

Supporting Information

Double Hydrophilic Polyphosphoester Containing Copolymers as Efficient Templating Agents for Calcium Carbonate Microparticles

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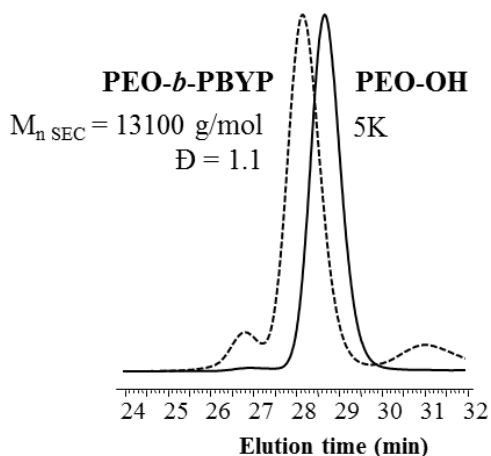


Figure S1. SEC overlay of PEO-OH macroinitiator (full line) and the corresponding block copolymer (dotted line) after chain extension by ROP of BYP. Conditions : $[BYP]_0/[PEO-OH]_0/[DBU]_0/[TU]_0 = 34/2/3/1.5$, CH_2Cl_2 , 0 °C.

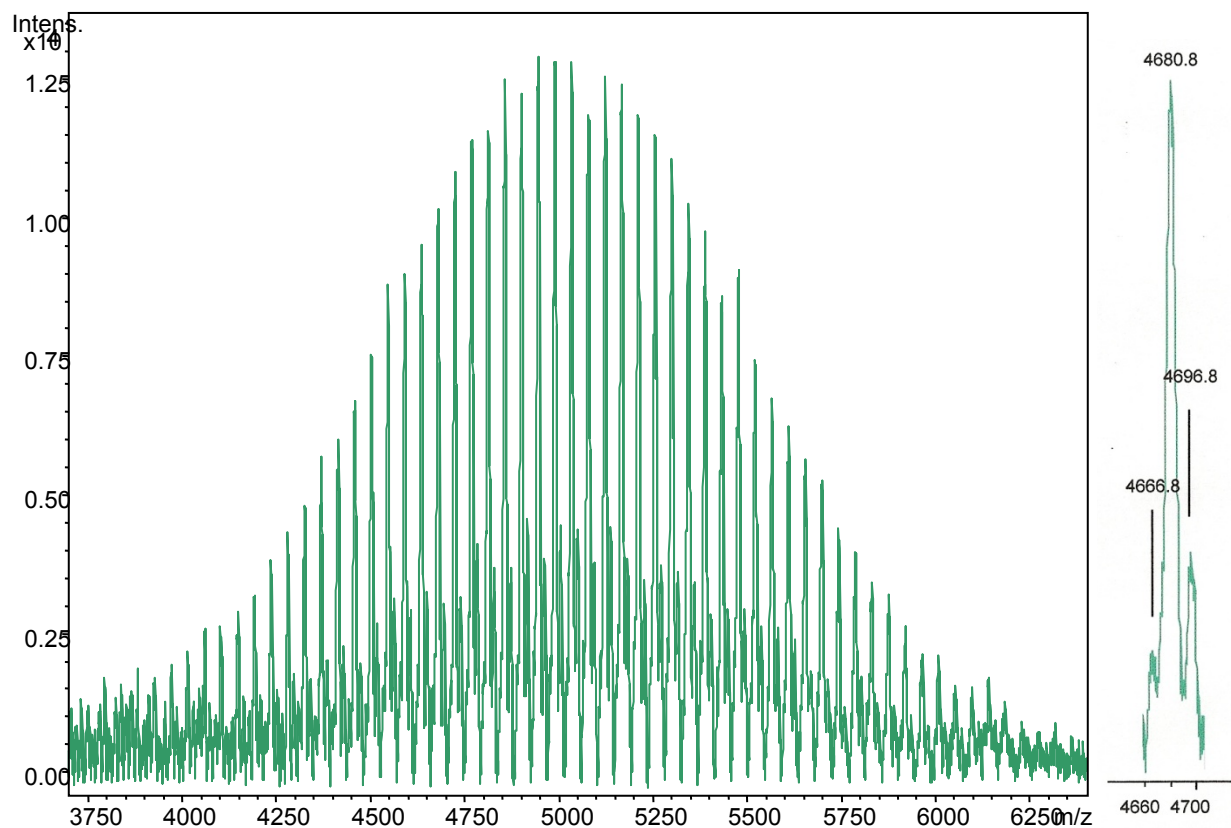


Figure S2. MALDI-TOF spectrum of the starting PEO-OH macroinitiator. On the right, the zoom of the 4660-4700 range shows peaks at 4680.8 and 4696.8 corresponding to the expected $\text{CH}_3\text{-O-PEO-OH}$ cationized with sodium and potassium, respectively. The peak at 4666.8 (i.e. 14 mass units below the main peak) corresponds to some contaminating HO-PEO-OH.

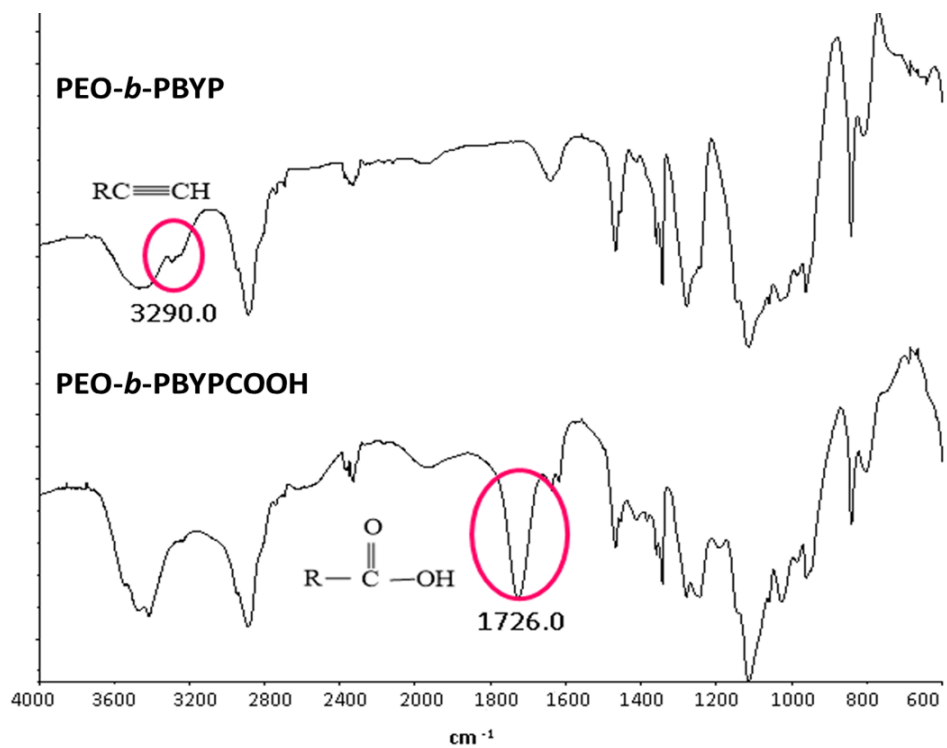


Figure S3. Overlay of the infrared spectra of PEO-*b*-PBYP **2** and PEO-*b*-PBYP-COOH **3**.

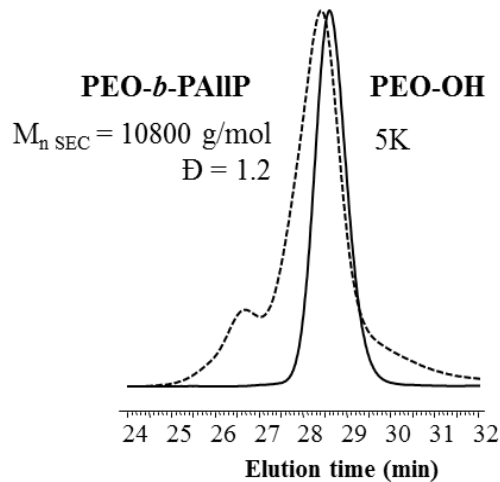


Figure S4. SEC overlay of PEO-OH macroinitiators (full line) and the corresponding block copolymers (bold line) after chain extension by ROP of AllP 4. Conditions : ($[4]_0/[PEO-OH]_0/[DBU]_0/[TU]_0 = 30/1/5/5$), toluene 0 °C.

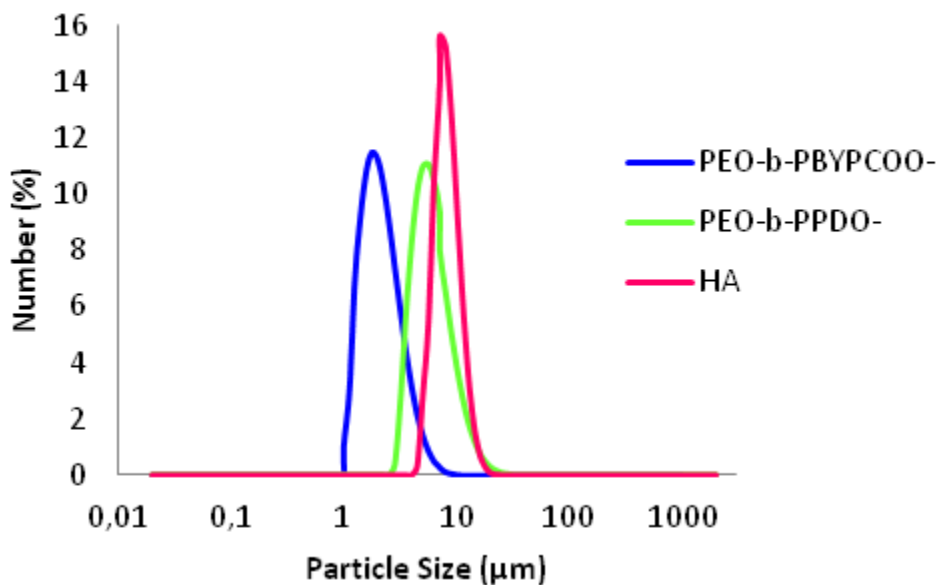


Figure S5 Size distribution in number measured by light scattering for CaCO₃ particles obtained by scCO₂

Table S1 Characteristics of CaCO₃ particles obtained in scCO₂

Samples	SEM Diameter (μm)	LS Diameter (μm)	PDI*	Zeta potential (mV)
HA	8.5	8.0	0.8	-20 \pm 2.4
PEO- <i>b</i> - PBYP ⁻ COO ⁻	1.5	2.1	1.1	-7.3 \pm 1.5
PEO- <i>b</i> -PPDO ⁻	6.7	6.4	1.2	-13.6 \pm 2.1

* Polydispersity index of the particles size from light scattering (LS)