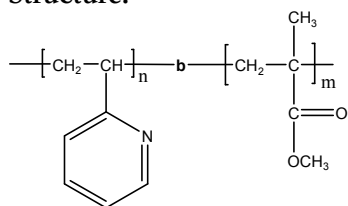


Sample Name: Poly(2-vinyl pyridine-b-methyl methacrylate)

Sample #: P3230-2VPMMA

Structure:



Composition:

Mn x 10 ³ 2VP-b-MMA	Mw/Mn (PDI)
235-b-220	1.17

Synthesis Procedure:

Poly(2-vinyl pyridine-b-methyl methacrylate) is synthesized by living anionic polymerization with sequence addition of 2-vinyl pyridine followed by methyl methacrylate.

Characterization:

An aliquot of the anionic 2-vinyl pyridine block was terminated before addition of methyl methacrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The block copolymer composition was then calculated from ¹H-NMR spectroscopy by comparing the peak area of the 2-vinyl pyridine proton at about 8.2 ppm with the methyl methacrylate protons at 3.6 ppm. Copolymer PDI is determined by SEC.

Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°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).

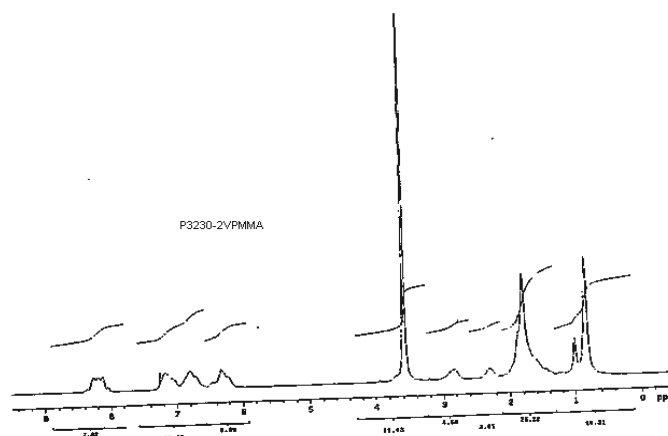
Thermal analysis results at a glance

Sample	T _g (°C)
2VP (M _n =30k)	81
MMA (M _n =237k)	123
2VP block in sample	93
MMA block in sample	126

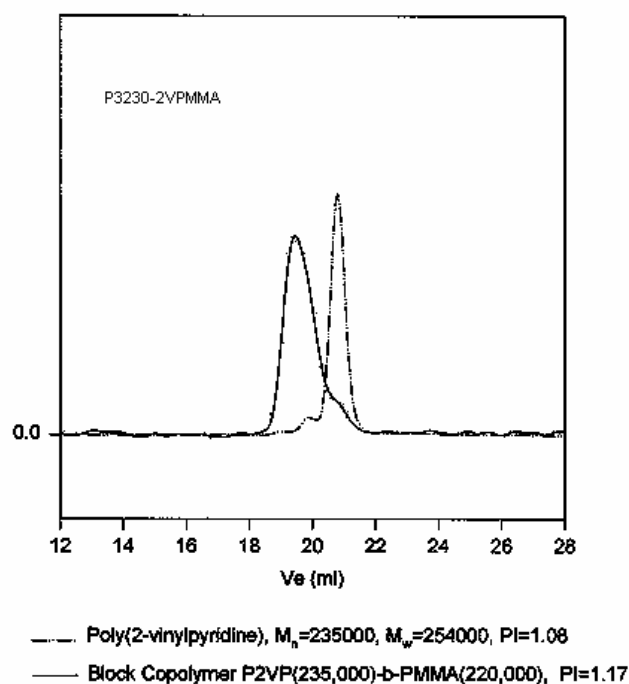
Solubility:

Poly(2-vinyl pyridine-b-methyl methacrylate) is soluble in THF, CHCl₃ and dioxane.

¹H-NMR for the block copolymer:



SEC for the sample:



DSC thermogram for MMA block:

