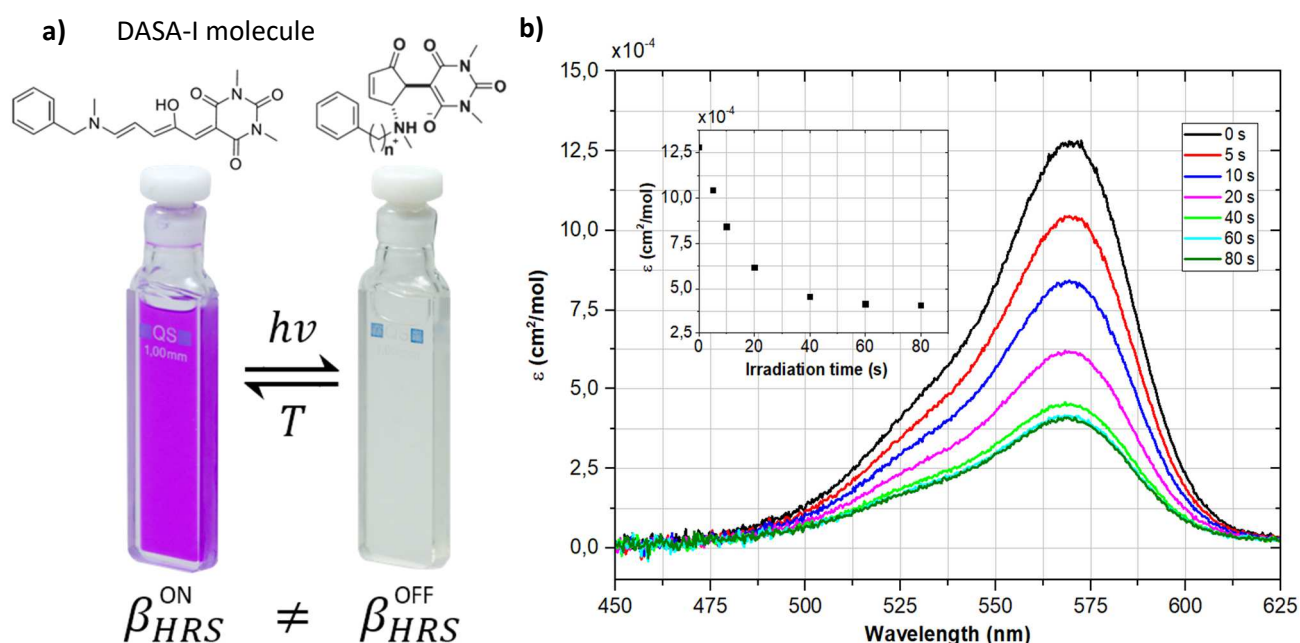


## Experimental studies of non-linear optical properties of photo-stimulable switches based on Stenhouse adducts

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We have studied the linear and non-linear optical (NLO) properties of a set of Stenhouse adduct derivatives. These compounds have the peculiarity of switching under irradiation between a colored and hydrophobic conjugated form, into a colorless and hydrophilic closed ring<sup>1,2,3</sup>. The contrast in molecular hyperpolarizability between the two forms is due to a large change in the electronic distribution between these two forms. Photoswitching kinetics of the absorption spectra were recorded in situ in real time for an irradiation centered at 560 nm and covering the entire absorption band of the colored form (see Figure 1). Hyper-Rayleigh scattering (HRS) measurements under in-situ irradiation were performed for the first time.



**Figure 1.** a) DASA-I in its linear state (left), and in its cyclic state (right). b) Photoswitching kinetics of DASA-I under 16 mW/cm<sup>2</sup> irradiation.

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