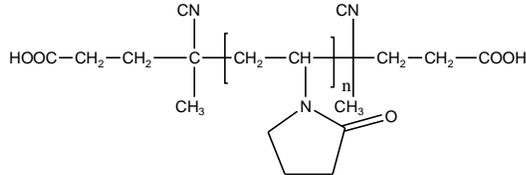


Sample Name:
 α,ω -dicarboxy terminated
poly(N-vinylpyrrolidone)

Sample #: P7340B-NVP2COOH

Structure:

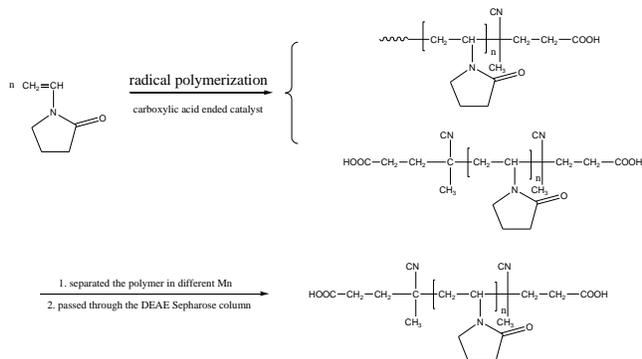


Composition:

Mn x 10 ³	PDI
4.0	1.4

Synthesis Procedure:

α,ω -dicarboxy terminated poly(N-vinylpyrrolidone) was prepared by radical polymerization of N-vinylpyrrolidinone using 4,4'-azobis (4-cyanovaleric acid) as a catalyst. The obtained polymer was fractionated and from the each fraction the mono carboxylic acid fraction was separated from its α,ω di carboxylic acid by passing the polymer solution in ethanol through a column packed with DEAE Sepharose resin. The polymer is obtained by precipitation from cold diethyl ether. The scheme of the reaction is illustrated below:



Characterization:

The molecular weight of the polymer was determined by acid base titration and polydispersity was determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector in DMF containing 0.05M LiBr salt.

Solubility:

Polymer is soluble in chloroform, THF, DMF, ethanol and water, and precipitate out from hexanes and ether.