Sample Name:

Poly urethane based on poly(ethylene glycol) adipate –butane diol and MDI-isocynate based polyurethanes

Lot Sample #: **P7296-PU**

Structure:

Composition:

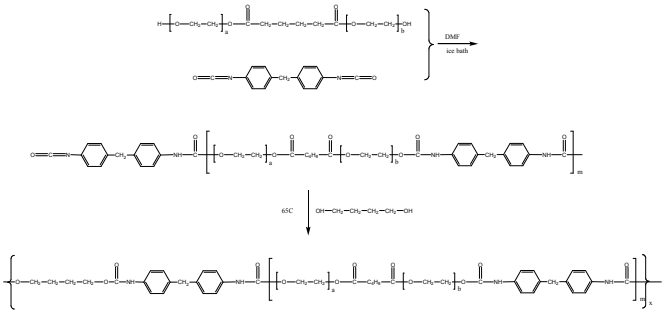
Mw x 10^3	Mw/Mn (PDI)	Composition
26.5	1.6	MDI:PEA:BDL 4.2:1.0:3.0 Feed ratio
		From HNMR 4.2:0.8:3.0

MDI: 4,4'-Methylenebis(phenyl isocyanate)
PEA: Poly(ethylene adipate) Mn=600
BDL: 1,4-Butanediol

Reference: T Takahashi et al., J. Appl. Polym. Sci. 60,1061(1996).

Synthesis Procedure:

The synthesis method was followed the literature offered by costumer. The scheme of the reaction is illustrated below:



Characterization:

The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight, polydispersity index (PDI). The composition of the structure was determined by comparing the area of 7.0-7.4ppm (MDI), 2.29ppm (DPEA) and 1.69ppm (BDL) in NMR spectrum.

Solubility:

MDI:PEA:BDL (4.2:1.0:3.0)	Chloroform (N)	THF (Y)	DMF (Y)	DMSO (Y)	Tg 27.4

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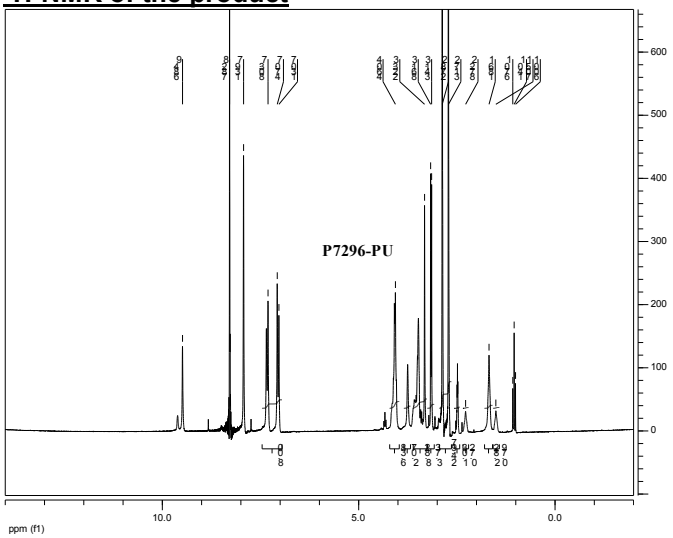
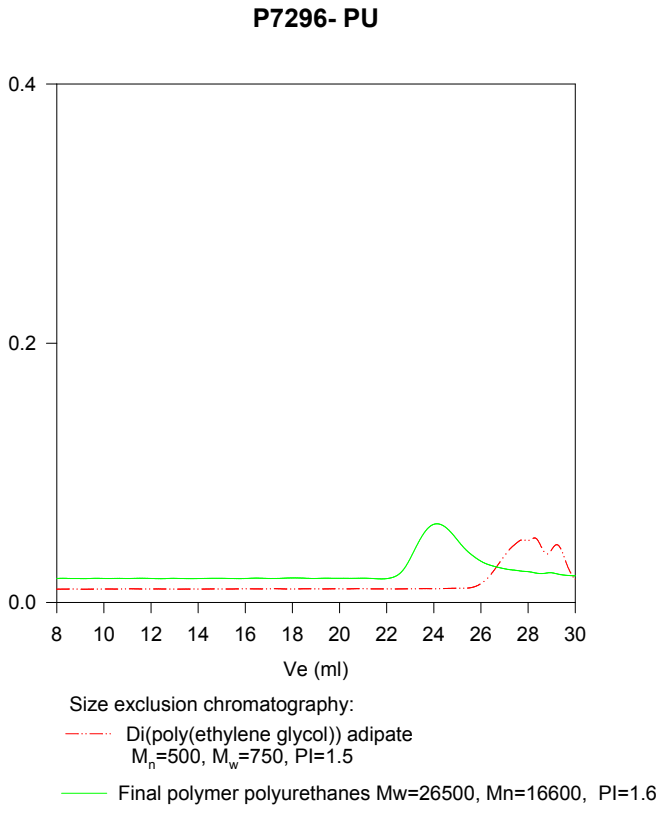
^{1}H-NMR of the product



SEC of the product: