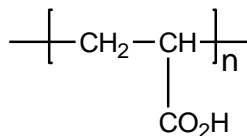


**Sample Name: Poly(acrylic acid)**

**Sample #: P42718C-AA**

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup>	PDI
10.0	1.06

**Synthesis Procedure:**

Poly(acrylic acid) is obtained by living anionic polymerization reaction.

**Characterization:**

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

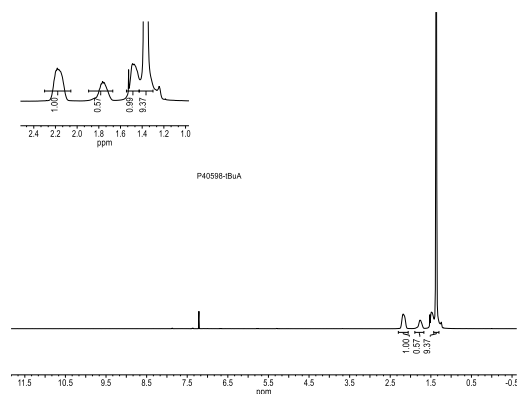
**Hydrolysis:**

The quantitative hydrolysis of the ester is confirmed by the disappearance of tert.butyl ester absorbance at around 1370cm<sup>-1</sup>.

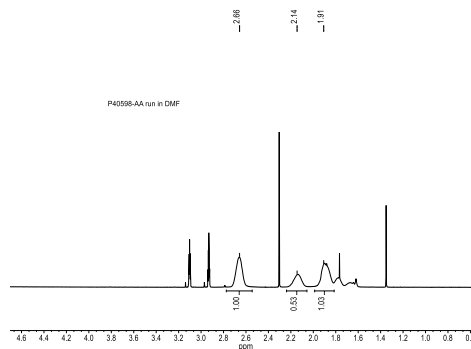
**Solubility:**

Poly(acrylic acid) is soluble in THF, water, methanol, and ethanol. The polymer precipitates from ether, acetone, and hexane.

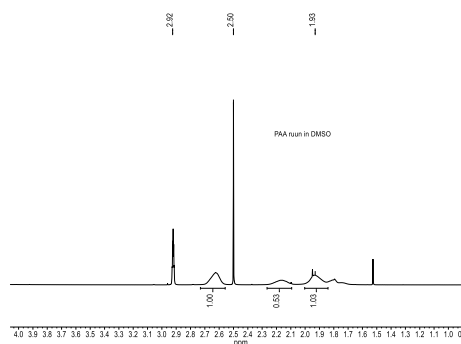
**<sup>1</sup>H-NMR spectrum of PtBuA:**



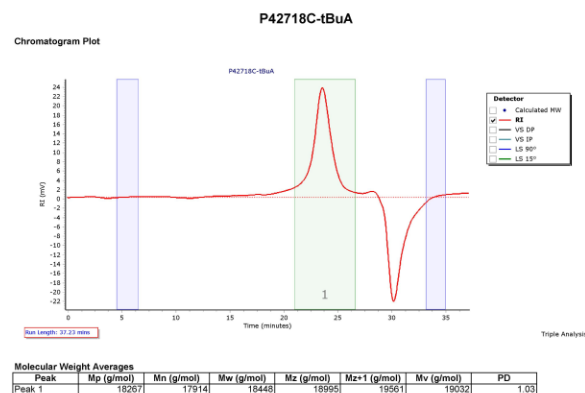
**<sup>1</sup>H-NMR spectrum of PAA in DMF:**



**<sup>1</sup>H-NMR spectrum of Polymer in DMSO:**



**SEC elugram of Homopolymer tBuA:**



**FTIR Spectra of Poly(tert. butyl acrylate) and poly(acrylic acid):**

