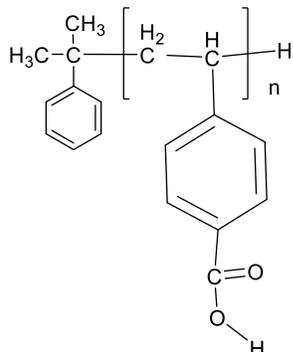


**Sample Name: Poly(4-vinyl benzoic acid)**

**Sample #: P43013-VBA**

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup>	PDI
4.0	1.09
Traces of unreacted monomer	> 2%
Presence of unhydrolyzed tert Butyl ester	>1%

**Synthesis Procedure:**

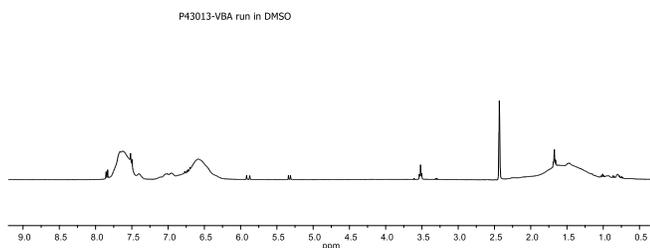
**Using cumyl potassium initiator and polymerization at -95 °C**

Poly(4-vinyl benzoic acid) is synthesized by making the 4-t-butyl styrene monomer followed by polymerization and hydrolysis of the t- butoxy group.

**Characterization:**

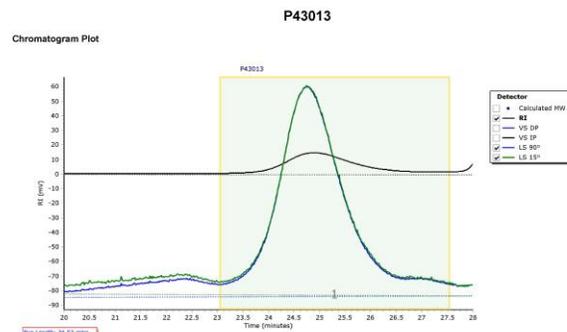
The product was characterized by size exclusion chromatography (SEC) and <sup>1</sup>H NMR data analysis.

**<sup>1</sup>H-NMR spectrum of Poly 4-Vinyl Benzoic acid:**



Polymer is soluble in DMSO and its sodium salt in water

**SEC elugram of Homopolymer:**



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	6277	5400	5530	5426	5902	5426	1.090

After Hydrolysis of ester to COOH Mn: 4,000

**FT-IR spectrum:**

