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Synthesis and photoswitching properties of liquid crystals derived from myo-inositol

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Materials

Sodium nitrite (BDH), ethyl 4-aminobenzoate (Fluka), urea (BDH), phenol (Merck), potassium carbonate (Fluka), 4-bromo-1-butene (Aldrich), 5-bromo-1-pentene (Aldrich), 6-bromo-1-hexene (Aldrich), 7-bromo-1-heptene (Aldrich), 8-bromo-1-octene (Aldrich), myo-inositol (Aldrich), 1,3-dicyclohexylcarbodiimide (DCC) (Fluka) and 4-(N,N-dimethylamino)pyridine (DMAP) (Fluka), 1,2,3,4,5,6-hexahydroxy-cyclohexane (myo-inositol) and silica gel-60 (Merck) were used as received. Acetone was refluxed over phosphorus pentaoxide (Merck) and dichloromethane was refluxed over calcium hydride and both were distilled before use. Other solvents and chemicals were used without further purification.
Fig. S1. (a) DSC thermogram for representative compound 4b and (b) compound 4c.

Fig. S2. Polarized optical microphotographs of the textures of: (a) SmA phase at 76°C of compound 4d, (b) SmA phase at 75°C of compound 4e.
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**Fig. S3.** Absorbance spectra in solution of UV light are shined on the compounds 4b-e, saturation occurs ranging from 8-10 sec of illumination.
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**Fig. S4.** The thermal back relaxation process of cis isomers for the compounds 4b-e and photosaturation takes ranging from 270-305 minutes to relax back to their original state.