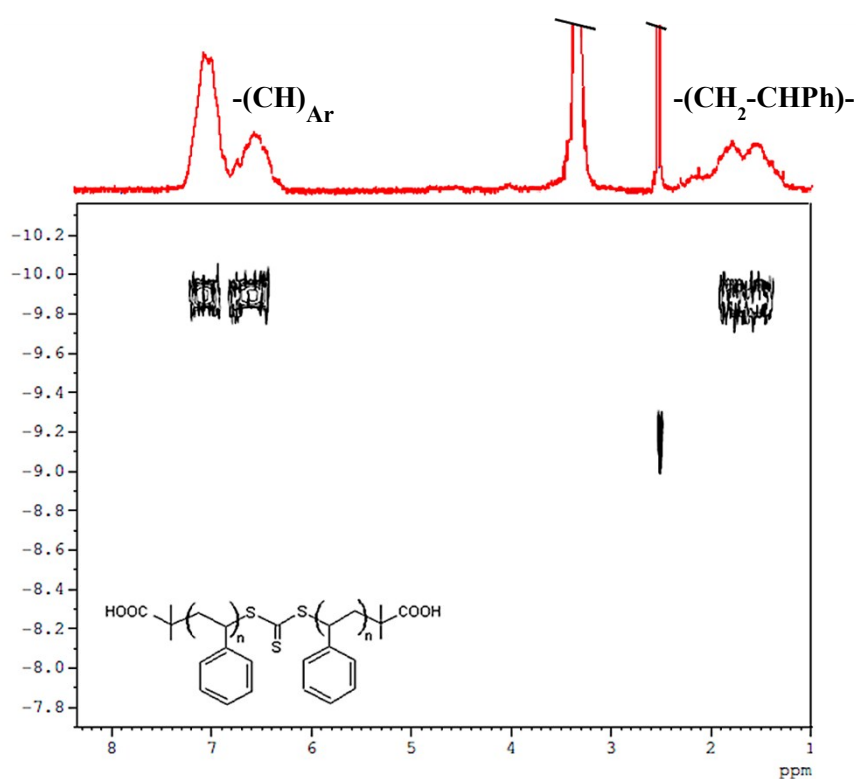


## Supporting Information

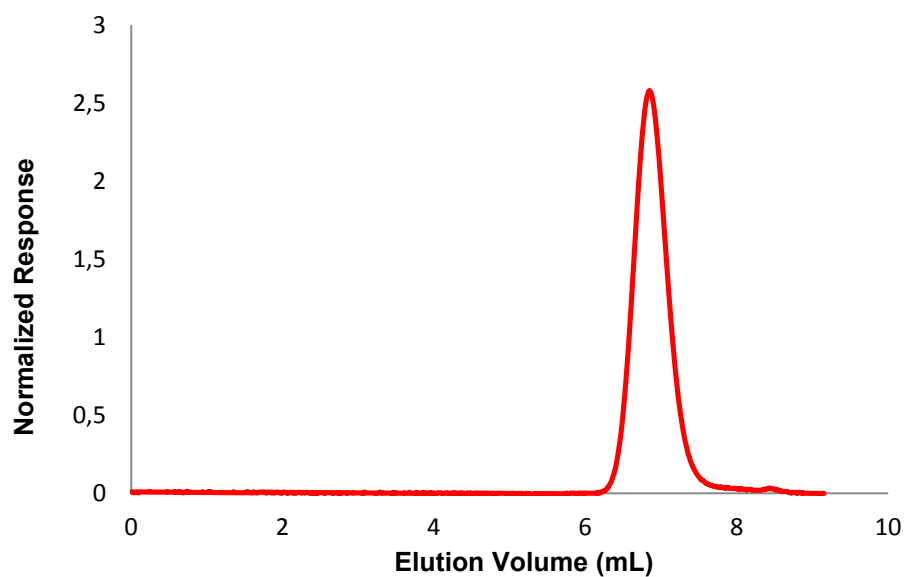
### Stimuli Responsive Nanostructured Porous Network from Triblock Copolymer Self-assemblies

Zineb Mouline, Mona Semsarilar, Andre Deratani, Damien Quemener\*

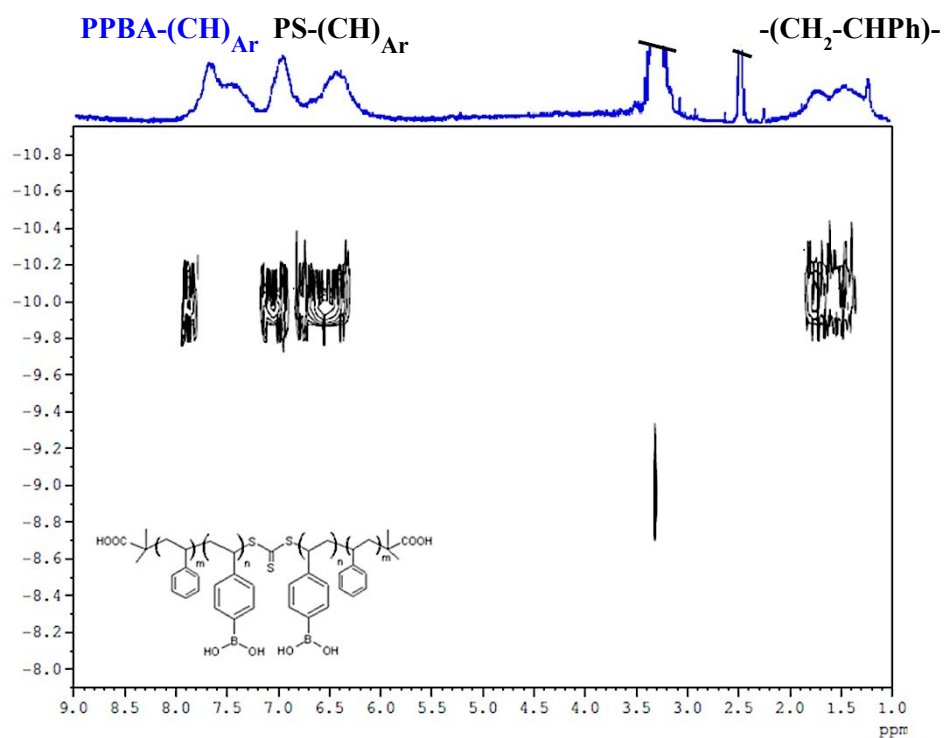
IEM (Institut Europeen des Membranes), UMR 5635 (CNRS-ENSCM-UM2),  
Universite Montpellier 2, CC047, Place E. Bataillon, 34095 Montpellier, France.



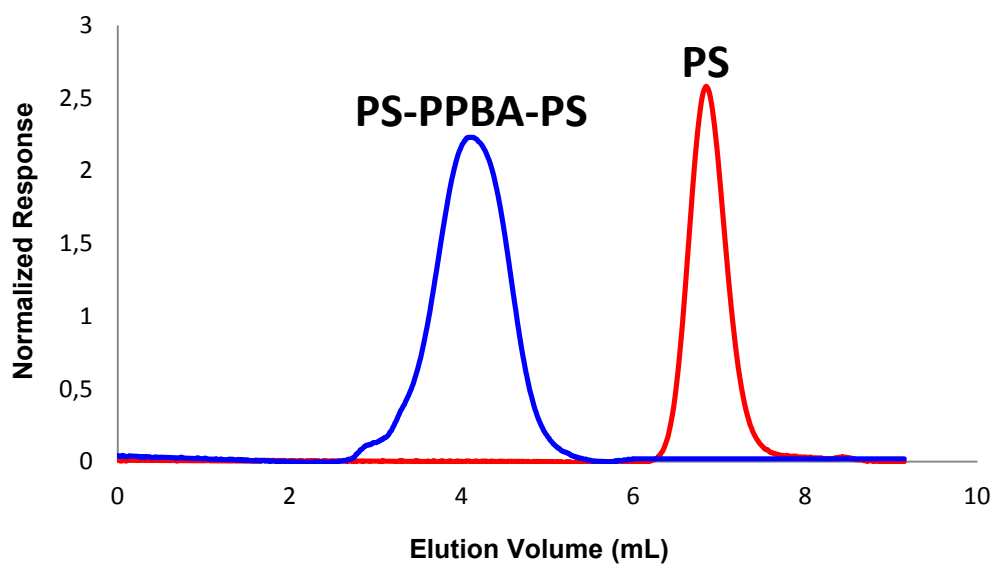
**Figure S1.** DOSY spectra of polystyrene (PS) macro-CTA polymerized by RAFT obtained in DMSO- $d_6$ .



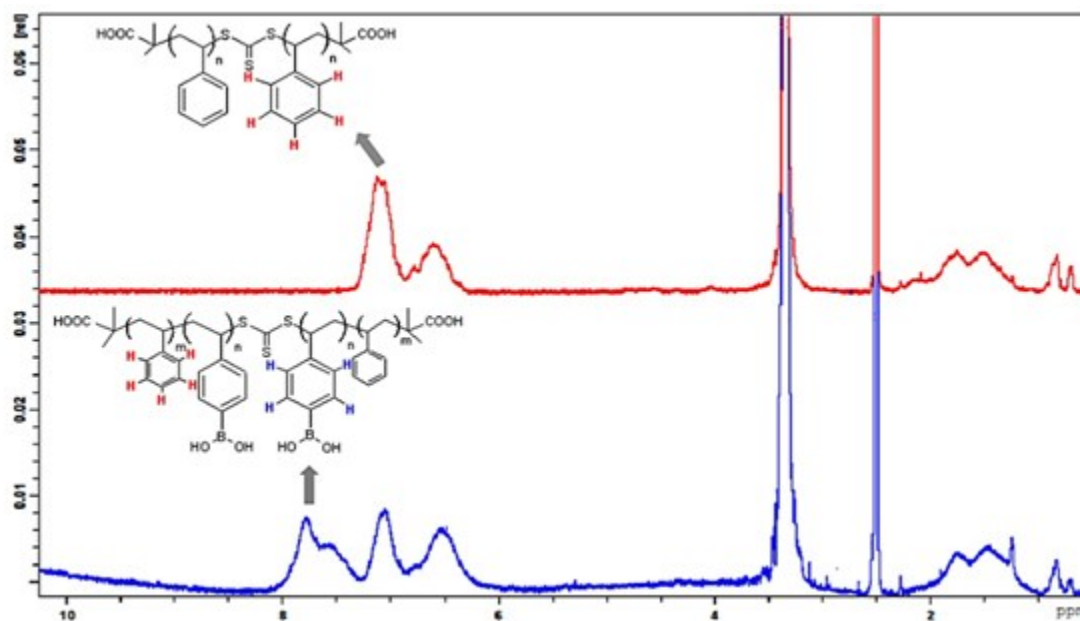
**Figure S2.** Gel permeation chromatography trace obtained for PS macro-CTA polymerized by RAFT.



**Figure S3.** DOSY spectra of polystyrene-*b*-poly (4-vinylphenyl boronic acid)-*b*-polystyrene (PS-PPBA-PS) triblock copolymer polymerized by RAFT obtained in DMSO-*d*<sub>6</sub>.



**Figure S4.** Gel permeation chromatography trace obtained for polystyrene-*b*-poly (4-vinylphenyl boronic acid)-*b*-polystyrene (PS-PPBA-PS) triblock copolymer polymerized by RAFT.

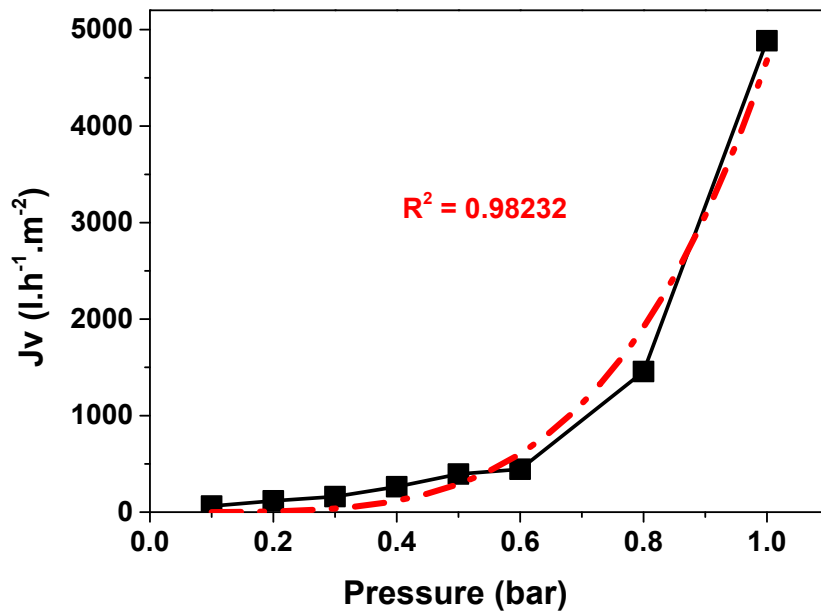


**Figure S5.** Superposed <sup>1</sup>H NMR spectra of polystyrene macro-CTA and polystyrene-*b*-poly (4-vinylphenyl boronic acid)-*b*-polystyrene obtained in DMSO-*d*<sub>6</sub>.

**Equation S1.** Hagen-Poiseuille equation

$$J_i = \frac{N_i \pi d_i^4 \Delta P}{128 \eta \delta}$$

where  $J_i$  is the solvent flux ( $\text{L} \cdot \text{m}^{-2} \cdot \text{h}^{-1}$ ),  $N_i$  the number of perforations per unit area,  $d_i$  the perforation diameter,  $\delta$  the length of the cylindrical perforation (taken equal to the membrane thickness),  $\eta$  the solvent viscosity ( $1 \cdot 10^{-3} \text{ Pa} \cdot \text{s}$ ) and  $\Delta P$  the relative water pressure.



**Figure S6.** Water flux ( $J_v$ ) at pH 7 with increasing pressure (closed black squares) and the corresponding nonlinear model fit with function power-4 (Red line).