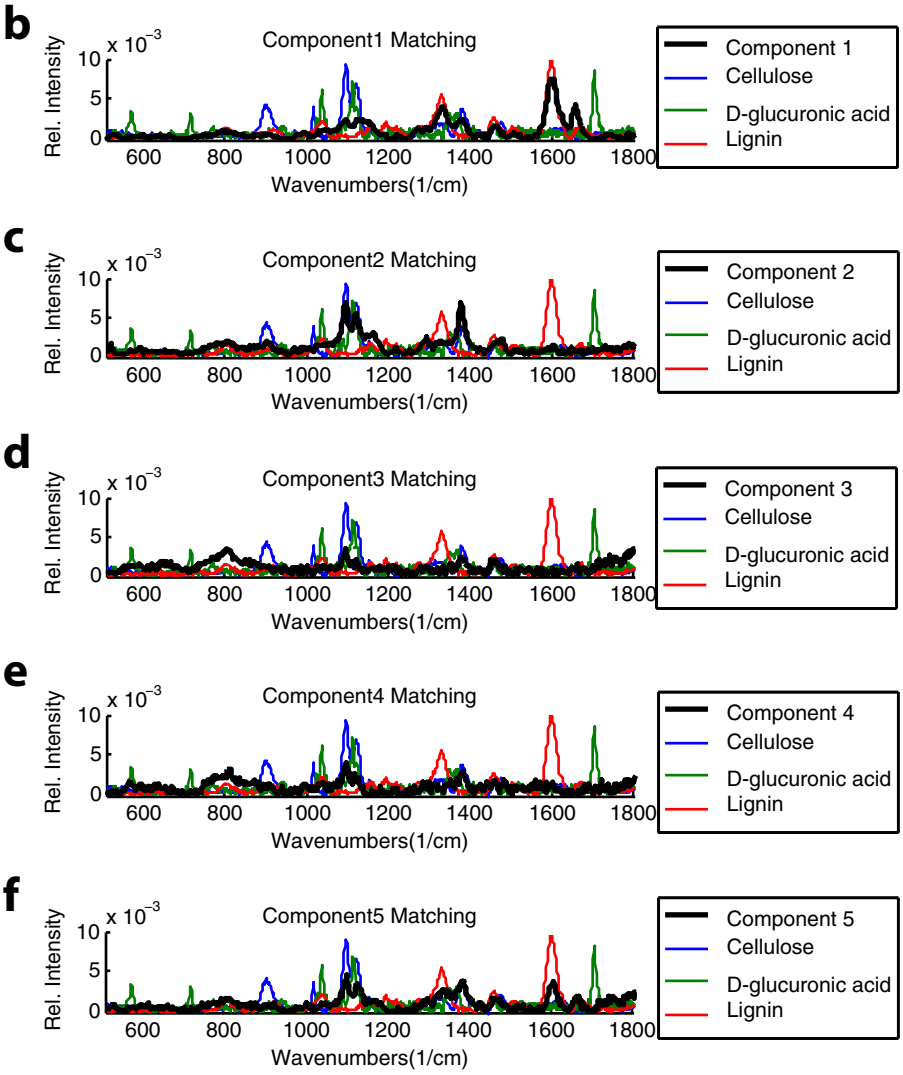
a

	Cellulose	D-glucuronic acid	Lignin
Component 1	57	46	89
Component 2	86	63	41
Component 3	57	60	39
Component 4	69	65	47
Component 5	75	62	67



Demonstrating the importance of visual inspection of reference spectra matching results

MCR-ALS resolved pure component spectra from Raman microspectroscopic images of cross-sections of hybrid aspen wood fibers are used as examples (see “good example” in Figure 6), with spectra of pure cellulose, lignin and D-glucoronic acid used as references (see the Materials section)

a) The percentage matches based on Euclidean distances (dot products)

b-f) Area normalized spectra plots showing each component (thick black line), cellulose (blue), lignin (red) and D-glucoronic acid (green).

As can be seen, all matches to D-glucoronic acid can be discarded despite the high percentage hits, since none its characteristic bands match the component spectra (most notably the band at 1750 cm^{-1}, resulting from -C=O stretching, is absent). Component 1 matching lignin and component 2 matching cellulose can be confirmed as legitimate matches. Component 3 and 4 can have contributions from cellulose too, while component 5 is clearly an unresolved mixture, containing both lignin and cellulose.