

Supporting Information

Directed motion of water droplets on multi-gradient photopolymer surfaces

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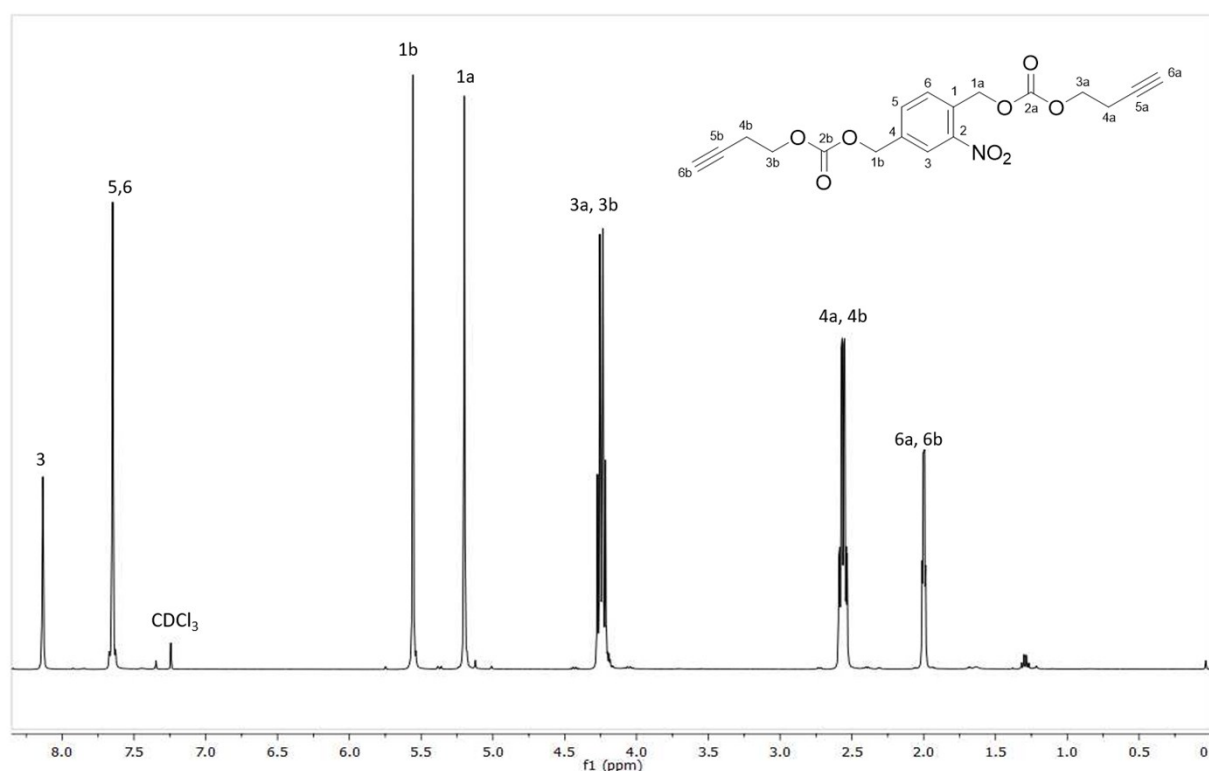


Figure S1 – ¹H NMR spectrum of butynyl-NBC

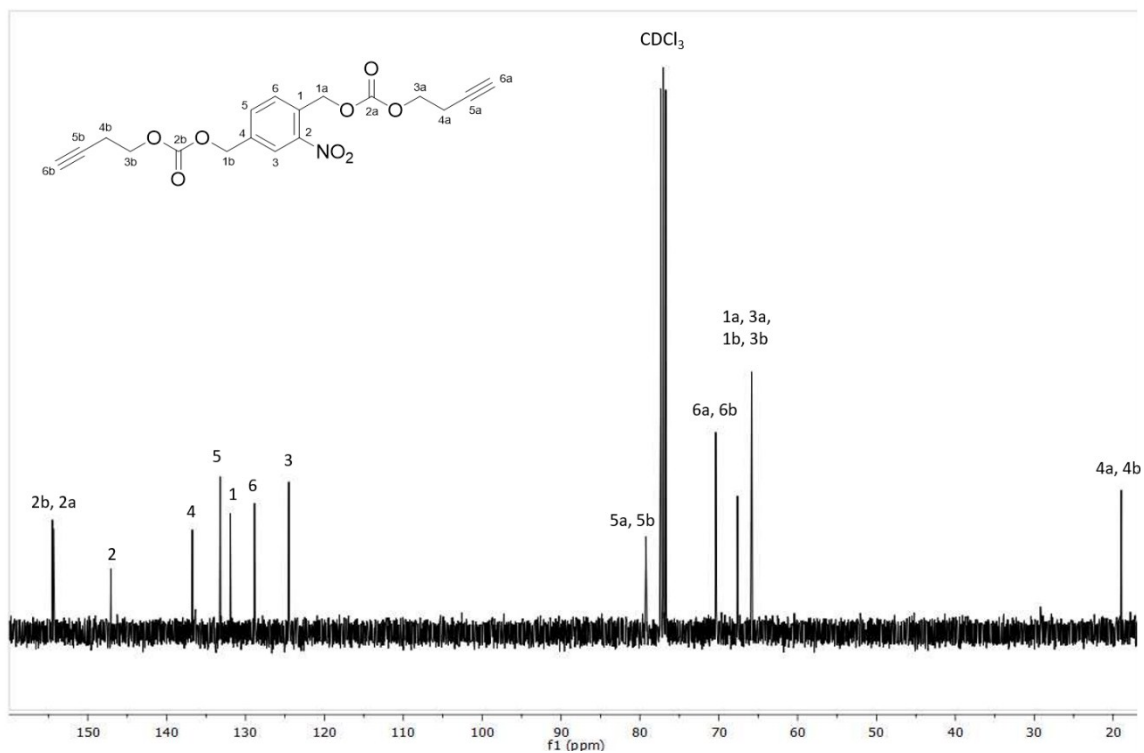


Figure S2 – ^{13}C NMR spectrum of butynyl-NBC

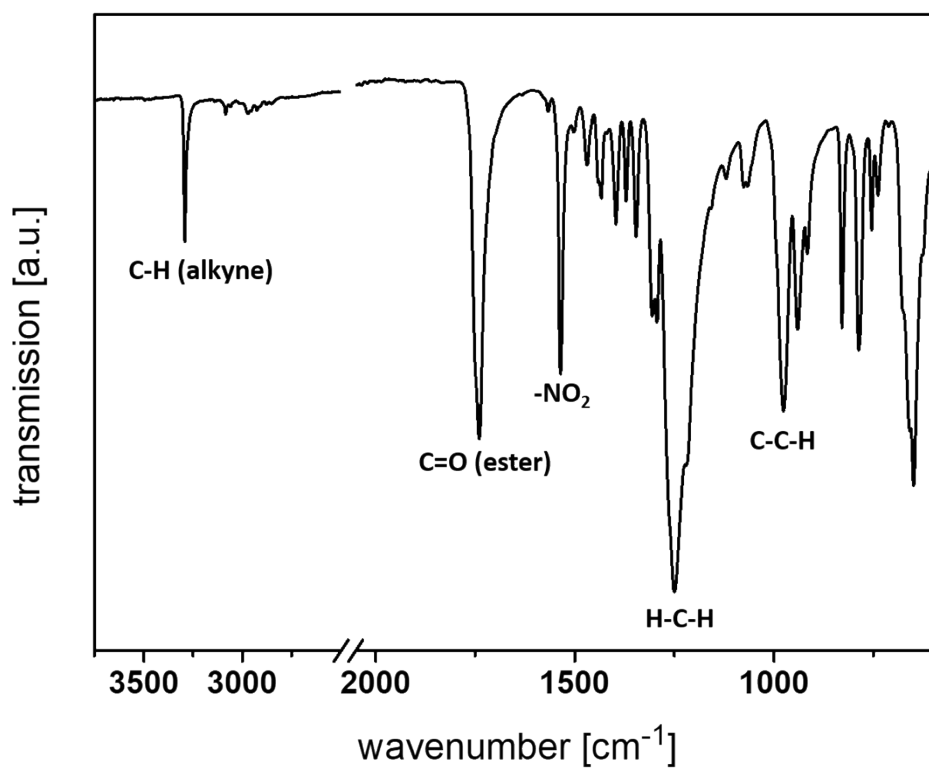


