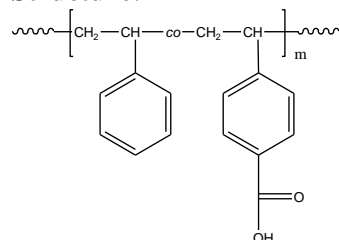


Sample Name: Random Copolymer Poly (styrene-co-vinybenzoic acid)

Sample #: P16226E-SVBArAn

Structure:



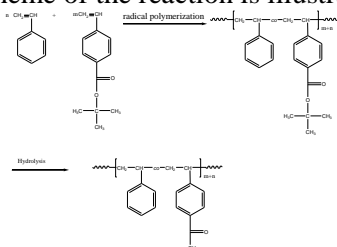
Composition:

PS (mol%) : 60.0

Mn x 10 ³ PS-co-PVBA	PDI
19.5	1.11

Synthesis Procedure:

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



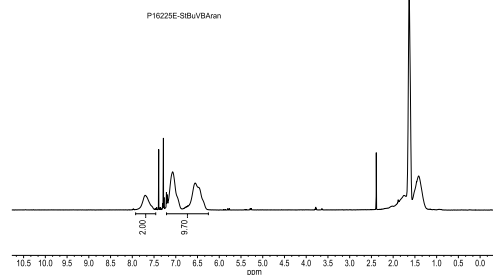
Characterization:

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

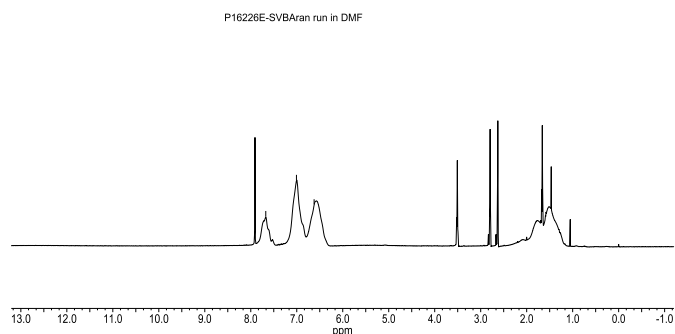
Solubility:

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):



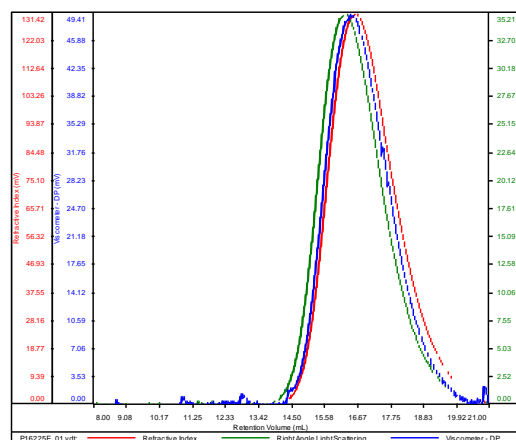
7.67
7.01
6.62



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

P16225E-StBuVBAran

Conc	8.4575
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
P16225E_01.vdt	24,800	27,652	26,752	1.115	1.0000

FTIR of the polymer before and after hydrolysis:

