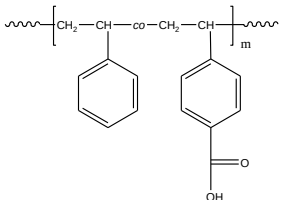
Sample Name: **Random Copolymer Poly (styrene-co-vinybenzoic acid)**

Sample #: **P16226B-SVBAran**

Structure:



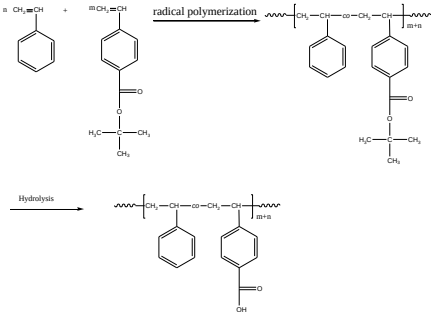
Composition:

PS (mol%) : 88.0

Mn x 10^3 PS-co-PVBA	PDI
18.0	1.11

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:



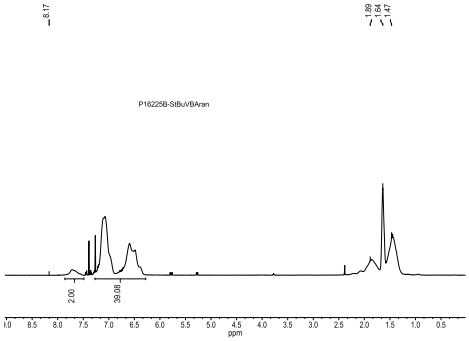
Characterization:

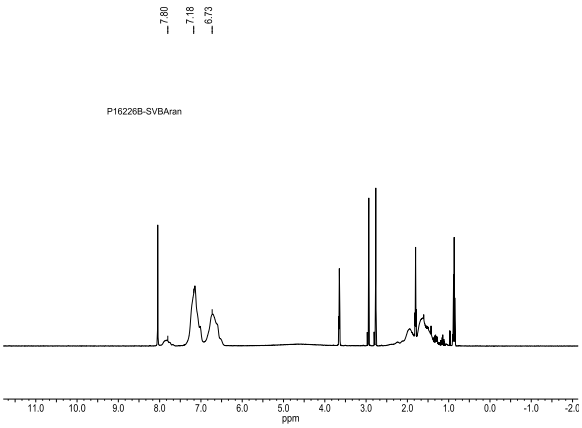
The product was characterized by size exclusion chromatography (SEC) and ^{1}H NMR.

Solubility:

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

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

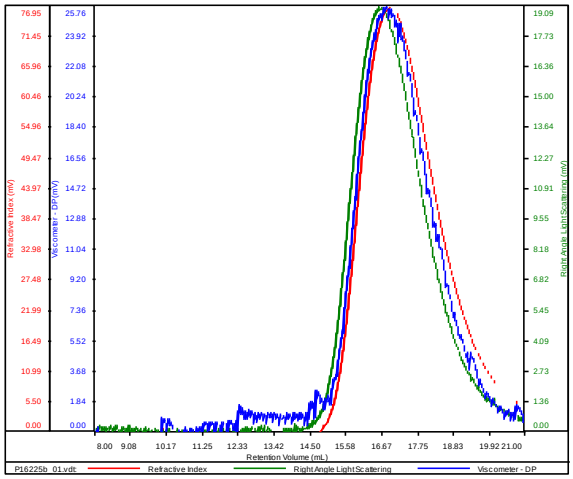




SEC of the random copolymer Poly(S-co-tBuVBA): lot# P16225B to convert SVBAran

P16225B-StBuVBAran

Conc	5.1899
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
P16225b_01.vdt	22,585	25,160	25,210	1.114	1.0000

FTIR of the polymer before and after hydrolysis: