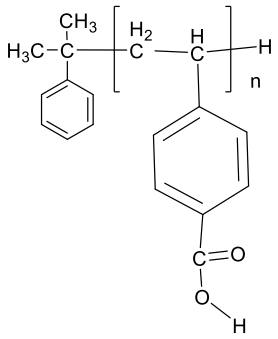
Sample Name: **Poly(4-vinyl benzoic acid)**

Sample #: **P43013A-VBA**

Structure:



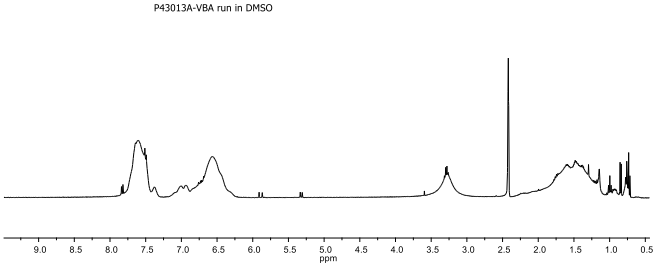
Composition:

Mn x 10^3	PDI
10.0	1.10
Traces of unreacted monomer	> 2%
Presence of unhydrolyzed tert Butyl ester	>1%

Synthesis Procedure:
Using cumyl potassium initiator and polymerization at -95 ºC.
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.

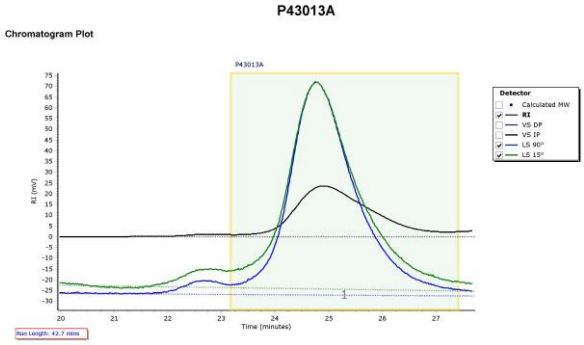
Characterization:
The product was characterized by size exclusion chromatography (SEC) and ^{1}H NMR data analysis.

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



Polymer is soluble in DMSO and its sodium salt in water

SEC elugram of Homopolymer:



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	16601	13813	15324	16766	18170	17047	1.109

After Hydrolysis of ester to COOH Mn: 10,000

FT-IR spectrum: