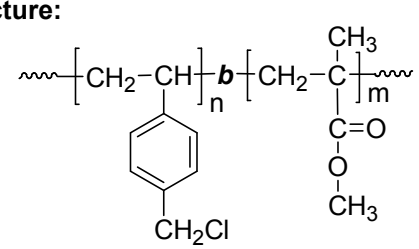
Sample Name: **Poly(4-vinyl benzyl chloride-b-methyl methacrylate)**

Sample # **P14248B-4VBCMMA**

Structure:



Composition:

Mn x 10^3 VBC-b-MMA	PDI
11.0-b-13.0	1.4

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.

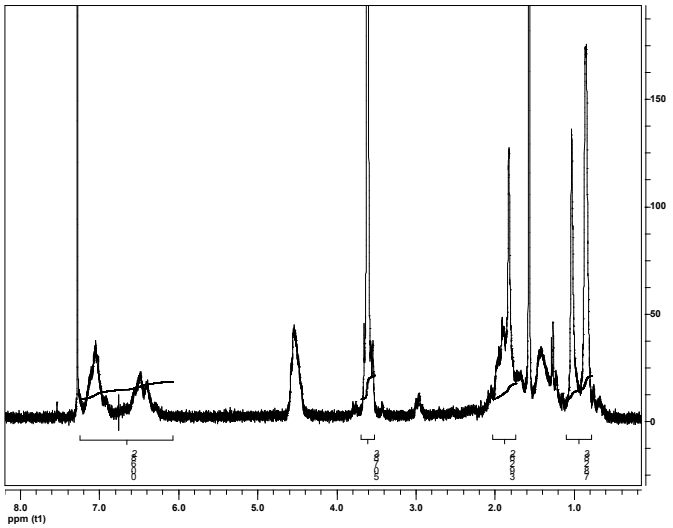
Characterization:

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:

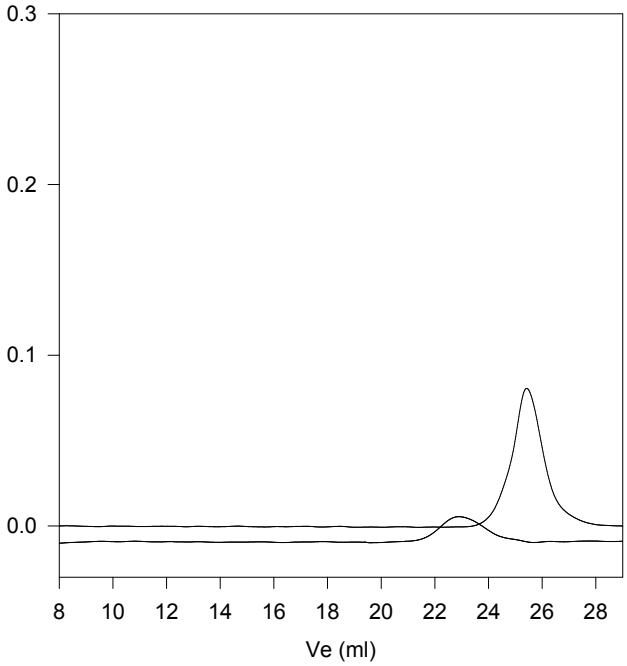
Poly(4-vinyl benzyl chloride-b-methyl methacrylate) block copolymer is soluble in toluene, THF, $CHCl_3$, The polymer can be precipitated from ethanol, methanol, hexane.

^{1}H-NMR Spectrum of the block copolymer:



SEC of the block copolymer:

P14248B-4VBCMMA



Size exclusion chromatography of the polymer

poly 4-VBC: M_n=11,000, M_w=15,400, Mw/Mn=1.4

Mn of 4VBC-b-MMA: 11,000-b-13,000 Mw/Mn 1.4