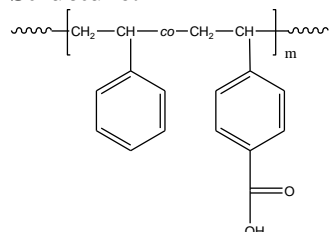


Sample Name: Random Copolymer Poly(styrene-co-vinybenzoic acid)

Sample #: P16226D-SVBAran

Structure:



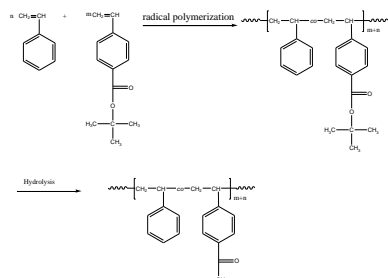
Composition:

PS (mol%) : 70.0

Mn x 10 ³ PS-co-PVBA	PDI
18.5	1.08

Synthesis Procedure:

The copolymer was prepared by TEMPO mediated copolymerization of styrene(St) and t-butyl vinylbenzoate(tBuVB), followed by a hydrolysis of t-butyl ester. The scheme of the reaction is illustrated below:



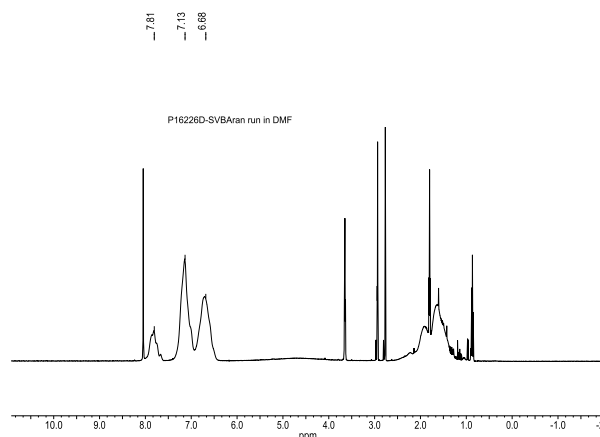
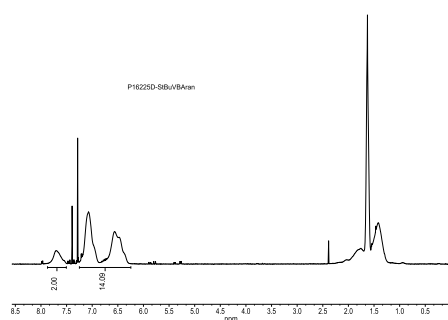
Characterization:

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

Solubility:

The polymer is soluble in MeOH, EtOH, dioxane, DMF and precipitated out from hexane and water.

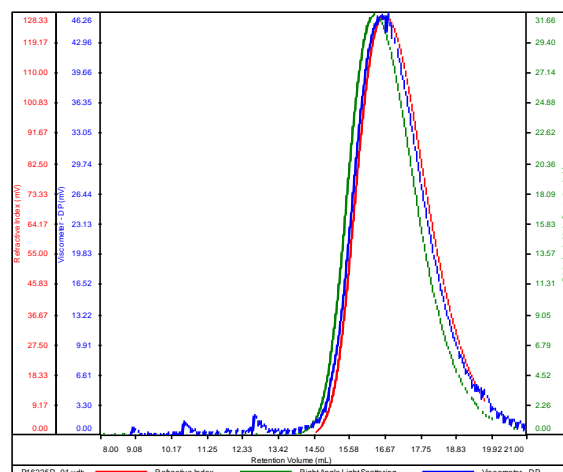
¹H-NMR of the copolymer Poly(S-co-tBuVB):



SEC of the random copolymer Poly(S-co-tBuVB):

P16225D-StBuVBAran

Conc	8.2306
dn/dc	0.1650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80k_2017-July-05-0000.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P16225D_01.vdt	23,281	25,205	25,026	1.083	1.0000

FTIR of the polymer before and after hydrolysis:

