

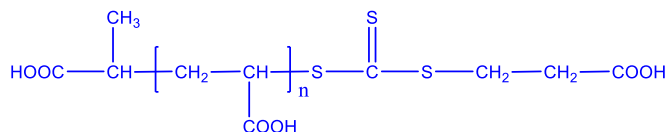
# Product Profile

## Identification

**Product Name:** Poly(Acrylic acid)

**Product Lot Number:** P6712A-R-AA

**Product Chemical Architecture:**



**Composition:**

<b>Mn (g/mole)</b>	<b>5,500</b>
<b>MW (g/mole)</b>	<b>6,000</b>
<b>MW/Mn</b>	<b>1.08</b>
<b>dn/dc (mL/g)</b>	<b>0.178 in water</b>

## Method of Synthesis

Poly(acrylic acid) is directly synthesized by RAFT polymerization of acrylic acid in isopropanol.

**Solubility in different solvents**

THF	√	DMF	X
Alcohol	√	CHCl <sub>3</sub>	X
Toluene	X	DMSO	X

## Validation of Architecture

### A. Gel Permeation Chromatography (GPC), SEC- Profile:

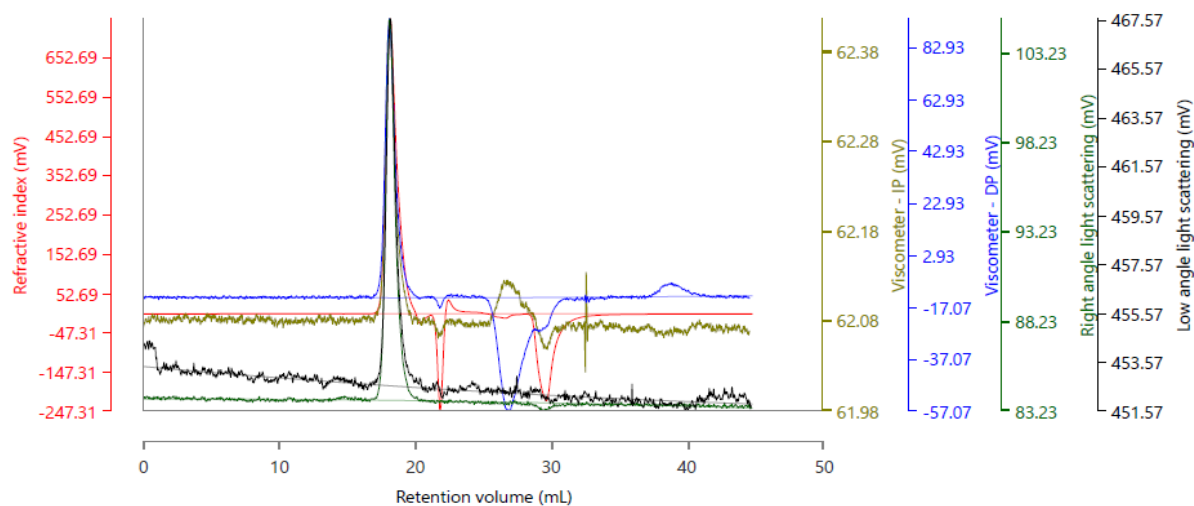
Molecular weights were determined by Malvern OmniSec Reveal & Resolve GPC/SEC System equipped with Triple detector (RI, Viscometer, RALS 90° and LALS 7°) and two columns (A600M General Mixed 300×7.5 mm, Viscotek). 0.25 M NaNO<sub>3</sub> + 0.01M NaH<sub>2</sub>PO<sub>4</sub> (PH=7) in water was the eluent. The flow rate was 1.0 ml/min.

Polymer Source

Malvern Panalytical



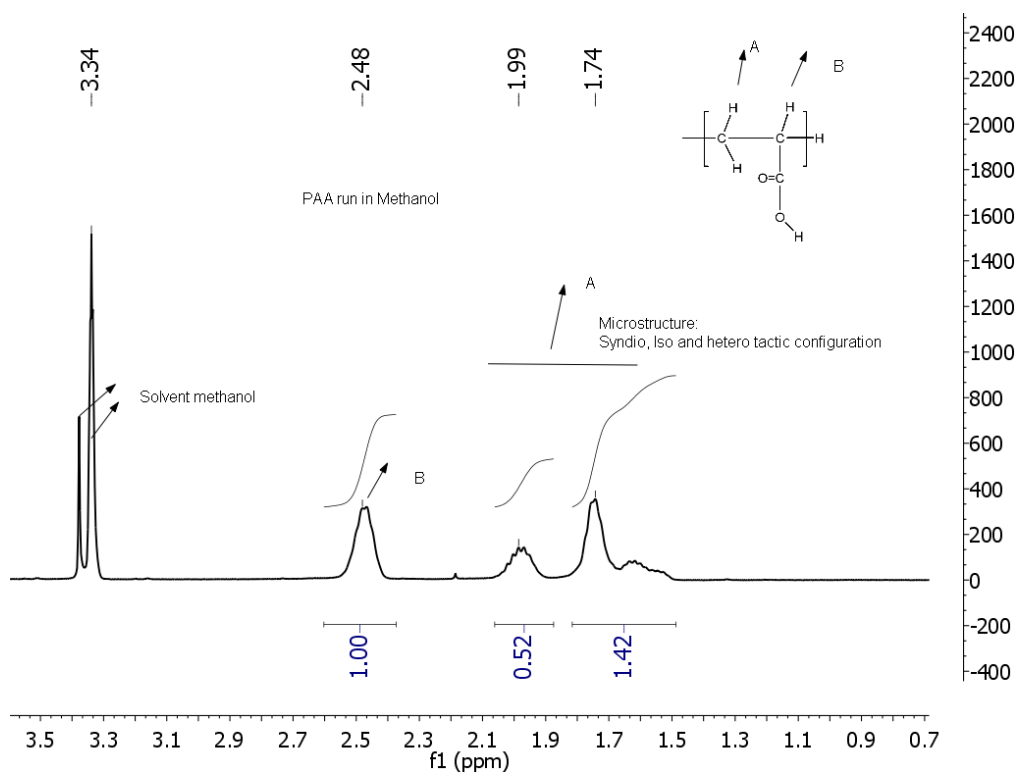
Raw Data Chart



Results (Rows)

Injection Name	RV (mL)	Mn (g/mol)	Mw (g/mol)	Mp (g/mol)	Mz (g/mol)	Mw/Mn
P6712A-AA_10K, Injection 1, Peak 1	18.16	5,566	6,008	6,973	6,343	1.079

**B. NMR (HNMR) OF PAA general**



**C. FTIR OF PAA general (compare with Poly (tert. butyl acrylate))**

