Supporting Information:

Thermo-responsive allyl functionalized 2-(2-methoxyethoxy)ethyl methacrylate-based polymers as versatile precursors for smart polymer conjugates and conetworks

Marta Liras, José M. García-García, Isabel Quijada-Garrido, Alberto Gallardo, Rodrigo París*

Instituto de Ciencia y Tecnología de Polímeros (ICTP). Consejo Superior de Investigaciones Científicas (CSIC).

c/ Juan de la Cierva, 3. E-28006 Madrid. Spain.

Figure 1-SI: ^{13}C-NMR spectrum of P(MEO_2MA-*co*-AMA) (sample **P4**)

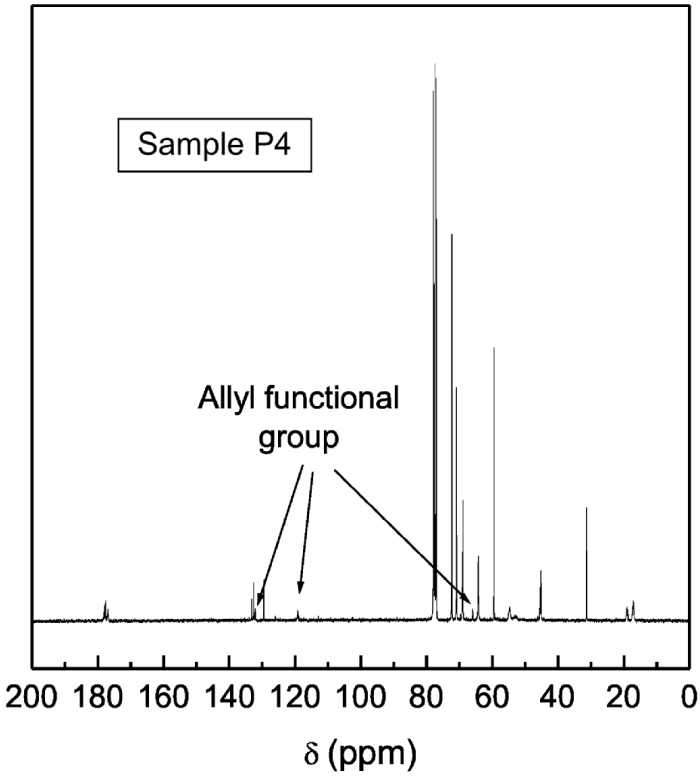
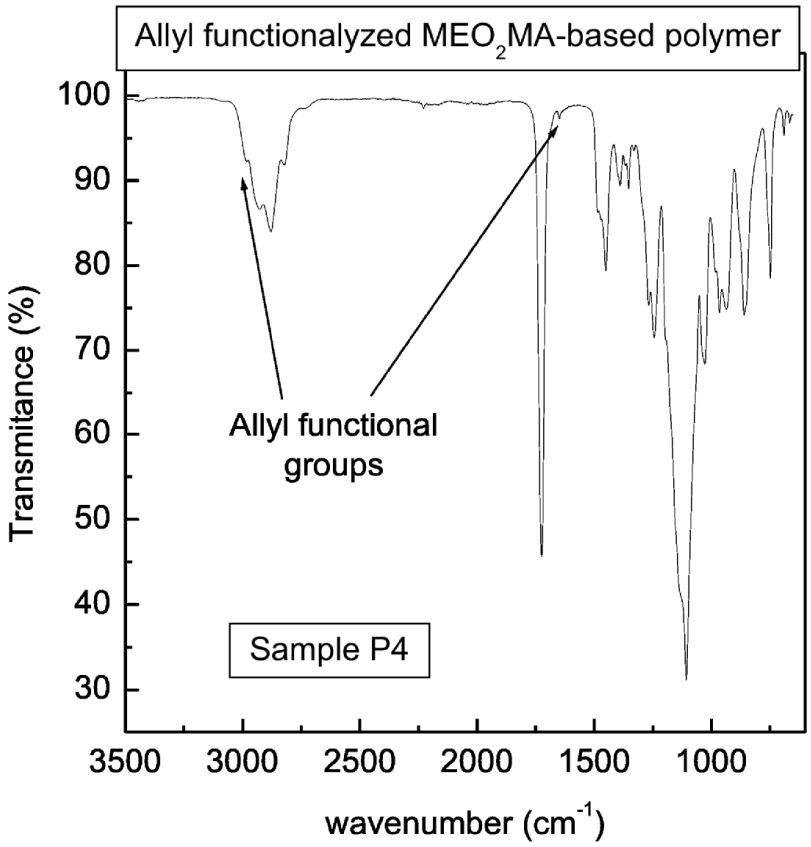
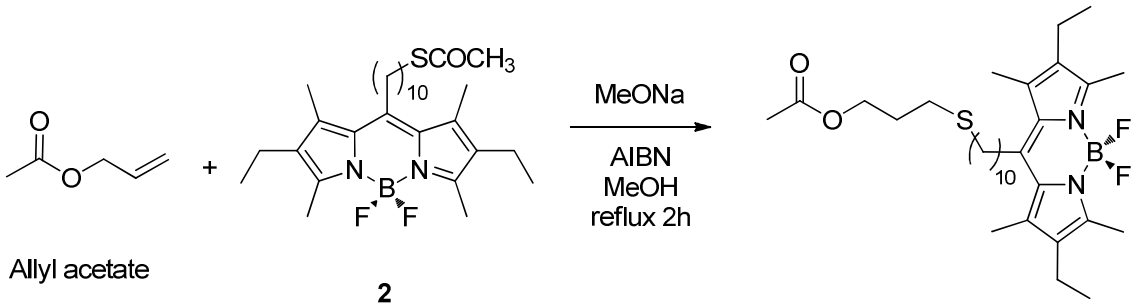


Figure 2-SI: FTIR spectrum of P(MEO_2MA-*co*-AMA) (sample **P4**)



Model reaction



Síntesis of Acetic acid 3-[10-(2',6'-diethyl-1',3',5',7'-tetramethyl-4',4'-difluoro-4'-bora-3'a,4'a-diaza-s-indacen-8'-yl)-decylsulfanyl]-propyl ester. Thioester-BODIPY **2** (33 mg, 0.064 mmol), allyl acetate (7.7 μL, 0.071 mmol), sodium methoxide (3 eq), 2,2′-azobis(2-methylpropionitrile) (AIBN) (1 eq) and were stirred in MeOH (25 mL) and refluxed 2 hours. The solvent was removed and the crude was redissolved in dichloromethane, washed with water three times and dried over sodium sulphate. After that, the organics were dried with sodium sulphate. The red residue obtained was purified by flash column chromatography (silica gel, hexane-chloroform in gradient from 9:1 to 1:9 as eluent mixture). Red oil, yield 35 mg (95%) ^{1}H NMR (300 MHz, $CDCl_3$): δ (ppm) 4.10 (m, 2H, C*H*$_2$-O), 2.95 (m, 2 H, 1'-H), 2.62 (t, 2 H, J = 7.5 Hz, 10'-H), 2.55 (m, 2 H, C*H*$_2$-S), 2.62 (s, 6H, 2×C*H*$_3$-Ar), 2.38 (q, 4 H, J = 7.5 Hz, C*H*$_2$CH$_3$), 2.30 (s, 6 H, 2×C*H*$_3$-Ar), 2.26 (m, 2 H, 9'-H), 1.6 (s, 3 H, C*H*$_3$CO), 1.59-1.2 (m, 18 H, CH$_2$-C*H*$_2$-CH$_2$), 1.03 (t, J = 7.5 Hz, 6 H, C*H*$_3$CH$_2$). IR: ν (cm^{-1}): 2926, 2854, 1736.7 (COO), 1544.7 (BODIPY core), 1478.8 (CH2 scissor), 1194.8 (COC as), 980 (BODIPY core).