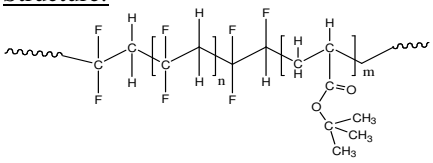
Sample Name: **Block copolymer of Vinylidene difluoride contain about 17 % trifloroethylene with tert.butylacrylate**

Sample #: **P19846B-VDFTFEran-b-tBuA**

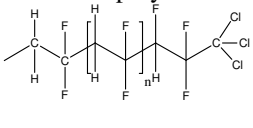
Structure:



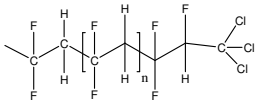
**Composition:**

| Mn x $10^3$ | PDI |
|---|---|
| 7.0-b-2.5 | 1.25 |

**Synthesis Procedure:**
Radical process using $CHCL_3$ as chain transfer reagent for the random copolymer of VDF and TFE monomers:



Head to Tail arrangement

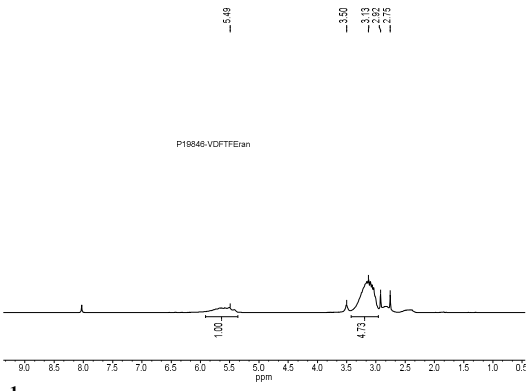


Head to Tail arrangement

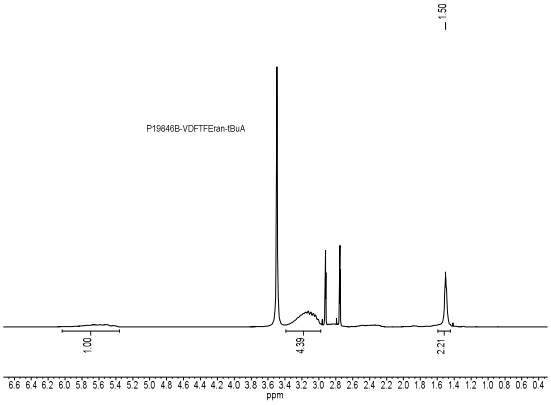
**Characterization:**
The polymer was characterized by SEC in DMF and $^1H$ NMR in DMF.

**Solubility:**
The polymer is soluble in DMF, THF.

**$^1H$ NMR spectrum of the VDFTFEran polymer:**



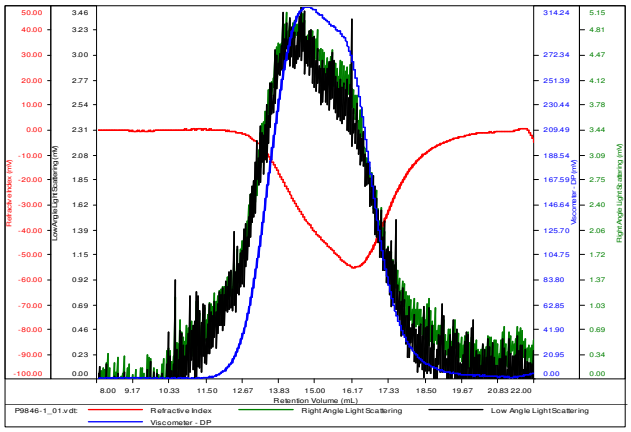

**$^1H$ NMR spectrum of the block copolymer:**




**SEC elugram of the VDFTFE polymer:**

P19846-VDFTFE

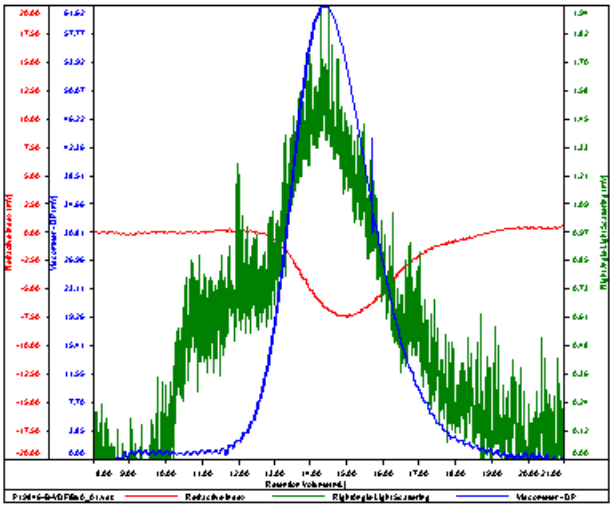
| | |
|---|---|
| Conc (mg/mL) | 3.0235 |
| dn/dc (mL/g) | 0.2300 |
| Method | PS80k-May-25-2016-0000.vcm |
| Solvent | DMF w 0.023M LiBr |
| Column | PSS |




| Sample | Mn | Mw | Mp | Mw/Mn | IV |
|---|---|---|---|---|---|
| P9846-1_01.vdt | 6,986 | 9,692 | 5,977 | 1.387 | 3.9297 |

Block copolymer showing RI signal Negative due low molecular weight of ptBuA block

**SEC elugram of the block copolymer:**

P19846B-VDFTFEran-tBuA

| | |
|---|---|
| Conc (mg/mL) | 0.3412 |
| dn/dc (mL/g) | 0.2300 |
| Method | PS80k-May-25-2016-0000.vcm |
| Solvent | DMF w 0.023M LiBr |
| Column | PSS |