Supporting Information

Green Synthesis of Scalable Non-Soluble Hydrogels: Rapid Transesterification of Maltodextrin with Dimethylcarbonate using DABCO/DMSO

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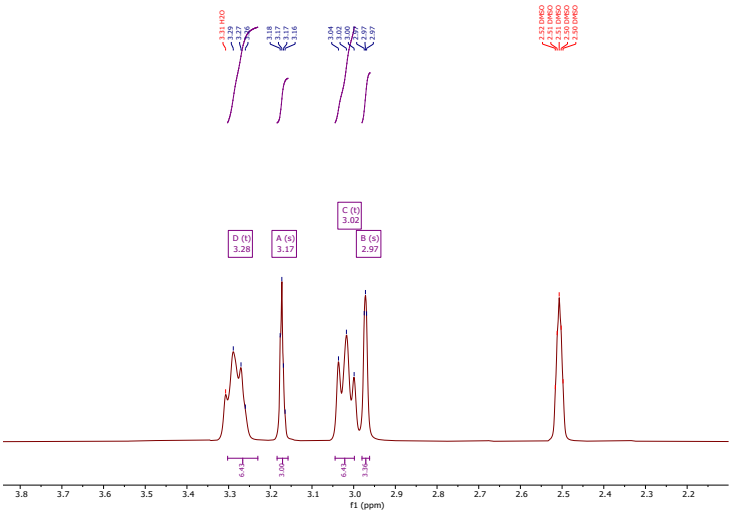

Figure 1S ^{1}H NMR in DMSO-d_6 of DABCO IL

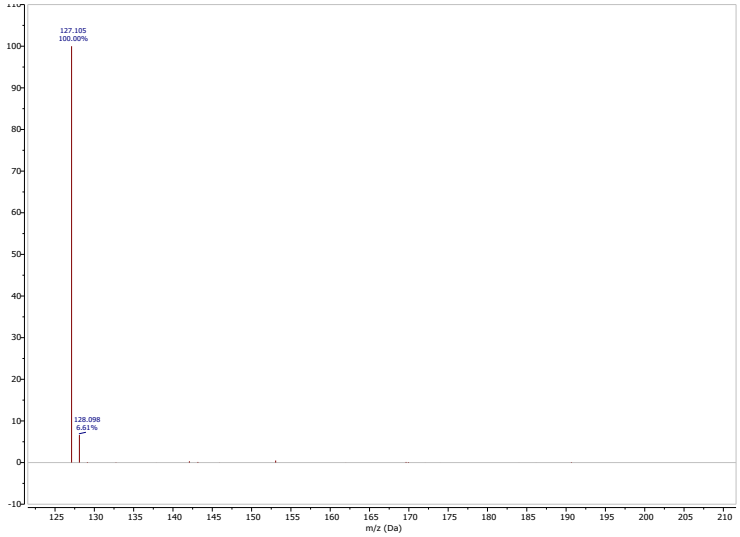

Figure 2S ESI-MS of DABCO-DMC

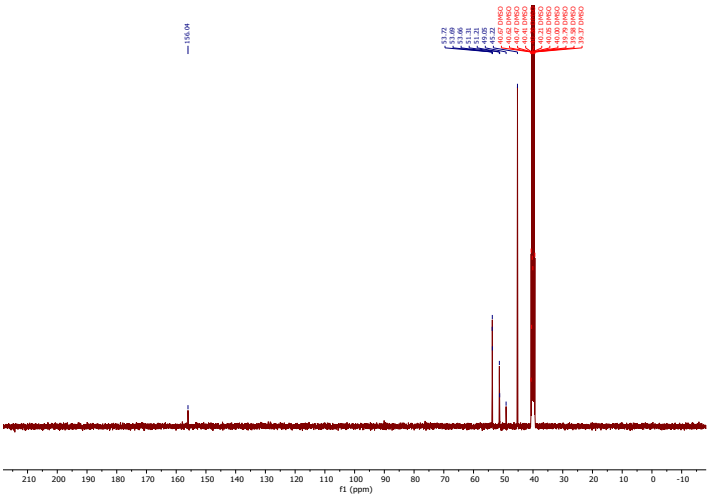

Figure 3S ^{13}C NMR in DMSO-d_6 of DABCO IL

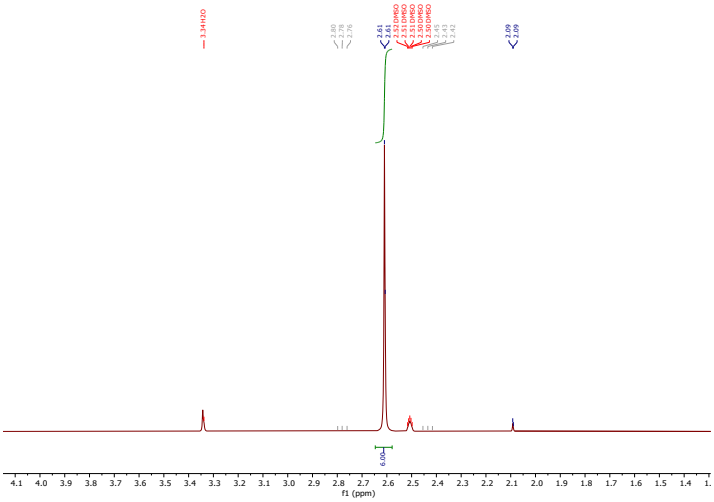

Figure 4S ^{1}H NMR in DMSO-d_6 of DABCO

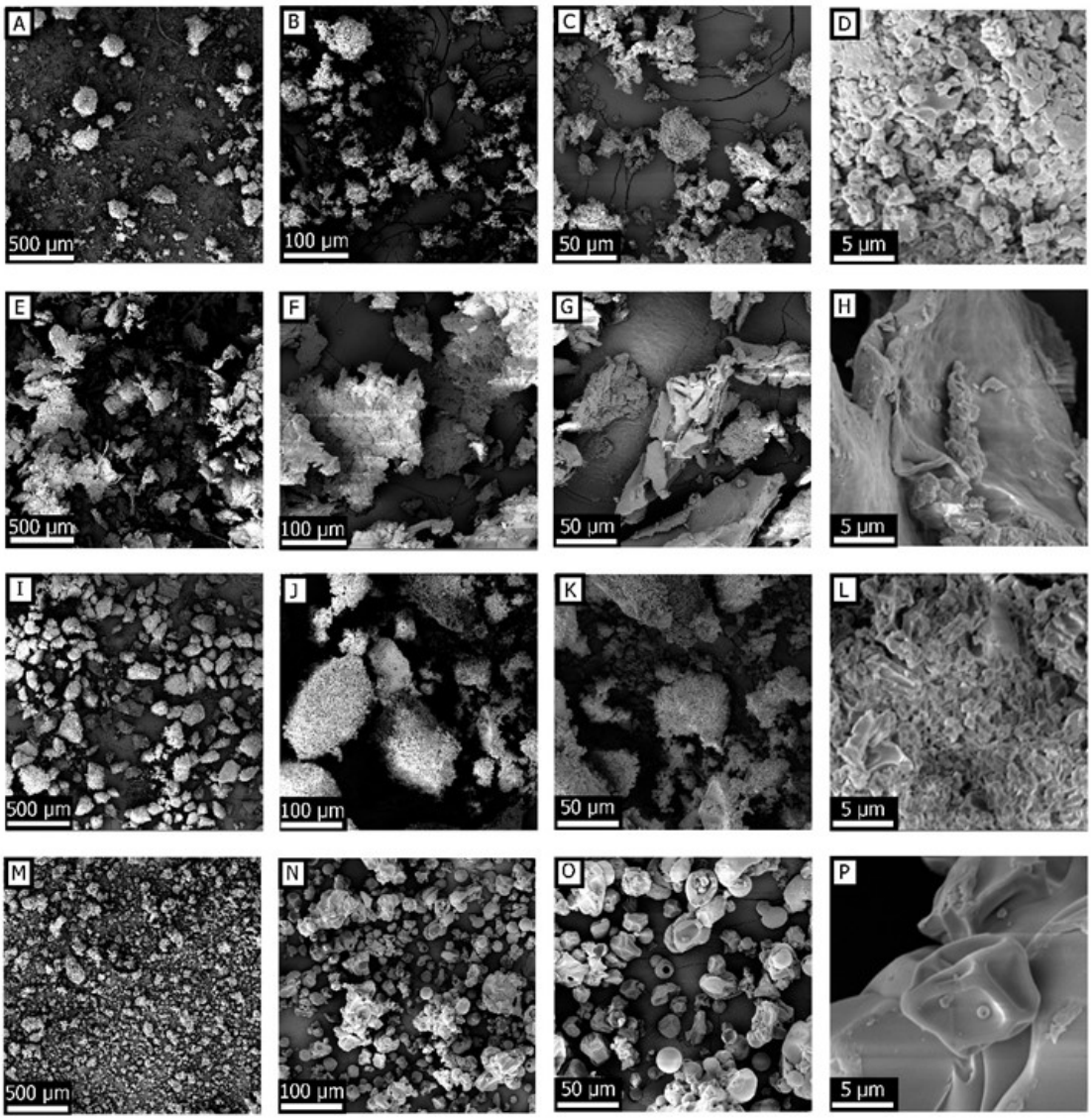

Figure 5S. SEM images of GLU2-based hydrogels in various states: (A–D) powder form; (E–H) dried swollen state; (I–L) freeze-dried swollen samples; (M–P) maltodextrin (GLU2) monomer. The sample synthesized at 85 °C, which exhibited the highest swelling capacity, was selected as the optimal formulation for this investigation. The first column shows images at 100× magnification, the second at 500×, the third at 1,000×, and the fourth at 10,000×.

Table 1S Experimental values of WAC (%), υFR, Mc, υR, and G'.

Samples	WAC (%)	υ^{FR} (mol/cm3)	$M_{c(g/mol)}$	υ^{R}(mol/cm3)	G' (Pa) 1 rad/s
50 mg	468 ± 0.47	0.002 ± 1.06E-4	494 ± 26	1.93E6 ± 7.21E7	1476 ± 541
75 mg	400 ± 9.96	0.002 ± 9.89E-5	373 ± 14	1.88E6 ± 1.36E7	1417 ± 82
100 mg	460 ± 8.30	0.004 ± 9.19E-5	234 ± 5	1.23E6 ± 2.92E7	928 ± 221

70 °C	460 ± 8.30	0.004 ± 9.19E-5	234 ± 5	1.23E-6 ± 2.92E-7	928 ± 221
85 °C	549 ± 5.94	0.002 ± 1.27E-4	629 ± 51	9.10E-7 ± 2.12E-7	703 ± 174
110 °C	514 ± 0.55	0.002 ± 3.32E-4	578 ± 110	1.64E-6 ± 5.70E-7	1266 ± 479