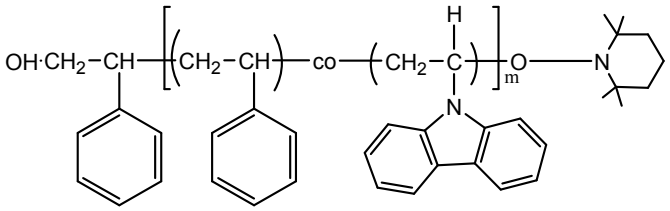
Sample Name:

Random Copolymer Poly(styrene-co-9 Vinyl carbazole), α-Hydroxyl-ω-Tempo moiety Terminated

Sample #: **P13215C-SVKranOHT**

Structure:



Composition:

Mn x 10^3 (Styrene content mol%)	Mw/Mn (PDI)
10.0 (55%)	1.5
T_g	140 °C

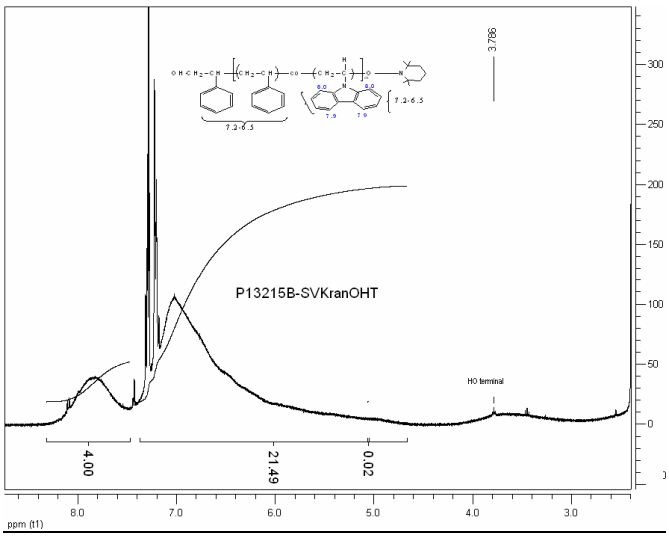
Synthesis Procedure:
Hydroxy terminated poly(styrene-co-9-vinylcarbazole) is prepared by stable free radical polymerization at 135°C.

Characterization:
An aliquot of the copolymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI), the instrument calibrated by Polystyrene standards. The chemical composition was calculated from ^{1}H-NMR spectroscopy by comparing the peak area of the Vinyl carbazole adjacent to Nitrogen at around 8ppm (4 protons) l and sustracting these protonse from styrene counter parts at 6.8-7.4 ppm.

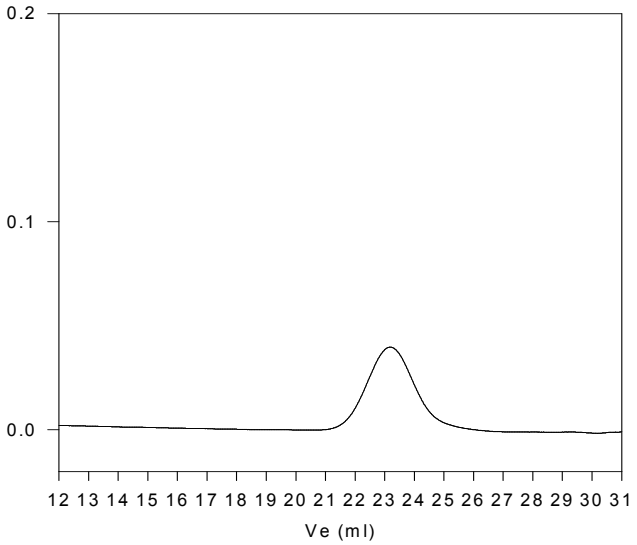
Thermal analysis of the sample
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min.The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:
Polymer is soluble in THF, DMF, Toluene and chloroform. Precipitate from methanol and Hexanes.

^{1}H NMR spectrum



SEC profile of the random copolymer
P13215C-SVKranOHT



M_n=10,000, M_w=15,000, PI=1.5
PS% mol= 55 (calculated from NMR)

DSC thermogram for the polymer: