What is the difference between the dynamics of anion- and keto-type of photochromic salicylaldehyde azine?

Marcin Ziółek\textsuperscript{1,2}, Michał Gil\textsuperscript{1}, Juan Angel Organero\textsuperscript{1}, Abderrazzak Douhal\textsuperscript{1} *

\textsuperscript{1} Departamento de Química Física, Sección de Químicas, Facultad de Ciencias del Medio Ambiente, Universidad de Castilla-La Mancha, Avda. Carlos III, S.N., 45071 Toledo, Spain

\textsuperscript{2} Quantum Electronics Laboratory, Faculty of Physics, Adam Mickiewicz University, Umultowska 85, 61-614 Poznan, Poland

* Corresponding author. Tel.: +34 925 265717; fax: +34 926 268840. E-mail address: Abderrazzak.douhal@uclm.es (A. Douhal).
**Fig. S1.** Benesi-Hildebrand (BH) plot for the absorption change at 430 nm of SAA in DCM in the presence of DBU assuming 1:1 complex (SAA:DBU). The concentration of SAA was 4.4 x 10^{-5} M and those of DBU used for the plot were at least 30 times higher than that of SAA in order to apply the BH model. The absorption changes at 430 nm correspond to the intensity maximum of SAA anion absorption (see Fig. 1A). The calculated (ratio of the intercept and slope of the linear fit) equilibrium constant is $K_e = 36 \pm 10$ M^{-1} at 293 K.

**Fig. S2.** Steady-state fluorescence, fluorescence excitation and UV-visible absorption spectra of SAA in DCM containing 0.1 M DBU. For fluorescence spectra, the emission and observation wavelengths are indicated.
Acknowledgements

This work was supported by the JCCM and MICINN through projects PCI08-0037-5868 and MAT2008-01609 and partly by the Ministry of Science and Higher Education (MNiSW) Poland (Project nº N204 149 32/3777). M.G and M.Z. thank JCCM contract (grant Nº CPA-014/08) and the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement nº 235286, respectively.