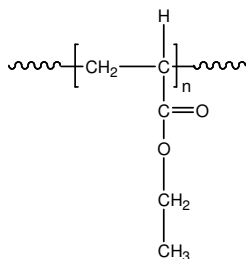


Sample Name: **Poly(ethyl acrylate)**

Sample #: **P18689B-EA**

Structure:

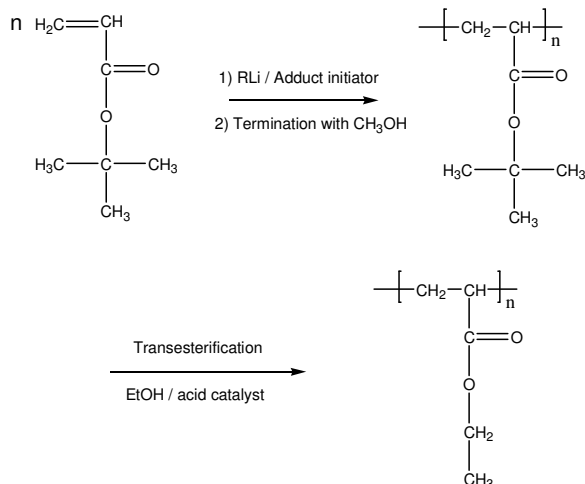


Composition:

Mn x 10 ³	PDI
119.0	1.10

Synthesis Procedure:

Poly(ethyl acrylate) is obtained by living anionic polymerization of t-butyl acrylate followed by transesterification with ethanol:



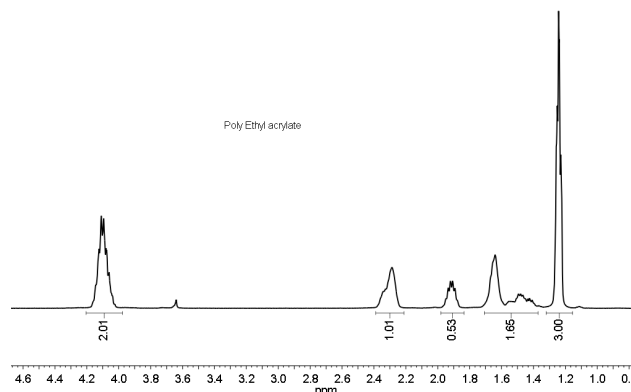
Characterization:

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(ethyl acrylate) is soluble in THF, hexanes (low MW), toluene and CHCl₃. This polymer precipitates from ethanol and methanol containing 10–15% water.

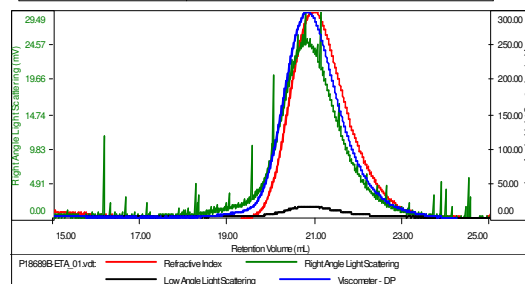
¹H NMR:



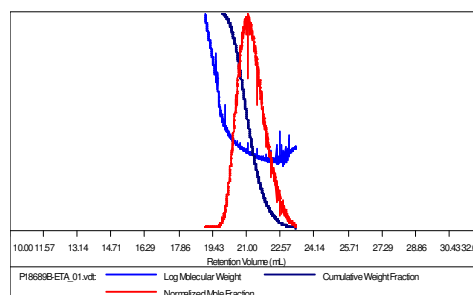
SEC:

Sample ID: P18689B-EA

Concentration (mg/mL)	3.235
Sample dn/dc (mL/g)	0.0940
Method File	P580KAugust 12/2014-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18689B-EA_01.vct	119,135	131,034	119,063	1.100	0.8182



References:

- Ph. Teyssie, Ph. Bayard, R. Jerome, **S.K. Varshney**, J.S. Wang; *35th IUPAC International Union of Pure & Applied Chemistry, International Symposium on Macromolecules* 1994, 67.
- R. Fayt, R. Forte, C. Jacobs, R. Jerome, T. Ouhadi, Ph. Teyssie and **S. K. Varshney**; *Macromolecules*, 1987, 20, 1442.
- 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.
- Ph. Teyssie, R. Fayt, C. Jacobs, R. Jerome, L. Leemans, and **S. K. Varshney** *Am. Chem. Soc., Polym. Prepr.* 1988, 28, 2, 52.