

Key FT-IR Absorptions for Cellulose I and II

Free O ₆ -H & O ₂ -H, weakly absorbed water	3580-3550
O ₂ -H----O ₆ intramolecular H-bond	3460-3405
O ₃ -H----O ₅ intramolecular H-bond	3375-3340
O ₆ -H----O ₃ intramolecular H-bond	3310-3230
-OH stretch intramolecular H-bond in cellulose II	3175
Water associated with cellulose	1650-1640
C-H bending in cellulose I & II	1375-1365
C-H in-plane bending in cellulose I & II	1335-1320
CH ₂ wagging in cellulose I & II	1315
CH deformation in cellulose I & II	1282-1277
OH in-plane bending in cellulose I & II	1205-1200
C-O-C asymmetric stretching in cellulose I & II	1162-1125
C-O stretch in cellulose I & II	1047-1004