

## Supporting Information for:

# New Thioxanthone and Xanthone Photoinitiators Based on Silyl Radical Chemistry.

J. Lalevée<sup>a)\*</sup>, N. Blanchard<sup>b)</sup>, M-A. Tehfe, C. Fries<sup>b)</sup>, F. Morlet-Savary<sup>a)</sup>, D. Gigmes<sup>c)</sup>, J.P. Fouassier<sup>a)</sup>

a) Department of Photochemistry, CNRS, University of Haute Alsace, ENSCMu,  
3 rue Alfred Werner, 68093 Mulhouse Cedex – France.

b) Department of Organic and Bioorganic Chemistry, CNRS, University of Haute Alsace, ENSCMu, 3  
rue Alfred Werner, 68093 Mulhouse Cedex – France

c) UMR 6264 Laboratoire Chimie Provence. Université de Provence. Avenue Escadrille Normandie-  
Niemen, Case 542, Marseille 13397, Cedex 20, France.

Author E-mail address: [j.lalevee@uha.fr](mailto:j.lalevee@uha.fr)

**Figure 1.** UV absorption properties of **TX-Si** and **ITX** in tert-butylbenzene/acetonitrile (95%/5%).

**Figure 2.** a) HOMO-1 and LUMO+1 for **TX-Si**. The triple bond is indicated by an arrow. b) HOMO and LUMO for **XT-Si**.

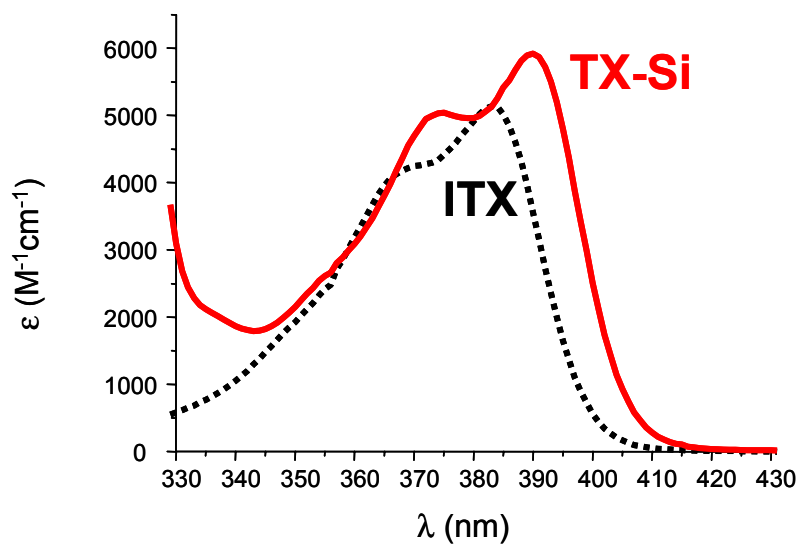
**Figure 3.** ESR spin trapping experiments under the UV-light irradiation ( $\lambda > 300$  nm) of **TX-Si**/ $\Phi_2\text{I}^+$  using PBN in tert-butylbenzene/acetonitrile (1)  $\text{Ph}^\bullet$  adduct and (\*)  $\text{R}_3\text{Si}^\bullet$  adduct.

**Figure 4.** Radical photopolymerization ability of (1) **ITX** (1% w/w); (2) **TX-Si** (1% w/w) in TMPTA (under air). Hg-Xe lamp exposure.

**Figure 5.** Photoinitiator extracted from the polymer with THF (storage of the polymer 48h in this solvent): i) polymerization initiated by **TX-Si**/MDEA or ii) **ITX**/MDEA (1%/3% w/w) for Ebecryl 605.

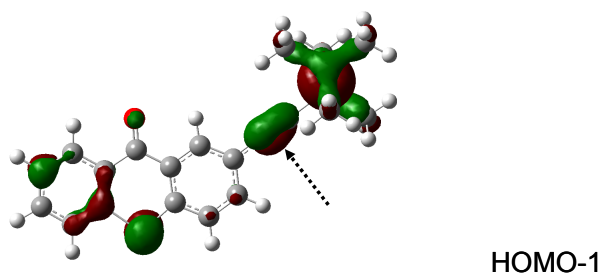
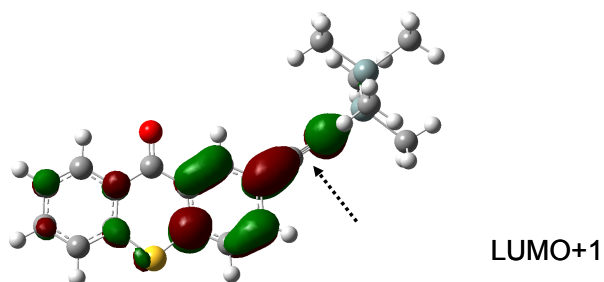
**Figure 6.** NMR spectra for the investigation compounds.

**Figure 1.**

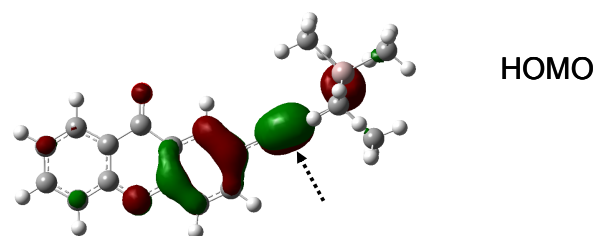
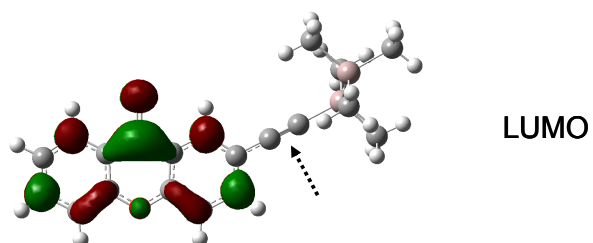


**Figure 2.**

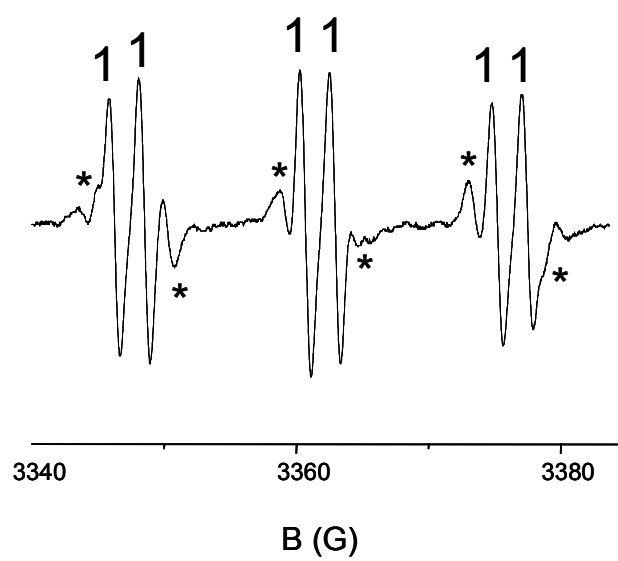
a)



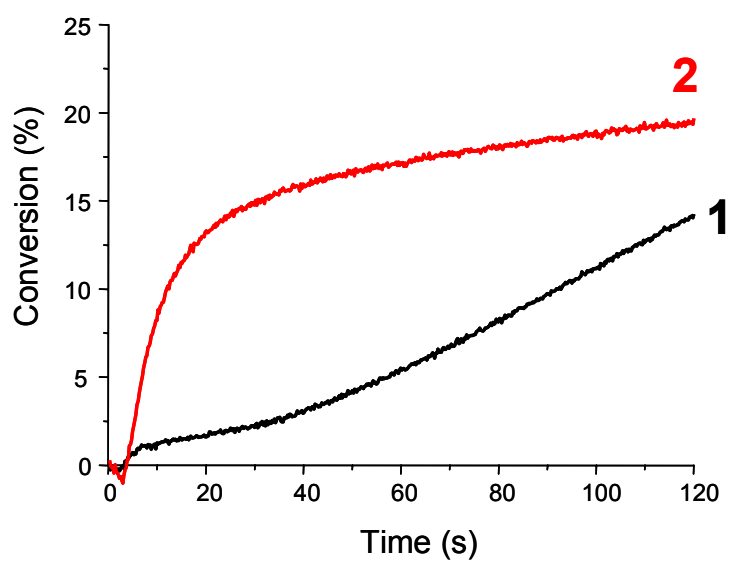
b)



**Figure 3.**



**Figure 4.**



**Figure 5.**

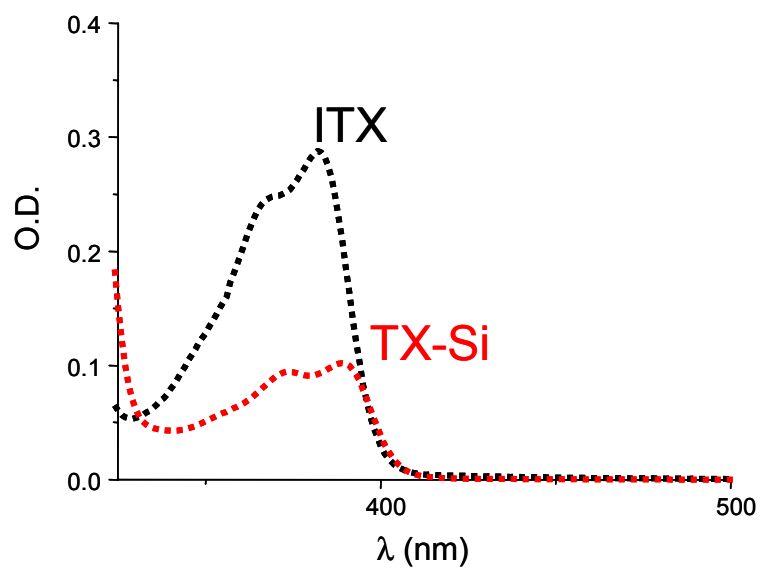


Figure 6.

