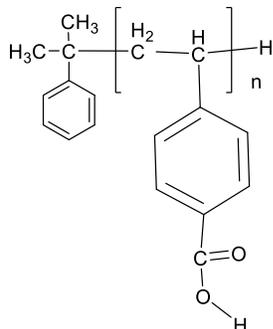


Sample Name: Poly(4-vinyl benzoic acid)

Sample #: P43014A3-VBA

Structure:



Composition:

| | |
|---|--------|
| Mn x 10 ³ | PDI |
| 3.2 | 1.13 |
| Traces of unreacted monomer | > 0.1% |
| Presence of unhydrolyzed tert Butyl ester | >1% |

Synthesis Procedure:

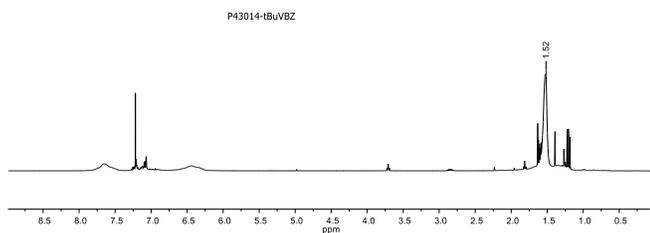
Using cumyl potassium initiator and polymerization at -95 °C.

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.

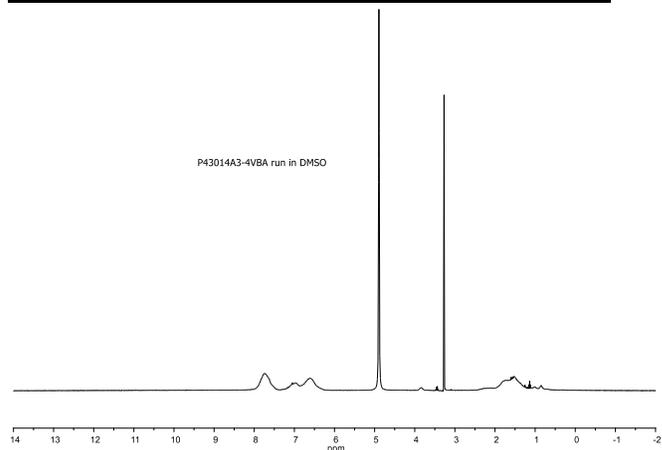
Characterization:

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

¹H-NMR spectrum of Poly 4-Tert.butyl Vinylbenzoate:

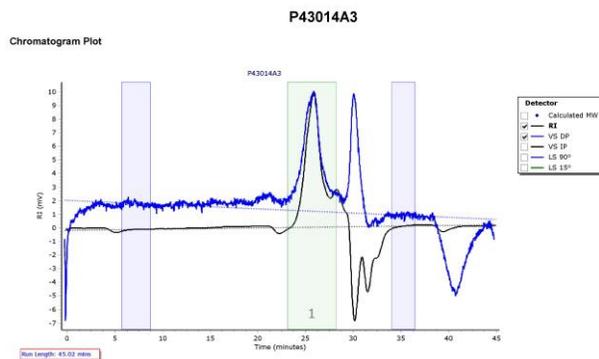


¹H-NMR spectrum of Poly 4-Vinyl Benzoic acid:



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 | 4932 | 4454 | 5058 | 5643 | 6205 | 5506 | 1.136 |

After Hydrolysis of ester to COOH Mn: 3200

FT-IR spectrum:

