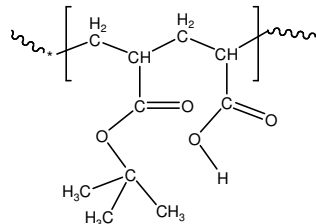


Sample Name:

Random Copolymer Poly(tert.butylacrylate-co-acrylic acid)

Sample #: **P14373-tBuAAran**

Structure:



Composition:

| | |
|-------------------|-------|
| $M_n \times 10^3$ | PDI |
| 150.0 | 1.10 |
| tBuA:AA | 10:90 |

Synthesis Procedure:

Random Copolymer poly(tert.butylacrylate-co-acrylic acid) is prepared by RAFT process. The degree of acid content was determined by titration and from $^1\text{H-NMR}$ analysis.

Characterization:

The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The copolymer composition was calculated from $^1\text{H-NMR}$ spectroscopy by comparing the peak area at 1.4 ppm for tert.butyl vs backbone protons.

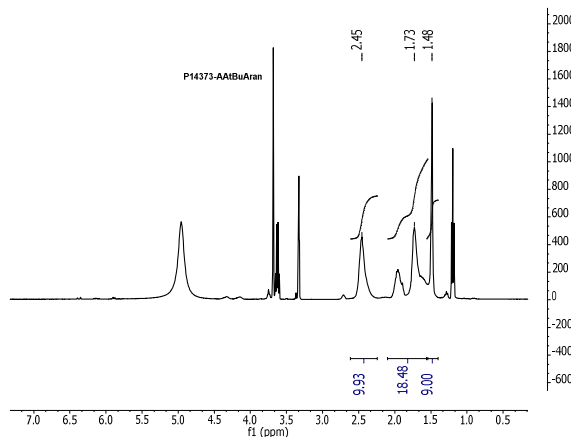
Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^\circ\text{C}/\text{min}$. 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).

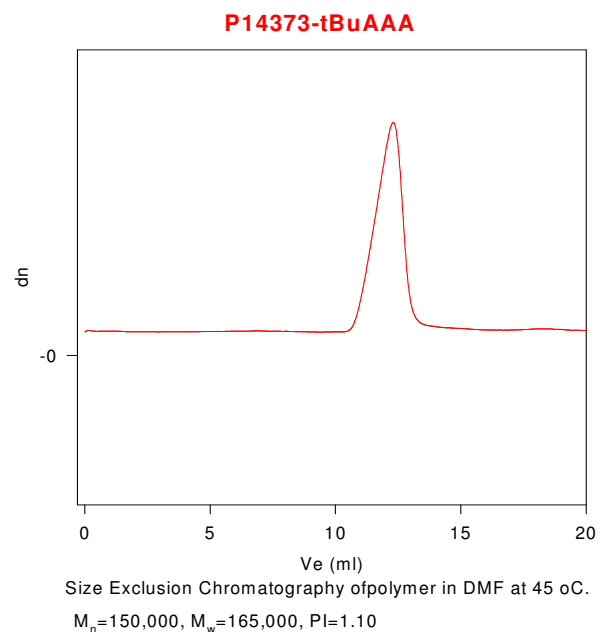
Solubility:

Random Copolymer is soluble in THF, methanol.

Proton NMR spectrum of copolymer:



SEC curve of copolymer:



DSC thermogram of the copolymer:

