

## Supplementary information

### Influence of inter- and intramolecular H-bonding on the mesomorphic and photoswitching behaviour of (*E*)-4-((4-(hexyloxy) phenyl) diazenyl)-*N*-phenyl benzamides

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1. UV-Vis spectra: Fig. S1 and S2 shows time dependent absorption spectra during UV illumination and thermal back relaxation of SG12, SG13, SG14 and SG15 with respect to different intervals of time, respectively.

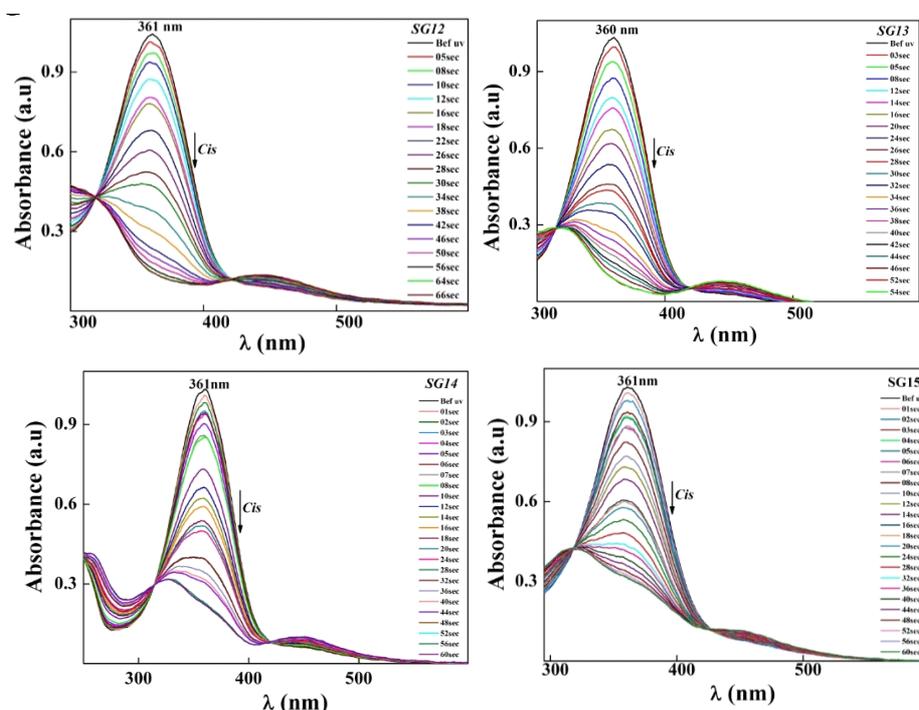


Fig. S1 Time dependent absorption spectra recorded during UV illumination: a) SG12, b) SG13, c) SG14 and d) SG15 with different intervals of UV irradiation time.

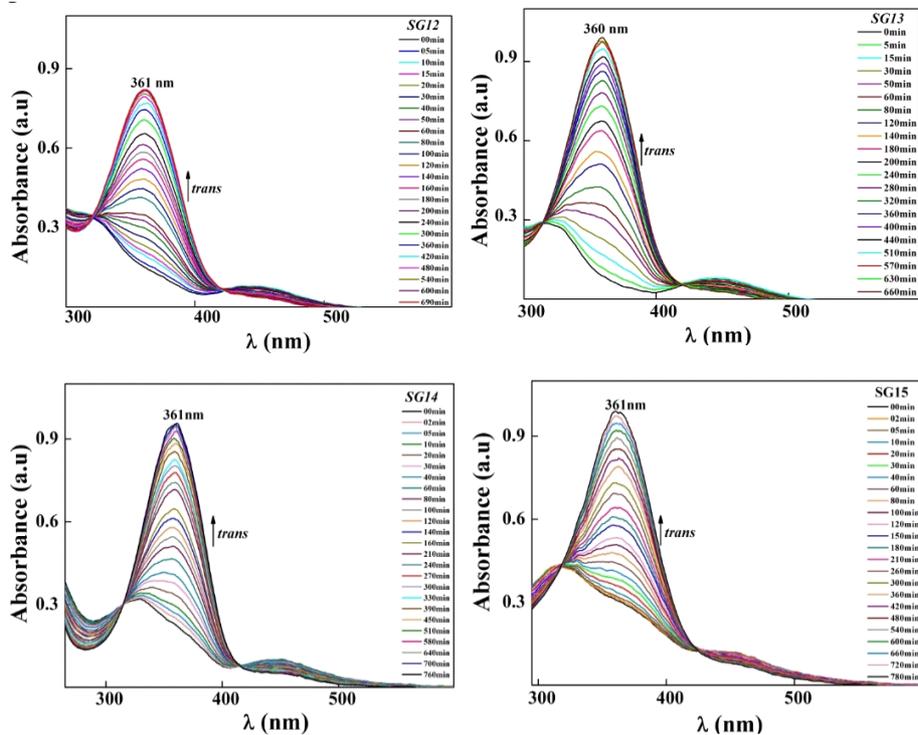
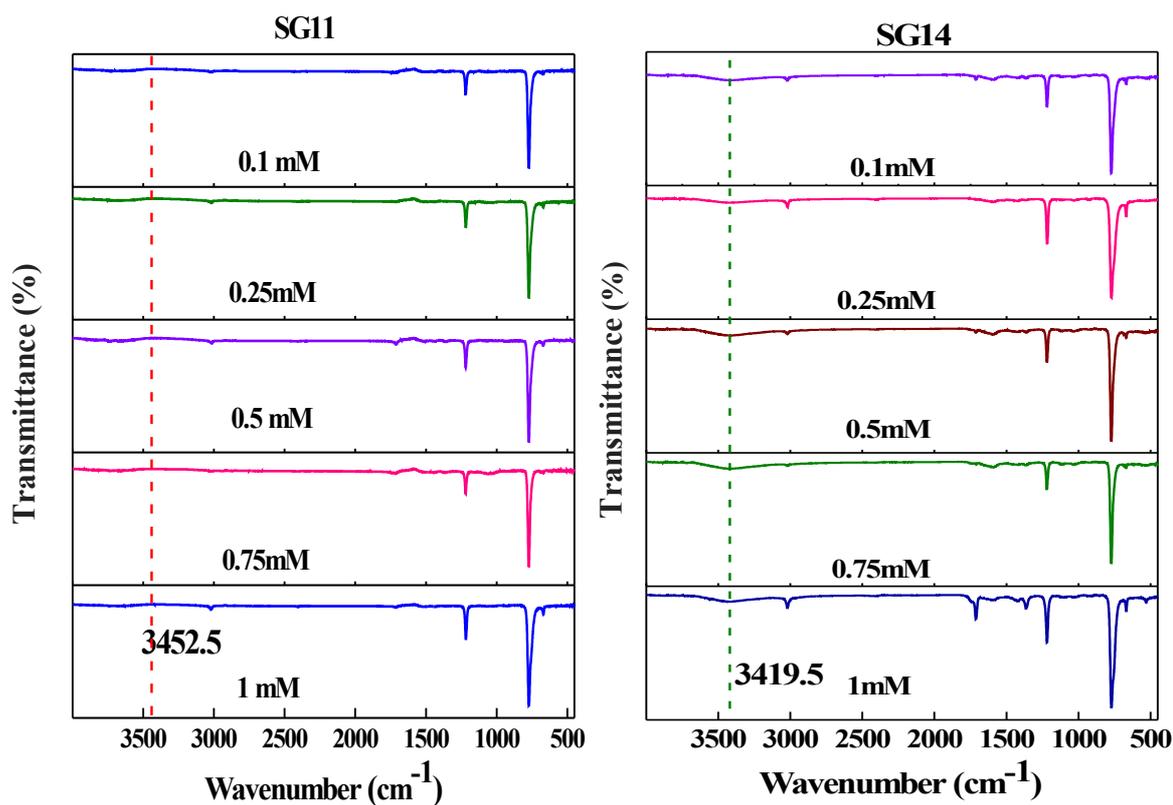


Fig. S2 Time dependent absorption spectra recorded during thermal back relaxation: a) SG12, b) SG13, c) SG14 and d) SG15 with different intervals of recovery time.

## 2. FT-IR spectra of inter- and intramolecular H-bonding.

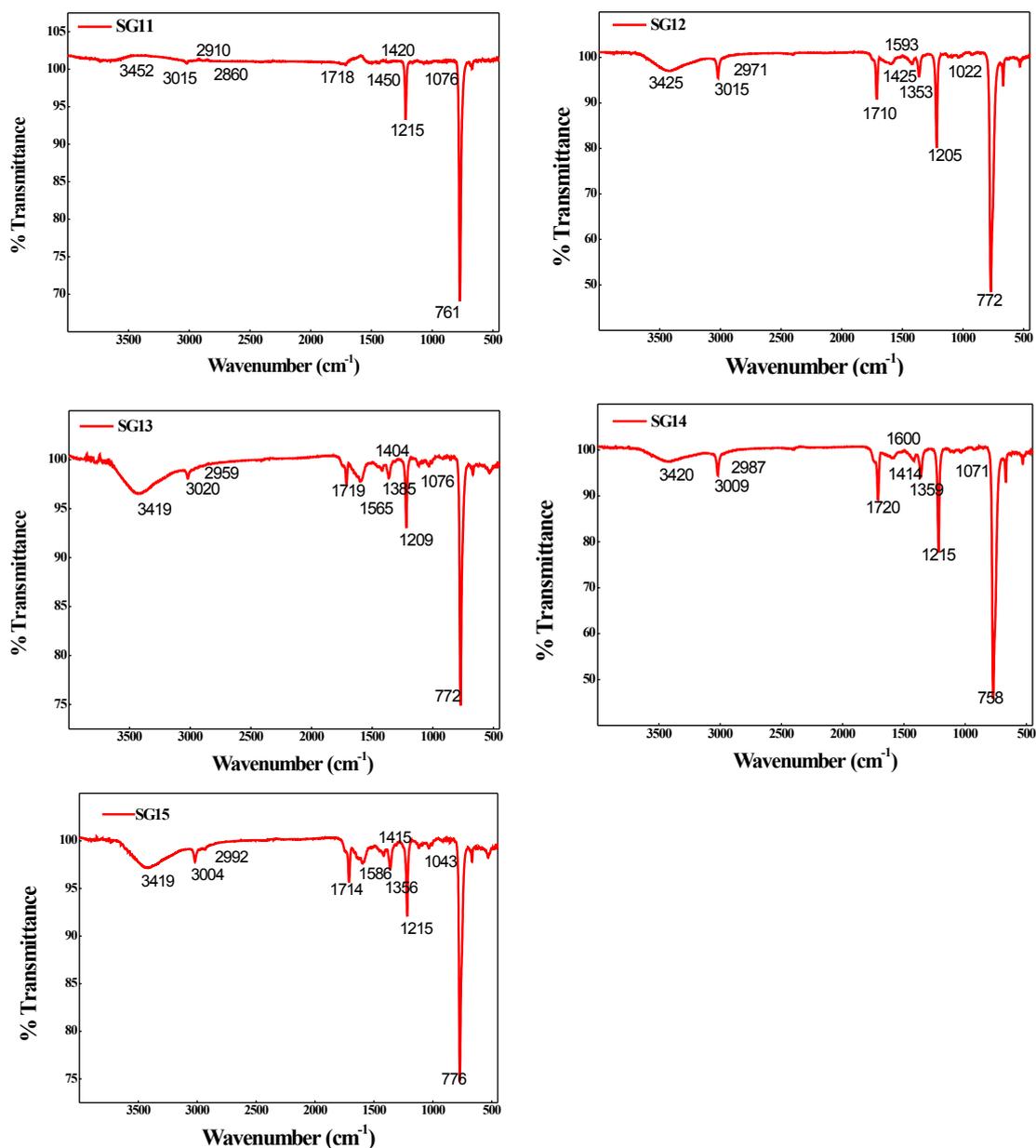
Fig.S3 shows illustrative FT-IR spectra corresponds to inter- and intramolecular H-bonding of compound SG11 and SG14, respectively. Spectra were recorded in solution at different concentration using  $\text{CHCl}_3$  as a solvent.



