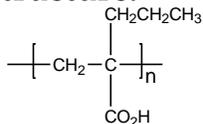


Sample Name:  
**Poly( $\alpha$ -propyl acrylic acid)**  
 Sample #: **P6556B-PrAA**

**Structure:**

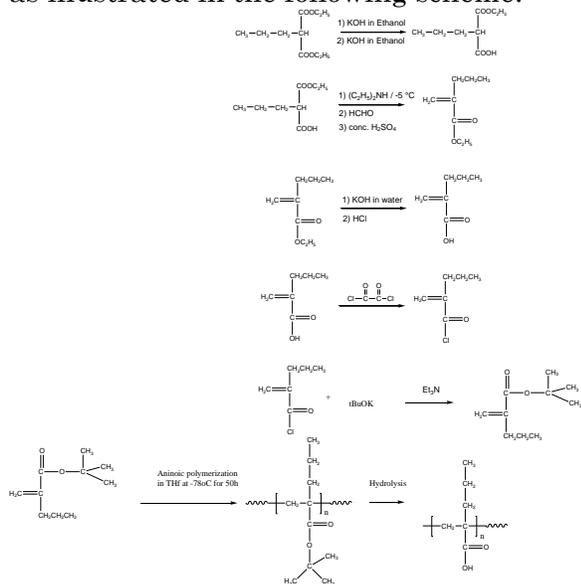


**Composition:**

$M_n \times 10^3$	PDI
7.4	1.25
$T_g$ ( $^{\circ}\text{C}$ )	147

**Synthesis Procedure:**

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



**Characterization:**

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

**Thermal analysis:**

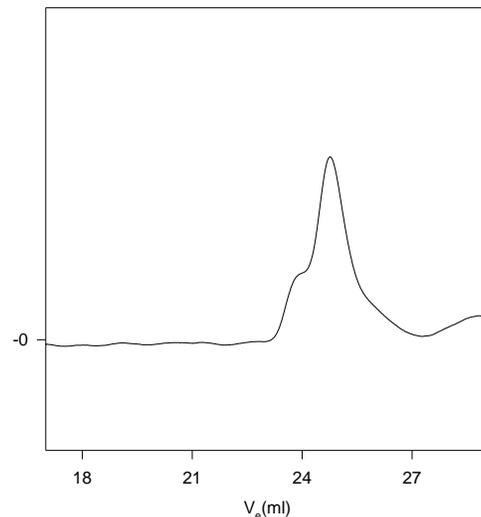
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of  $10^{\circ}\text{C}/\text{min}$ . The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature ( $T_g$ ).

**Solubility:**

Polymer is soluble in ethanol, methanol THF and dioxane.

**SEC of Homopolymer:**

P6556B-PrtBuA precursor for P6556B-PrAA



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

$M_n = 11,000$ ;  $M_w = 13,800$ ;  $PI = 1.25$   
 After Hydrolysis of the tert.butyl ester

Poly propyl acrylic acid:  $M_n 7,400$   $M_w/M_n 1.17$

**DSC thermogram for the polymer:**

