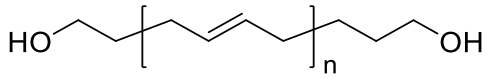
Product Name:
α,ω-Bis(hydroxy)-terminated Poly(1,4-butadiene)

Product # **P42628-Bd2OH**

Structure:

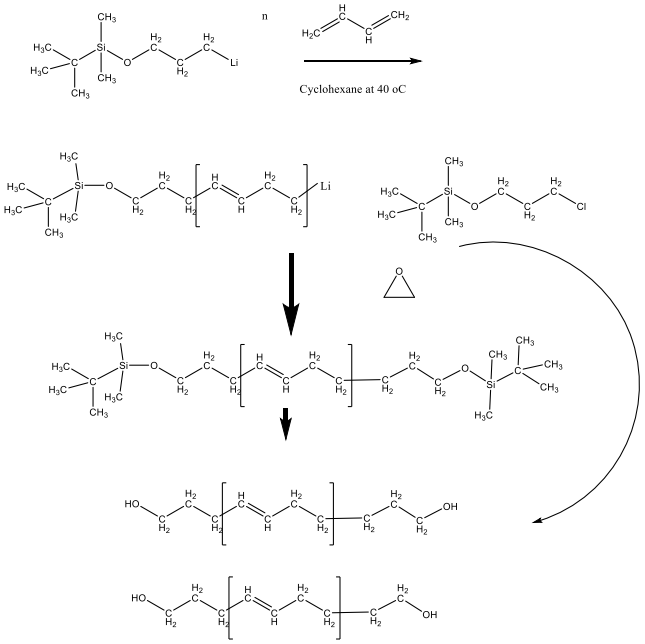


Composition:

Mn × 10^3 (g/mol)	M_w/M_n	Content of 1,4-rich Bd
2.0 (by NMR: 1.8)	1.01	80%

Synthesis procedure:

Dihydroxy-terminated polybutadiene, rich in 1,4-addition, was prepared by anionic living polymerization of butadiene in a polar solvent (cyclohexane). The scheme of reaction is presented below:



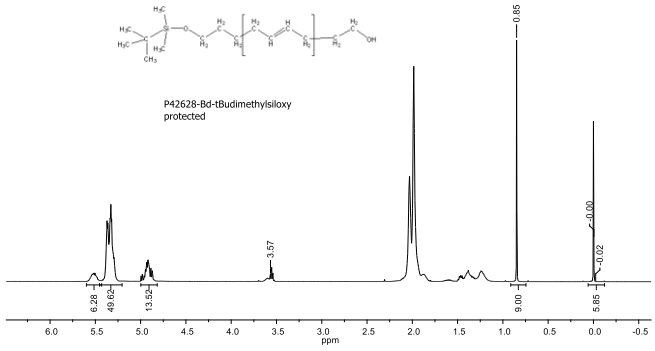
Characterization:

The molecular weight and polydispersity index were determined by size exclusion chromatography (SEC) using triple detection method. The microstructure of the product was calculated from proton NMR spectroscopy.

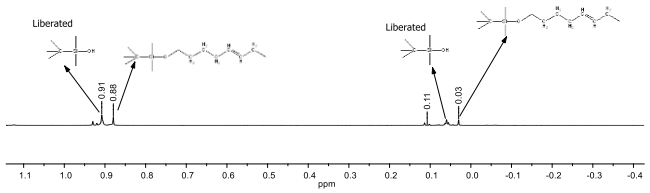
Solubility:

Dihydroxy-terminated polybutadiene is soluble in tetrahydrofuran (THF), toluene, hexane, cyclohexane, chloroform, methanol and ethanol.

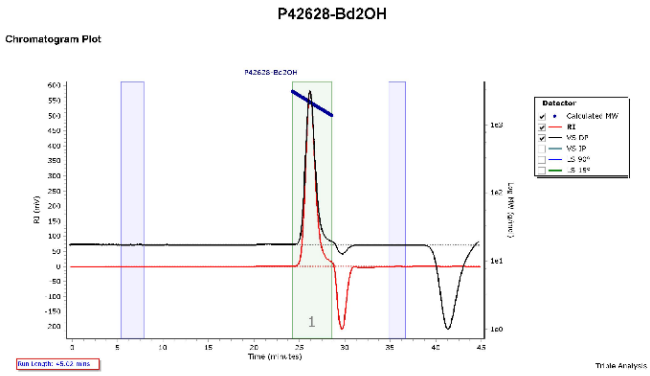
^{1}H-NMR of the PBd with end-protected group:



After clevage of (tert-butyl dimethylsiloxy)-end group using TFA in DCM:



SEC chromatogram of the product:



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	2147	2077	2103	2127	2150	2121	1.013