

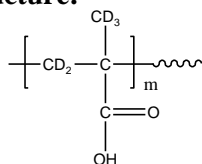
Sample Name:

**Deuterated Poly (methacrylic acid-d5)**

*rich in Atactic contents*

Sample #: **P41903-d5MAA**

**Structure:**



**Composition:**

| Mn x 10 <sup>3</sup> | PDI  |
|----------------------|------|
| 8.0                  | 1.02 |

**Synthesis Procedure:**

Deuterated Poly (methacrylic acid-d5) is synthesized by controlled radical process using d5 MAA monomer.

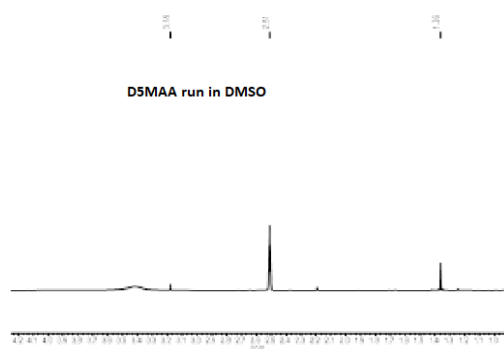
**Characterization:**

The molecular weight and polydispersity index (PDI) of deuterated Poly(methacrylic) are obtained by size exclusion chromatography in DMF at 60 °C.

**Solubility:**

Polymer is soluble in methanol, ethanol. It takes time to solubilized by stirring over night.

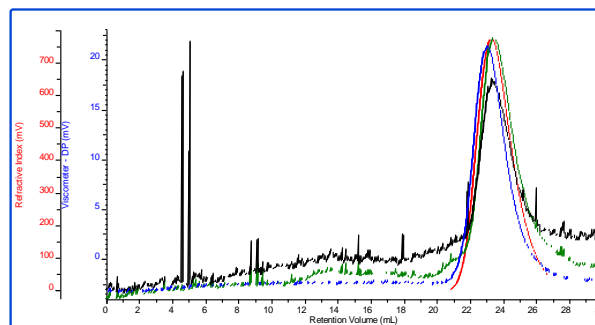
**HNMR run in DMSO:**



**SEC of the polymer run in DMF after esterification with n-Butanol:**

**P41903A-D5-nBuMA**

|           |                                       |
|-----------|---------------------------------------|
| dn/dc     | 0.0840                                |
| Flow Rate | 0.7000                                |
| Solvent   | DMF with LiBr                         |
| Method    | PSS column-PMMA60K-Jan3-2019-0004.vcm |



| Sample              | Mn     | Mw     | Mp     | Mw/Mn |
|---------------------|--------|--------|--------|-------|
| P41903_1_2019-07-22 | 13,118 | 13,236 | 12,883 | 1.009 |

**Mn of dPMAA: 8000, Mw/Mn: 1.02**

**References:**

1. S. K. Varshney, Z. Gao, Xing Fu Zhong, A. Eisenberg, "Effect of Lithium Chloride on the "Living" Polymerization of tert-Butylmethacrylate and Polymer Microstructure Using Monofunctional Initiators" Macromolecules, 1994, 27, 1076.