Figure S3 – FT-IR spectrum of butynyl-NBC

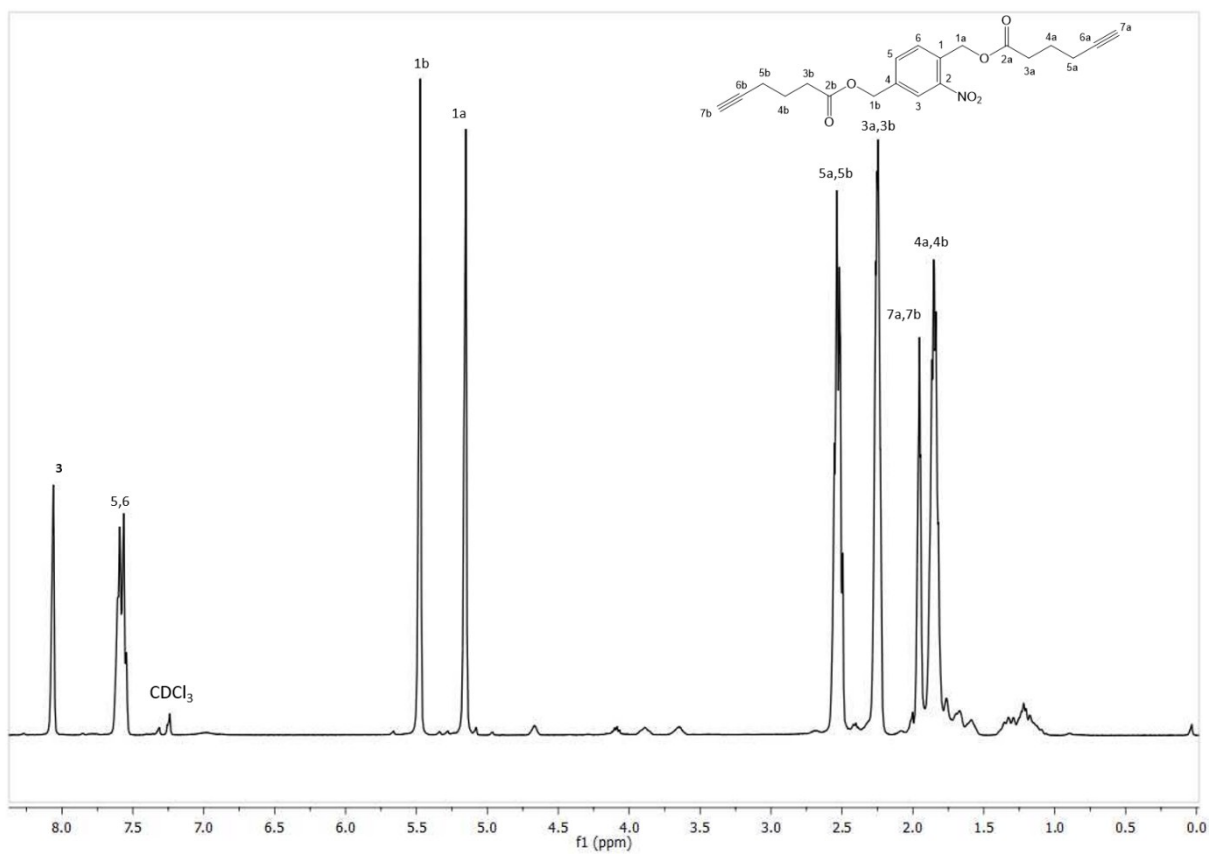


Figure S4 – ^1H NMR spectrum of hexynyl-NBE

