

Supplementary material (ESI) for Soft Matter
This journal is © The Royal Society of Chemistry 2011

Electronic Supplementary Information

Amine-functionalized nanoporous thin films from a poly(ethylene oxide)-*block*-polystyrene diblock copolymer bearing a photocleavable o-nitrobenzyl carbamate junction

Cé Guinto Gamys,^a Jean-Marc Schumers,^a Alexandru Vlad,^b Charles-André Fustin^a and Jean-François Gohy^{a*}

^aInstitute of Condensed Matter and Nanosciences (IMCN), Bio- and Soft Matter (BSMA), Université catholique de Louvain, Place L. Pasteur, 1, Louvain-la-Neuve (Belgium)

*Email : jean-francois.gohy@uclouvain.be

^bInformation and Communication Technologies, Electronics and Applied Mathematics (ICTEAM), Université catholique de Louvain, Place du Levant, 3, Louvain-la-Neuve (Belgium)

Estimation of the click efficiency

The click efficiency was estimated by ¹H NMR (500 MHz) on the crude copolymer before removal of the residual homopolymers by comparing the integration of the triazole proton (H_t) with the methoxy protons (PEO chain-end). Efficiency (%) = H_t * 100 = 73 when H_m is calibrated to 3.

Supplementary material (ESI) for Soft Matter
This journal is © The Royal Society of Chemistry 2011

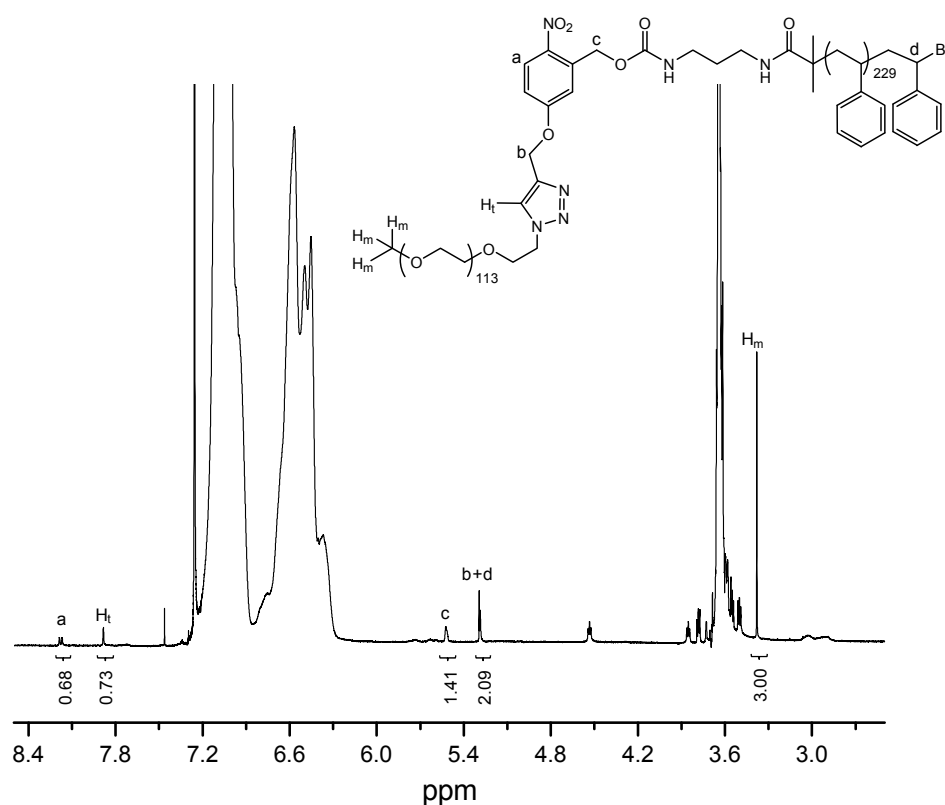


Figure SP1: ^1H NMR spectrum of the crude $\text{PEO}_{113}\text{-}h\nu\text{-PS}_{230}$ block copolymer

Photoisomerisation of the *o*-nitrobenzyl carbamate junction: Evaluation of the impact of the side-reaction leading to the formation of an imine

In order to evaluate the influence of the side-reaction leading to the formation of an imine during the photocleavage of the *o*-nitrobenzyl carbamate junction, annealed films of $\text{PEO}_{113}\text{-}h\nu\text{-PS}_{230}$ were exposed to UV irradiation in solid state and in **methanol** with and without addition of semicarbazide hydrochloride before being rinsed in a methanol/water (9/1 v/v) mixture to remove the cleaved PEO phase. The obtained amine-functionalized films were then treated with Coumarin 343 with appropriate peptide coupling reagents and characterized by fluorescence spectroscopy as shown in Figure SP2.

Supplementary material (ESI) for Soft Matter
This journal is © The Royal Society of Chemistry 2011

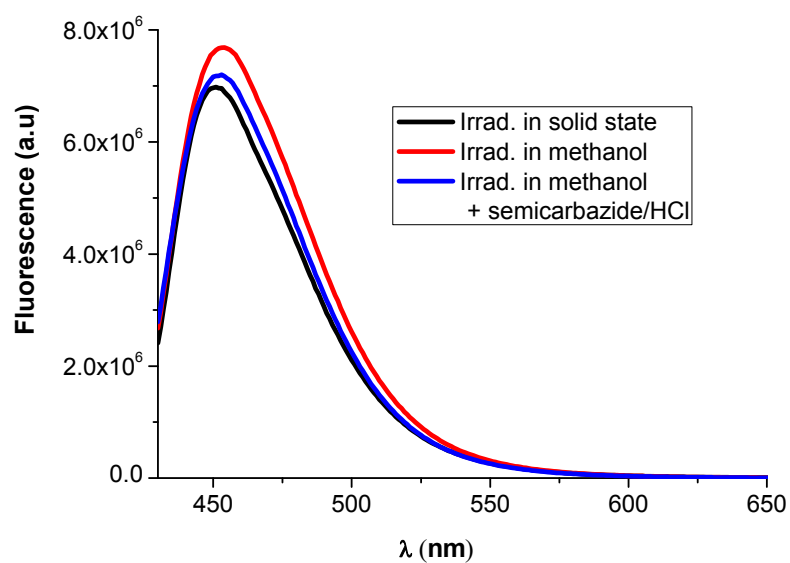


Figure SP2: Grafting of Coumarin 343 on the pore walls. Fluorescence spectra obtained from: films irradiated in solid state (red curve), films irradiated in **methanol** (red curve) and films irradiated in **methanol** in the presence of semicarbazide hydrochloride (blue curve).