

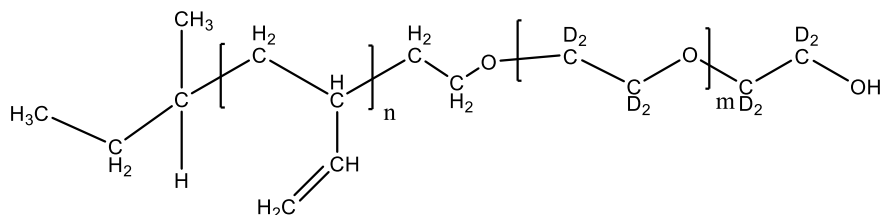
Product Profile

Identification

Product Name: Poly(1,2-butadiene)-b-poly(deuterated ethylene oxide-d4)

Product Lot Number: P45044-Bd-dEO

Product Chemical Architecture:



Composition:

| Mn x 10 ³ Bd-b-(d4)EO | Mw/Mn (PDI) | % 1,2 addition Butadiene |
|--|-------------|-----------------------------|
| 0.7-b-1.0 | 1.06 | >85.0 |
| Dp of each block: Bd ₁₃ -dEO ₂₃ from NMR | | |

Method of Synthesis

The polymer is synthesized by anionic polymerization using sec Butyl-lithium as initiator in 2 steps synthesis.

- Synthesis of Hydroxyl end terminated poly butadiene and
- Polymerization of deuterated ethylene oxide using potassium salt of poly butadiene,

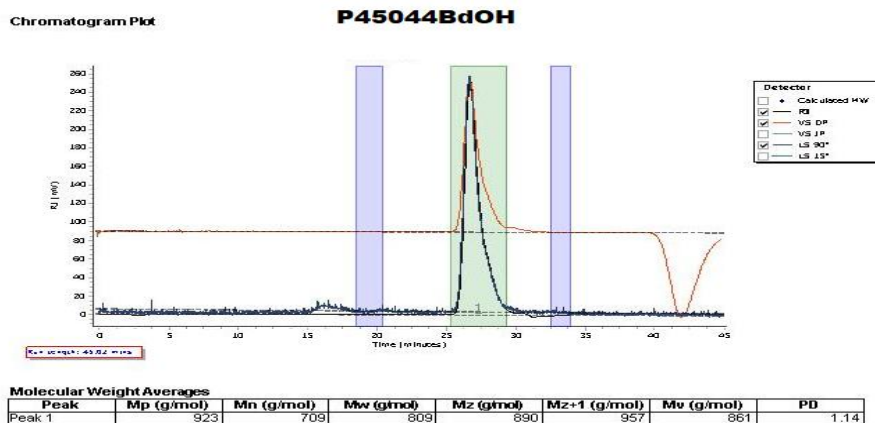
Solubility in different solvents

| | | | |
|-------------------|---|-------------------|---|
| THF | √ | | |
| CHCl ₃ | √ | CHCl ₃ | √ |
| Toluene-Hot | √ | | |

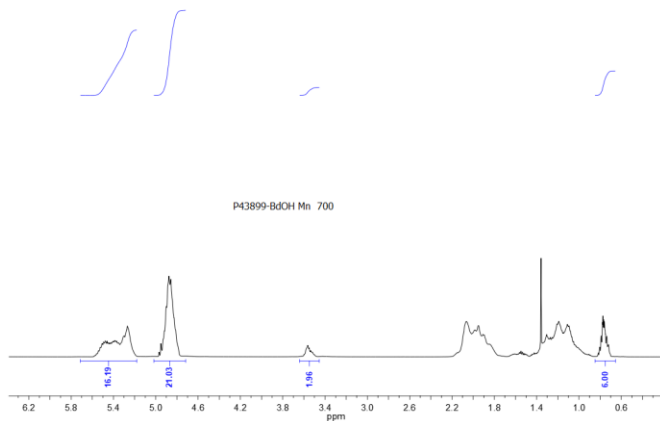
Purification of Polymer to remove naphthalene < 0.1% level.

Validation of Architecture

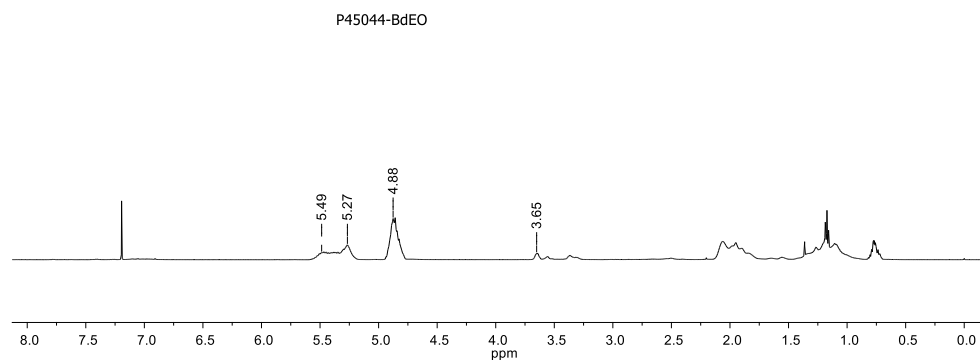
A. Gel Permeation Chromatography (GPC), SEC- Profile for PBd-EO:



HNMR of Poly butadiene OH terminated:



B. NMR (HNMR) of Poly butadiene-b-d4 Ethylene Oxide:



D NMR of P45044 run in CHCL3

