Supporting Information

Combination of photoinduced copper (I) catalyzed click chemistry and photosol-gel reaction for the synthesis of hybrid materials

E. Maetz, C. Croutxé-Barghorn *, C. Delaite, X. Allonas

Laboratory of Macromolecular Photochemistry and Engineering, University of Haute-Alsace, 3 rue Alfred Werner, 68093 Mulhouse Cedex, France. Fax: +33(0)389335014; Tel: +33(0)389335017; Email: celine.croutxe-barghorn@uha.fr (C. Croutxe-Barghorn)

24/08/2016
**Fig. S1** Absorption spectrum of ethyl 2-azidopropionate in acetonitrile (concentration: $1.10^3$ mol.L$^{-1}$).

**Fig. S2** Emission spectrum of Hg-Xe lamp equipped with a 365 nm reflector, with and without borosilicate glass plate used as cutoff filter.

**Fig. S3** Photodegradation of ethyl 2-azidopropionate followed by RT FTIR. The azide precursor was laminated between two BaF$_2$ pellets and submitted to UV irradiation with and without borosilicate glass plate cutting all wavelengths below 300 nm.
Fig. S4 $^1$H NMR spectrum in DMSO-$d$ of (a) the photoinduced click reaction before irradiation and (b) product of reaction after 20 min of irradiation. (Ethyl 2-azidopropionate/propargyl alcohol 1/1.1 molar ratio, 3.5 wt% CuCl$_2$/PMDETA and 2.0 wt% ITX).

Fig. S5 $^1$H NMR spectrum in DMSO-$d$ of photoinduced click product obtained during the concomitant reaction. (Irradiation: UV conveyor, H lamp, 600 mW/cm$^2$/pass, 20 passes.)
Fig. S6 Simultaneous sol-gel photopolymerization of PDMOS and photoinduced click reaction followed by RT FTIR under conveyor belt. (PDMOS /ethyl 2-azidopropionate in a ratio of (1/1) wt%, ethyl 2-azidopropionate/propargyl alcohol (1/1.1) molar ratio, 3 wt% of I250, 2 wt% of ITX, 1.5 mol eq. of H2O, 55.5 wt% of MeOH and 3.5 wt% of CuCl2/PMDETA. Irradiation condition: UV conveyor, H lamp, 600 mW/cm²/pass, 20 passes.)