

Recycling textiles: the use of ionic liquids in the separation of cotton polyester blends. A Facile and environmentally sustainable solution.

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TableS 1: Dissolution time to dissolve 5 wt% cotton in ILs

Ionic liquid	Dissolution time (minutes)		
	at 80 °C	at 100 °C	at 120 °C
BMIMAc	345	220	210
AMIMCl	380	240	225

Table S2: Stress-strain values of the regenerated cotton

Sample ID	Stress at breakage (MPa)	Strain at breakage (%)	Young's modulus (GPa)
Cotton-recovered	54.89 ± 4.37	4.70 ± 0.26	1.76 ± 0.11
Cotton- raw	55.66 ± 3.61	4.48 ± 0.34	1.74 ± 0.08

Table S3: Hydrogen bond conformation % in the regenerated cotton

Sample ID	Intra-molecular hydrogen bonds		Inter-molecular hydrogen bonds
	O(2)H ... O(6) (3455-3410 cm ⁻¹)	O(3)H ... O(5) (3375-3340 cm ⁻¹)	O(6)H ... O(3) (3310-3230 cm ⁻¹)
Cotton-recovered	5.00%	72.09%	22.91%
Cotton-pure	6.39%	73.05%	20.55%