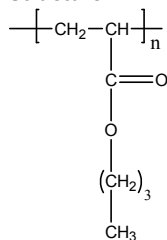


## Sample Name: Poly(n-butyl acrylate)

## HNMR of the tBuA

Sample #: P8167-nBuA

### Structure:

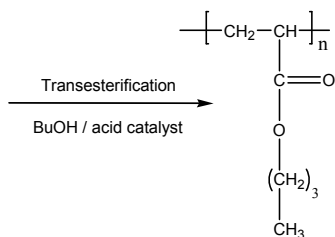
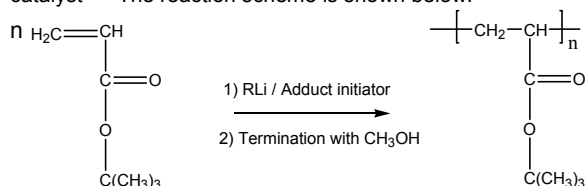


### Composition:

Mn x 10 <sup>3</sup>	PDI
1.8	1.6

### Synthesis Procedure:

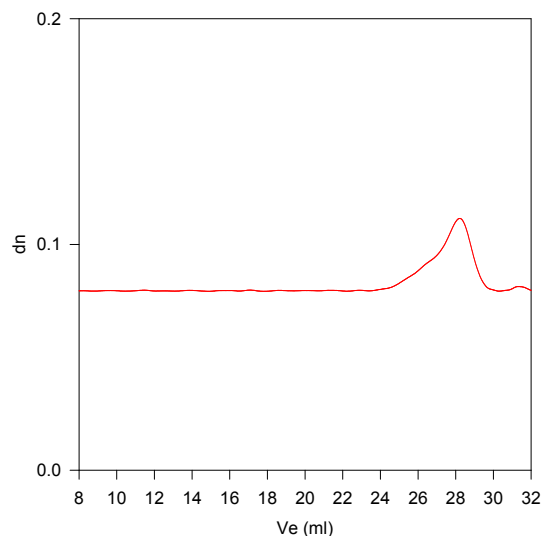
Poly(n-butyl acrylate) is obtained by living anionic polymerization of t-butyl acrylate followed by transesterification with n-butanol in the presence of catalyst<sup>1-4</sup>. The reaction scheme is shown below:



### 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.

### P8167-nBuA



Size Exclusion Chromatography of Poly(n-butyl acrylate)

M<sub>n</sub>=1800, M<sub>w</sub>=2800, PI=1.6

### Solubility:

Poly(n-butyl acrylate) is soluble in THF, toluene and CHCl<sub>3</sub>. This polymer precipitates from ethanol and methanol containing 10-15% water.

### SEC of the Homopolymer:

#### 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.