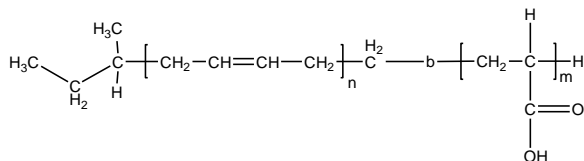


Sample Name:

Poly (1,4-butadiene -b- tert.butylacrylate)

Sample #: **P41815-BdtBuA**

Structure:



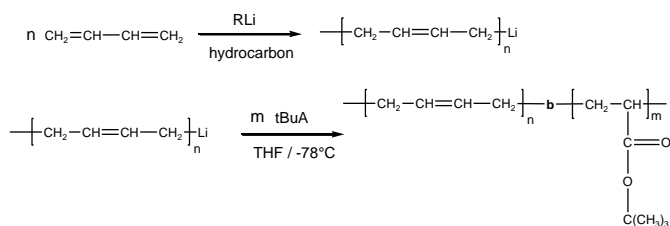
Composition:

Mn x 10 ³ PBd-b-tBuA	PDI
4.5-b-8.0	1.07

T _g for tBuA block (°C)	18
T _g for 1,4 Bd block (°C)	Not distinct

Synthesis Procedure:

Poly(1,4-butadiene-b-t-butyl acrylate) is prepared by living anionic polymerization with sequence addition of butadiene followed by t-butyl acrylate. The reaction scheme is shown below:



Characterization:

The product was characterized by size exclusion chromatography (SEC), ¹H NMR and DSC thermogram.

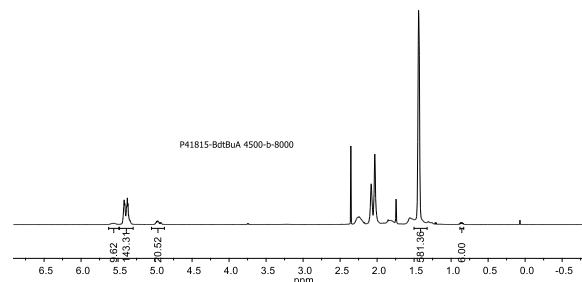
Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

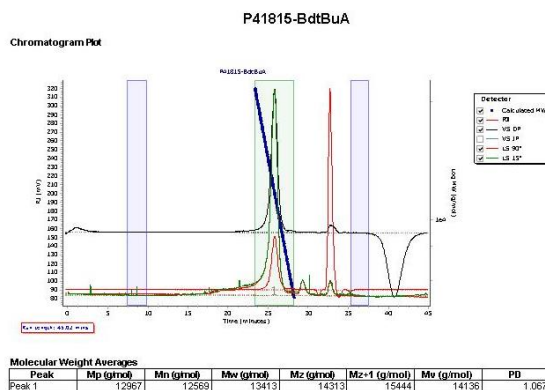
Polymer is soluble in THF, CHCl₃, dioxane and benzene.

¹H-NMR Spectrum of the block copolymer:

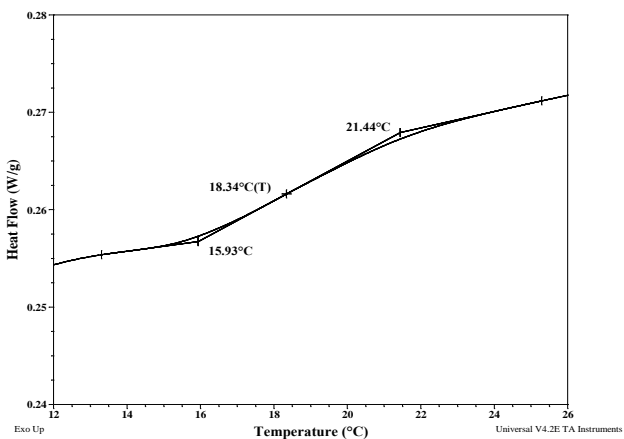


SEC profile of the Polymer:

Agilent GPC/SEC Software



DSC thermogram for the sample:



References for further information:

1. S. K. Varshney, R. Fayt, Ph. Teyssie, and J.P. Hautekeer US Patent 5,264,527 (1993)
2. 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.
3. Ph. Teyssie, R. Fayt, J. P. Hautekeer, C. Jacobs, R. Jerome, L. Leemans and S. K. Varshney Makromolekulare Chemie, Macromol. Symp., 1990, 32,61-73.
4. S. K. Varshney, J. P. Hautekeer, R. Fayt, R. Jerome, and Ph.Teyssie Macromolecules, 1990, 23, 2618-2622.