

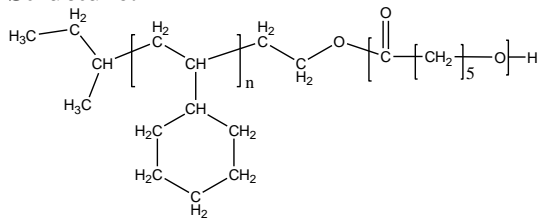
Sample Name:

**Poly Vinyl Cyclohexane-b-  $\epsilon$ -Caprolactone**

**Synonym: Poly Cyclohexyl ethylene-b-  
 $\epsilon$ -Caprolactone**

Sample #: **P40578A-VCHCL**

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup>	PDI
5.5-b-34.0	1.6
T <sub>m</sub> (PCL):	55 °C

**Synthesis Procedure:**

The polymer was synthesized from OH terminated Poly Vinyl cyclohexane.

**Characterization:**

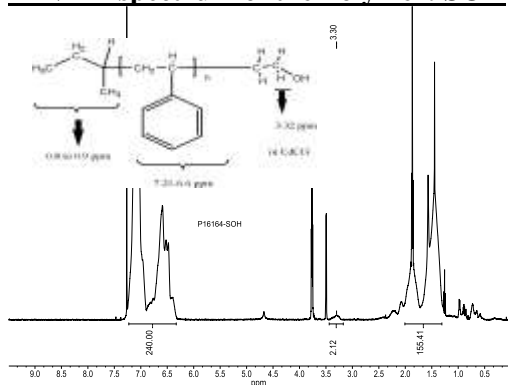
The product was characterized by size exclusion chromatography (SEC) and <sup>1</sup>H NMR.

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

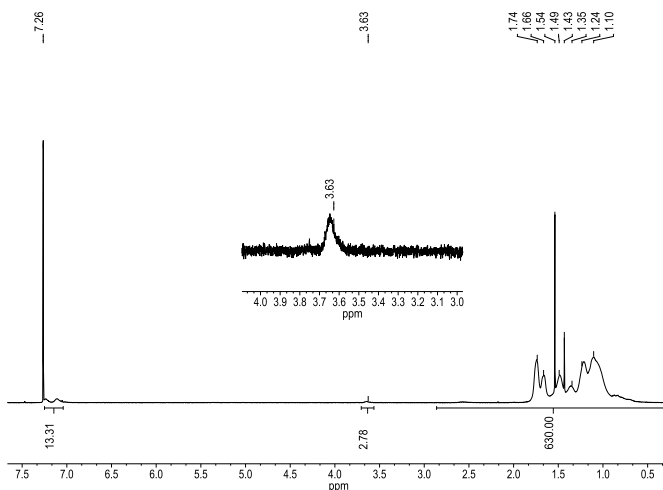
**Solubility:**

Polymer is soluble in toluene, THF, CHCl<sub>3</sub> and can be precipitated in water and cold methanol.

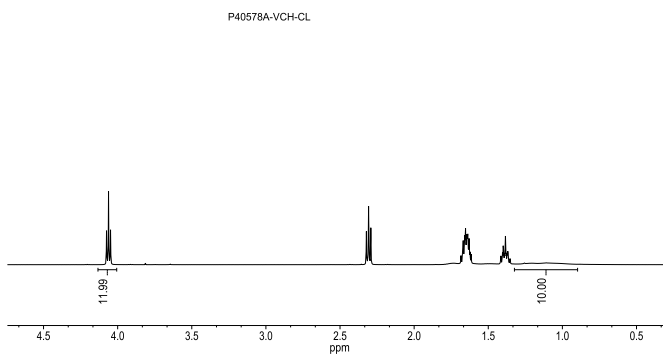
**<sup>1</sup>H NMR spectrum of the Polymer: SOH**



**<sup>1</sup>H NMR spectrum of the PVCH OH:**

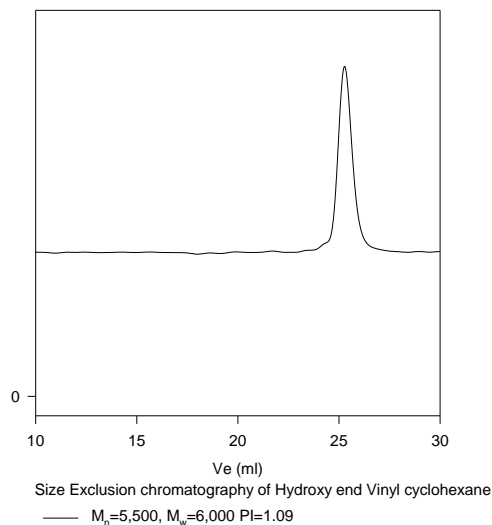


**<sup>1</sup>H NMR spectrum of the block coPolymer:**



**SEC elugram of the PVCH OH :**

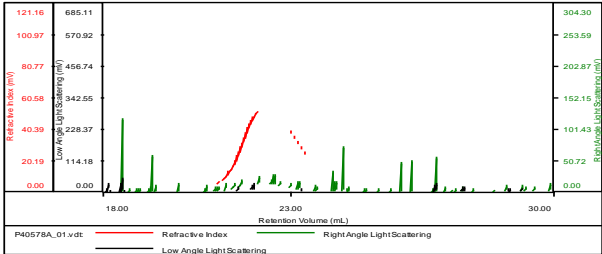
**P40405-VCHOH**



SEC elugram of the block copolymer

P40578A-VCH-CL

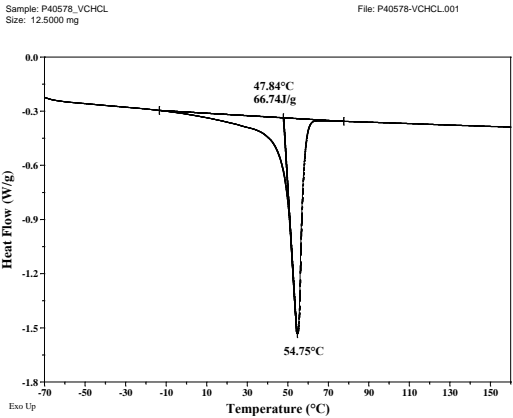
Concentration (mg/mL)	3.5937
Sample dn/dc (mL/g)	0.0490
Method File	PSROK-Feb2017-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



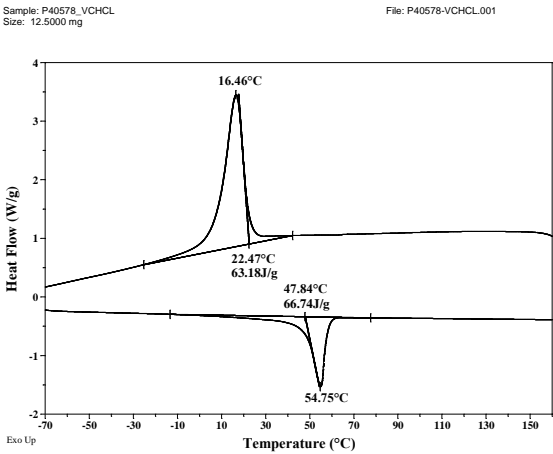
Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P40578A_01.vdt	39,481	63,007	1.596	0.8114	69,323

DSC thermograms of the polymer:

– 2<sup>nd</sup> heating scan at 10°C/min:



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



– no T<sub>g</sub> observed for this polymer.