



Polymer Source,™ Inc.

Product Profile

Identification

Product Name: POLY(2-VINYL PYRIDINE)

Synonym(s): P2VP

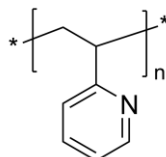
Linear Formula: (C₇H₇N)_n

CAS: 25014-15-7

Product Lot Number: P45772-2VP

Product Chemical Architecture:

Composition:



Mn (g/mole)	6,000
MW (g/mole)	6,300
Mw/Mn	1.02
dn/dc (mL/g)	0.167 in THF

Method of Synthesis

Poly(2-vinyl pyridine) is synthesized by living anionic polymerization of 2-vinyl pyridine using an adduct of Sec-butyllithium and diphenyl ethylene. Polymerization is carried out in THF at -78 °C. Polymerization reaction is terminated using degassed methanol.

Solubility in different solvents

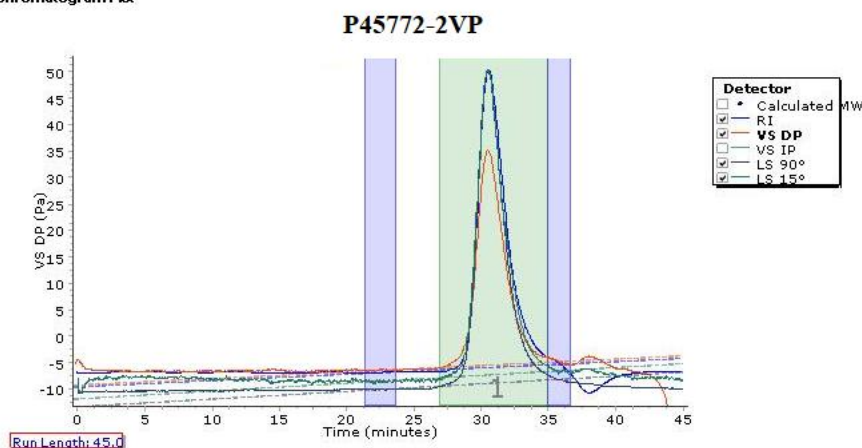
THF	√	DMF	√
Methanol	√	CHCl ₃	√
Toluene (Hot)	√	DMSO	√

Validation of Architecture

A. Gel Permeation Chromatography (GPC), SEC- Profile:

Molecular weights were determined by Agilent Technologies 1260 Infinity II GPC/SEC System equipped with Triple detector (RI, Viscometer, RALS 90° and LALS 15°) and three columns (PLgel 5 um, 10 um × 2). THF with 1% (v/v) triethylamine) was the eluent. The flow rate was 1.0 ml/min.

Chromatogram Plot



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	6497	6171	6239	6304	6364	6319	1.011

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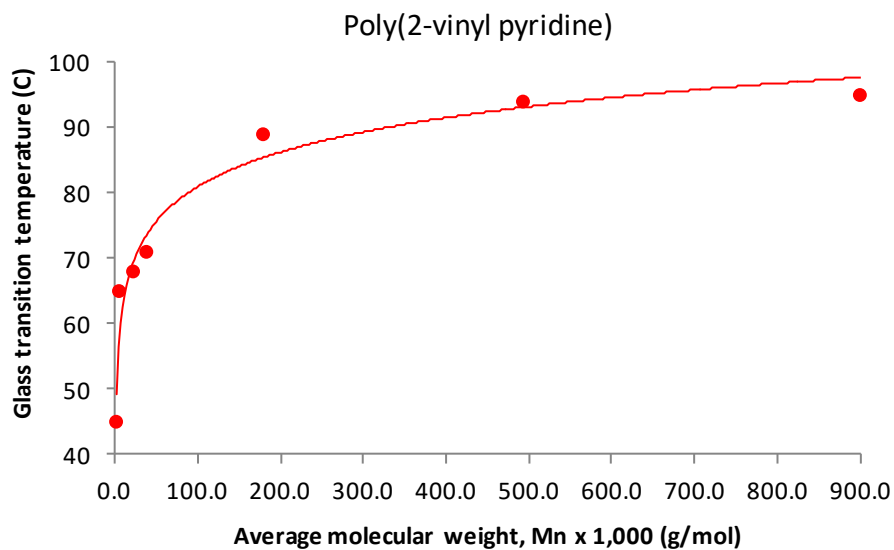
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B. Thermal analysis results:

Dependence of glass transition temperature (T_g) of P2VP from its molecular weight:



C. NMR (HNMR) OF P2VP in CDCl₃, general

