

## Supplementary Information

# Photo- and Thermal-processing of Azobenzene-containing Star-shaped Liquid Crystals

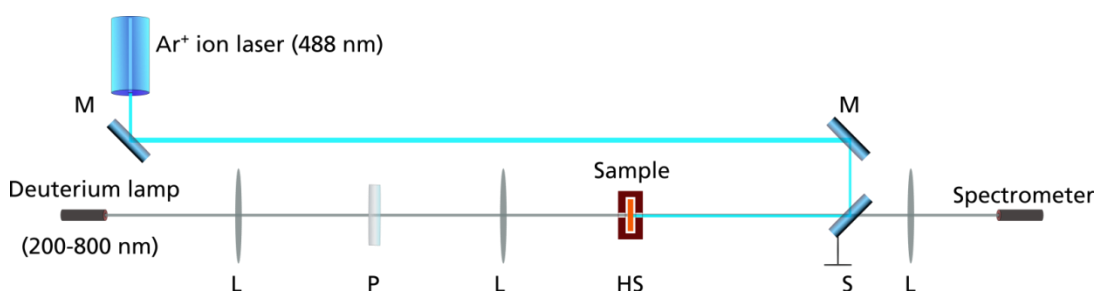
Jaroslav Tomczyk,<sup>a,b</sup> Anna Sobolewska,<sup>a,d</sup> Zsuzsanna T. Nagy,<sup>c</sup> Daniel Guillon,<sup>c</sup> Bertrand Donnio<sup>c</sup> and Joachim Stumpe<sup>a,b</sup>

<sup>a</sup> Fraunhofer Institute for Applied Polymer Research, Geiselbergstraße 69, 14476 Potsdam, Germany. Tel: +49 33 1568 1249; E-mail: joachim.stumpe@iap.fraunhofer.de

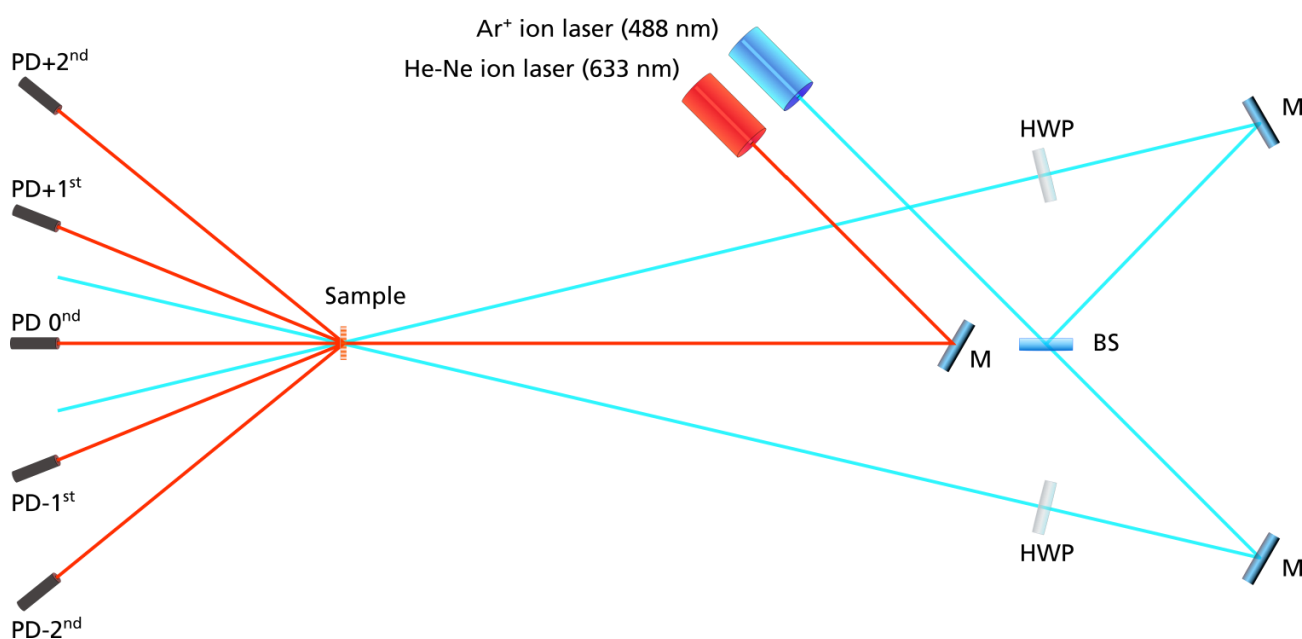
<sup>b</sup> University of Potsdam, Department of Chemistry, Karl-Liebknecht-Strasse 24-25, 14476 Potsdam, Germany.

<sup>c</sup> Institut de Physique et Chimie des Matériaux de Strasbourg (IPCMS), CNRS- Université de Strasbourg (UMR7504), 23 rue du Loess, BP43, 67034 Strasbourg Cedex 2, France. Tel: +33 3 8810 7156; E-mail: bertrand.donnio@ipcms.unistra.fr

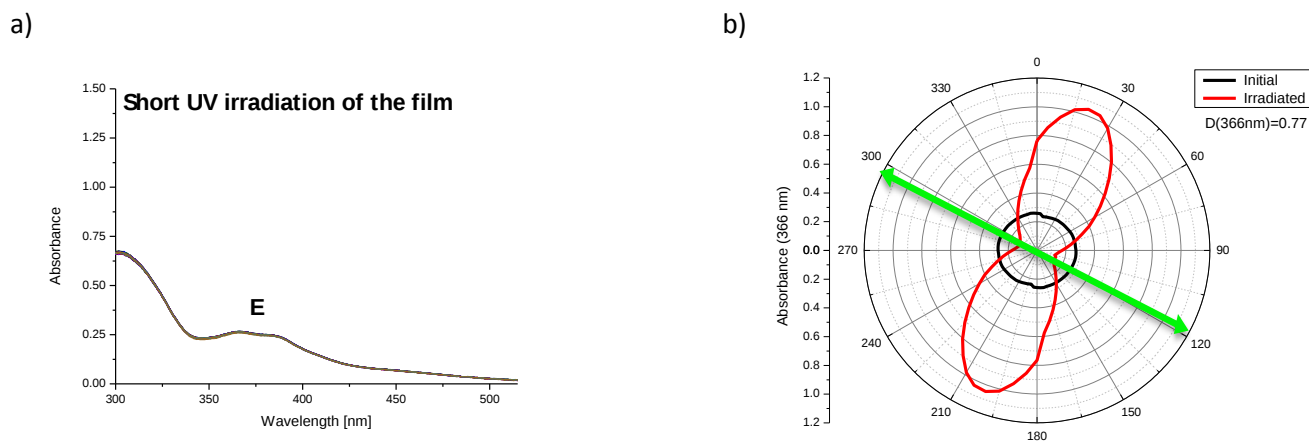
<sup>d</sup> Institute of Physical and Theoretical Chemistry, Wrocław University of Technology, Wybrzeże Wyspiańskiego 27, 50-370 Wrocław, Poland.



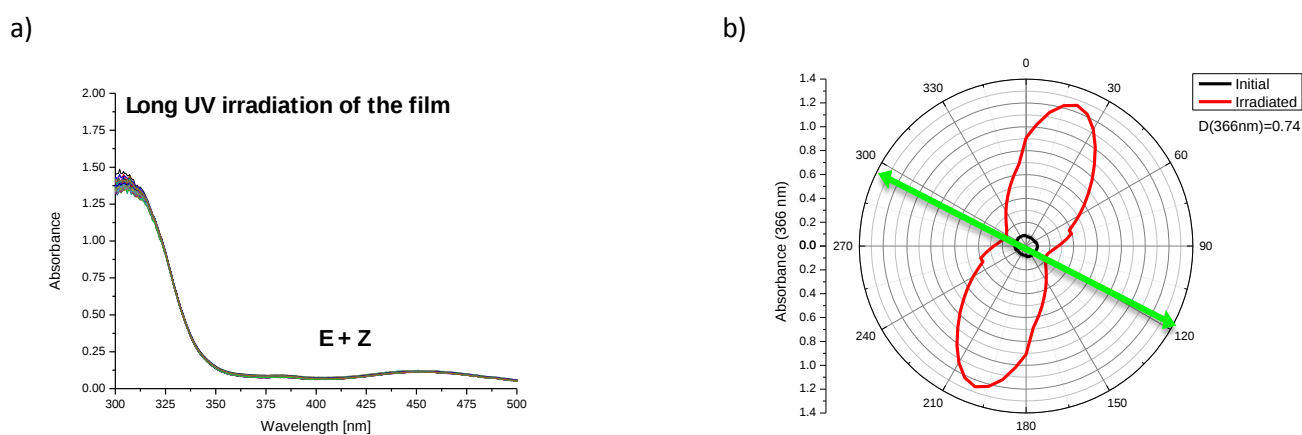
**Fig. S1.** Scheme of the experimental setup for photoorientation: M – mirror, S – shutter with mirror, L – lens, P – rotating polarizer stage, HS – heating stage with sample inside



**Fig. S2.** Experimental setup for the holographic diffraction grating recording: M – mirror, HWP – half wave plate, BS – beam splitter, PD – photodetector



**Fig. S3.** Polarized UV-Vis absorption spectra of the **3** film in the initial state with short prior UV irradiation (a) and absorption polar diagram plotted for  $\lambda = 366$  nm before (black solid line) and after (red solid line) irradiation with linearly polarized laser light (b)



**Fig. S4.** Polarized UV-Vis absorption spectra of the **3** film in the initial state with long prior UV irradiation (a) and absorption polar diagram plotted for  $\lambda = 366$  nm before (black solid line) and after (red solid line) irradiation with linearly polarized laser light (b)