Supplementary Information

Highly efficient rewritable thin polarization holograms through paraxial recording in azo-carbazole copolymer-based composite films

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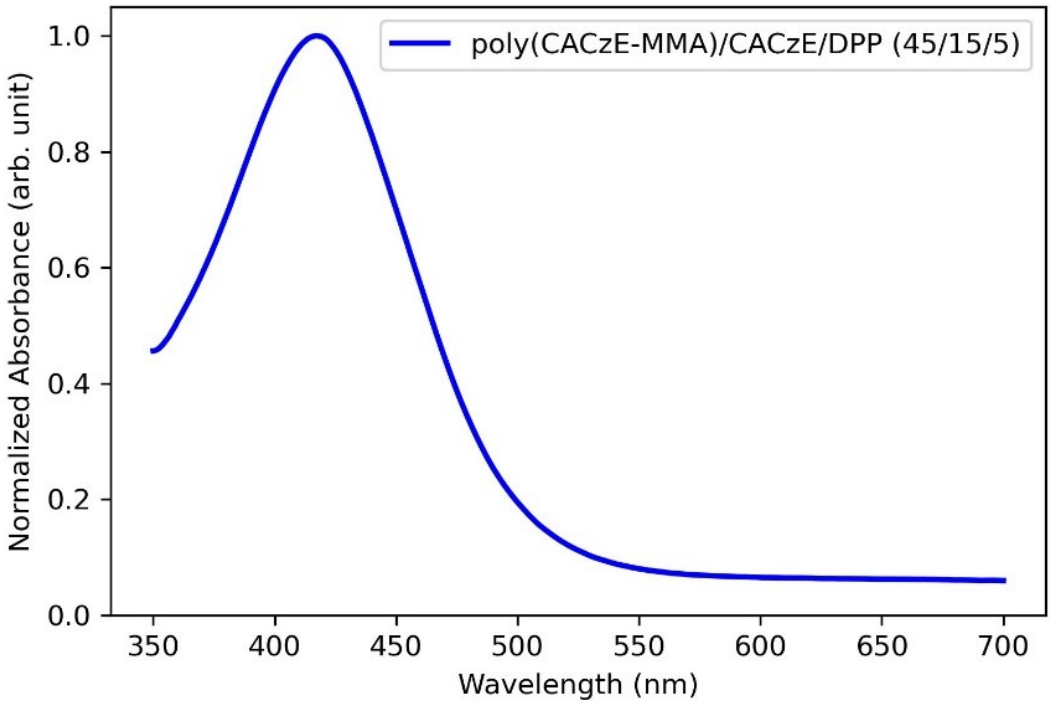

Figure S1: Absorption spectrum plot for poly(CACzE-MMA)/CACzE/DPP (45/15/5) wt%.

