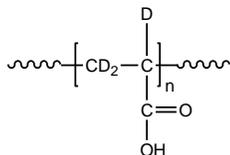


Sample Name: Deuterated Poly (acrylic acid-d3)

Sample #: P42333-d3PAA

Structure:



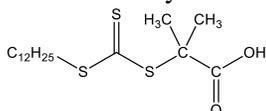
Composition:

M _n x 10 ³	PDI
3.5	1.12

Synthesis Procedure:

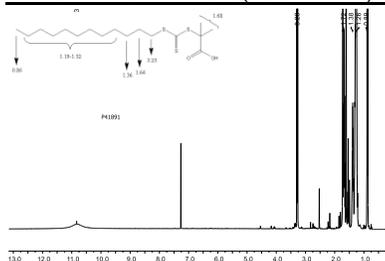
Poly (d3 acrylic acid) is obtained by the RAFT polymerization process for d3AA monomer in dioxane.

RAFT reagent used in this synthesis:



Chemical Formula: C₁₇H₂₆O₂S₃
Molecular Weight: 364.6

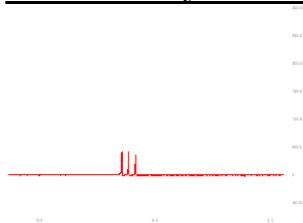
¹H NMR of RAFT (500 MHz, CDCl₃):



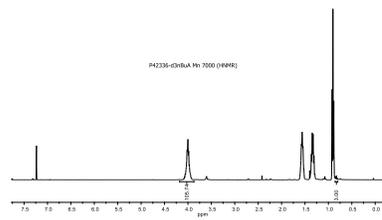
Characterization:

The product was characterized by size exclusion chromatography (SEC) and ¹H NMR. Molecular weight of the polymer was determined by converting poly acrylic acid to d3 polyn-butylacrylate by trans-esterification reaction

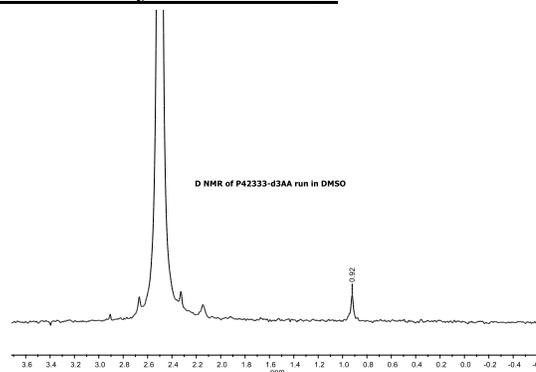
D NMR of acrylic acid monomer:



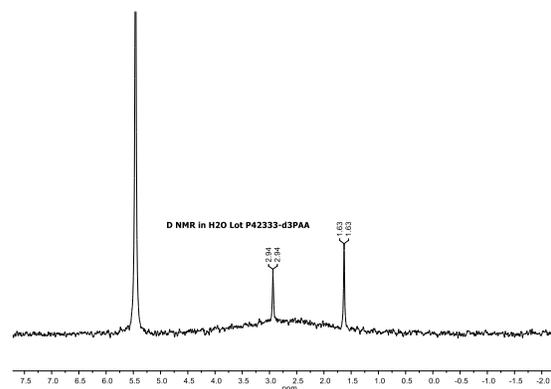
HNMR of the D3 n-butylacrylate in CdCl3:



D NMR of Polymer in DMSO:

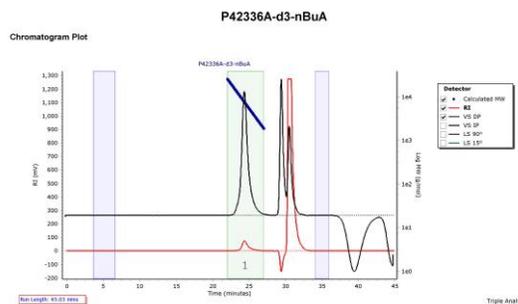


D NMR of Polymer in H2O:



SEC elugram of the Poly d3nBuA in THF:

Agilent GPC/SEC Software



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	7590	6248	7006	7636	8200	7484	1.121

Mn of Poly d3 acrylic acid: 3,500, PDI: 1.12

