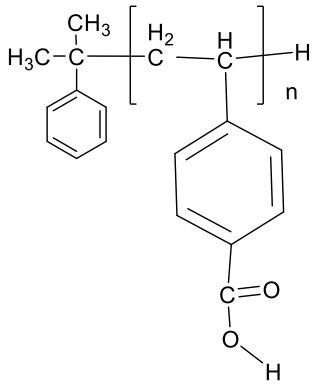
Sample Name: **Poly(4-vinyl benzoic acid)**

Sample #: **P43013C-VBA**

Structure:



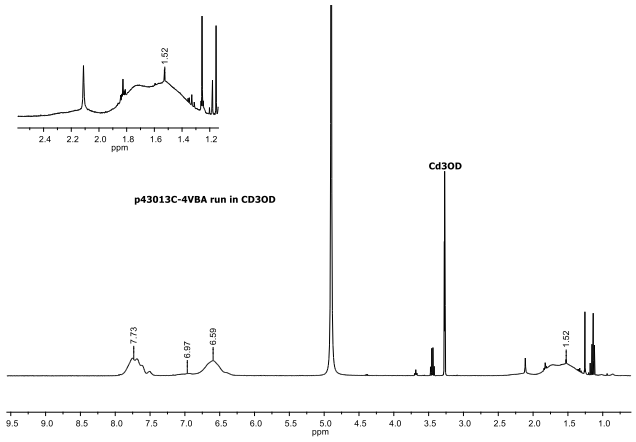
Composition:

Mn x 10^3	PDI
16.0 and 8.0 (Bimodal)	1.10
Traces of unreacted monomer	> 0.1%
Presence of unhydrolyzed tert Butyl ester	>1%

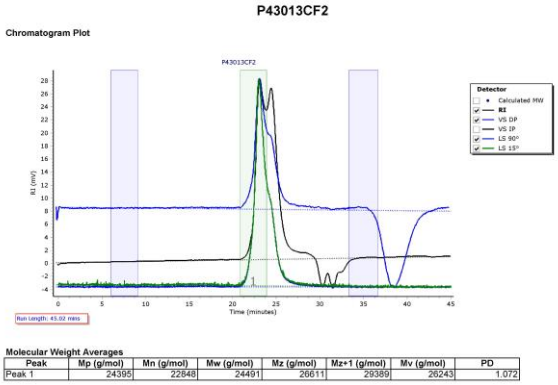
Synthesis Procedure:
Poly(4-vinyl benzoic acid) is synthesized by using cumyl potassium initiator and polymerization at -95 ^{o}C, making the 4-t-butyl styrene monomer followed by polymerization and hydrolysis of the t- butoxy group.

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

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

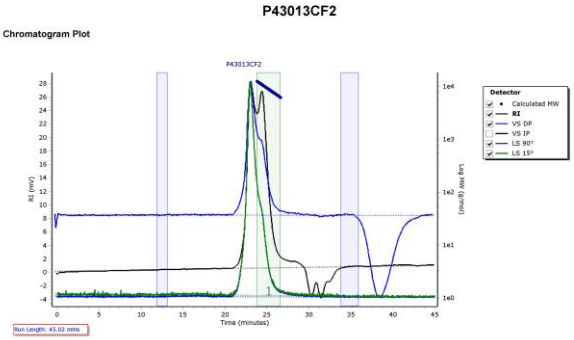


SEC elugram of Homopolymer:



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	24395	22848	24491	26611	29389	26243	1.072



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	11010	10134	10368	10578	10763	10530	1.023

FT-IR Spectrum: