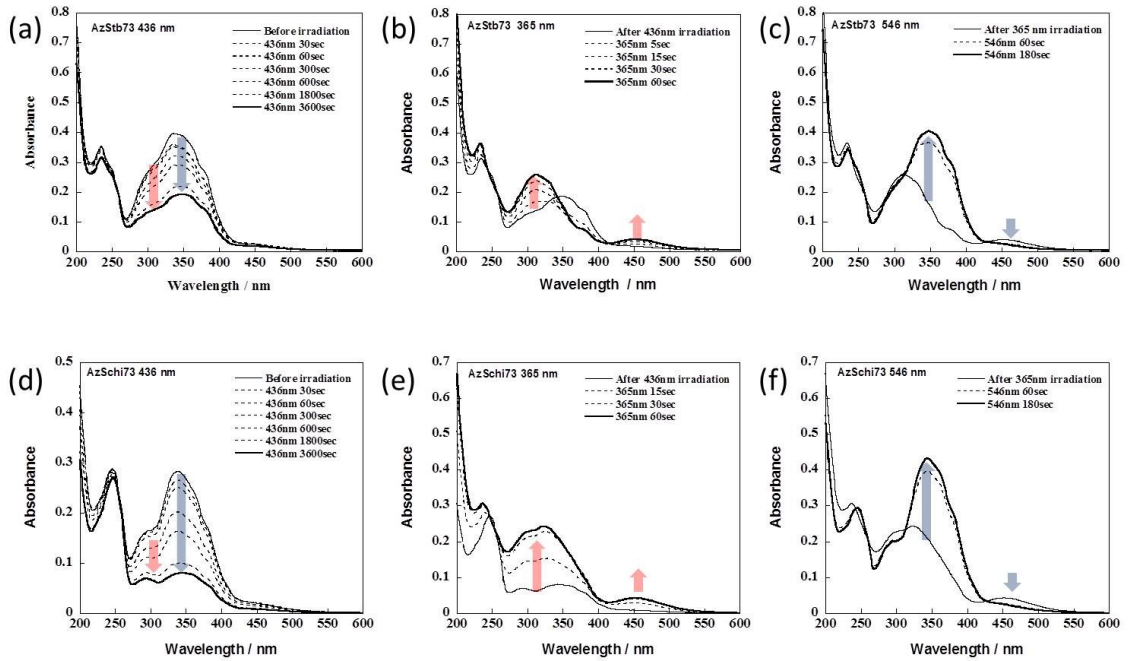


Figure S4. Absorption spectra of AzStb73 (a, b, c) and AzSchi73 (d, e, f) films under irradiation of 436 nm light (150 mW/cm^2) (a, d), 365 nm light (30 mW/cm^2) (b, e) and 546 nm light (100 mW/cm^2) (c, f).

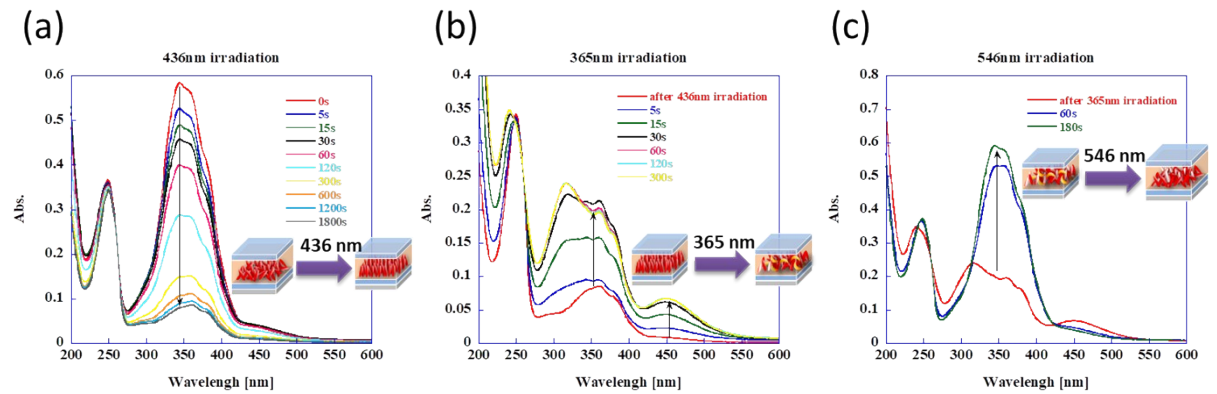


Figure S5. Absorption spectra of Az100 films under irradiation of 436 nm light (150 mW/cm^2) (a), 365 nm light (30 mW/cm^2) (b) and 546 nm light (100 mW/cm^2) (c).

