

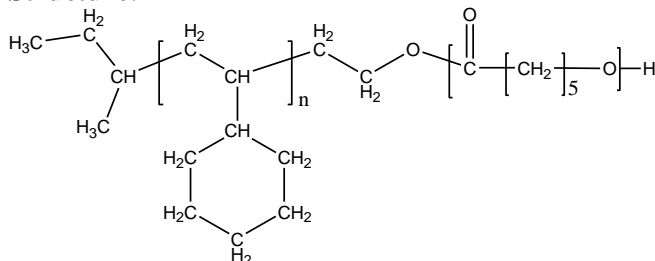
Sample Name:

Poly Vinyl Cyclohexane-b- ϵ -Caprolactone

**Synonym: Poly Cyclohexyl ethylene-b-
 ϵ -Caprolactone**

Sample #: **P40578B-VCHCL**

Structure:



Composition:

Mn x 10 ³	PDI
12.0-b-90.0	1.11
T _m (PCL):	55 °C

Synthesis Procedure:

The polymer was synthesized from OH terminated Poly Vinyl cyclohexane.

Characterization:

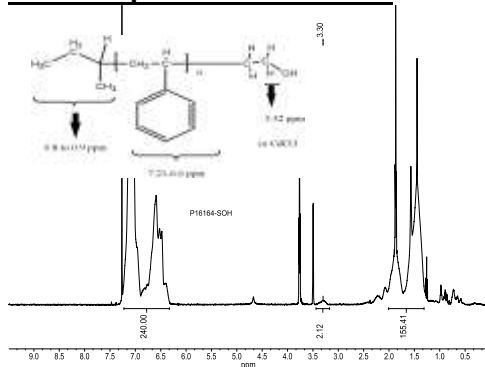
The product was characterized by size exclusion chromatography (SEC) and ¹H NMR.

Thermal analysis was performed on TA Instruments Q100 differential scanning calorimeter (DSC) under a nitrogen atmosphere. The melting point (T_m) and glass transition temperature (T_g) of the polymer were measured at a scan rate of 10°C/min shortly after creating thermal history of the sample.

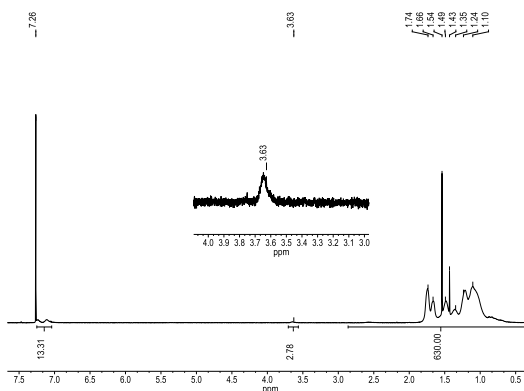
Solubility:

Polymer is soluble in toluene, THF, CHCl₃ and can be precipitated in water and cold methanol.

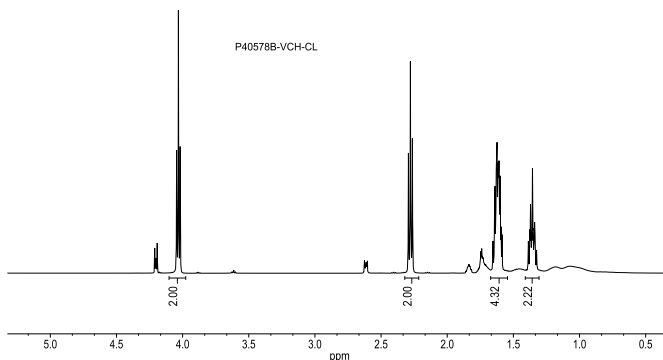
¹H NMR spectrum of the SOH:



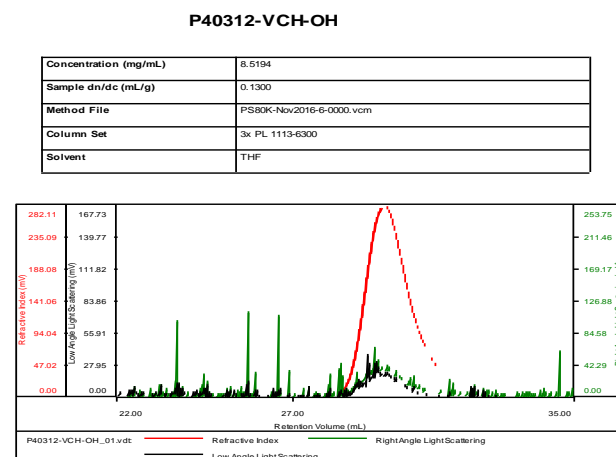
¹H NMR spectrum of the PVCH OH:



¹H NMR spectrum of the block coPolymer:



SEC elugram of the PVCHOH:

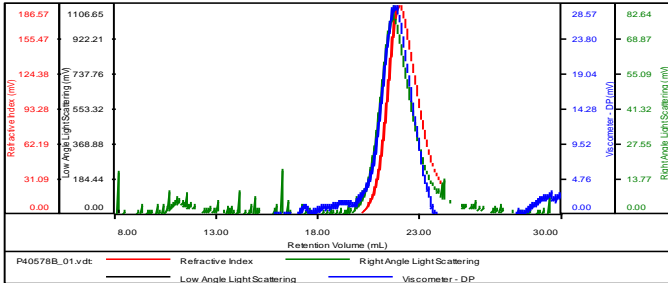


Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P40312-VCH-OH_01.vi	12,304	12,934	1.051	0.1575	12,815

SEC elugram of the block copolymer

P40578B-VCH-CL

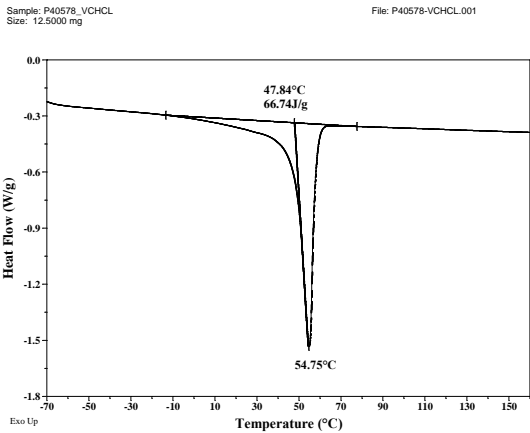
Concentration (mg/mL)	12.0788
Sample dn/dc (mL/g)	0.0500
Method File	PS80K-Feb2017-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



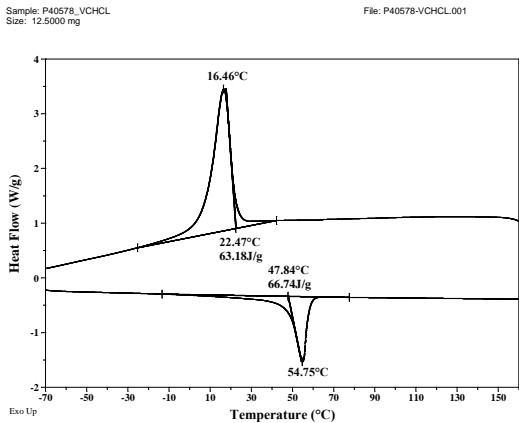
Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P40578B_01.vdt	102,805	114,854	1.117	0.1171	108,247

DSC thermograms of the polymer:

– 2nd heating scan at 10°C/min:



– 2nd heating scans at 10°C/min and 3rd cooling scan at 30°C/min:



– no T_g observed for this polymer.