Hierarchical DL-Glutamic Acid Microspheres from Polymer-Induced Liquid Precursors

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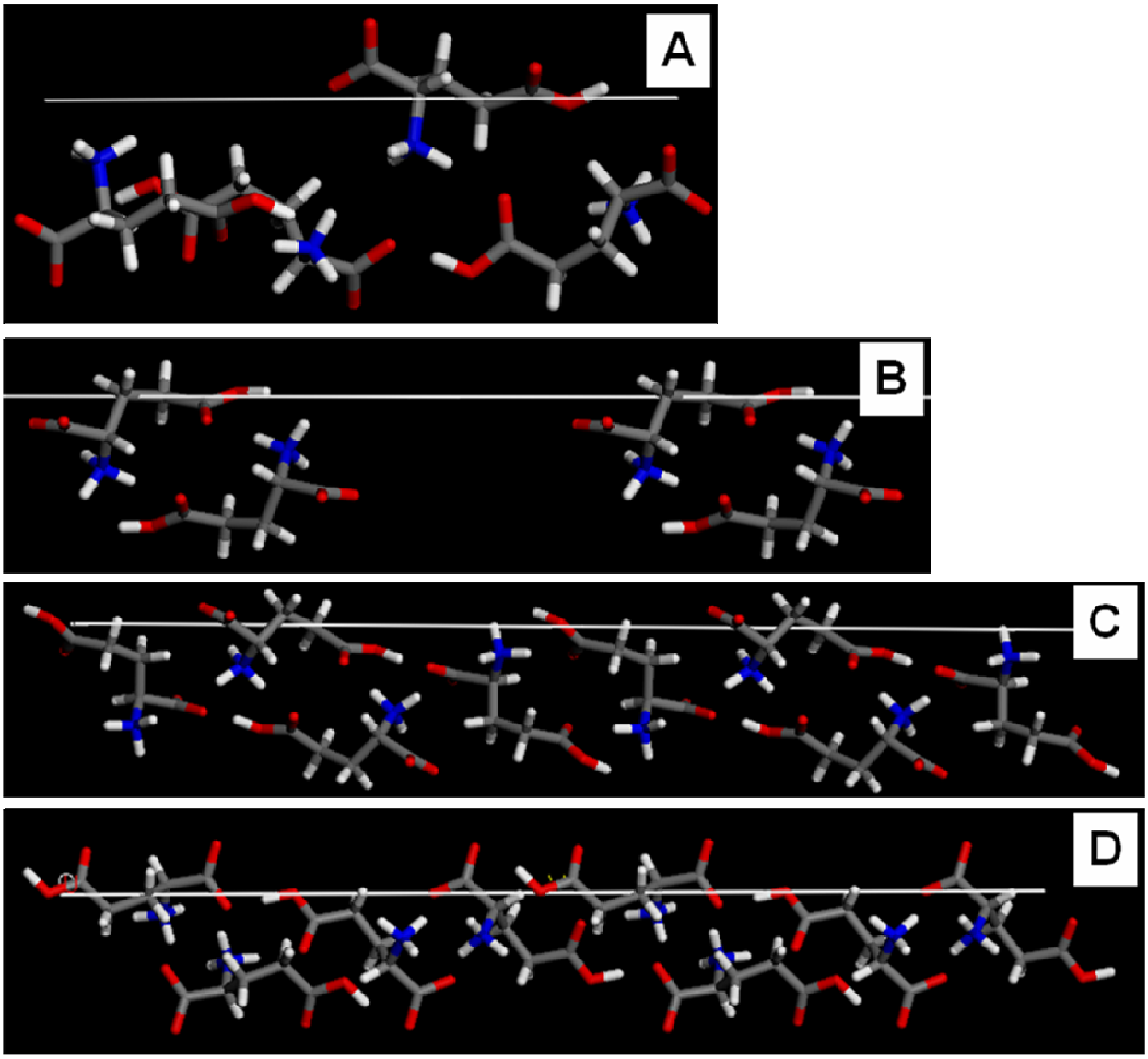

Figure 1. Images **A-D** are side views of the surfaces of (1 0 1), (0 0 2), (0 1 1), and (1 1 0) of β-L-Glu (white lines) Gray = carbon, red = oxygen, blue = nitrogen (from Materials studio 5.5., Accelrys).

