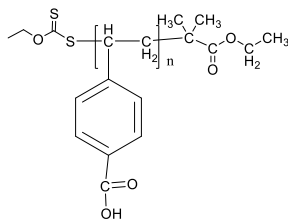


Sample Name: Poly(4-vinyl benzoic acid)

Sample #: P42471-VBA

Structure:

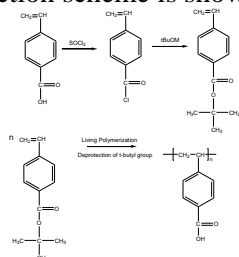


Composition:

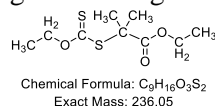
Mn x 10 ³	PDI
1.5	1.48
1.2 (HNMR)	1.48

Synthesis Procedure:

The polymer was synthesized by RAFT polymerization process. Poly(4-vinyl benzoic acid) is synthesized by making the t-butyl vinylbenzoate monomer followed by polymerization and hydrolysis of the t-butyl ester group. The reaction scheme is shown below.



Following RAFT reagent was used:



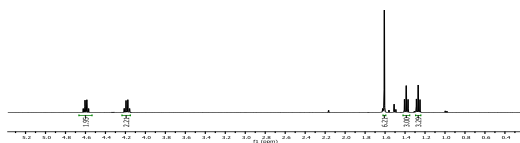
Characterization:

The product was characterized by size exclusion chromatography (SEC) and ¹H NMR and FT-IR.

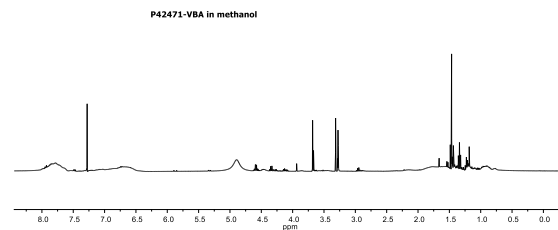
Solubility:

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

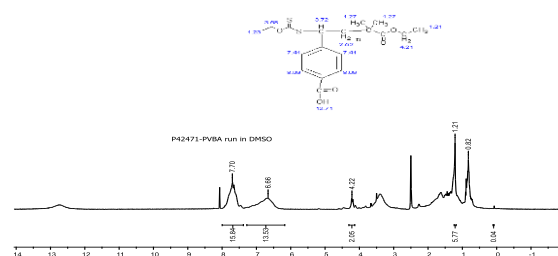
¹H-NMR spectrum of RAFT (400 MHz, CDCl₃):



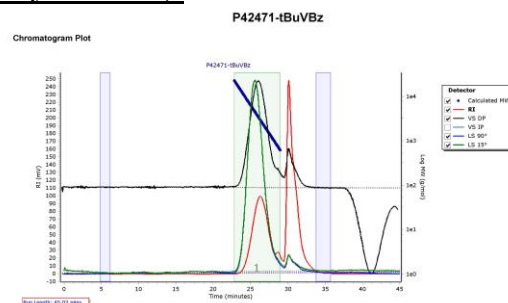
¹H-NMR spectrum of the polymer in Methanol:



¹H-NMR spectrum of the polymer in DMSO:



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



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
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After hydrolysis of tert-Butyl ester (Mn 2200)
Mn of Poly Vinyl benzoic acid : Mn 1500

FTIR spectrum of the product:

