

Poly butadiene rich in 1,2 or 1,4 microstructure
Sample #: **P10084-BdEOCOOH** (suoinic acid end
functional group)
(poly butadiene block rich in 1,2
microstructure)

$$\text{~} \left[\text{CH}_2 - \underset{\begin{array}{c} | \\ \text{CH} \\ || \\ \text{CH}_2 \end{array}}{\text{CH}} \right]_n \text{ b } \left[\text{CH}_2 - \text{CH}_2 - \text{O} \right]_m \text{C}(=\text{O}) - \text{CH}_2 - \text{CH}_2 - \text{C}(=\text{O}) - \text{OH}$$

Mn x 10 ³ Bd-b-EO	Mw/Mn (PDI)	% 1,2 addition Butadiene
2.5-b-1.3	1.04	85

Poly(butadiene-*b*-ethylene oxide) is soluble in THF, CHCl₃, and toluene. The polymer has variable solubility in hexane, methanol, ethanol and water depending on its composition.

P10084-Bd (1,2 rich addition)EO

Integration values: 60.8, 96.3, 169.6, 6.00

Inset integration values: 0.84, 0.83, 0.84, 0.85, 1.75

1H NMR spectrum of P10084-BDEOCOOH (Succinic acid) in DMSO-d₆. The spectrum shows peaks at 5.26, 4.28, 4.27, 4.26, 2.64, 2.63, 1.72, 1.25, 0.96, and 0.90 ppm. Integration values are shown below the peaks: 52.00, 82.25, 1.25, 172.00, 3.96, and 0.90. The x-axis is labeled 'ppm (t1)' and ranges from 6.0 to 0.0.

A chromatogram plot with the x-axis labeled 'Ve (ml)' ranging from 10 to 30 and the y-axis ranging from 0.0 to 0.3. Two distinct peaks are visible: a taller peak at approximately 26.5 minutes and a slightly shorter peak at approximately 27.5 minutes. The baseline is stable at 0.0 throughout the run.

The Mn of PEO is calculated from NMR results, The 1,2-addition of PBd block is 85%.