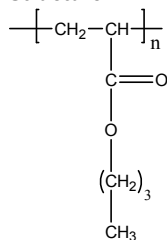


## Sample Name: Poly(n-butyl acrylate)

Sample #: P18127B-nBuA

### Structure:

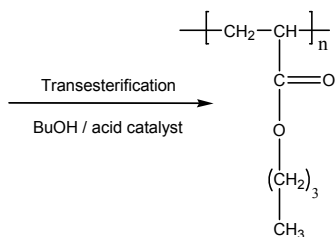
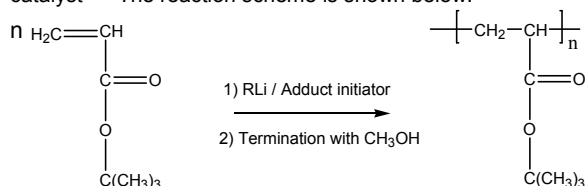


### Composition:

Mn x 10 <sup>3</sup>	PDI
548.0	1.3

### Synthesis Procedure:

Poly(n-butyl acrylate) is obtained by living anionic polymerization of t-butyl acrylate followed by transesterification with n-butanol in the presence of catalyst<sup>1-4</sup>. The reaction scheme is shown below:



### Characterization:

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. 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.

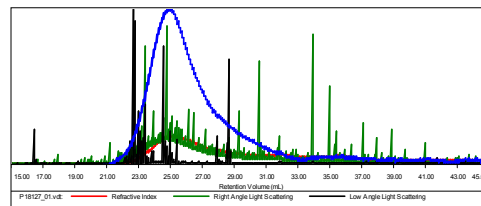
### Solubility:

Poly(n-butyl acrylate) is soluble in THF, toluene and  $\text{CHCl}_3$ . This polymer precipitates from ethanol and methanol containing 10-15% water.

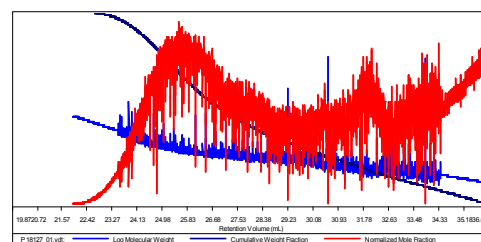
### SEC of the Homopolymer:

Sample ID: P18127-nBuA

Concentration (mg/mL)	1.5584
Sample dn/dc (mL/g)	0.0940
Method File	PS80K-Aug15-2013-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18127_01.vdt	547,074	710,339	740,055	1.298	1.8276



### References:

1. Ph. Teyssie, Ph. Bayard, R. Jerome, **S. K. Varshney**, and J. S. Wang, *35th IUPAC International Union of Pure & Applied Chemistry International Symposium on Macromolecules* 1994, 67.
2. R. Fayt, R. Forte, C. Jacobs, R. Jerome, T. Ouhadi, Ph. Teyssie and **S. K. Varshney**, *Macromolecules*, 1987, 20, 1442-1444.
3. Jerome, R. Forte, **S. K. Varshney**, R. Fayt, and Ph. Teyssie, "The Anionic Polymerization of Alkylacrylates: A Challenge" in the Recent Advances in Mechanistic and Synthetic Aspects of Polymerization: M. Fontanille and A. Guyot Ed., NATO ASI Series C 215, 101 (1987), CA Vol. 108, 12, 094992.
4. Ph. Teyssie, R. Fayt, C. Jacobs, R. Jerome, L. Leemans, and **S. K. Varshney** *Am. Chem. Soc., Polym. Prepr.* 1988, 28, 2, 52-53.