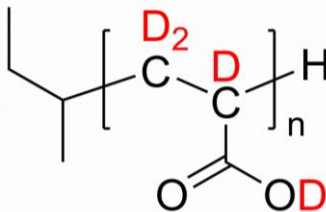


Sample Name:
Deuterated Poly(acrylic acid-d4)

Sample #: **P43232-d4PAA**

Structure:



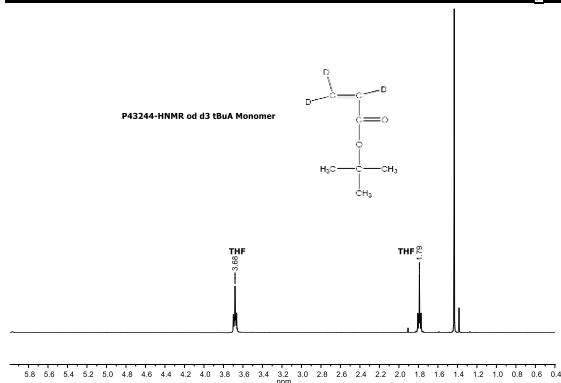
Composition:

Mn x 10 ³	PDI
2.8	1.02

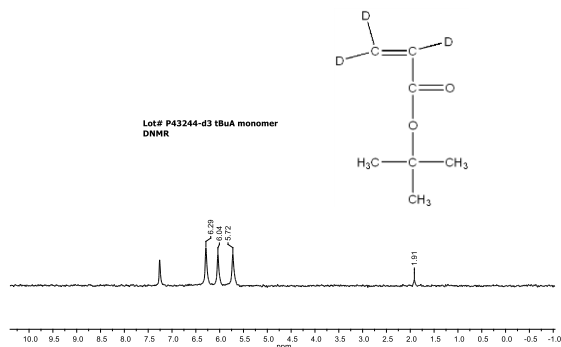
Synthesis Procedure:

The polymer is obtained by anionic polymerization using Sec. Butyl lithium initiator and d3 tert.butyl acrylate monomer. Poly d3tBuA was converted to poly acrylic acid -d3. It was subjected to D exchange reaction in D2O and Pt catalyst to convert COOH to COOD.

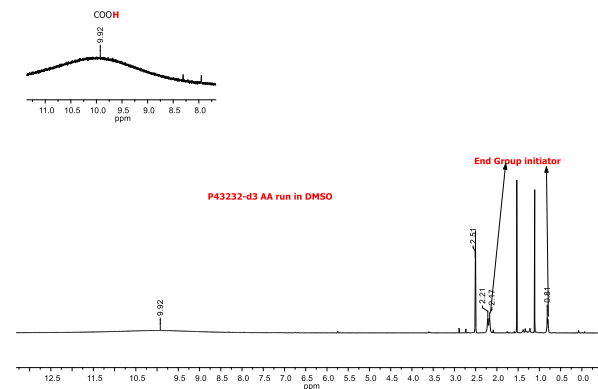
¹H NMR of d3 Monomer (500 MHz, CDCl₃):



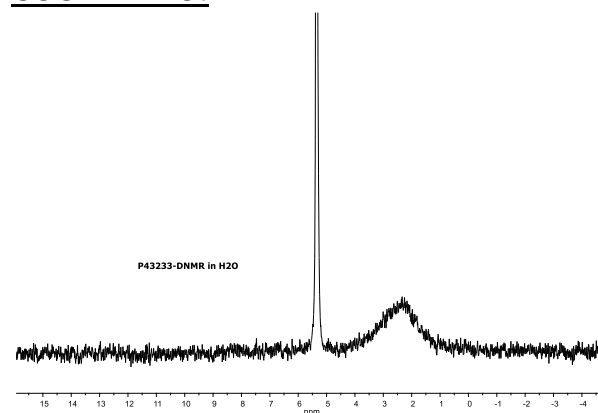
²H NMR of d3 Monomer (500 MHz, CDCl₃):



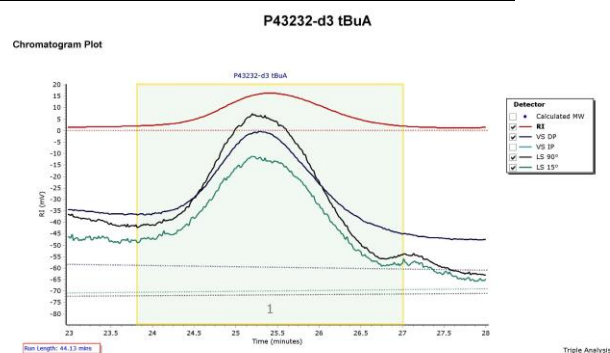
H NMR spectrum of d3 PAA Polymer in DMSO, COOH before D exchange:



H²NMR of Polymer in H2O: Difficult to detects COOD in H2O:



SEC elugram of the Poly d3tBuA in THF:



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	4944	4834	4946	5060	5176	5046	1.023