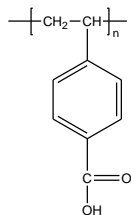


**Sample Name: Poly(4-vinyl benzoic acid)**

**Sample #: P42661-VBA**

**Structure:**

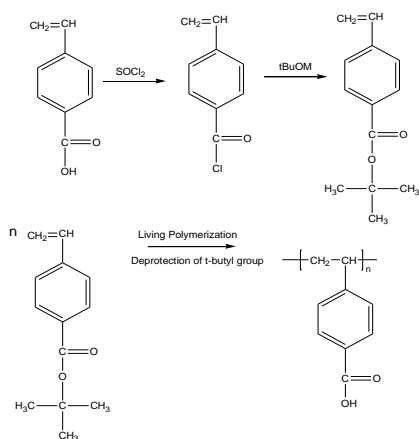


**Composition:**

Mn x 10 <sup>3</sup>	PDI
2.0	1.09
T <sub>g</sub> (°C)	245

**Synthesis Procedure:**

Poly(4-vinyl benzoic acid) is synthesized by making the t-butyl vinylbenzoate monomer followed by polymerization (controlled radical process using TEMPO-AIBN) and hydrolysis of the t-butyl ester group. The reaction scheme is shown below.



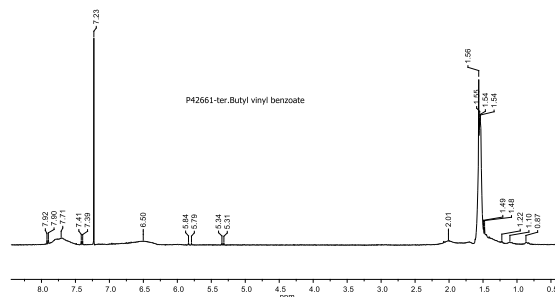
**Characterization:**

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

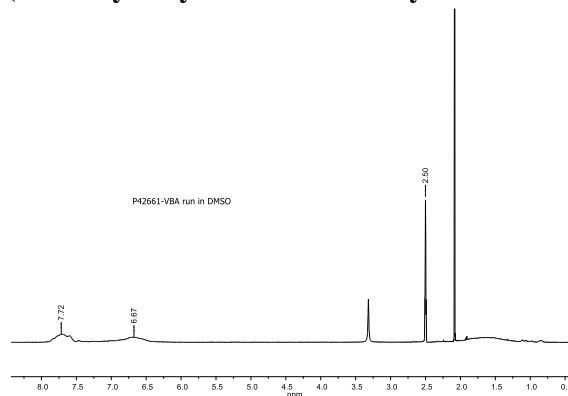
**Solubility:**

Polymer is soluble in DMF, MeOH and EtOH. It precipitates from water and hexanes.

**<sup>1</sup>H-NMR spectrum of the tert. butyl vinyl benzoate:**

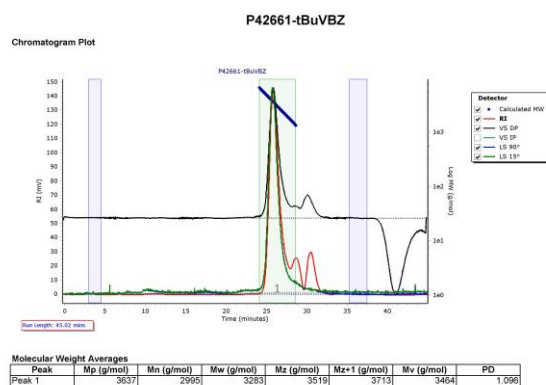


**<sup>1</sup>H-NMR spectrum of the product:**  
(After Hydrolysis of ester to Vinyl benzoic acid)



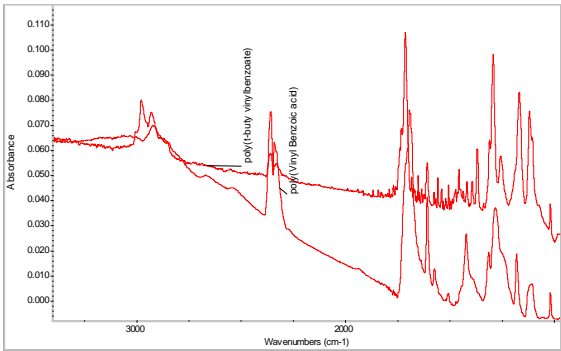
**SEC elugram of Homopolymer poly(t-butyl vinylbenzoate):**

Agilent GPC/SEC Software



**After Hydrolysis of ester to acid: Mn 2000  
Mw/Mn 1.09**

**FTIR of the product:**



**DSC thermogram for the polymer:**

