Supplementary Table 1. Principle components and their data variance explained, from analyses of X-ray diffractograms.

Principal component	Fabric		Fiber		Powder	
	R2X	R2X (cum)	R2X	R2X (cum)	R2X	R2X (cum)
1	0.644	0.644	0.597	0.597	0.91	0.910
2	0.216	0.860	0.254	0.851	0.0297	0.940
3	0.0535	0.913	0.0426	0.894	0.0177	0.958
4	—	—	—	—	0.00943	0.967

Supplementary Table 2. Principle components and their data variance explained, from analyses of fabric FTIR-ATR spectra – Results from the Invenio S spectrometer.

Principal component	–OH stretch and fingerprint regions		–OH stretch region		Fingerprint region	
	R2X	R2X (cum)	R2X	R2X (cum)	R2X	R2X (cum)
1	0.346	0.346	0.365	0.365	0.415	0.415
2	0.250	0.596	0.291	0.656	0.173	0.588
3	0.137	0.734	0.136	0.791	0.133	0.721
4	0.0614	0.795	0.0557	0.847	0.0839	0.805
5	0.0464	0.841	0.032	0.879	0.0577	0.863
6	0.0393	0.881	0.0206	0.900	0.0443	0.907
7	0.0228	0.904	0.0114	0.911	0.024	0.931
8	0.0176	0.921	0.0103	0.921	0.0192	0.95
9	0.0104	0.932	0.0081	0.930	0.0116	0.962
10	0.00903	0.941	0.00655	0.936	0.00612	0.968
11	0.00579	0.946	0.00647	0.943	0.00452	0.973
12	0.00492	0.951	—	—	—	—
13	0.00427	0.956	—	—	—	—

Supplementary Table 3. Principle components and their data variance explained, from analyses of fabric FTIR-ATR spectra – Results from the Vertex 70 spectrometer.

Principal component	–OH stretch and fingerprint regions		–OH stretch region		Fingerprint region	
	R2X	R2X (cum)	R2X	R2X (cum)	R2X	R2X (cum)
1	0.333	0.333	0.216	0.216	0.457	0.457
2	0.131	0.463	0.143	0.359	0.118	0.574
3	0.0989	0.562	0.12	0.479	0.08	0.654
4	0.0631	0.625	0.0713	0.550	0.0589	0.713
5	0.06468	0.672	0.0496	0.600	0.0492	0.762
6	0.032	0.704	0.0403	0.640	0.0252	0.788
7	0.0269	0.731	0.0325	0.673	0.0203	0.808
8	0.0214	0.752	—	—	0.0161	0.824

Supplementary Table 4. Principle components and their data variance explained, from analyses of fabric FTIR-ATR spectra – Analysis of the region around 1107 cm^{-1}.

Principal component	Invenio S spectrometer		Vertex 70 spectrometer	
	R2X	R2X (cum)	R2X	R2X (cum)
1	0.671	0.671	0.666	0.666
2	0.174	0.845	0.149	0.815
3	0.088	0.934	0.11	0.925
4	0.0282	0.962	0.0302	0.955
5	0.228	0.985	0.0171	0.972
6	0.00881	0.994	0.00989	0.982
7	0.00393	0.998	0.00456	0.987
8	—	—	0.00327	0.990

Supplementary Table 5. Principle components and their data variance explained, from analyses of powder FTIR-ATR spectra – Analysis of the fingerprint region.

Principal component	Invenio S spectrometer		Vertex 70 spectrometer	
	R2X	R2X (cum)	R2X	R2X (cum)
1	0.453	0.453	0.364	0.364
2	0.255	0.708	0.211	0.575
3	0.0815	0.789	0.0858	0.660
4	0.0689	0.858	0.0667	0.727
5	0.0444	0.902	0.0433	0.771
6	0.0206	0.923	—	—

Supplementary Table 6. Principle components and their data variance explained, from analyses of FTIR transmittance spectra.

Principal component	–OH stretch region		Fingerprint region	
	R2X	R2X (cum)	R2X	R2X (cum)
1	0.635	0.635	0.526	0.526
2	0.147	0.782	0.249	0.776
3	0.087	0.869	0.0766	0.852
4	0.0545	0.924	—	—
5	0.0345	0.958	—	—
6	0.0181	0.977	—	—
7	0.00887	0.985	—	—
8	0.00566	0.991	—	—