GPC Application Note #3

Advanced GPC Analysis of Nylon 6 and 6-6

Polyamide is one of the most widely used thermoplastics in the world. It can be processed into films, fibers, or shapes. Nylon 6 and Nylon 6-6 are the two most common grades within the polyamide family. They are similar in structure and properties. Applications of these materials include carpets, apparel, airbags, tires, zip ties, ropes, belts, hoses, etc. The purpose of this App Note is to demonstrate the repeatability of this HMJ Advanced GPC Method. The samples were analyzed using a Malvern Triple Detector GPC system. The analysis conditions are listed below.

Solvent	88% Formic Acid		Sample Conc	2 mg/mL
Columns	2 X I-MBHMW-3078		Dissolution Temp	25C
Flow Rate	1 mL/min		Dissolution Time	60 Minutes
Column Temp	30C		Sample Filtration	0.2 um Teflon

Figure: Triple Chromatogram of a typical Nylon 6 sample

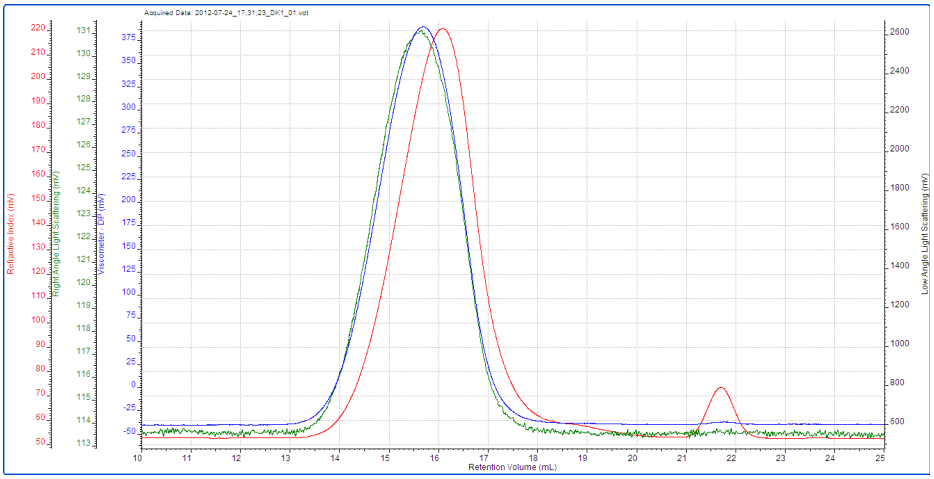

Table: Summary of Analysis of a Nylon 6 sample

	Mw	Mn	IV (dL/g)			Mw	Mn	IV (dL/g)
DK-1A	28,850	16,668	1.077		DK-2A	28,526	14,058	1.064
DK-1B	28,831	16,780	1.061		DK-2B	28,678	14,171	1.076
Average	28,841	16,724	1.069		Average	28,602	14,115	1.070

The results show consistent MWD and IV data for of a Nylon 6 sample.