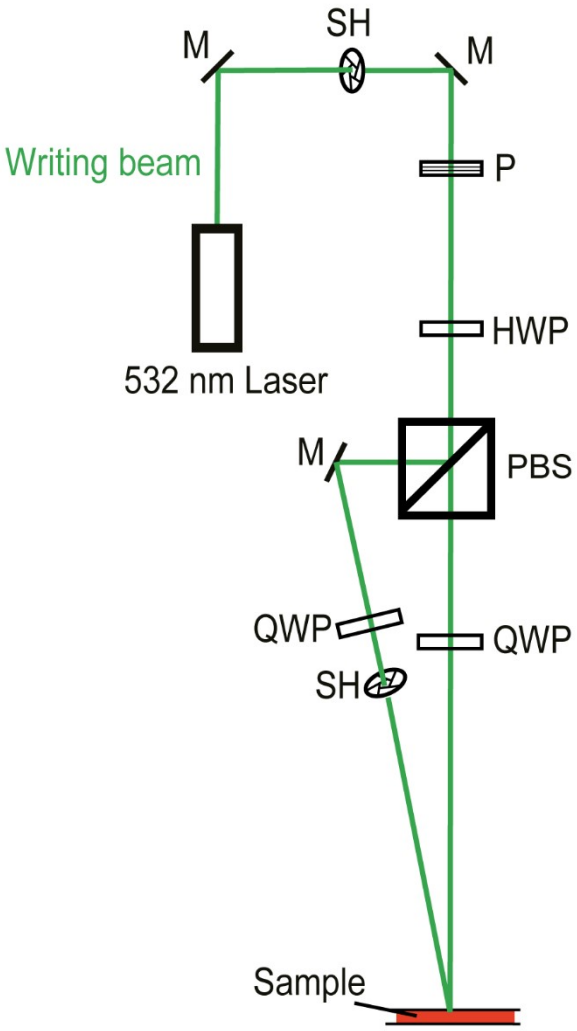

Figure S2: Optical setup used to record circular/linear (replace QWP by HWP) polarization hologram with a recording angle of 4.5°. The optical components used in the setup are M: mirror, SH: Shutter, QWP: quarter wave plate, HWP: Half wave plate, P: Polarizer, and PBS: polarization beam splitter.

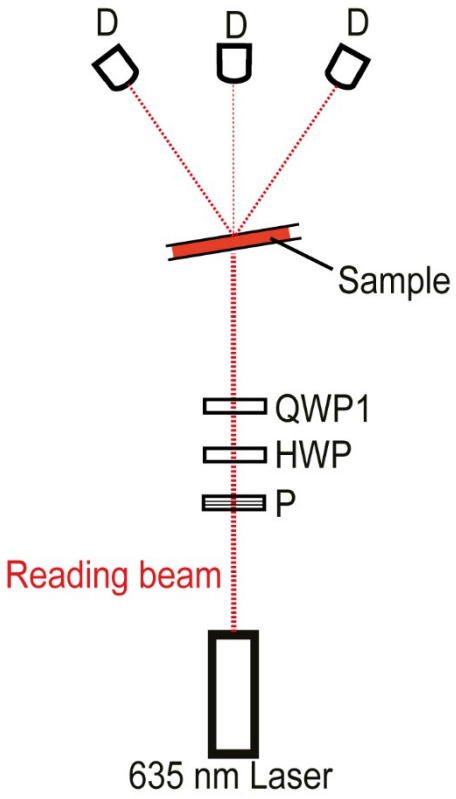

Figure S3: Optical setup used to read the recorded circular/linear (without QWP1) polarization hologram. The optical components used in the setup are QWP: quarter wave plate, HWP: Half wave plate, P: Polarizer, and D: detector.

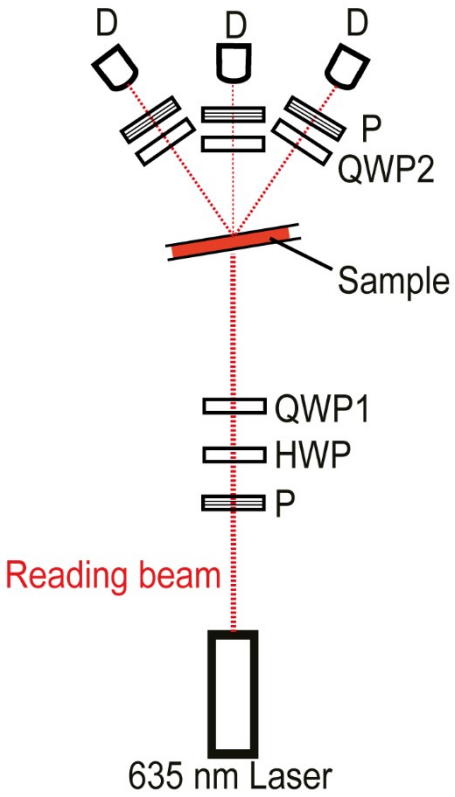

Figure S4: Optical setup used to analyze the handedness of polarization of the diffracted beam for circular polarization hologram. The optical components used in the setup are QWP: quarter wave plate, HWP: Half wave plate, P: Polarizer, and D: detector.

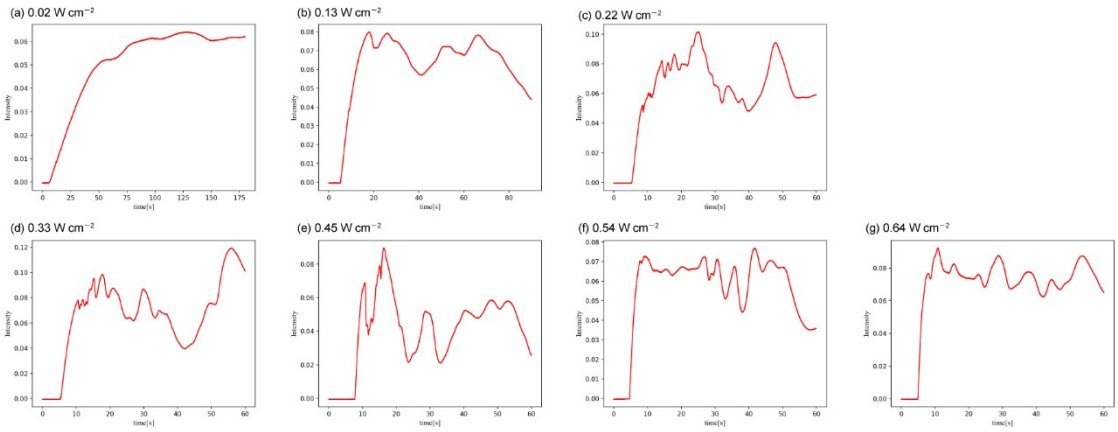

Figure S5: Variation of the intensity of the diffracted beam with time when a linear polarization hologram is recorded/read with (P+S)/P configuration, and the recording and reading beam is on throughout the experiment for different power of writing beams of (a) 0.02 W cm^{-2}, (b) 0.13 W cm^{-2}, (c) 0.22 W cm^{-2}, (d) 0.33 W cm^{-2}, (e) 0.45 W cm^{-2}, (f) 0.54 W cm^{-2} and (g) 0.64 W cm^{-2}.

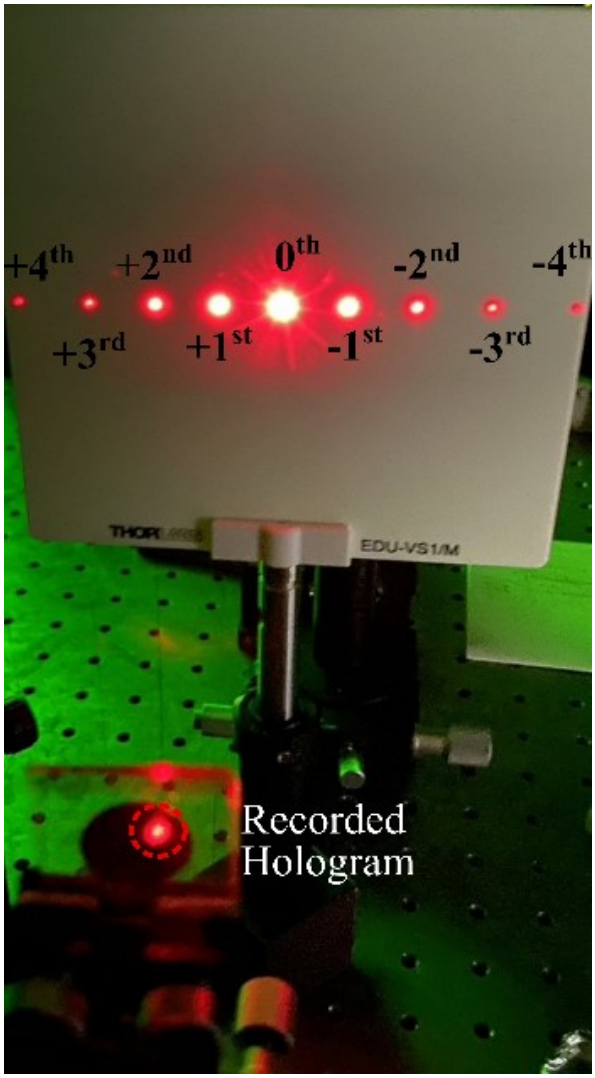

Figure S6: Intensity pattern of the diffracted and non-diffracted beam for thin linear polarization hologram recording/reading with P+S/P configuration.

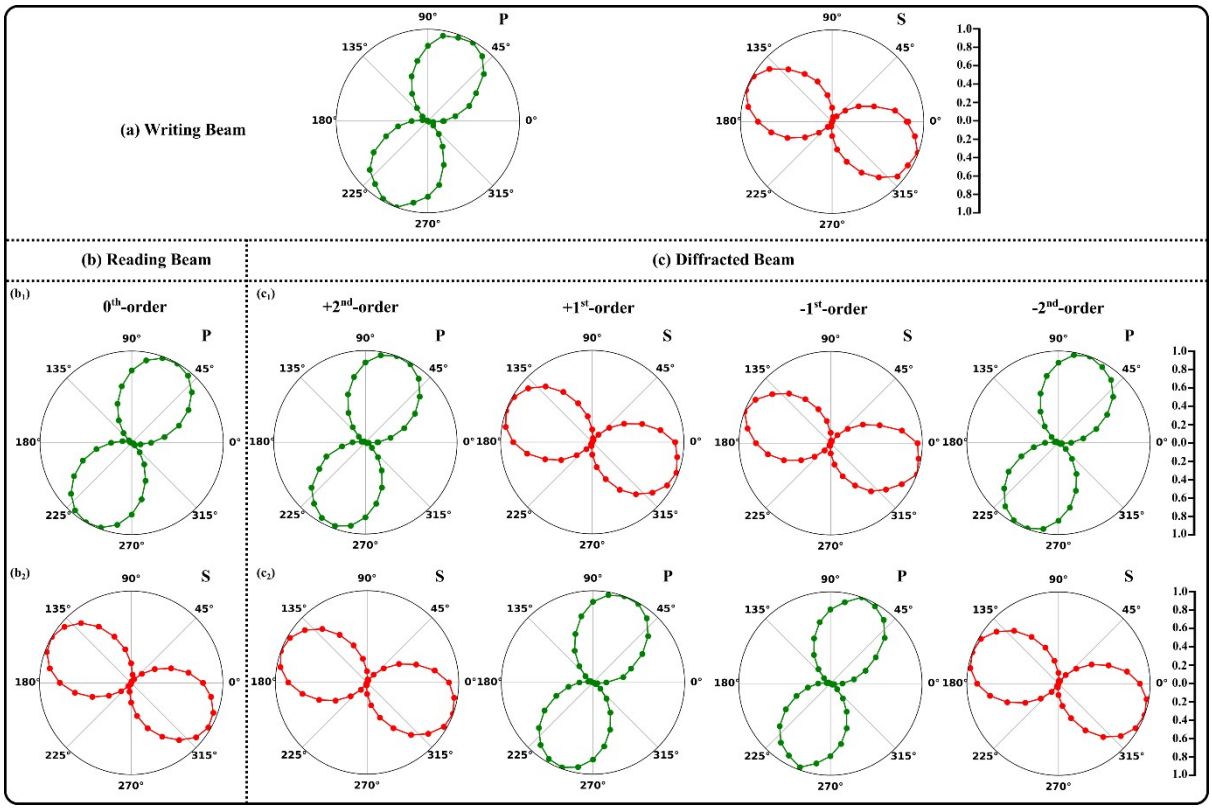

Figure S7: Polar plot of (a)writing beam, (b)reading beam, and (c) diffracted beam for thin linear polarization hologram.