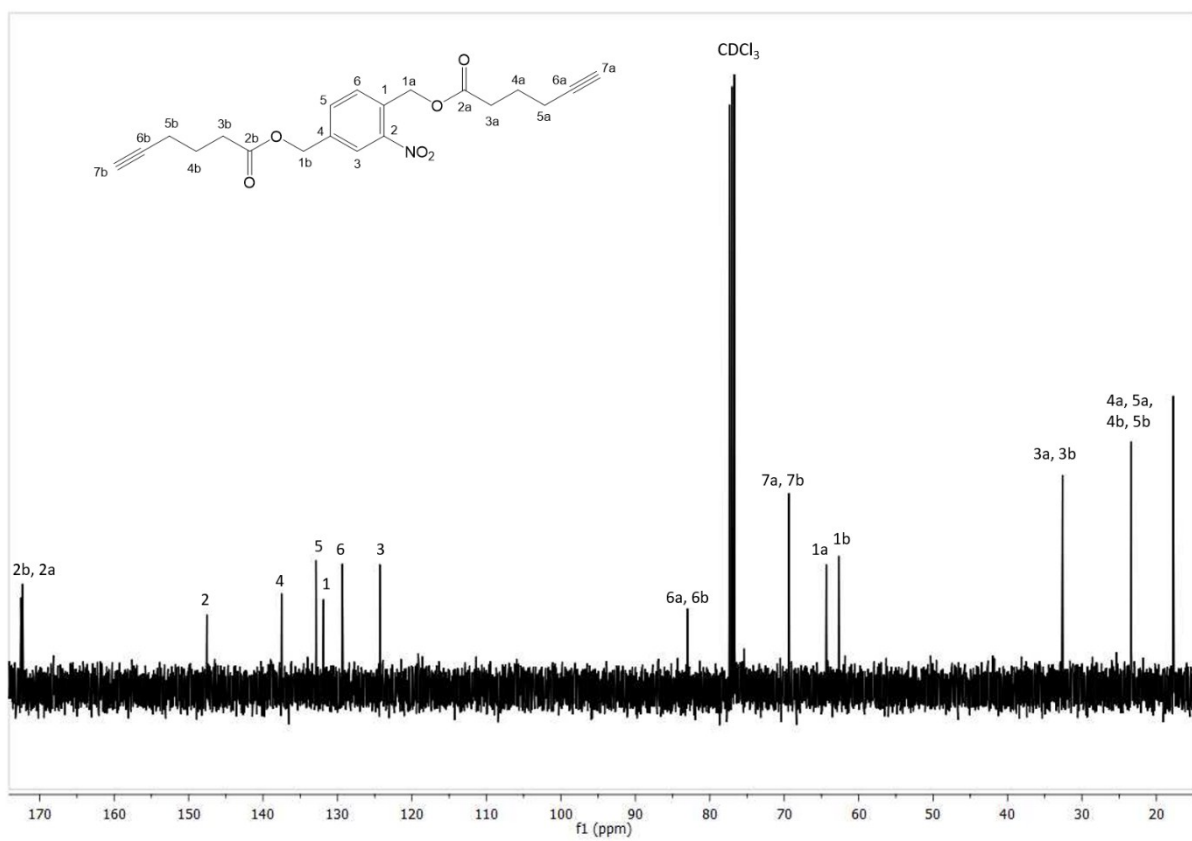


Figure S5 – ^{13}C NMR spectrum of hexynyl-NBE

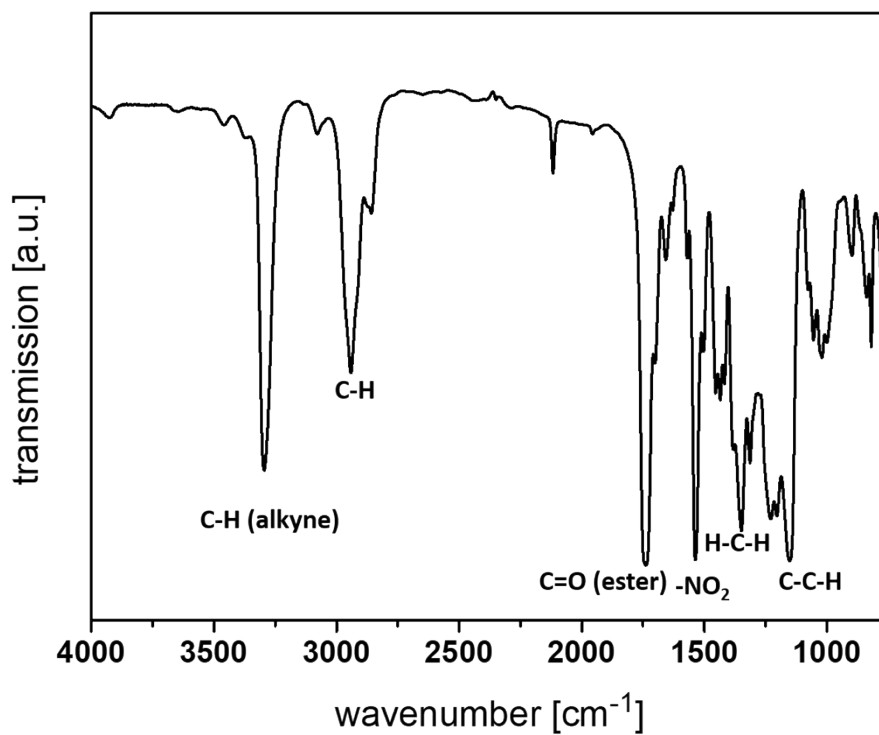


Figure S6 – FT-IR spectrum of hexynyl-NBE

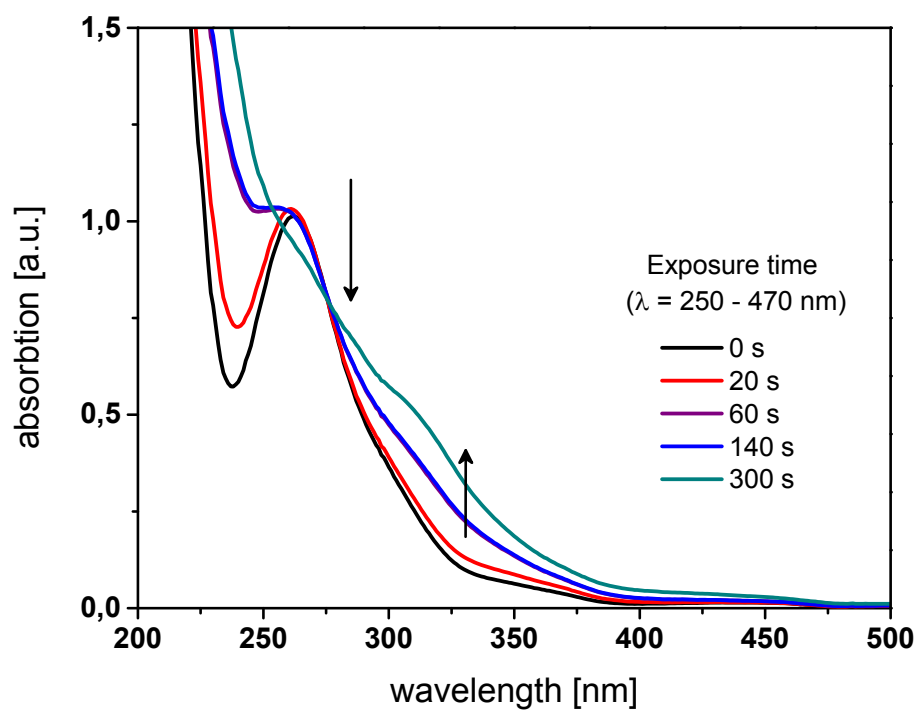


Figure S7 – Following the UV-vis absorbance of hexynyl-NBE (0.01 mg/mL in acetonitrile) upon UV exposure (269 mW/cm²).

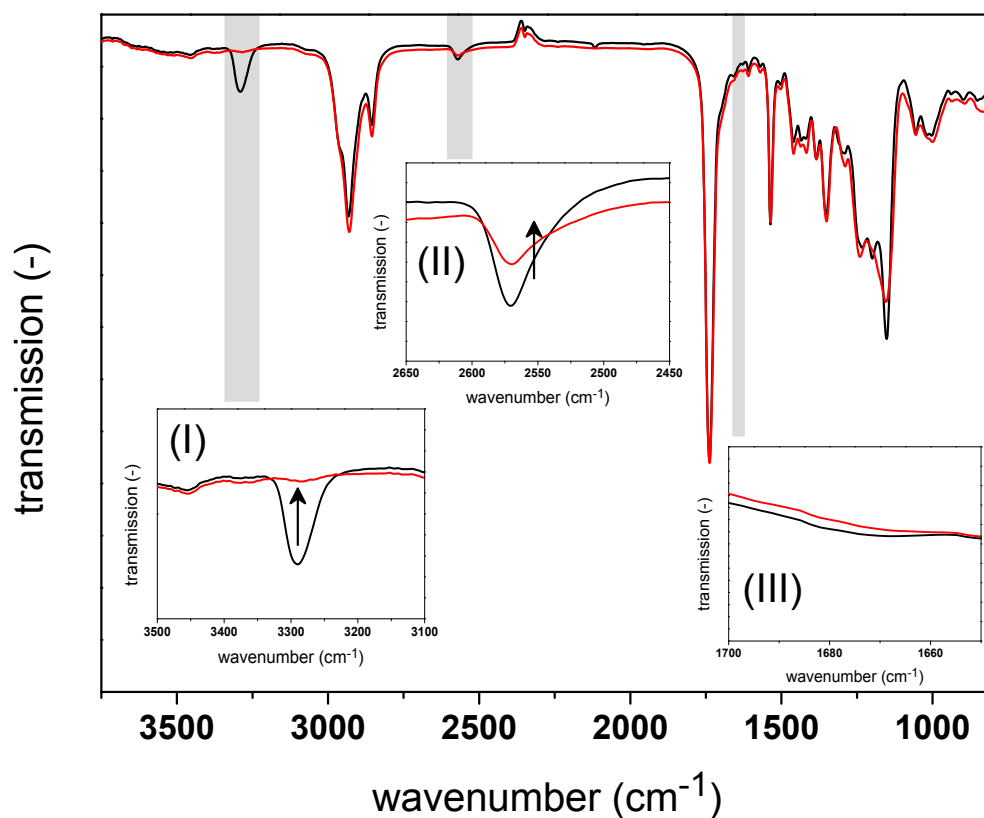


Figure S8 – FT-IR spectra of resin 3EQ-1H-1T prior to (*black line*) and after photo-curing (*red line*). Inserts show the IR bands of the characteristic (I) alkyne, (II) thiol and (III) vinyl sulfide groups magnified out of the FT-IR spectra. Irradiation was carried out with visible light ($\lambda = 420 - 450 \text{ nm}$, 3.6 mW/cm^2) under air.

