Supplementary data

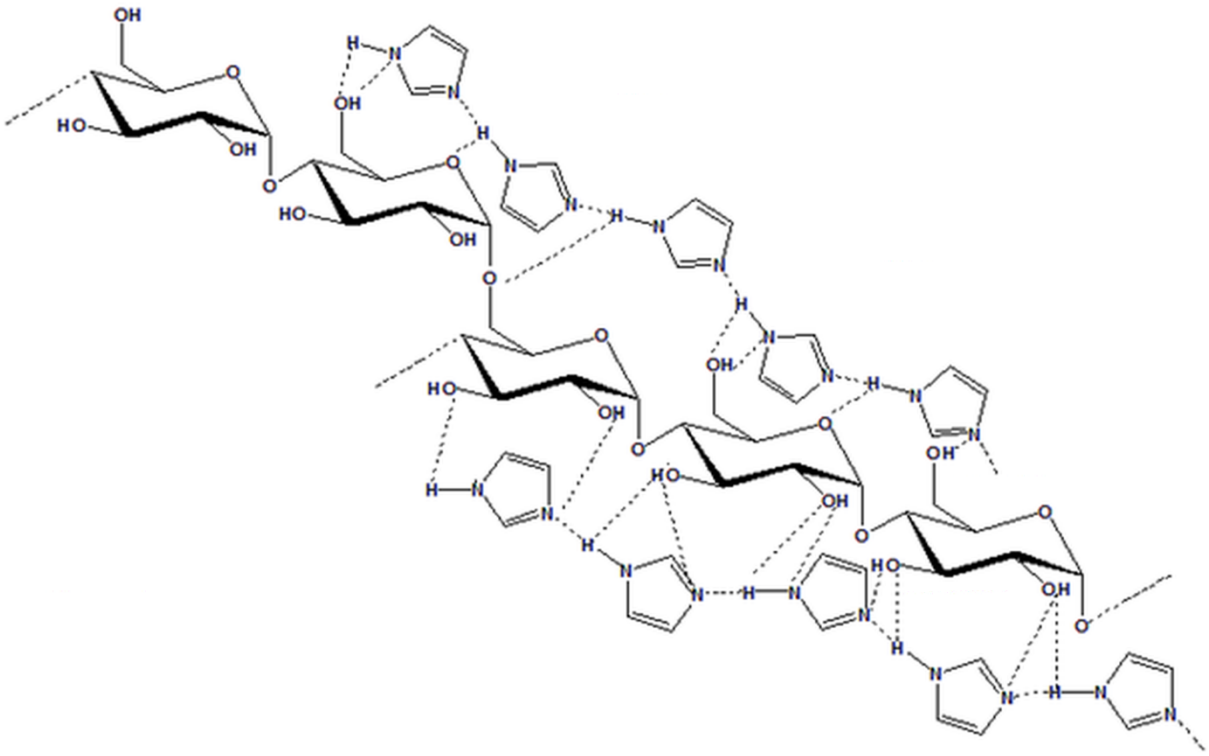

Figure S1. Schematic depiction of the interaction of imidazole with starch.

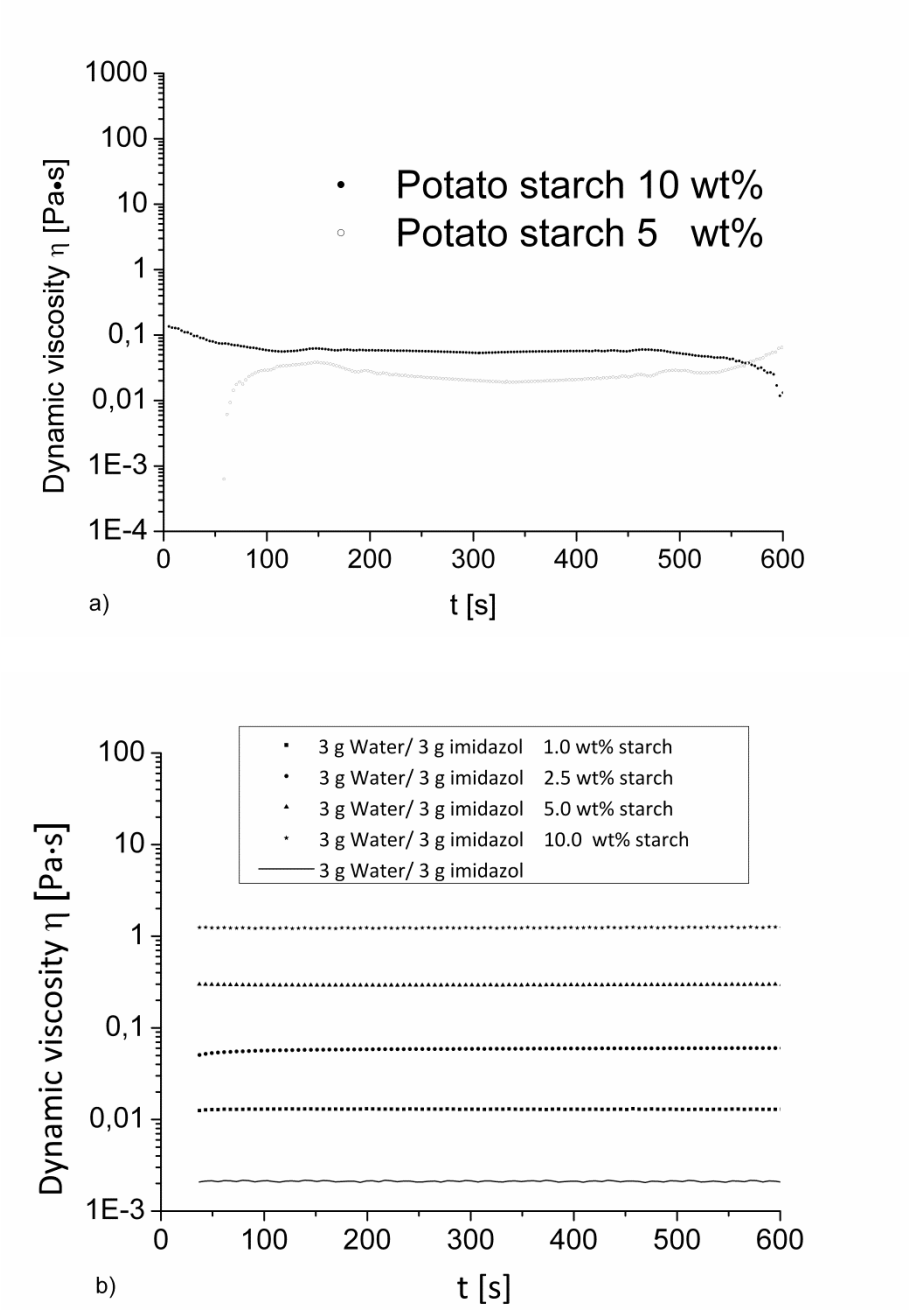

Figure S2. Time-dependent viscosity measurements of potato starch dissolved in molten imidazole at 95°C (a) and with 50 wt% water measured at 25°C (b).

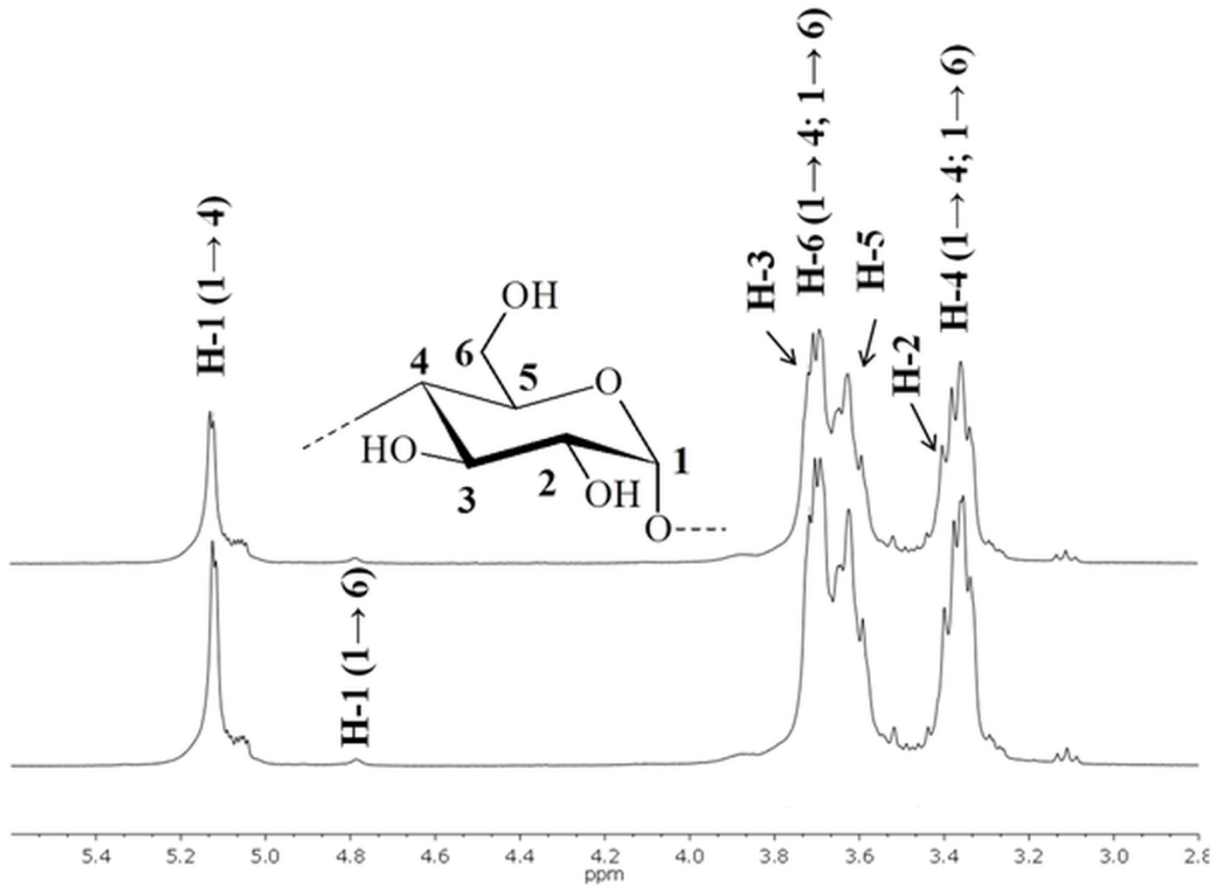

Figure S3. ^{1}H NMR spectra of potato starch dissolved (24 h) in molten imidazole (bottom) and after regeneration (top) acquired in DMSO-d_6.

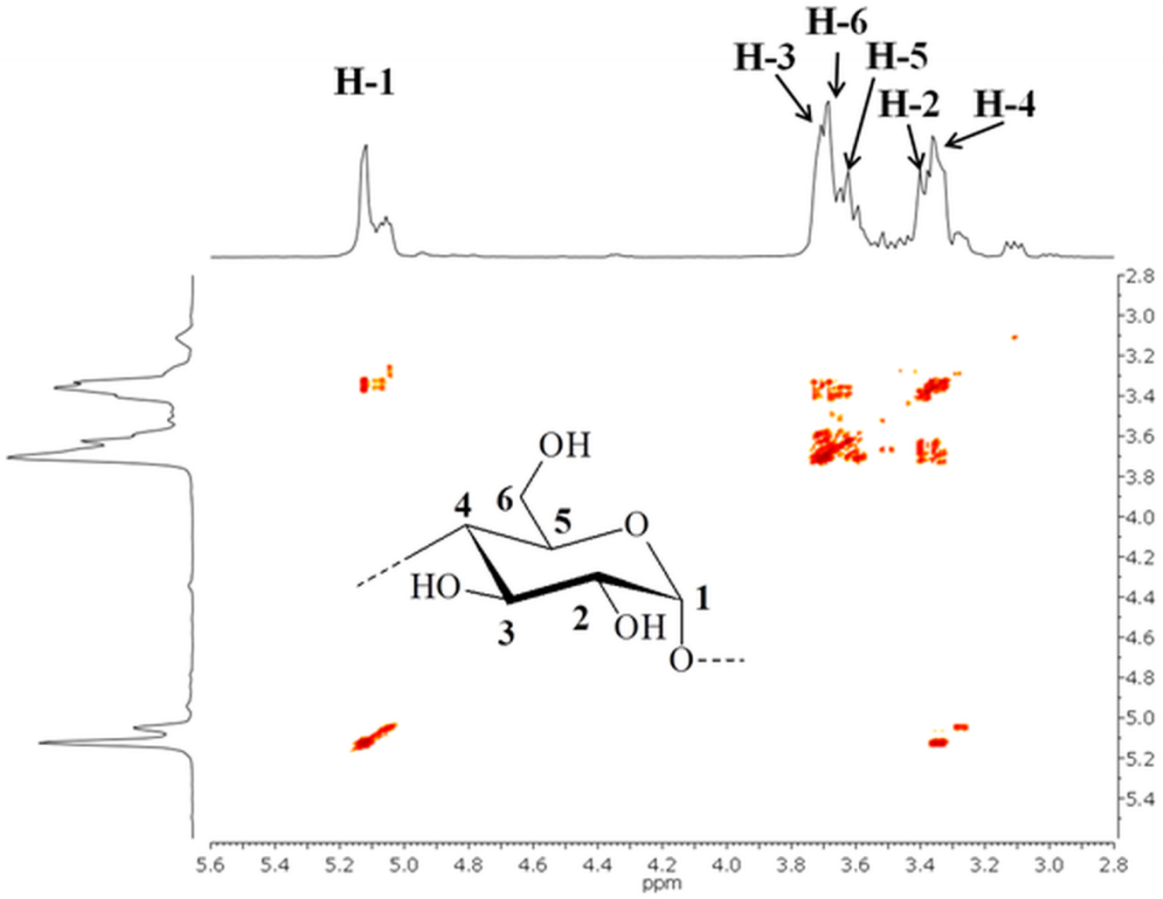

Figure S4. ^{1}H-^{1}H-COSY NMR spectrum of potato starch dissolved (24 h, 100°C) in imidazole and regenerated.

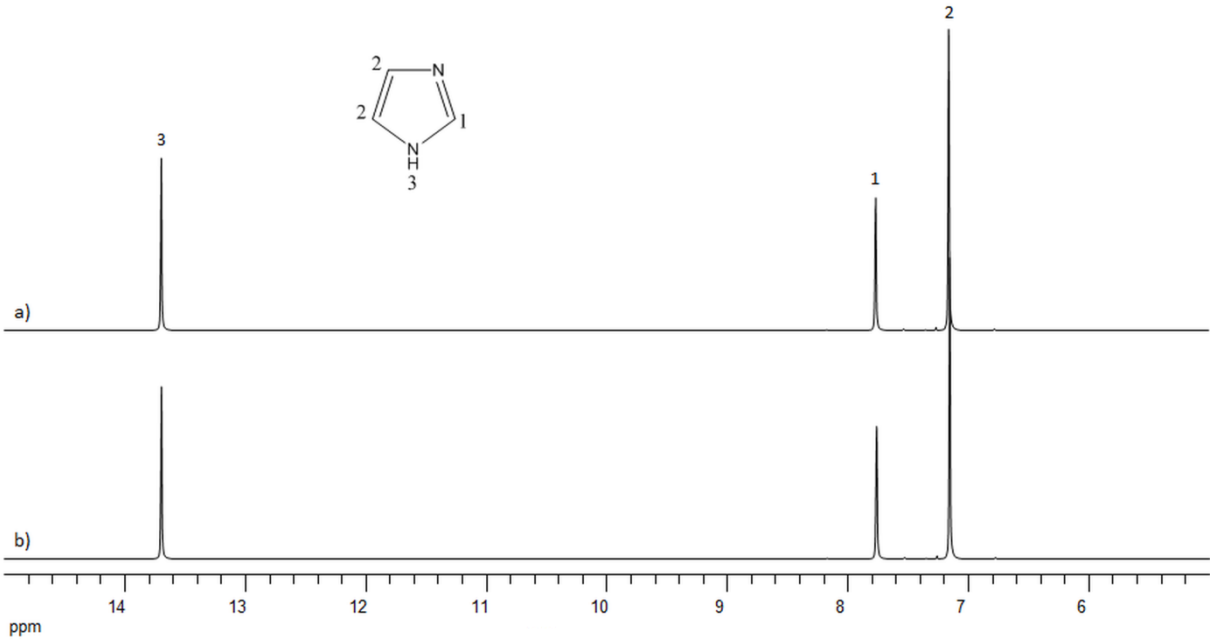

Figure S5. ^{1}H-NMR spectrum of imidazole used for the dissolution of starch (a) and imidazole after 4 recycling steps (b).

Table S1: Data of SEC measurements of starch samples enzymatically treated and of starch after dissolution in imidazole for different time at 100°C and regeneration.

Type of starch	Time of treatment with imidazole [h]	$\bar{M}_w$ [10^5 g/mol]	$\bar{M}_n$ [10^4 g/mol]	PDI
Potato	-	4.67	12.17	3.84
Hylon VII	-	2.60	10.19	3.50
Pea	-	5.21	16.65	3.13
Amioca	-	1.35	2.40	5.61
Potato	1	3.56	10.19	3.50
Hylon VII	1	1.83	3.30	5.55
Pea	1	2.35	6.75	3.48
Amioca	4	0.82	1.84	4.49
Amioca	8	0.64	1.28	5.01
Amioca	12	0.63	1.31	4.85
Amioca	24	0.43	0.79	5.54