

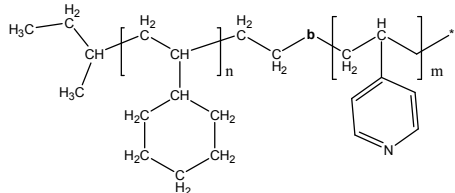
Sample Name:

**Poly Vinyl Cyclohexane-b-4Vinylpyridine**

**Synonym: Poly Cyclohexyl ethylene-b-4Vinylpyridine**

Sample #: P16154A-VCH4VP

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup>	PDI
12.5-b-41.0	1.30
T <sub>g</sub> (°C)	120 & 152

**Synthesis Procedure:**

The polymer was synthesized by combination of anionic polymerization and RAFT process.

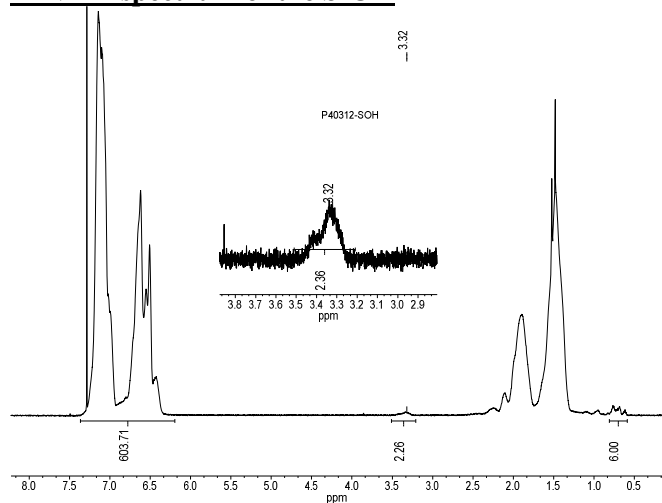
**Characterization:**

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

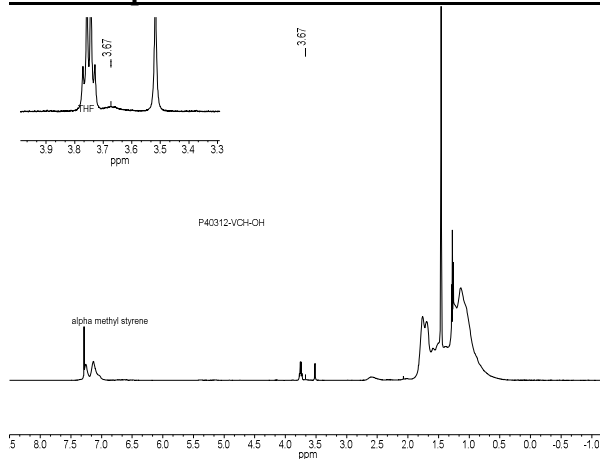
**Solubility:**

Polymer is soluble in toluene (not clear solution), THF, CHCl<sub>3</sub> and it is not soluble in Methanol, and DMF.

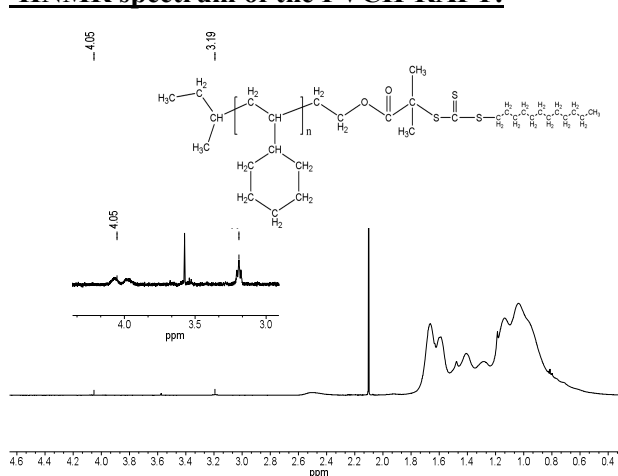
**<sup>1</sup>H NMR spectrum of the S-OH**



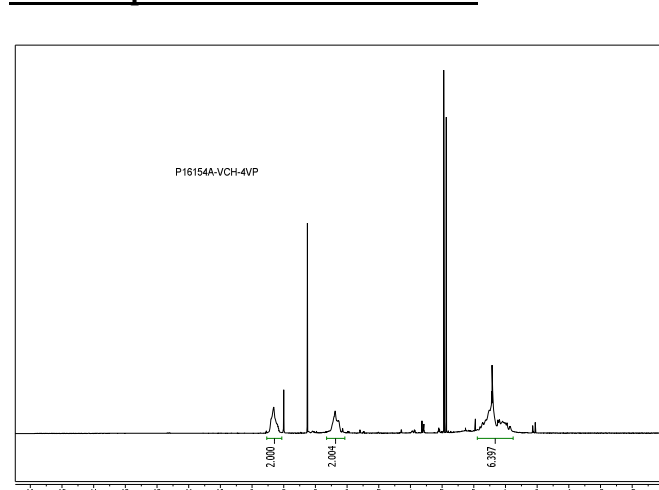
**<sup>1</sup>H NMR spectrum of the PVCH-OH terminated:**



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



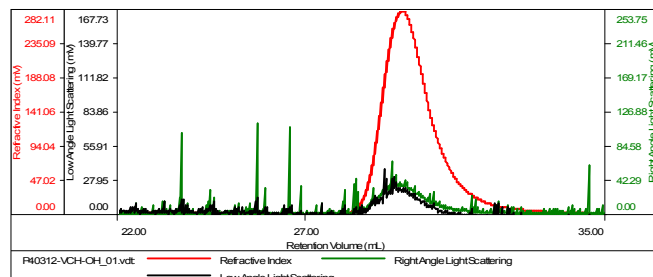
**<sup>1</sup>H NMR spectrum of the PVCH-4VP:**



## SEC elugram of PCHE before attaching 4VP block

**P40312-VCH-CH**

Concentration (mg/mL)	8.5194
Sample dn/dc (mL/g)	0.1300
Method File	PS80K-Nov2016-6-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



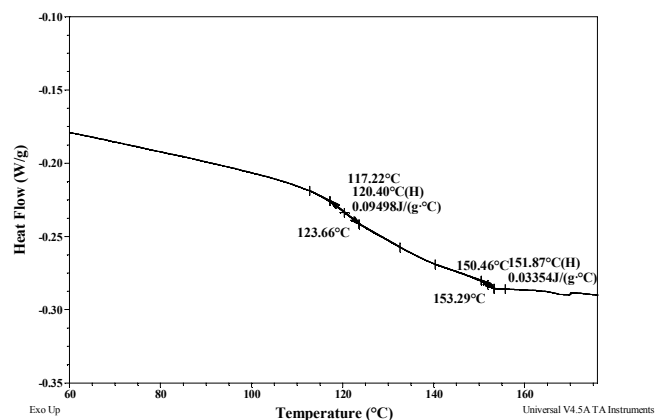
Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P40312-VCH-CH_01.v	12,304	12,934	1.051	0.1575	12,815

## DSC thermogram for the sample:

Sample: P40375-VCH4VP  
Size: 7.5000 mg

DSC

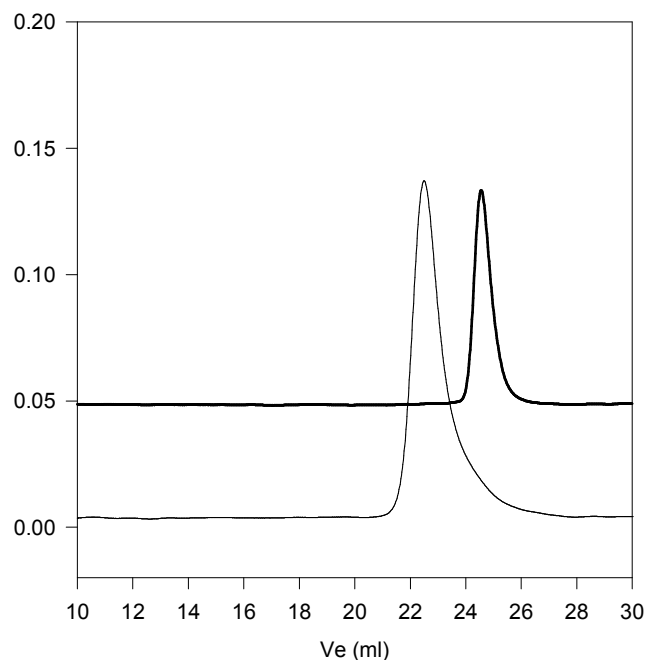
File: P40375-VCH4VP.001



## SEC elugram of PVCH4VP:

Elution: THF containing 4/v/v(Et)3N and Solution of polymer containing a drop of DMF to avoid adsorption of polymer with columns packing material

**P16154A-VCH4VP**



- Poly(VCH):  $M_n=12,500$ ,  $M_w=13,000$ ,  $M_w/M_n=1.05$ ,
- Block Copolymer PVCH(12,500)-b-4VP(41,000),  $M_w/M_n=1.3$   
Compositions from HNMR