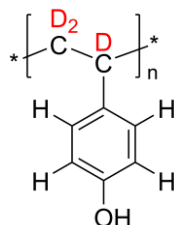


Sample Name: Deuterated Poly(4-hydroxystyrene-d₃)

Other Name: Deuterated Poly(4-vinyl-d₃-phenol)

Sample #: P2667-dHOST

Structure:

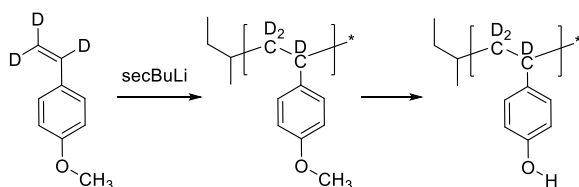


Composition:

$M_n \times 10^3$ (g/mol)	M_w/M_n
8.75	1.07

Synthesis:

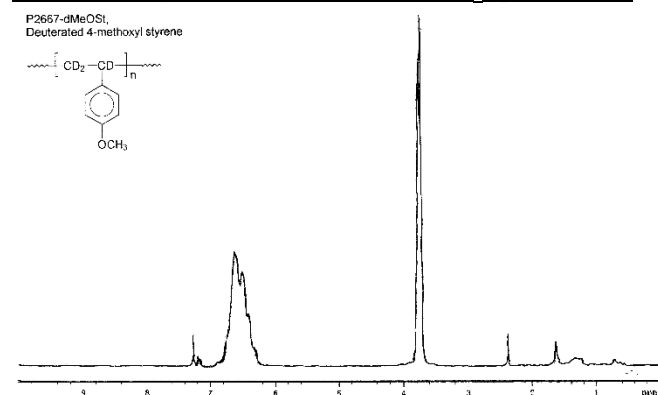
Poly(4-methoxystyrene-d₃) was synthesized by anionic polymerization technique, followed by cleavage of methoxy group to get poly(4-hydroxystyrene-d₃). The scheme of reaction is presented below:



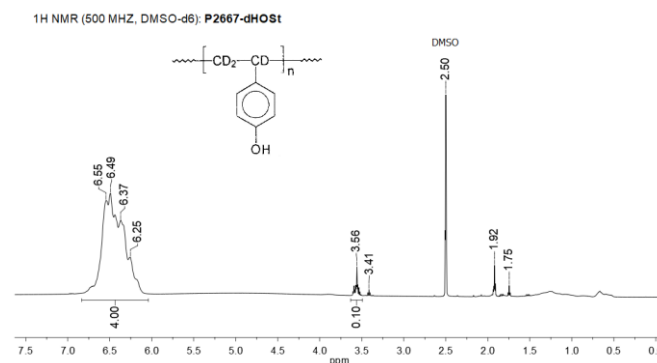
Characterization:

The structure of the polymer was confirmed by proton and deuterium NMR spectroscopy. The molecular weight of the product was calculated from the molecular weight of the polymer precursor that was determined by size exclusion chromatography (SEC).

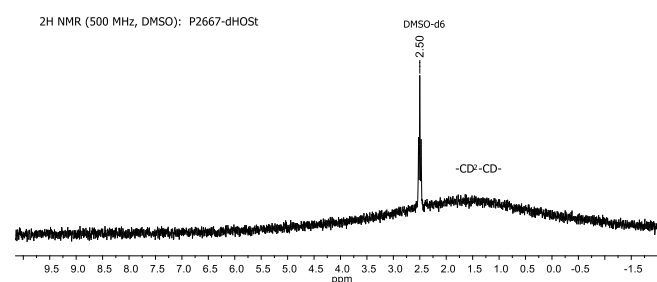
¹H NMR of poly(4-methoxystyrene-d₃) precursor:



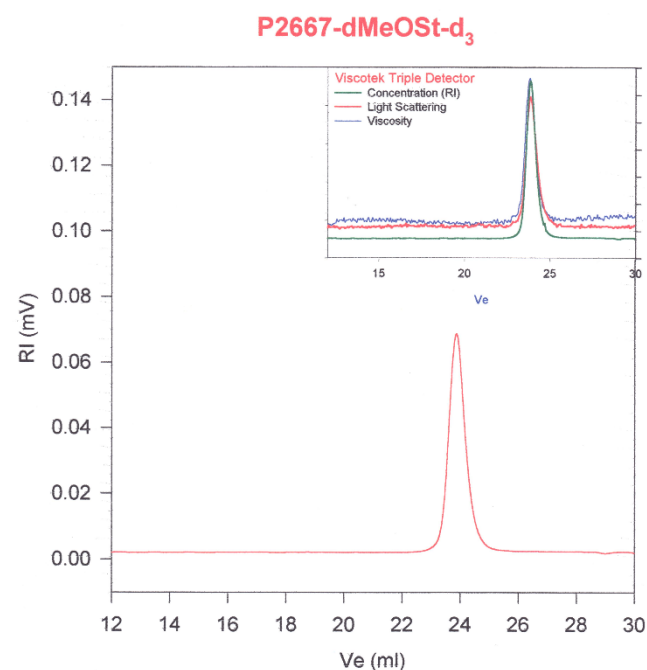
¹H NMR spectrum of product in DMSO-d₆:



D NMR spectrum of product in DMSO:



SEC of poly(4-methoxystyrene-d₃) precursor::



Size Exclusion Chromatography of poly(methoxyl styrene):

— $M_w/M_n = 1.07$ (calculated from polystyrene calibration)
— $M_n = 9750$ (from Viscotek Triple detector)