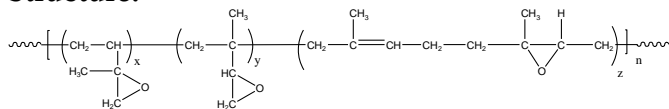


Sample Name: Polyisoprene epoxy
(1,4 rich addition and 1,2 and 3,4 addition epoxy)

Sample #: P10962-IPEpoxy

Structure:



Composition:

$M_n \times 10^3$	PDI
2.4	1.2
Epoxydation: 8 mol %	

Synthesis Procedure:

Polyisoprene epoxy (1, 4 addition rich) is obtained by living anionic polymerization of isoprene in polar media and followed by epoxidation.

Control epoxidation : preferential epoxidation of the branch 1,2 addition fractions

Characterization:

% of epoxidation was analyzed by NMR.

Thermal analysis:

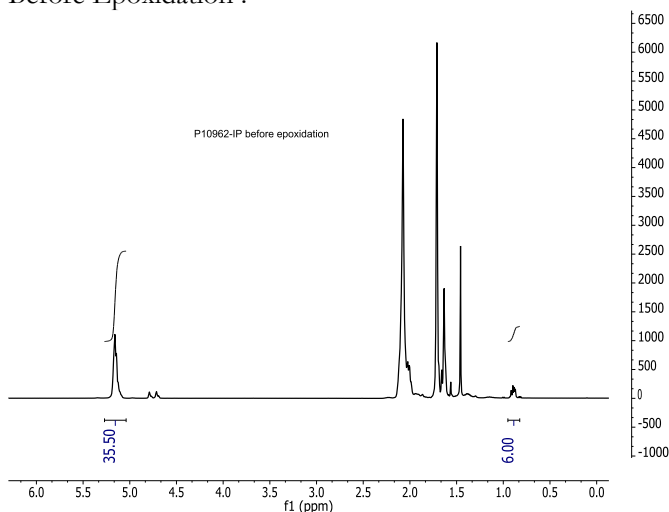
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 20°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

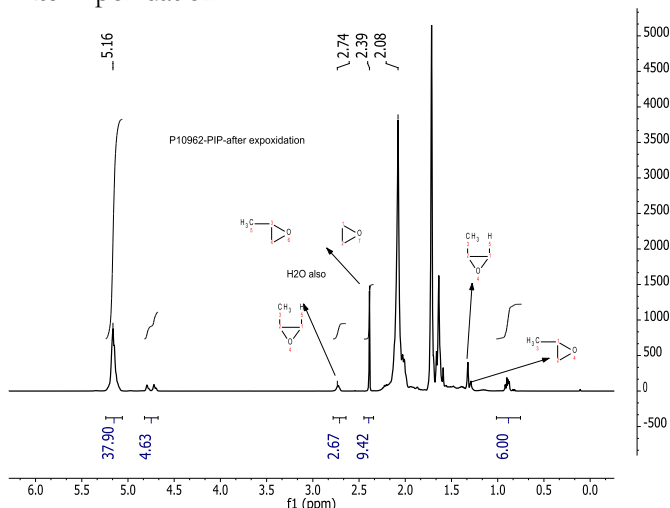
Polymer is soluble in THF, chloroform, toluene and in hexane.

¹H NMR of homopolymer:

Before Epoxidation :

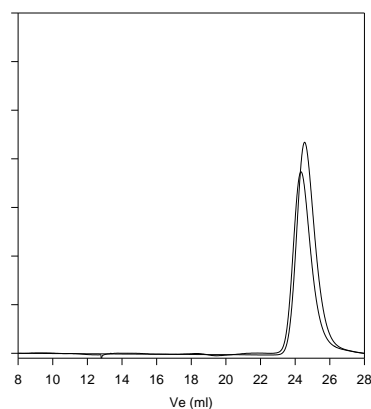


After Epoxidation:



SEC of homopolymer:

P10962-IP-Epoxy



Size exclusion chromatography of Polymer

— Polyisoprene before epoxidation: $M_n=2,400$ M_w : 3,000 PI=1.2
— After Epoxidation: PI=1.2

DSC thermogram for the sample: