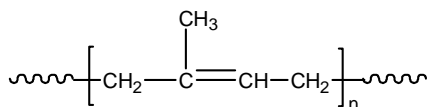


Sample Name: Polyisoprene, *rich in 1,4-addition*

Sample #: P18956-lp



Composition:

| Mn x 10 ³ | Mw/Mn |
|----------------------|-------|
| 103.0 | 1.07 |

Microstructure:

| 1,4-addition | | 1,2- & 3,4-addition |
|--------------|--------------|---------------------|
| Cis-isomer | Trans-isomer | |
| 87 % | 13 % | — |

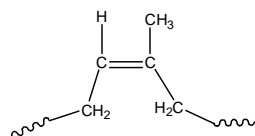
Synthesis Procedure:

Polyisoprene was obtained by living anionic polymerization.

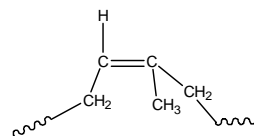
Characterization:

The microstructure of polymer was calculated from ¹H NMR data. Molecular weight and polydispersity index (M_w/M_n) of the polymer were determined by size exclusion chromatography (SEC).

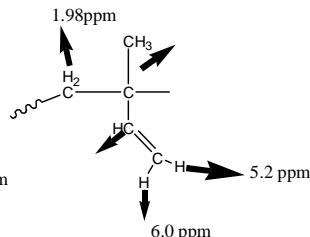
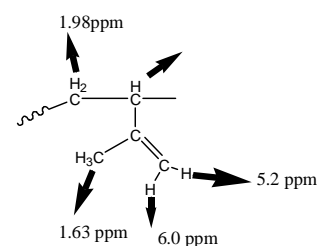
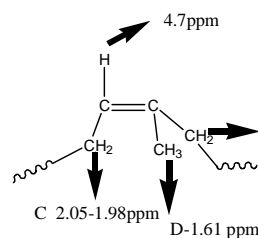
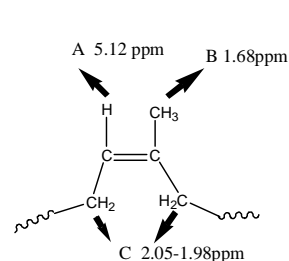
Proton shifts in ¹H NMR:



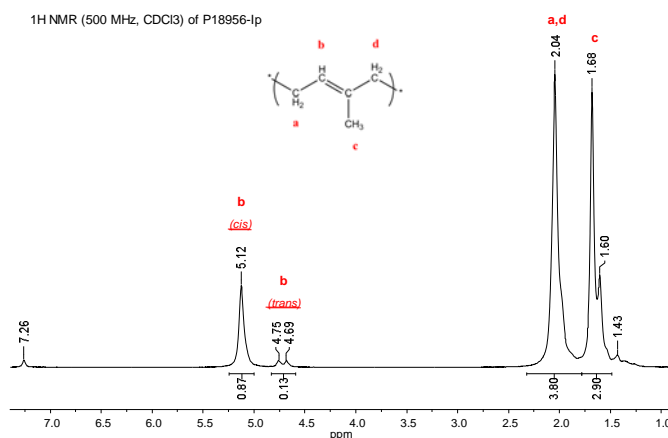
Cis 1,4 addition



Trans 1,4 addition



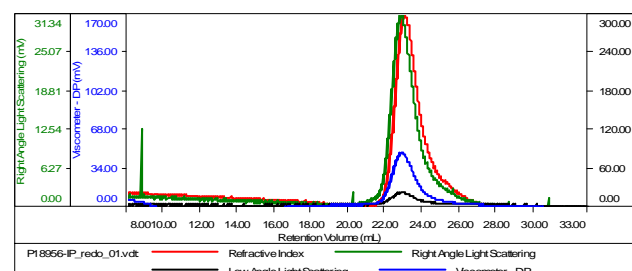
¹H NMR (500 MHz; CDCl₃) of polyisoprene:



SEC elugram of polyisoprene:

Sample ID: P18956-lp

| | |
|-----------------------|-------------------------|
| Concentration (mg/mL) | 3.4468 |
| Sample dn/dc (mL/g) | 0.1200 |
| Method File | PS80K-NOV-2014-0003.vcm |
| Column Set | 3x PL 1113-6300 |
| Solvent | TH-F |



| Sample | MW Number Average (Da) | MW Weight Average (Da) | MW at Peak (Da) | Polydispersity | Intrinsic Viscosity (dL/g) |
|---------------------|------------------------|------------------------|-----------------|----------------|----------------------------|
| P18956-lp_red01.vcl | 103,183 | 110,596 | 110,278 | 1.072 | 0.5130 |