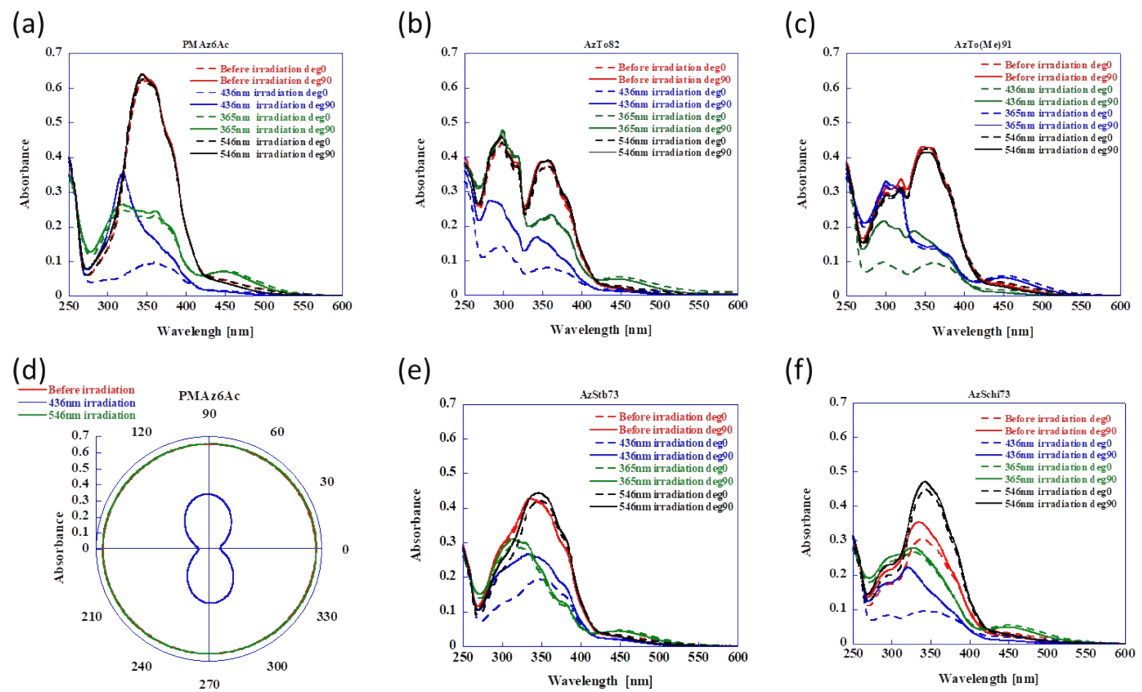


Figure S6. The vertical and horizontal polarized absorption spectra of the Az100 (a), AzTo82 (b), AzToMe91 (c), AzStb73 (e) and AzSchi73 (f) films after irradiation of 436 nm (150 mW/cm²), 365 nm (30 mW/cm²), and 546 nm light (100 mW/cm²) for the plane normal to the monitoring light. The films were horizontally tilted 40° to the plane normal to the monitoring light. The polar plot of Az100 for the absorbance at 354 nm (d).

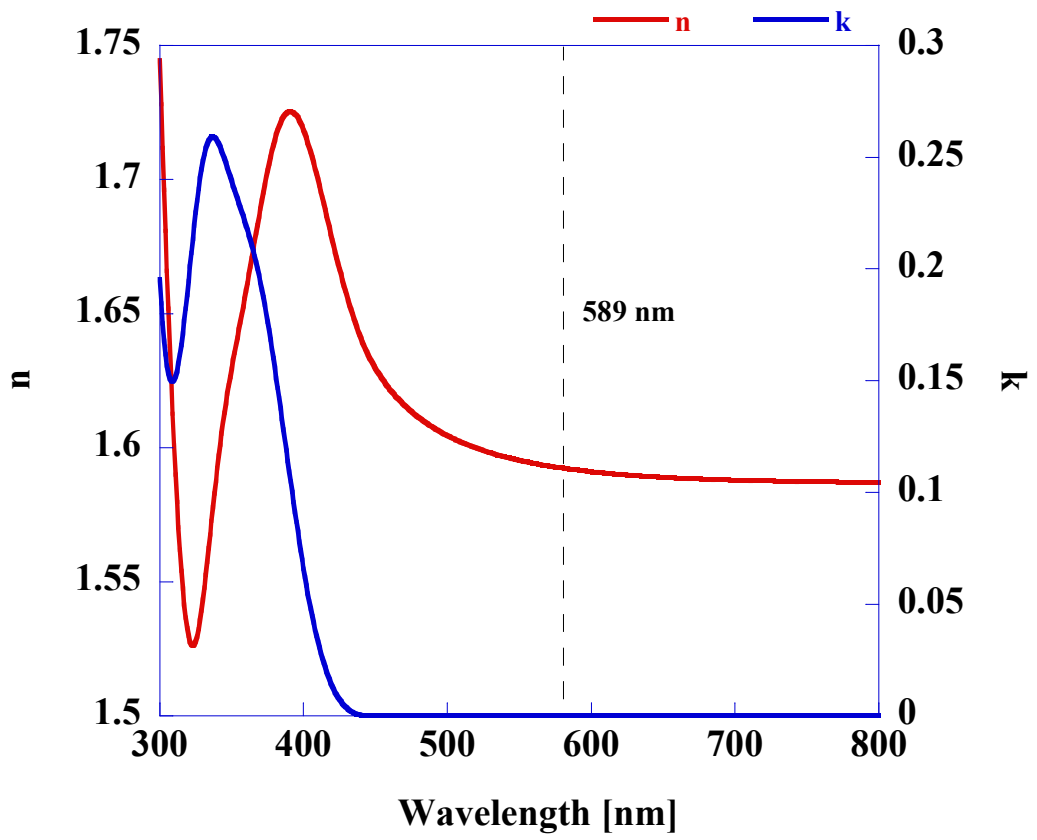


Figure S7. Refractive index measurement by Spectrum Ellipsometer FE-5000s and calculated with the wavelength at 589.3 nm

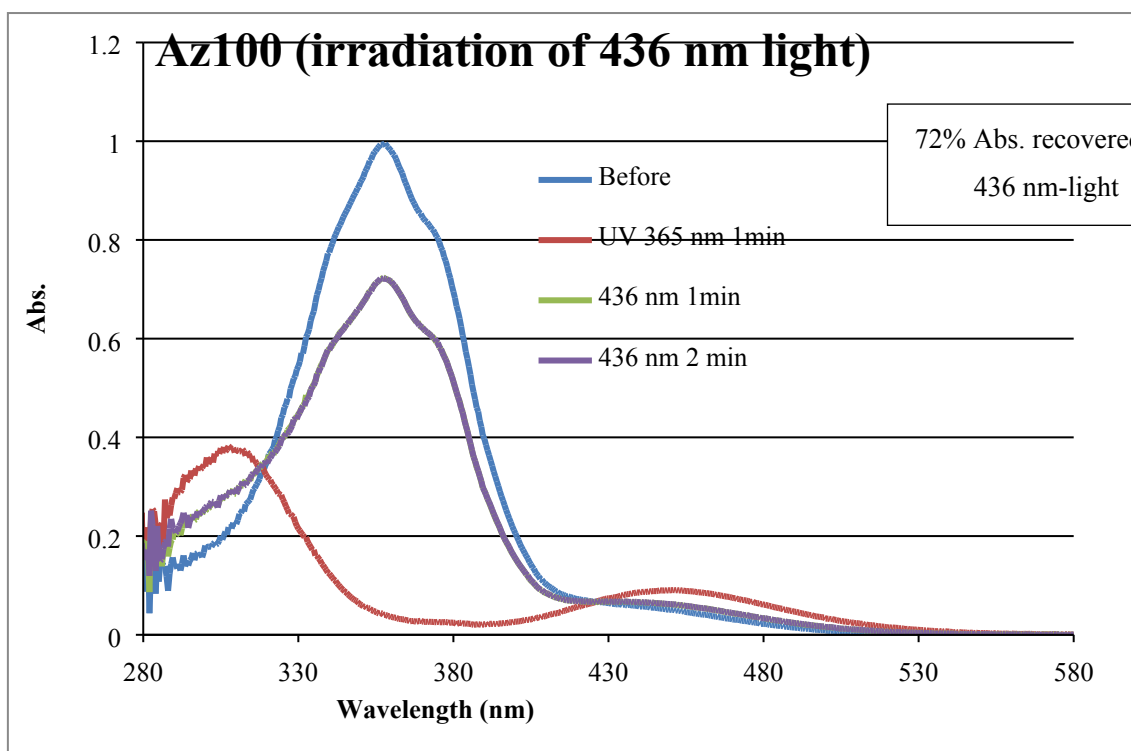
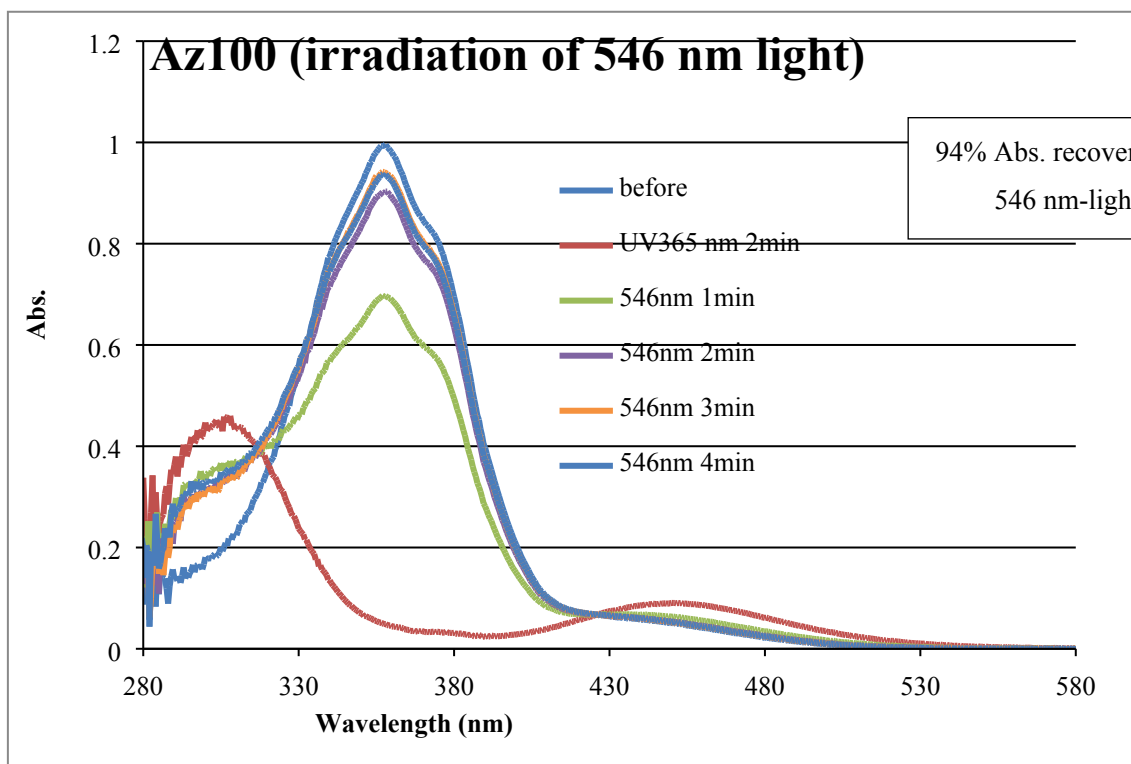


Figure S8. Absorption spectra after 546 nm light (a) and 436 nm light (b) after 365 nm light.

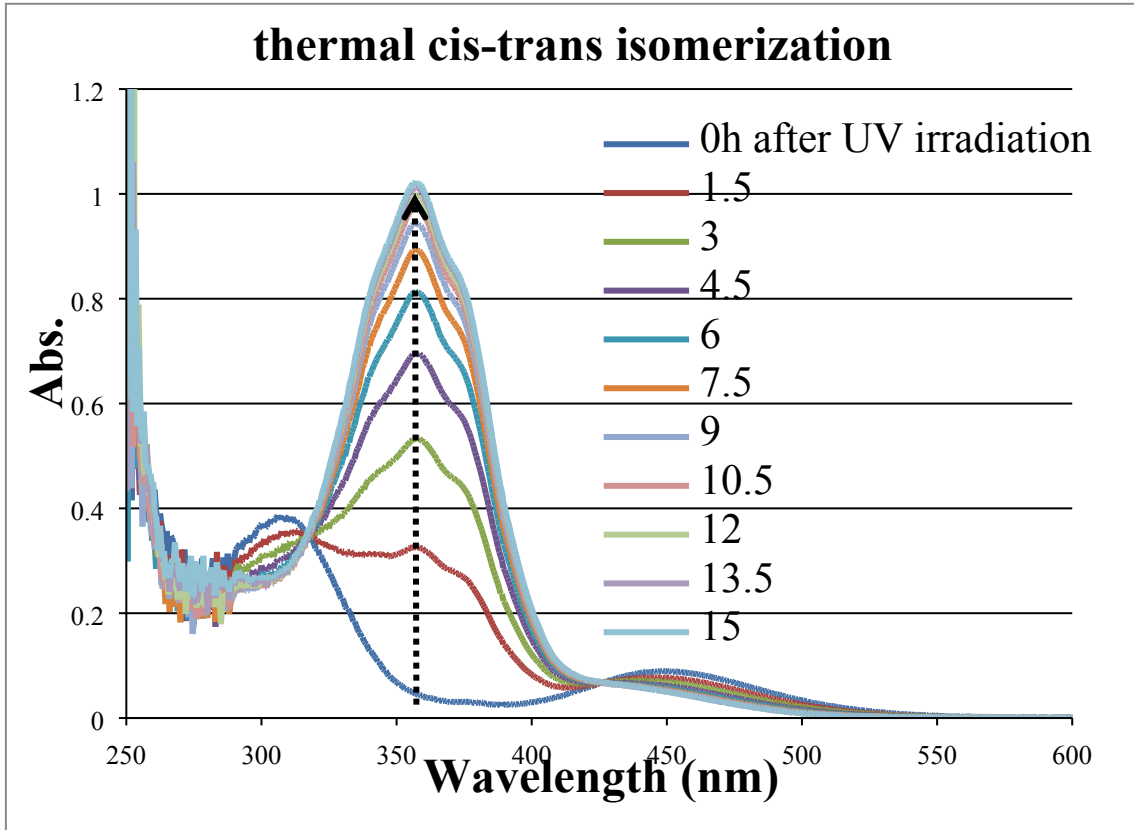


Figure S10. Absorption spectra of Az100 THF solution after UV light irradiation at RT (32°C)

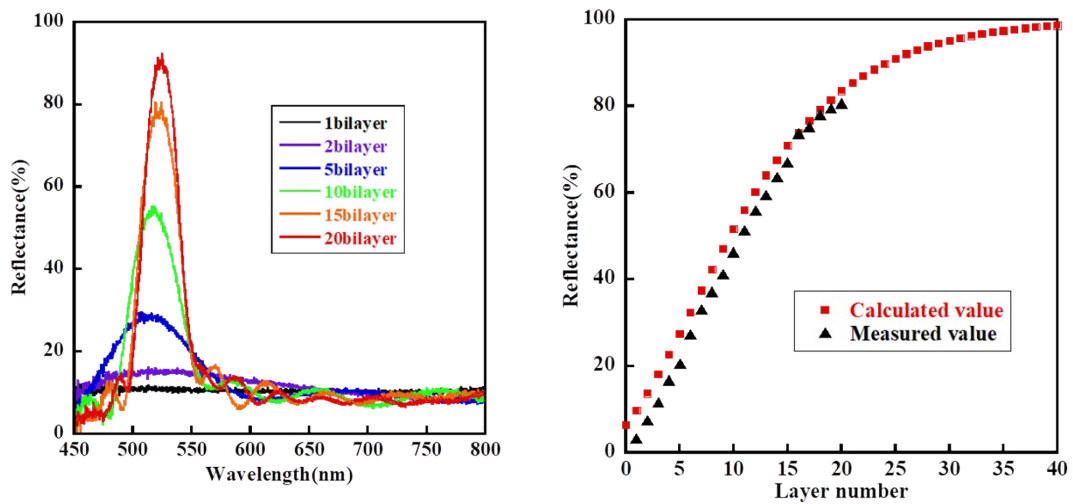


Figure S11. Reflectance of multi-bilayered film (Az100) with different number of layers.

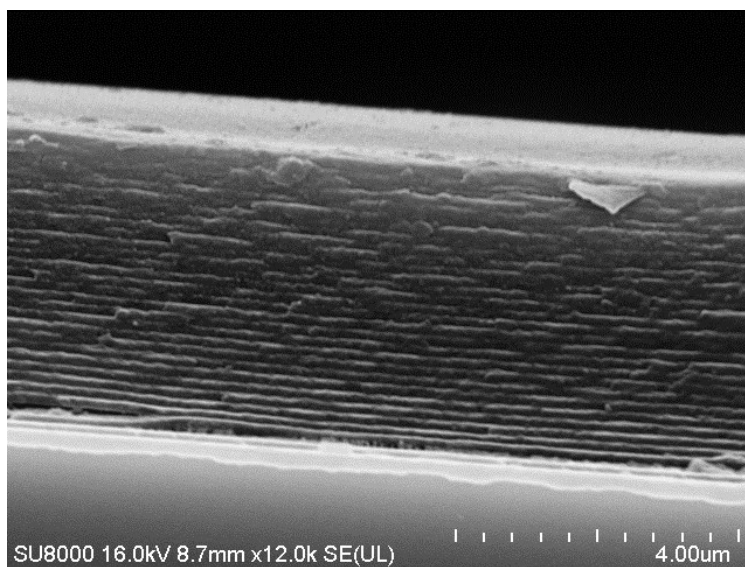
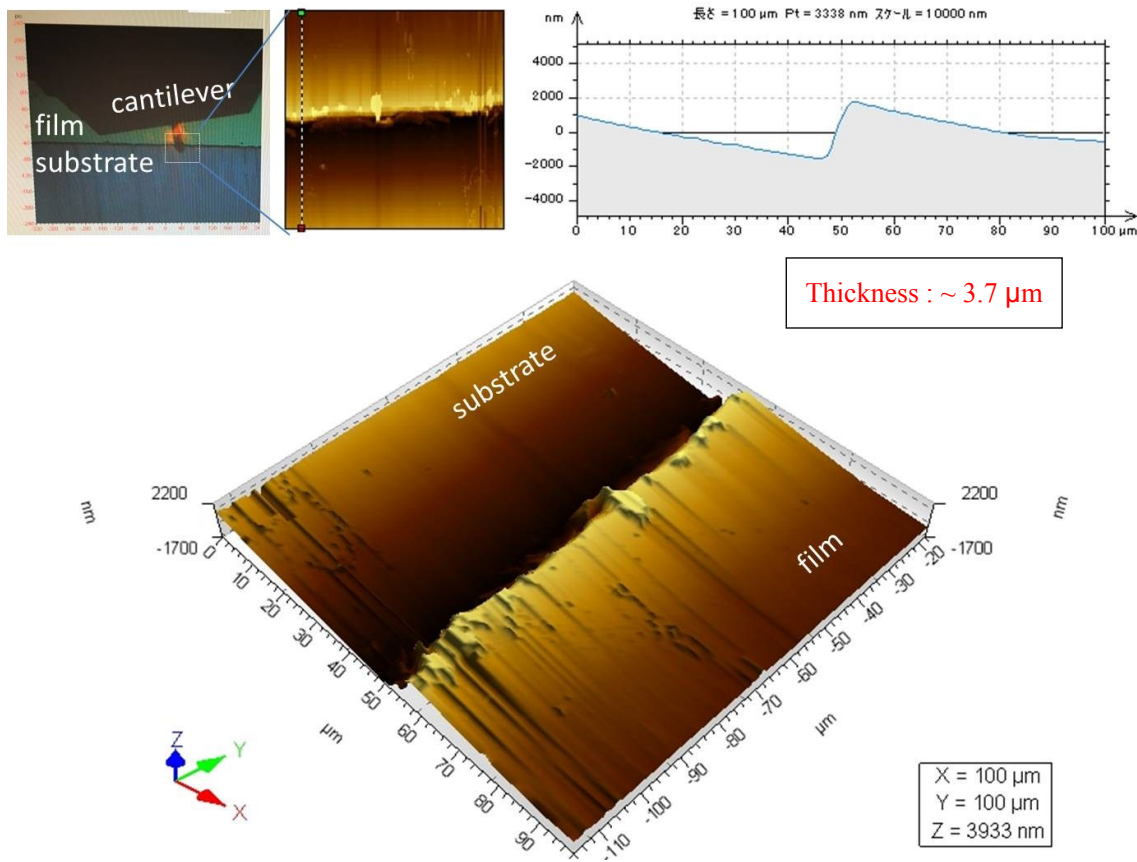


Figure S12. AFM and SEM images of 20-bilayered film by alternative spin coating of 2.5 wt% PVA/water and 4.5 wt% PMAz6Ac/cyclohexanone showing reflection band at around 580 nm (PMAz6Ac: ca. 95 nm, PVA: ca. 90 nm)..