

Crystallinity Index of Untreated and Pretreated Biomass Cellulose From Pretreatment Technologies

Biomass	Pretreatment	Crystallinity Index (%)
Corn Stover ^a	-	50.3
	Ammonia fiber expansion	36.3
	Ammonia recycled percolation	25.9
	Controlled pH	44.5
	Dilute Acid	52.5
	Lime	56.2
Poplar ^a	-	49.9
	Ammonia fiber expansion	47.9
	Ammonia recycled percolation	49.5
	Controlled pH	54.0
	Dilute acid	50.6
	Lime	54.5
Bagasse ^a	SO ₂	56.5
	-	37
	O ₃	38
	CO ₂ explosion	57
	Alkaline explosion	62
Wheat Straw ^a	-	35
	O ₃	34
	CO ₂ explosion	56
	Alkaline explosion	53
<i>Eucalyptus regnans</i> ^a	-	37
	O ₃	40
	CO ₂ explosion	53
<i>Pinus radiata</i> ^a	-	34
	O ₃	36
Switchgrass ^a	-	46.1
	Lime	51.9
Loblolly pine ^b	-	62.5
	Dilute acid	69.9

^aCrystallinity index measured by x-ray diffraction. ^bCrystallinity index measured by solid-state CP/MAS ¹³C NMR.