

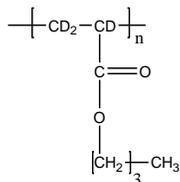
Sample Name:

**Deuterated Poly(n-butyl acrylate-d3)**

*Backbone protons are deuterated*

Sample #: **P43590D-d3nBuA**

Structure:



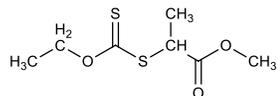
Composition:

|                   |     |
|-------------------|-----|
| $M_n \times 10^3$ | PDI |
| 4.0               | 1.5 |

Synthesis Procedure:

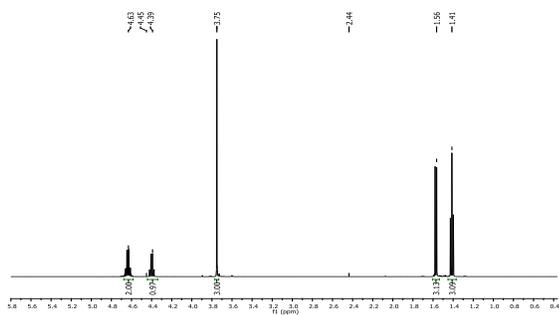
Poly(d3 acrylic acid) is obtained by the RAFT polymerization for d3AA monomer in dioxane. Then the obtained polymer was trans-esterified in presence of n-butanol.

RAFT reagent used in this synthesis:



Chemical Formula:  $\text{C}_7\text{H}_{12}\text{O}_3\text{S}_2$   
Molecular Weight: 208.3

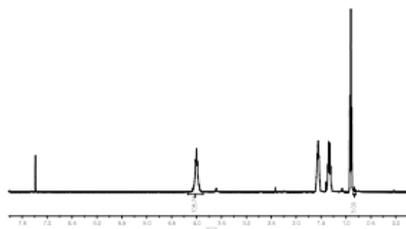
**$^1\text{H}$ NMR spectrum of RAFT (400 MHz,  $\text{CDCl}_3$ ):**



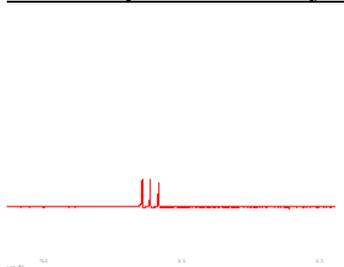
Characterization:

The product was characterized by size exclusion chromatography (SEC) and  $^1\text{H}$  NMR.

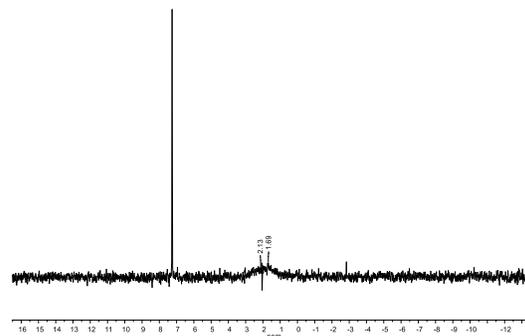
**$^1\text{H}$  NMR spectrum of the polymer in  $\text{CDCl}_3$ :**



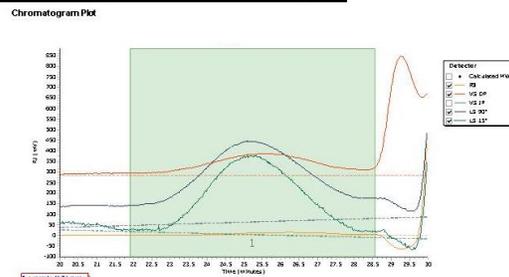
**D NMR spectrum of acrylic acid monomer:**



**D NMR spectrum of the Polymer in  $\text{CHCl}_3$ :**



**SEC elugram of the Sample:**



| Molecular Weight Averages |            |            |            |            |              |            |
|---------------------------|------------|------------|------------|------------|--------------|------------|
| Peak                      | Mp (g/mol) | Mn (g/mol) | Mw (g/mol) | Mz (g/mol) | Mz+1 (g/mol) | Mw (g/mol) |
| Peak 1                    | 4852       | 4082       | 6198       | 9121       | 12365        | 8645       |