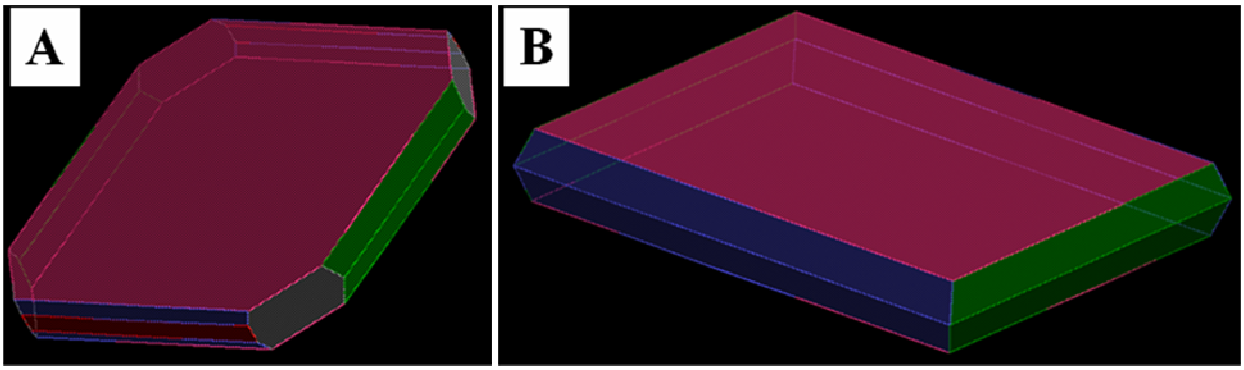

Figure 2. Image **A** shows the morphology of a representative nanoplatelet. Image **B** represents a single crystalline sheet, which models the precipitates collected by mixing DL-Glu aqueous solution with EtOH in the absence of PEI additive. Pink = (0 2 0), blue = (0 1 1), green = (1 1 0), red = (0 0 2), and grey = (1 0 1). Both figures were drawn by using software Cerius^2 (Accelrys).

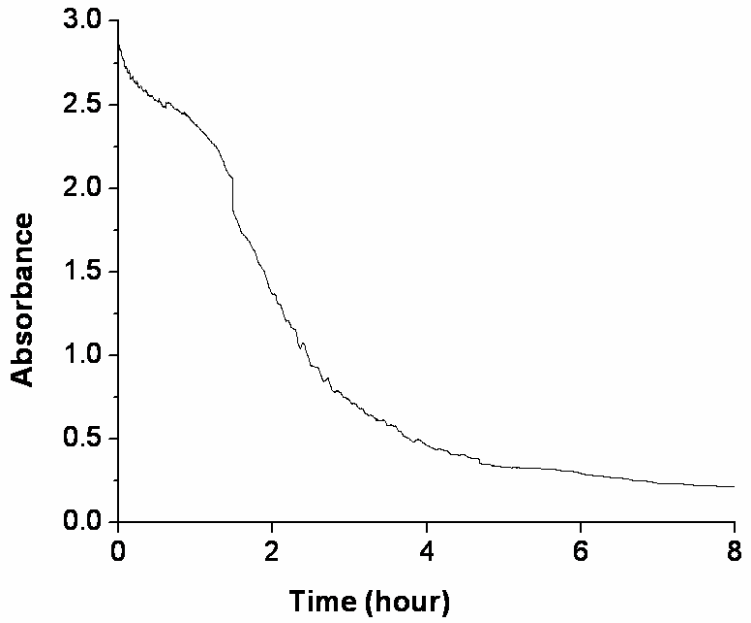

Figure 3. Reaction kinetics from a time-resolved turbidity measurement for the crystallization of microspheres from PILP droplets. The wavelength used was 500 nm. [DL-Glu] = 0.3 mol·L^{-1}, [EI] = 0.05 mol·L^{-1}, V_{Et} / V_{Aq} = 9, pH = 0.5, 60°C. The measurement was performed at R.T.

Table 1 Compositions for the preparation of microspheres (V_{Et} / V_{Aq} = 9, pH = 0.5, 60°C)

	[DL-Glu] (mol·L^{-1})	[EI] (mol·L^{-1})
1	0.2	0.04
2	0.7	0.15
3	0.7	0.25
4[a]	1	0.05
5	1	0.15
6	1	0.25
[a] some insoluble crystals remained in the aqueous solution		

Table 2 Compositions for the preparation of microspheres (V_{Et} / V_{Aq} = 9, pH = 0.5, R.T.)

	[DL-Glu] (mol·L^{-1})	[EI] (mol·L^{-1})
7[a]	1	0.05
8[a]	1	0.15
9[a]	1	0.25
[a] some insoluble crystals remained in the aqueous solution		