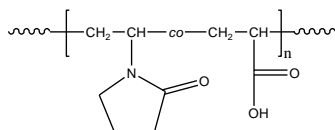


Sample Name: Poly(N-vinylpyrrolidone -co- acrylic acid)

Sample #: P7035-VPAAran

Structure:



Composition:

Mn x 10 ³ P(VP-co-AA)	PDI	AA (mol %)
1128.9	2.7	63

T_g: 146°C

Synthesis Procedure:

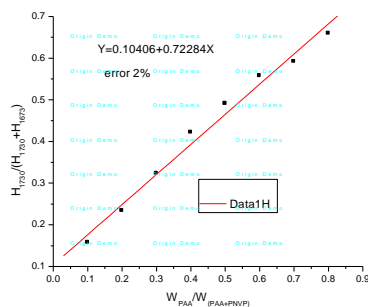
Poly(N-vinylpyrrolidone -co- acrylic acid) is prepared by radical polymerization with N-vinylpyrrolidinone and acrylic acid in the presence of sodium thiosulfate and potassium peroxydisulfate.

Characterization:

Poly(N-vinylpyrrolidone -co- acrylic acid) was analyzed by size exclusion chromatography (SEC) and FTIR to obtain the molecular weight, polydispersity index (PDI), and molar percentage of the composition. The block copolymer composition was calculated from FTIR. The final copolymer PDI is determined by SEC.

Note: The calculation of the composition bases on the FTIR standard fit line obtained from polymers that have known composition.

FTIR standard line for composition calculation:



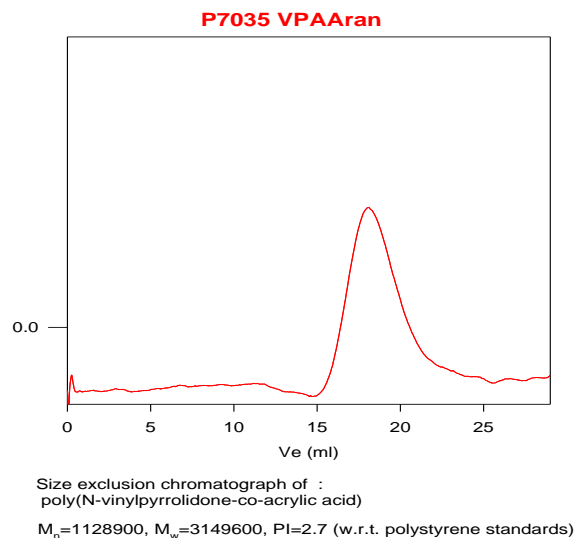
Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 20°C/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).

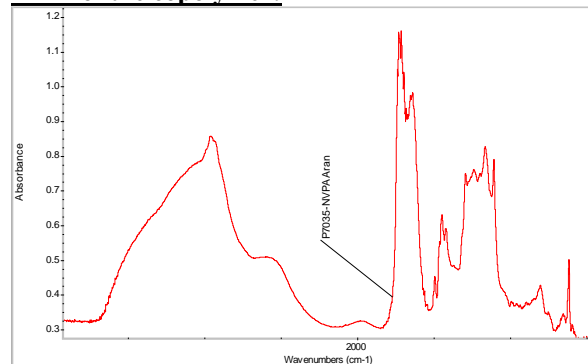
Solubility:

The polymer is soluble in water. It precipitated from hexane and ether, then hydrolyzed and dialyzed.

SEC profile of the copolymer:



FTIR of the copolymer:



DSC thermogram for the sample:

