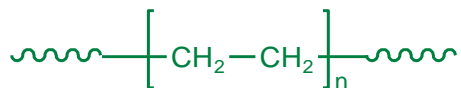


Sample Name: Polyethylene

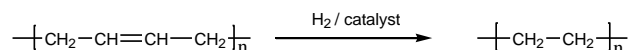
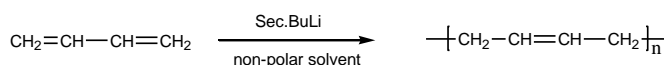
(obtained by hydrogenation of polybutadiene rich in 1,4-addition)

Sample #: P2070-E**Structure:****Composition:**

$M_n \times 10^3$ (g/mol)	M_w / M_n
3.3	1.05

Synthesis:

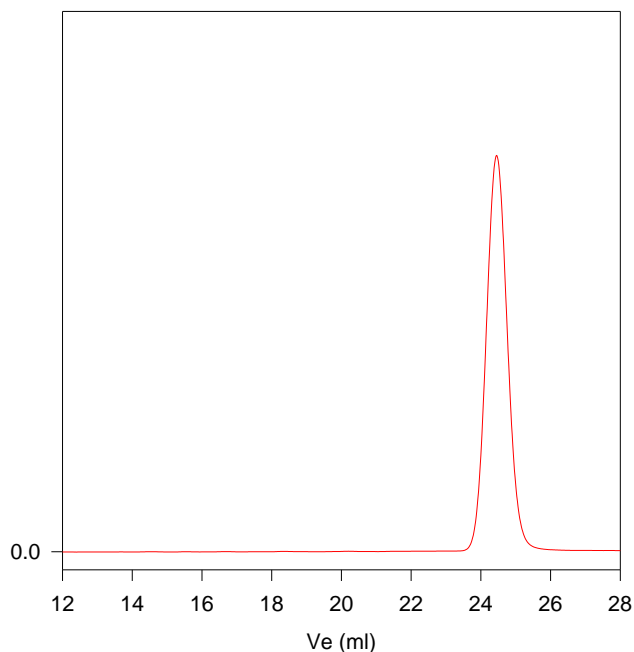
Polyethylene was prepared by hydrogenation of 1,4-polybutadiene, which was synthesized by living anionic polymerization of butadiene in a non-polar solvent.

**Characterization:**

The average molecular weights and polydispersity index (M_w/M_n) were determined by size exclusion chromatography (SEC). The hydrogenation of 1,4-polybutadiene was confirmed by disappearance of the alkene band in a FT-IR spectrum.

Solubility:

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

SEC of precursor for P2070-E:**P2070-Bd**

Size exclusion chromatography of polybutadiene with respect to polybutadiene standards:

$M_n=3260$, $M_w=3410$, $M_w/M_n=1.05$

FT-IR of polyethylene: