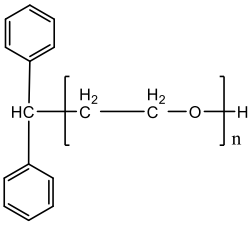
Product Profile

Identification

Product Name: Poly(ethylene glycol), α-dibenzylmethylene-terminated
Synonym(s): PEO, PEG
Linear Formula: $H(OCH_2CH_2)_nCH(C_6H_5)_2$
CAS: 25322-68-3
Product Lot Number: P45840B-EO (PEO)

Product Chemical Architecture:



Composition:

Mn (g/mole)	**21,000**
MW (g/mole)	**25,000**
Mw/Mn	**1.2**
dn/dc (mL/g)	**0.132 in water**

Method of Synthesis

The polymer is prepared by living anionic polymerization process.

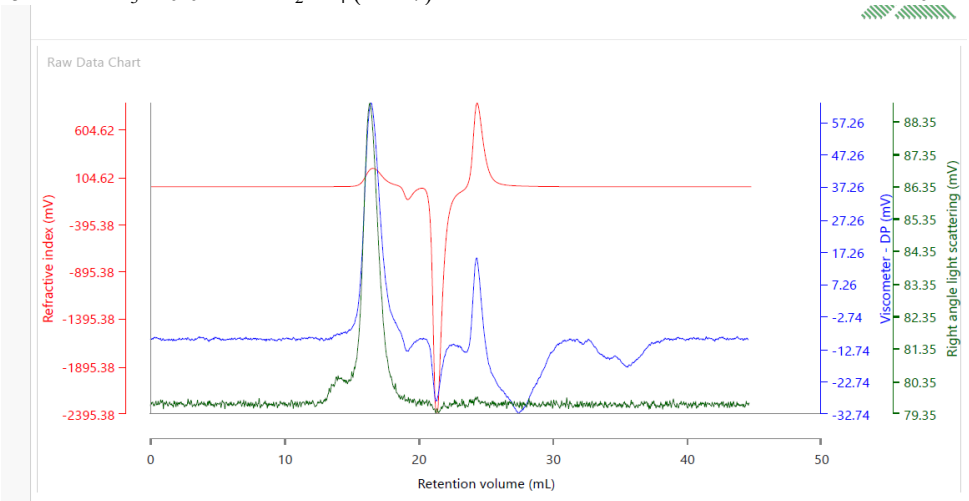
Solubility in different solvents

THF	√	DMF	√
Methanol	√	CHCl3	√
Toluene	**X**	DMSO	√

Validation of Architecture

A. <u>Gel Permeation Chromatography (GPC), SEC- Profile:</u>

Molecular weights were determined by Malvern OmniSec Reveal & Resolve GPC/SEC System equipped with Triple detector (RI, Viscometer, RALS 90° and LALS 7°) and two columns (A600M General Mixed 300×7.5 mm, Viscotek). 0.25 M $NaNO_3$ + 0.01M NaH_2PO_4 (PH=7) in water was the eluent. The flow rate was 1.0 ml/min.

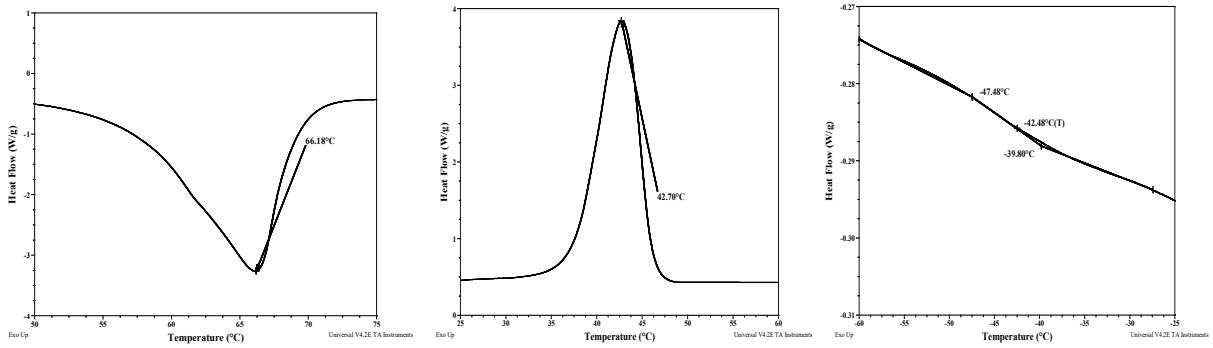


Results (Rows)

Injection Name	RV (mL)	Mn (g/mol)	Mw (g/mol)	Mp (g/mol)	Mw/Mn
P45840B, Injection 1, Peak 1	16.54	21,118	25,540	24,866	1.209

B. **Thermal analysis results:**

Sample	T_m (ºC)	T_c (ºC)	T_g (ºC)
Typical PEO sample (Mn over 50k Da)	66	43	-43



C. **NMR (HNMR) OF PEO in DMSO, general**