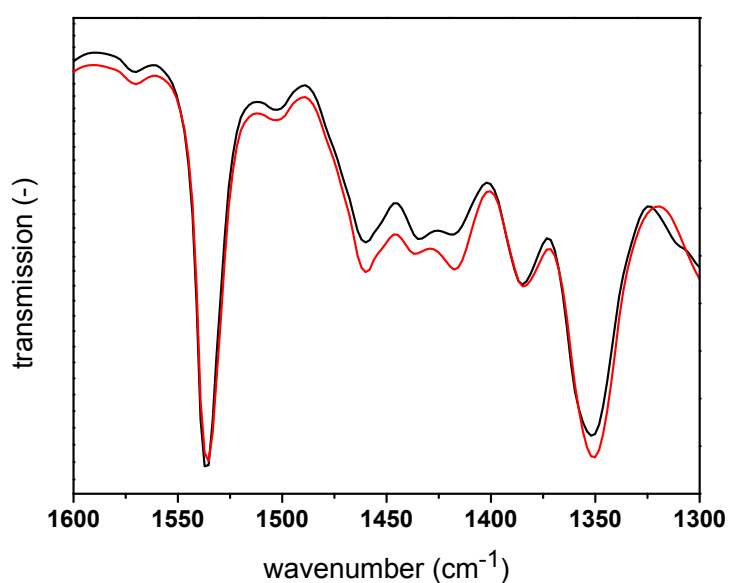


Figure S9 – FT-IR spectra of resin 3EQ-1H-1T prior to (*black line*) and after photo-curing (*red line*). The characteristic NO_2 absorption bands at 1537 cm^{-1} (asym. stretching) and 1348 cm^{-1} (sym. stretching) are magnified out of the FT-IR spectra. Irradiation was carried out with visible light ($\lambda = 420 - 450 \text{ nm}$, 3.6 mW/cm^2) under air.

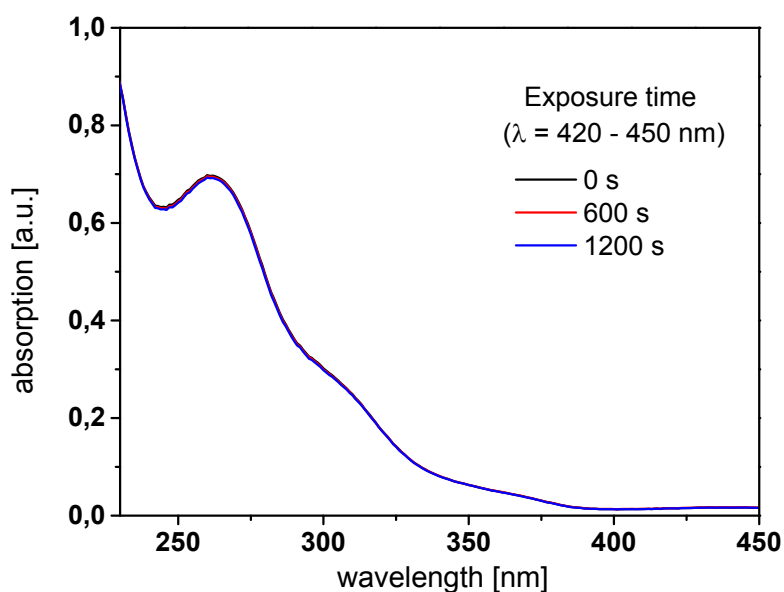


Figure S10 – UV-vis spectra of resin 3EQ-1H-1T prior to (*black line*) and after photo-curing for 600 (*red line*) and 1200 s (*blue line*). Irradiation was carried out with visible light ($\lambda = 420 - 450 \text{ nm}$, 3.6 mW/cm^2) under air.

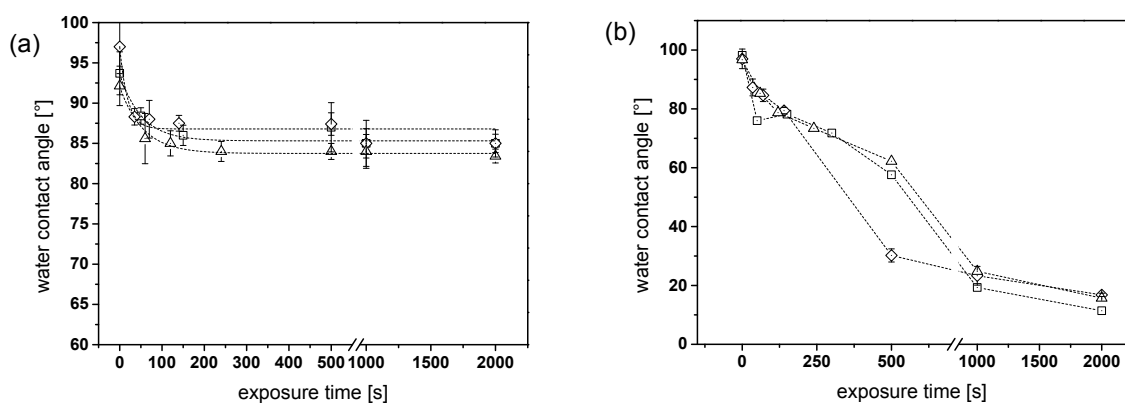


Figure S11 – Static water contact angles of cured thiol-yne systems comprising butynyl-**NBC** and 3 equiv. of selected thiols versus exposure time (269 mW/cm^2 , $\lambda < 400 \text{ nm}$). The thiol component is varying and comprised a 1:1 molar ratio of TMPMP and HDT (*open squares*), 1:2 molar ratio of TMPMP and HDT (*open diamonds*) and 1:3 molar ratio of TMPMP and HDT (*open triangles*). UV exposure was carried out either in (a) nitrogen or (b) air. The lines are a guide for the eye.

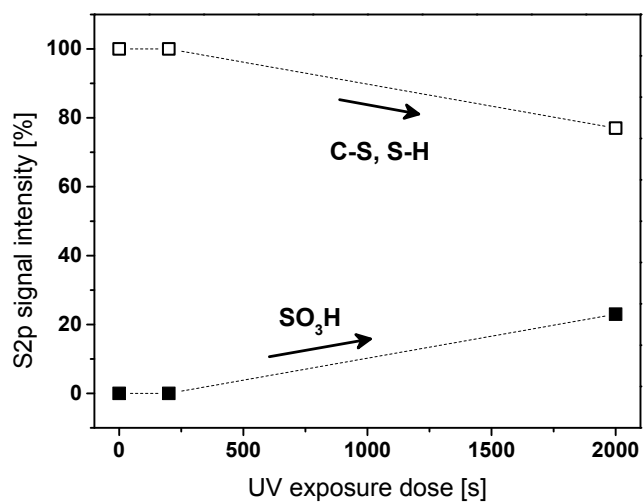


Figure S12 – Variations of the signal intensity in the S2p region at 161-165 eV (*open squares*) and 166-170 eV (*full squares*) versus UV exposure time. UV irradiation was carried out under nitrogen atmosphere. The lines are a guide for the eye.

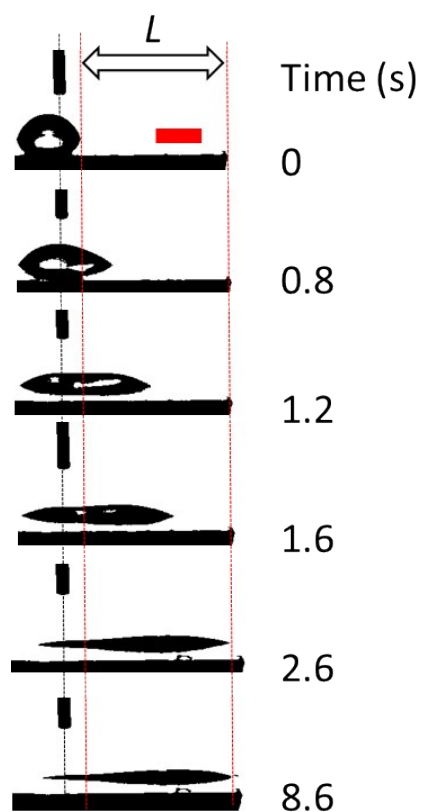


Figure S13 – Movement of a 2- μ L water droplet on the surface of 2EQ-1T-1H with a combined gradient of wettability and Laplace pressure. The scale bar is 2 mm.