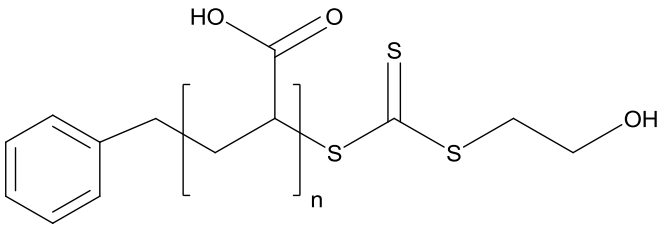
Sample Name: **Poly(Acrylic acid)**

Sample #: P10680D-AA (RAFT)

Structure:

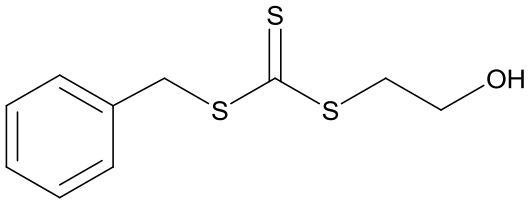


Composition:

Mn x 10^3	Mw/Mn (PDI)
5.0	1.4

Synthesis Procedure:

Poly(acrylic acid) is synthesized by RAFT polymerization of acrylic acid using 2,2-'-azobis isobutyrate (CAS 2589-57-3) as initiator and xanthate as chain transfer agent:



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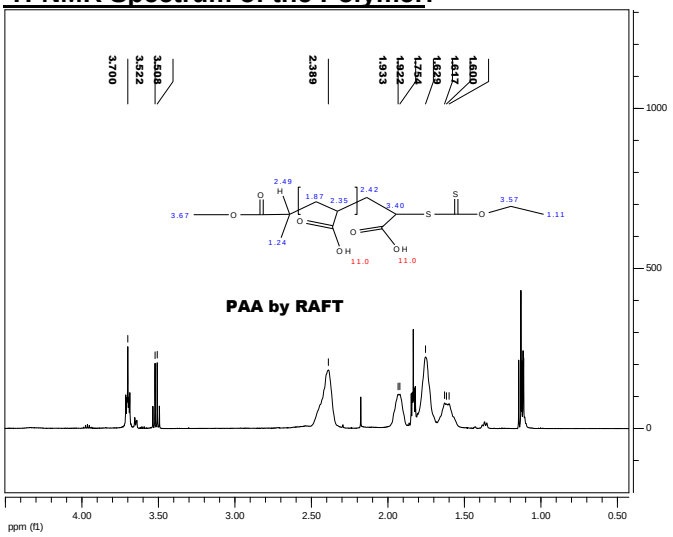
Characterization:

Polyacrylic acid and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI) using water containing 0.1M $NaNO_3$ and 0.01M NaH_2PO_4 and 4 Vol% acetonitrile as eluent. The molecular weigh can also be verified after converting poly acrylic acid to poly n-butyl acrylate by transesterification process and anal sizing the polymers by SEC in organic phase

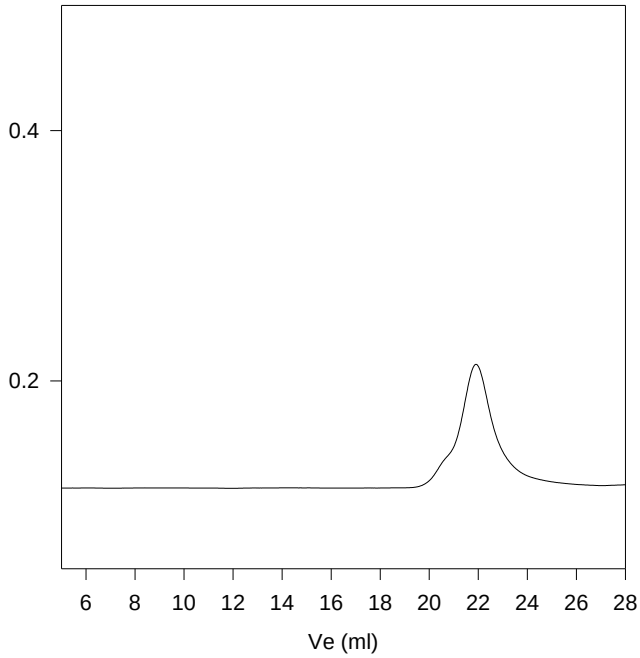
Solubility: Polymer is soluble in water.

^{1}H-NMR Spectrum of the Polymer:



SEC of Sample of the polymer:

P10680D (in ester form)



Size Exclusion Chromatography of the polymer:
Ester form (PnBuA) M_n =9,000, Mw/Mn =1.4
PAA: Mn 5,000 Mw/Mn 1.4