

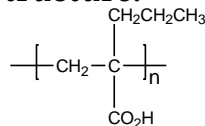
Sample Name:

Poly(α -propyl acrylic acid)

Initiator (PH)₃C based

Sample #: **P9976B-PrAA**

Structure:

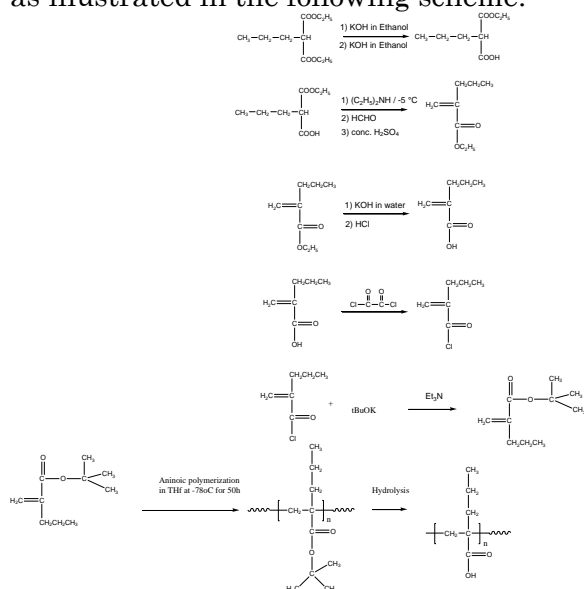


Composition:

$\text{Mn} \times 10^3$	PDI
0.8	1.2

Synthesis Procedure:

Poly(α -propyl acrylic acid) is synthesized as illustrated in the following scheme:



Characterization:

The molecular weight and polydispersity index (PDI) of Poly(α -propyl acrylic acid) are obtained by size exclusion chromatography.

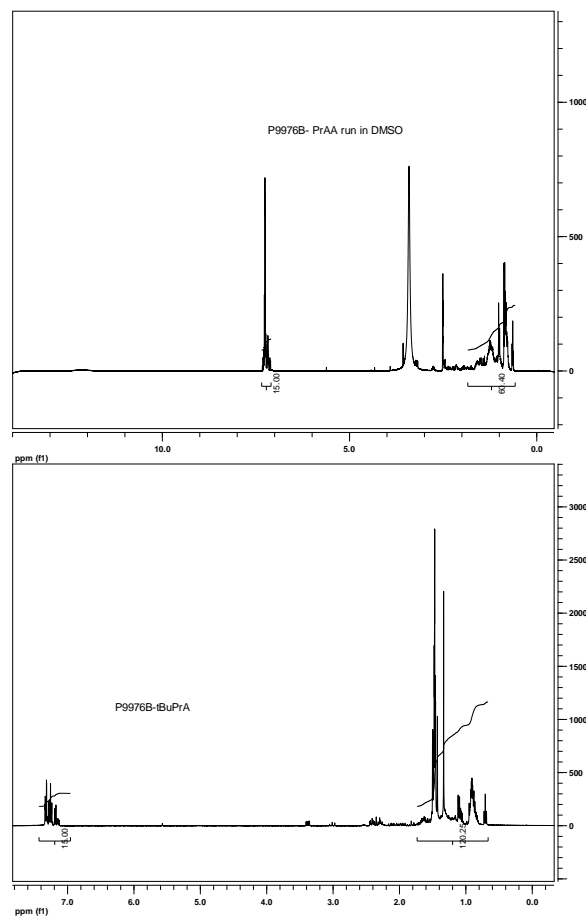
Thermal analysis:

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).

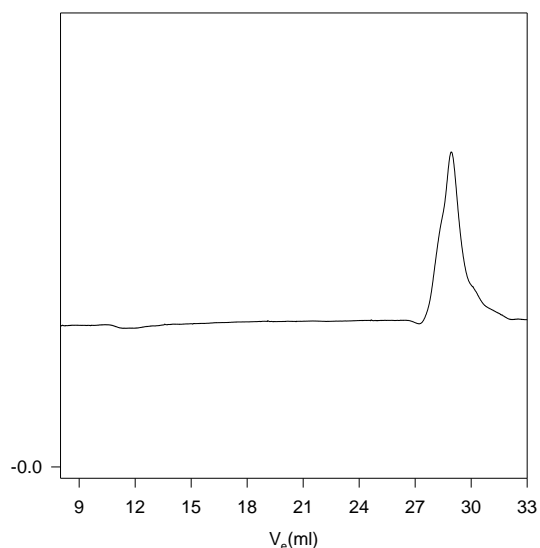
Solubility:

Polymer is soluble in ethanol, methanol THF, Dioxane.

HNMR of the Polymer run in DMSO:



P9976B-PrtBuA precursor for P9976B-PrAA



Size exclusion chromatography of Poly(α -propyl tert.butyl acrylate)

$\text{Mn} = 1,200$; $\text{Mw} = 1,400$; $\text{PI} = 1.2$

After Hydrolysis of the tert.butyl ester

Poly propyl acrylic acid: $\text{Mn} 800$ $\text{Mw}/\text{Mn} 1.2$