

Appendix A

Pretreatment conditions	Cellulose content (%)	Standard deviation (%)
15% H ₂ SO ₄ , 30°C, 30 min	95.9	1.1
30% H ₂ SO ₄ , 30°C, 30 min	94.6	1.1
15% H ₂ SO ₄ , 50°C, 30 min	97.6	1.7
30% H ₂ SO ₄ , 50°C, 30 min	96.5	1.2
5% Na ₂ CO ₃ , 70°C, 1h	90.2	3.5
5% Na ₂ CO ₃ , 120°C, 1h	86.1	3.0
5% Na ₂ CO ₃ , 170°C, 1h	86.6	1.2

Table A1. Cellulose content of pretreated colored post-consumer viscose based on oven dry weight

Appendix B

Set number	Starting materials	Pretreatment	Enzyme loading	Recovery in pretreatment	Yield in enzymatic hydrolysis
1	Pre-consumer viscose				28.6-102.4%
	Post-consumer white viscose waste	None	0.05-0.3 g/g	-	22.3-62.4%
	Post-consumer colored viscose waste				17.0-82.0%
2	Medicinal cotton (control)	None		-	22.7-71.1%
	Pre-consumer viscose	None		-	19.0-94.1%
		70 °C, 1 h, 5% Na ₂ CO ₃	0.01-0.15 g/g	91.7%	15.1-78.6%
	Post-consumer colored viscose waste	120 °C, 1 h, 5% Na ₂ CO ₃		84.5%	12.9-94.1%
		170 °C, 1 h, 5% Na ₂ CO ₃		80.6%	6.5-69.3%
3	Medicinal cotton (control)	None		-	31.7-50.3%
	Pre-consumer viscose	None		-	53.3-79.2%
		30 °C, 30 min, 15% H ₂ SO ₄	0.05-0.15 g/g	100.9%	23.9-68.4%
	Post-consumer colored viscose waste	30 °C, 30 min, 30% H ₂ SO ₄		94.0%	34.2-48.8%
		50 °C, 30 min, 15% H ₂ SO ₄		102.2%	38.1-69.5%
		50 °C, 30 min, 30% H ₂ SO ₄		95.5%	22.4-51.9%
4		70 °C, 1 h, 5% Na ₂ CO ₃			39.4-73.1%
		70 °C, 1 h, 5% Na ₂ CO ₃		92.10%	38.6-88.5%
	Post-consumer colored viscose waste	Gradual washing	0.05-0.15 g/g		
		30 °C, 30 min, 15% H ₂ SO ₄		86.60%	22.1-53.1%
		Gradual washing			

Table B1. Summary table of the experimental conditions (starting material, pretreatment, enzyme loading), cellulose recovery after pretreatment and glucose yield in enzymatic hydrolysis for each of the experimental sets in this study.