

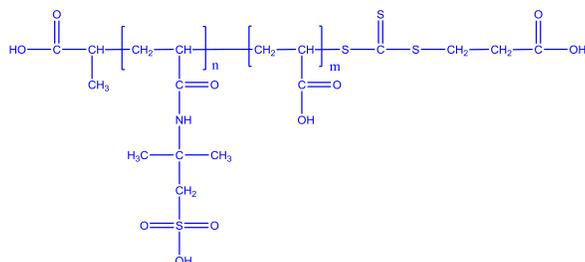
SEC of Sample of the polymer:

Sample Name: Poly(2-acrylamido-2-methylpropanesulfonic acid-b-acrylic acid)

Diblock copolymer

Sample #: P6731-AMPSAA

Structure:

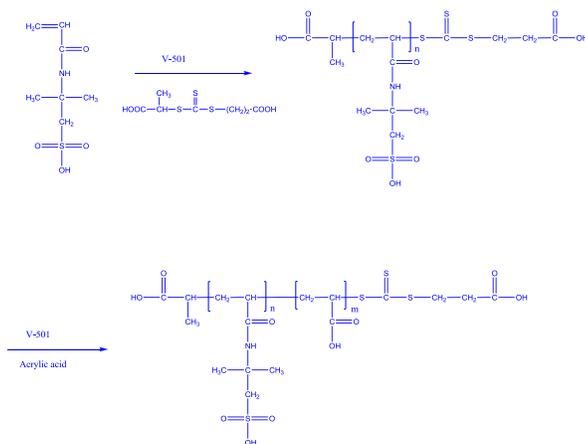


Composition:

$M_n \times 10^3$ (AMPS-b-AA)	Mw/Mn (PDI)
4.1-b-7.0	1.48

Synthesis Procedure:

The block copolymer of AMPS and AA is synthesized by RAFT polymerization using 4,4'-azo(4-cyanopentanoic acid) as initiator and trithiocarbonate as chain transfer agent in water. The reaction scheme is shown below:

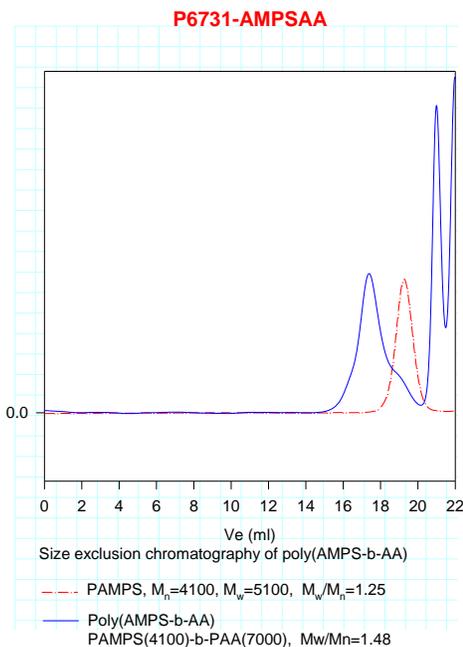


Characterization:

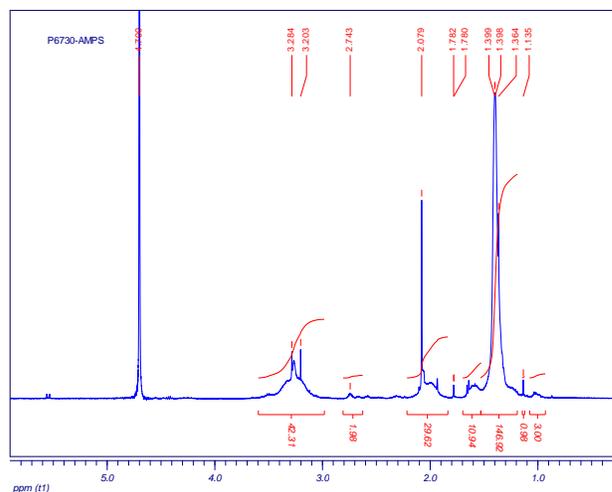
These water soluble polymers were analyzed by size exclusion chromatography (SEC) to obtain the molecular weight polydispersity index (PDI) using water containing 0.2M NaNO₃ and 0.01M NaH₂PO₄ as eluent. The molecular weight and its distribution can be calculated by SEC based on PEG standards calibration. The composition of block copolymer was determined by NMR.

Solubility:

The polymer (acid form) is soluble in water, methanol, and ethanol.



NMR of first block polymer (PAMPS macro CTA):



NMR of diblock polymer (PAMPS-b-PAA):