**Fig. S3** FT-IR spectra for **SG11** and **SG14** showing inter- and intramolecular H-bonding, respectively. Spectra were recorded in solution at different concentrations using  $\text{CHCl}_3$  as solvent.

### 3. FT-IR and $^1\text{H}$ NMR spectra

The IR values of compounds were measured using KBr pellet method in Perkin Elmer FT-IR spectrometer. Fig. S4 represents FT-IR spectra of **SG11**, **SG12**, **SG13**, **SG14** and **SG15**.  $^1\text{H}$  NMR spectrum for final compounds spectra were recorded on a 400 MHz Bruker NMR spectrometer, using  $\text{CDCl}_3$  as a solvent and their respective spectra are given below (Fig. S5- Fig. S9).



**Fig. S4** FT-IR spectrum for final compounds such as **SG11**, **SG12**, **SG13**, **SG14** and **SG15**.

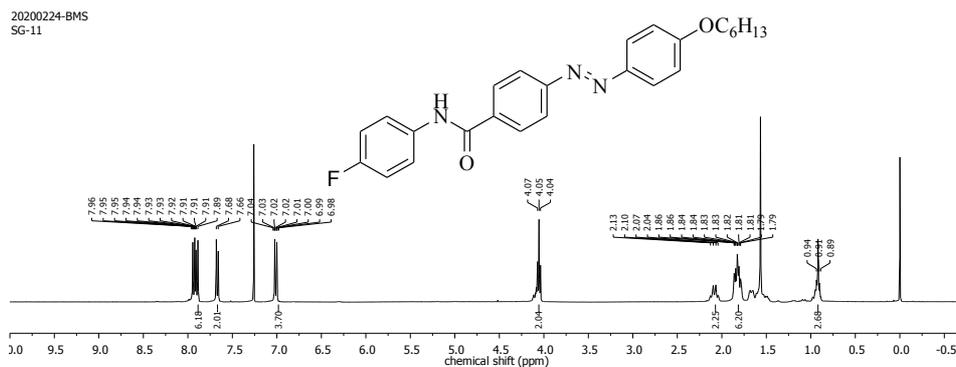


Fig. S5  $^1\text{H}$  NMR spectrum for **SG11** (400 MHz,  $\text{CDCl}_3$ ).

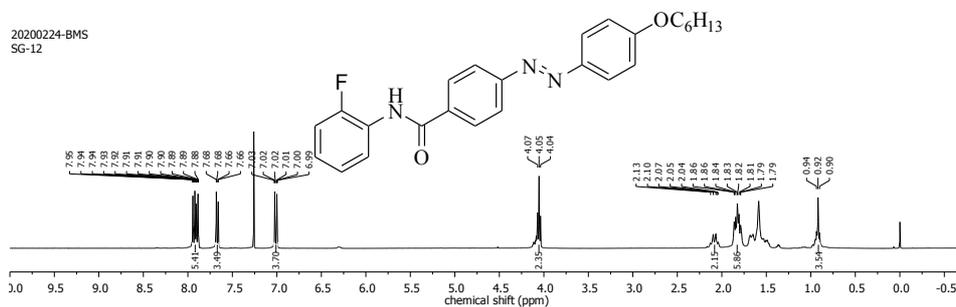


Fig. S6  $^1\text{H}$  NMR spectrum for **SG12** (400 MHz,  $\text{CDCl}_3$ ).

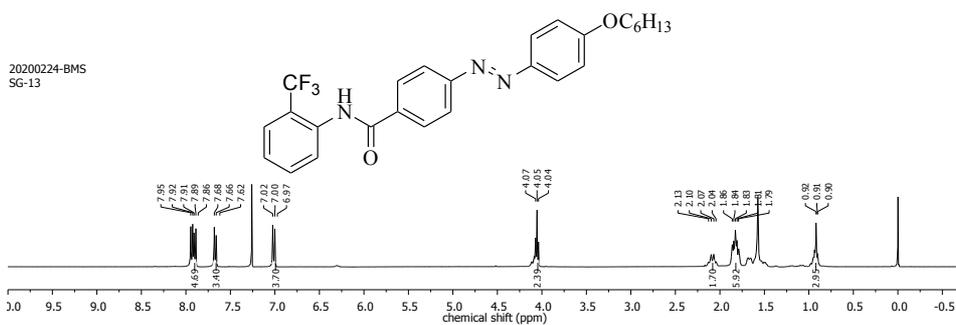


Fig. S7  $^1\text{H}$  NMR spectrum for **SG13** (400 MHz,  $\text{CDCl}_3$ ).

20200224-BMS  
SG-14

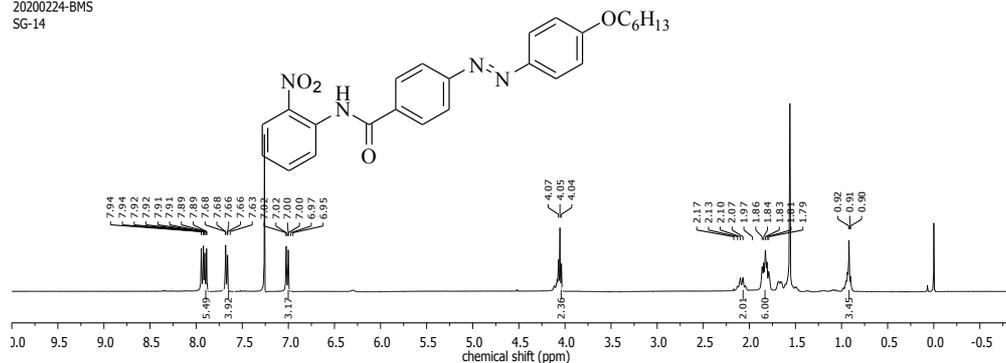


Fig. S8  $^1\text{H}$  NMR spectrum for SG14 (400 MHz,  $\text{CDCl}_3$ ).

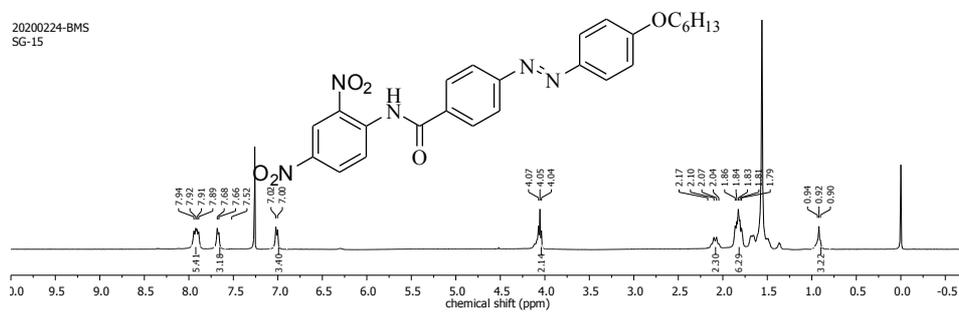


Fig. S9  $^1\text{H}$  NMR spectrum for SG15 (400 MHz,  $\text{CDCl}_3$ ).