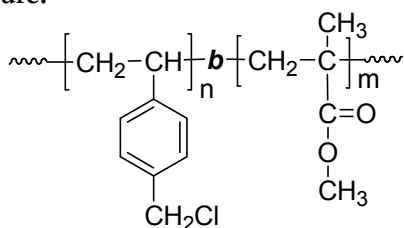


Sample Name: Poly (4-vinyl benzyl chloride-b-methyl methacrylate)  
Sample # P19317C-4VBCMMA

#### Structure:



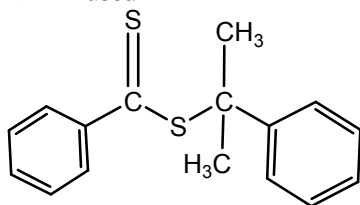
#### Composition:

Mn x 10 <sup>3</sup> 4-VBC-b-MMA	PDI
12.0-b-45.5	1.6
Contain Homopoly 4VBC in the block copolymer	<15%

#### Synthesis:

Poly (4-vinyl benzyl chloride-b-methyl methacrylate) block copolymer was synthesized by RAFT polymerization with sequence addition of vinyl benzyl chloride monomer and methyl methacrylate monomer.

RAFT used



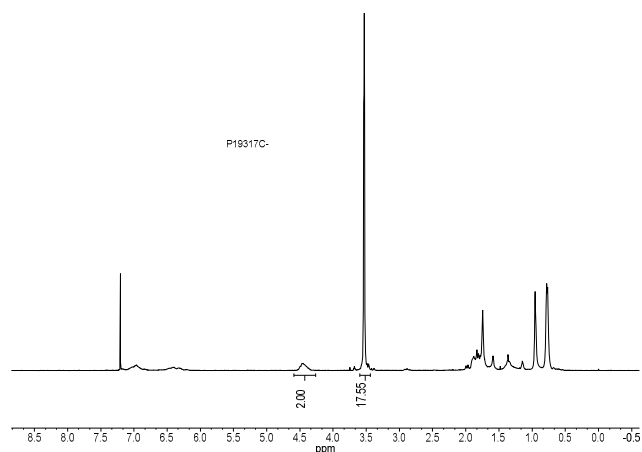
#### Characterization:

SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co. The molecular weight is calculated based on polystyrene standards. The NMR spectrum was recorded in deuterated chloroform to determine the the composition of copolymer.

#### Solubility:

Poly (4-vinyl benzyl chloride-b-methyl methacrylate) block copolymer is soluble in toluene, THF, CHCl<sub>3</sub>; the polymer can be precipitated from ethanol, methanol, and hexane.

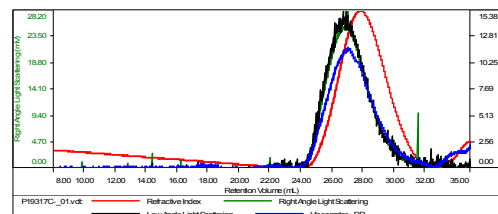
#### <sup>1</sup>H-NMR Spectrum of the block copolymer:



#### SEC of the block copolymer:

##### Sample ID: P19317C-4VBC

Concentration (mg/mL)	4.3710
Sample diln: (mL/g)	0.1680
Method File	PS80K-Me/2015-0000.vcm
Column Set	3xPL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19317C_01.vcl	11,727	18,286	15,176	1.559	0.1831

##### SAMPLE ID: P19317C-4VBCMMA run in DMF Mn composition by NMR

Conc (mg/mL)	2.5605
diln: (mL/g)	0.1680
Method	ps80K-Me/2015-0000.vcm
Solvent	DMF w/ D <sub>2</sub> O 10% v/v
Column	PSS

