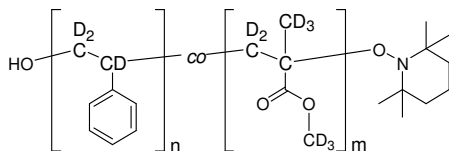Sample: Deuterated **Poly(Styrene–co–Methyl Methacrylate), α-Hydroxy, ω-TEMPO-moiety terminated random copolymer**

Sample # **P19336A-dPSMMAranOHT**

Structure:

Composition:

M_n x 10^3 (g/mol)	M_w/M_n (PDI)
82.0	1.13

Polystyrene content: 43 mol %

Synthesis:

Hydroxy-terminated poly(styrene–co–methyl methacrylate) was prepared by stable free radical polymerization at 135°Cusing deuterated monomers d8styrene and d8 MMA.
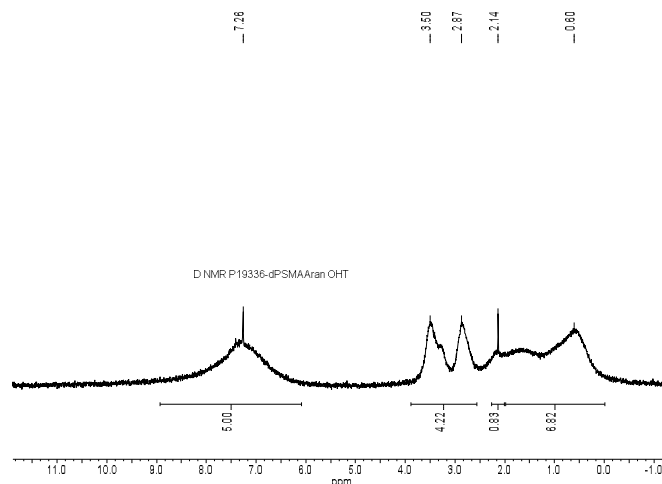
Characterization:

The molecular weight and polydispersity index (PDI) of the product was determined by size exclusion chromatography (SEC), using polystyrene as a standard. The ratio between polystyrene and poly(methyl methacrylate) in PS-PMMA copolymer was calculated from H NMR spectroscopy by comparing the peak area of the PS phenyl protons at 6.5–7.3 ppm and the peak area of PMMA methyl protons at 2.6–3.6 ppm.

Solubility:

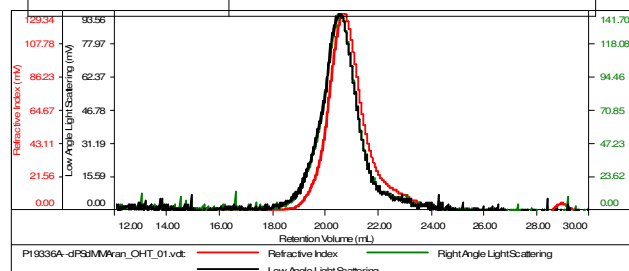Polymer is soluble in THF, DMF, toluene, and chloroform. It precipitates from methanol and hexanes.

^{2}H NMR spectrum of the copolymer in CDCl$_3$:

SEC elugram of the copolymer:
Sample ID-P19336A-dPSdMMAran OHT

Concentration (mg/mL)	1.2207
Sample dn/dc (mL/g)	0.1560
Method File	PS80K-June30-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF

P19336A-dPSdMMAran_OHT_01.vdt — Refractive Index — RightAngle LightScattering — Low Angle Light Scattering

Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19336A--dPSdMMAran_OHT_01.vdt	81,846	92,614	87,422	1.132	2.0642