Supplementary Information

Novel synthesis of polyurea nanoparticles via spontaneous nanoprecipitation.

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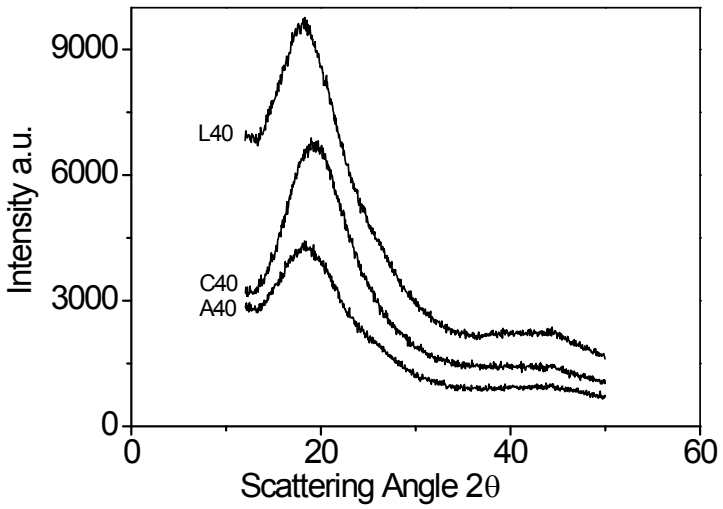

Figure ESI 1: *Wide-angle X-ray scattered intensity vs. scattering angle, θ, obtained for L40, C40 and A40 samples. WAXS experiments were performed using a Philips X'Pert-APD (PW3011/10) camera equipped with a Cu (Kα' 0.154 nm) anode X-Ray tube, operating at 40 mA and 45 kV. The detector used was a PW3011/10 (Miniprop. small window) sealed Xe proportional detector. The experiments were carried out at room temperature using an angular range of 10 to 50 º, and a scanning step of 0.05 º.*

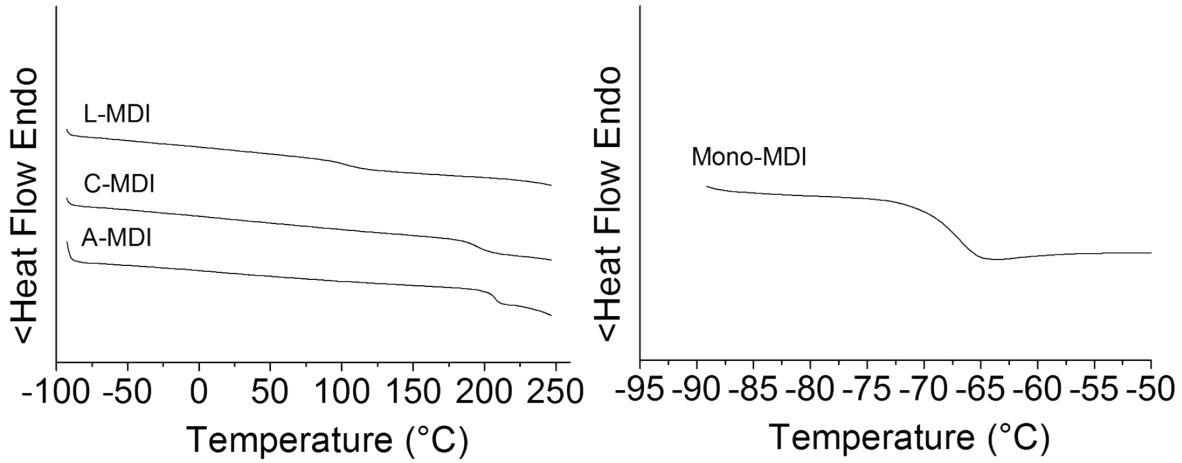

Figure ESI 2: *. DSC graphs obtained at 10 °C min^{-1} for L-MDI, C-MDI, A-MDI and Mono-MDI reference coumpounds.*

Samples	Experimental values			Theoretical values		
	C%	N%	O%	C%	N%	O%
L-MDI	79.6%	10.7%	9.7%	73.1%	15.4%	11.5%
C-MDI	83.8%	8.8%	7.4%	79.3%	13.8%	6.9%
A-MDI	88.4%	4.8%	6.8%	80%	9%	4.7%
Mono-MDI	77.6%	0.7%	21.7%	74.3%	1.4%	24.3%
L-40	74%	2.3%	23.7%	73.9%	13.6%	12.5%
C-40	73.2%	4.7%	22.1%	76.9%	12%	11.1%
A-40	75.5%	0.4%	24.1%	84.7%	8%	7.3%

Table ESI 1: *Measured (by XPS) and theoretical (from known bulk composotions) elemental composition of reference compouds and PNP samples.*

Samples	**C 1s**						**O 1s**	
	C-C/C-H	C=C	C-N	C-O	N-(C=O)-N	C-O	N-(C=O)-N Shake-up	
L-MDI	17.1%	47.4%	19.9%	8.8%	6.8%	38.4%		61.6%
Theoretical values	*4.8%*	*57.2%*	*19%*	*9.5%*	*9.5%*	*33.3%*		*66.7%*
C-MDI	49.9%	29.5%	14.9%	-	5.7%	-	9.1%	90.9
Theoretical values	*33.3%*	*44.4%*	*14.8%*	*-*	*7.5%*	*-*	*100%*	
A-MDI	32.1%	62.1%	3.5%	-	2.3%	-	9.1%	90.9%
Theoretical values	*16.3%*	*69.8%*	*9.3%*	*-*	*4.6%*	*-*	*100%*	
Mono-MDI	41.6%	-		57.2%	1.2%	98.4%	-	1.6%
Theoretical values	*40.5%*	*8.1%*		*50%*	*1.4%*	*97.2%*	*-*	*2.8%*

Table ESI 2: *Measured (from fitting of C 1s and O 1s spectra) and theoretical (from known sample bulk composotions) molar compostion of the different species contributing to the C 1s and O 1s spectra of the reference compounds (see text for more details)*

Samples	C 1s				O 1s	
	C-C/C-H	C=C	C-N/ C-O	N-(C=O)-N	C-O	N-(C=O)-N
L-MDI	*285.0*	284.5	286.5	*288.8*	532.6	531.5
C-MDI	*285.0*	284.4	286.7	*288.8*	532.7	531.6
A-MDI	*285.0*	284.4	286.6	*288.8*	532.7	531.4

Table ESI 3: *Binding energies obtained from the fitting analysis of the C 1s and O 1s spectra spectra of the PNP samples (values in italics indicate fixed peak positions used to calibrate the binding energy scale of the spectra).*

Samples	T_g(°C)	ΔC_p J(g°C)$^{-1}$
L-MDI	102.6±0.2	0.14±0.03
C-MDI	194.6±0.6	0.18±0.01
A-MDI	204.7±0.5	0.27±0.01
Mono-MDI	-67.0±0.2	0.703±0.002

Table ESI 4: *T_gs and associated ΔC_ps obtained for the reference compounds.(See figure ESI 2 for corresponding DSC curves)*