

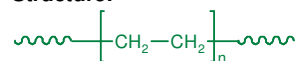
Sample Name: Polyethylene
(obtained from the hydrogenation of Polybutadiene rich in 1,4 microstructure)

SEC of the Polymer: Precursor

P1981-Bd(precursor for P1990-E)

Sample #: P1990-E

Structure:

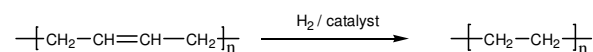
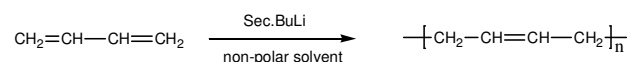


Composition:

Mn x 10 ³	PDI
18.5	1.04

Synthesis Procedure:

Polyethylene is made from the hydrogenation of 1,4-polybutadiene. 1,4-polybutadiene is synthesized by living anionic polymerization of butadiene in non-polar solvent.

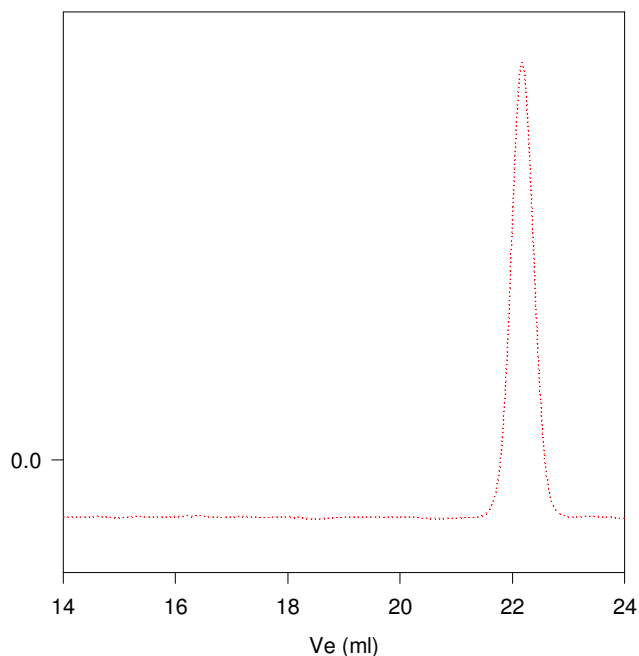


Characterization:

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography. The hydrogenation of polybutadiene is confirmed by FT-IR with disappearance of the alkene double bond.

Solubility:

Polyethylene is soluble in hot toluene and hot xylene. The polymer is insoluble in hexane, methanol and ethers.



Size exclusion chromatography of polybutadiene with respect to polybutadiene standards (precursor for P1990-E):

$M_n=17800$, $M_w=18500$, $M_w/M_n=1.04$

Molecular weight of Polyethylene Mn 18500 Mw/Mn:1.04