

Temperature-induced self-sealing capability of *Banksia* follicles

J.C. Huss, O. Späker, N. Gierlinger, D.J. Merritt,
B.P. Miller, C. Neinhuis, P. Fratzl, M. Eder

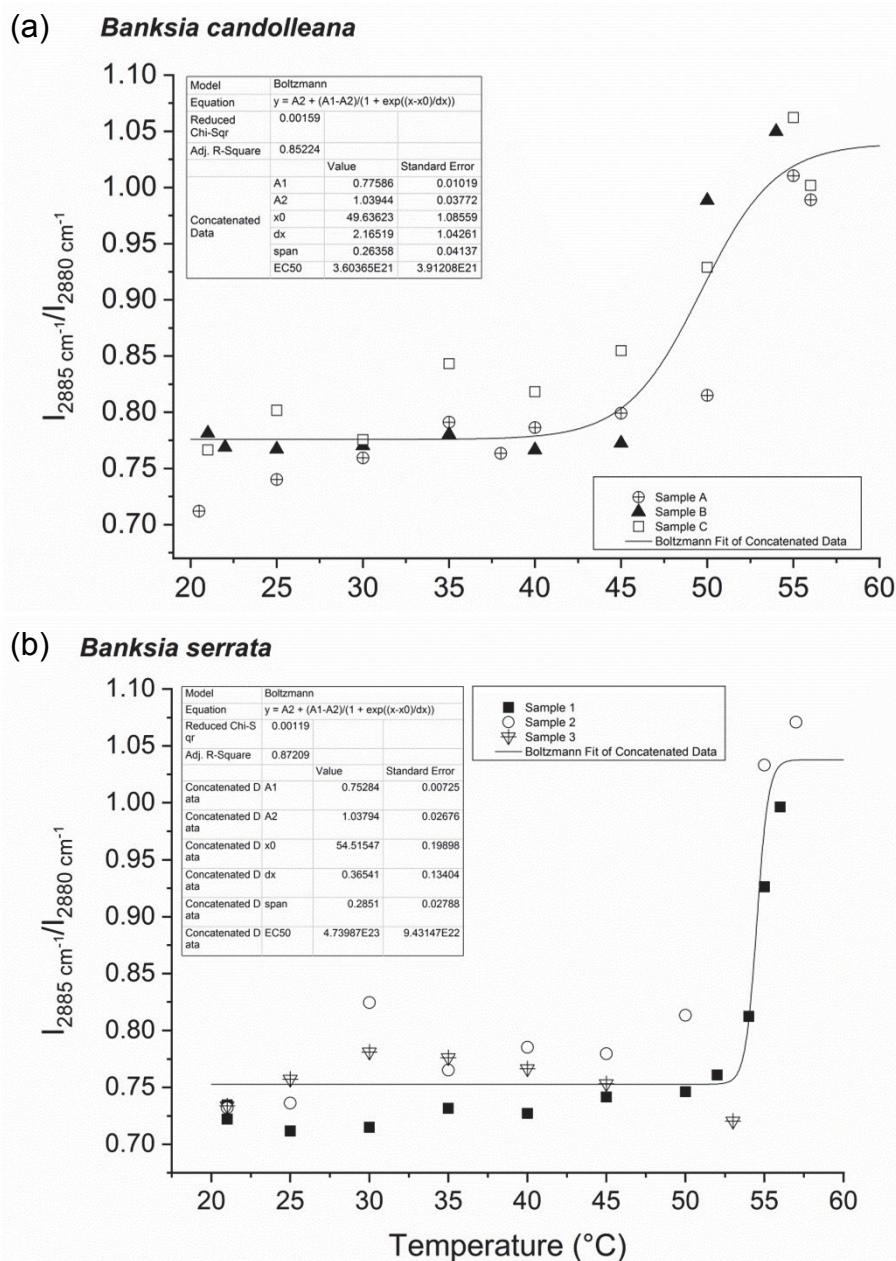


Figure S1. Determined wax melting temperatures for *B. candolleana* (a) and *B. serrata* (b) based on *in situ* Raman measurements of the waxes in the junction zone. Intensity ratios of the two selected bands change upon heating, indicating wax melting around the inflection point of the fitted curve.

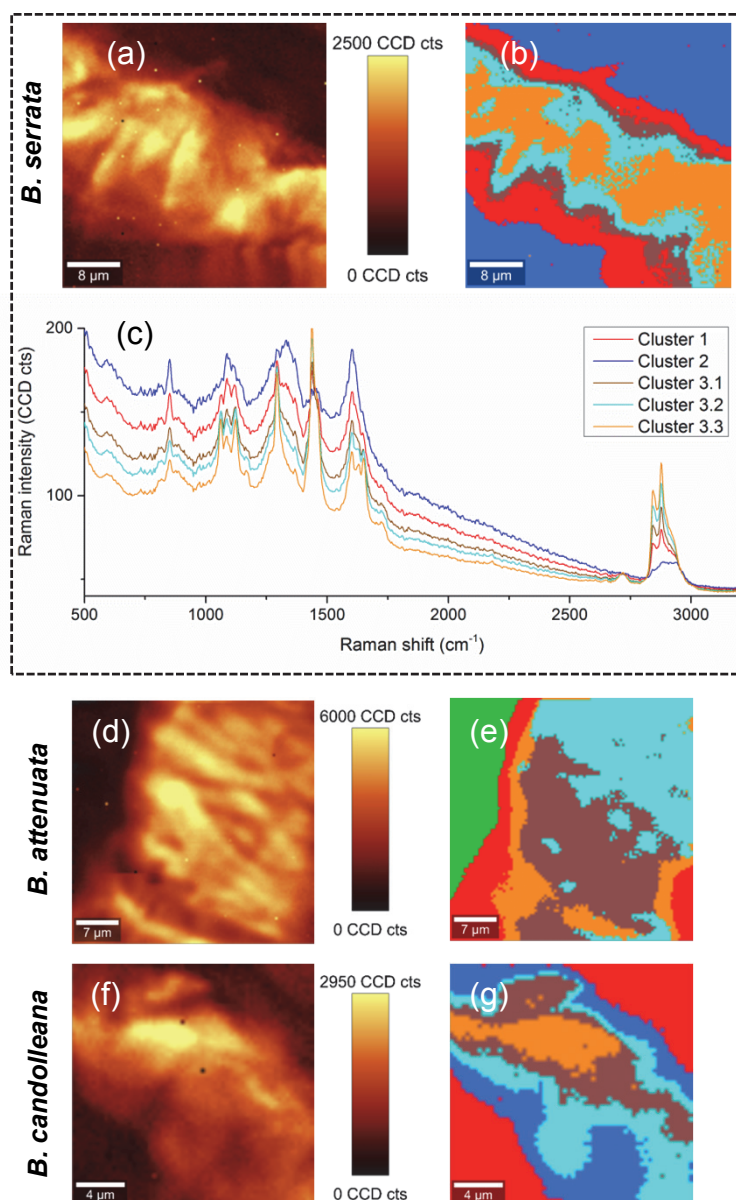


Figure S2. Cluster analysis for *B. serrata*, *B. attenuata* and *B. candolleana*. Images (a),(d),(f) were created by integration of the spectral region from 2810-2990 cm^{-1} and give an overview of the wax distribution and signal intensity in each sample. The coloured images (b),(e),(g) show the individual clusters obtained from the analysis, each cluster is represented by a different colour (5 in total). The spectra in (c) correspond to the clusters in (b) and illustrate the spectral changes (composition and background) across the junction zone in *B. serrata*.

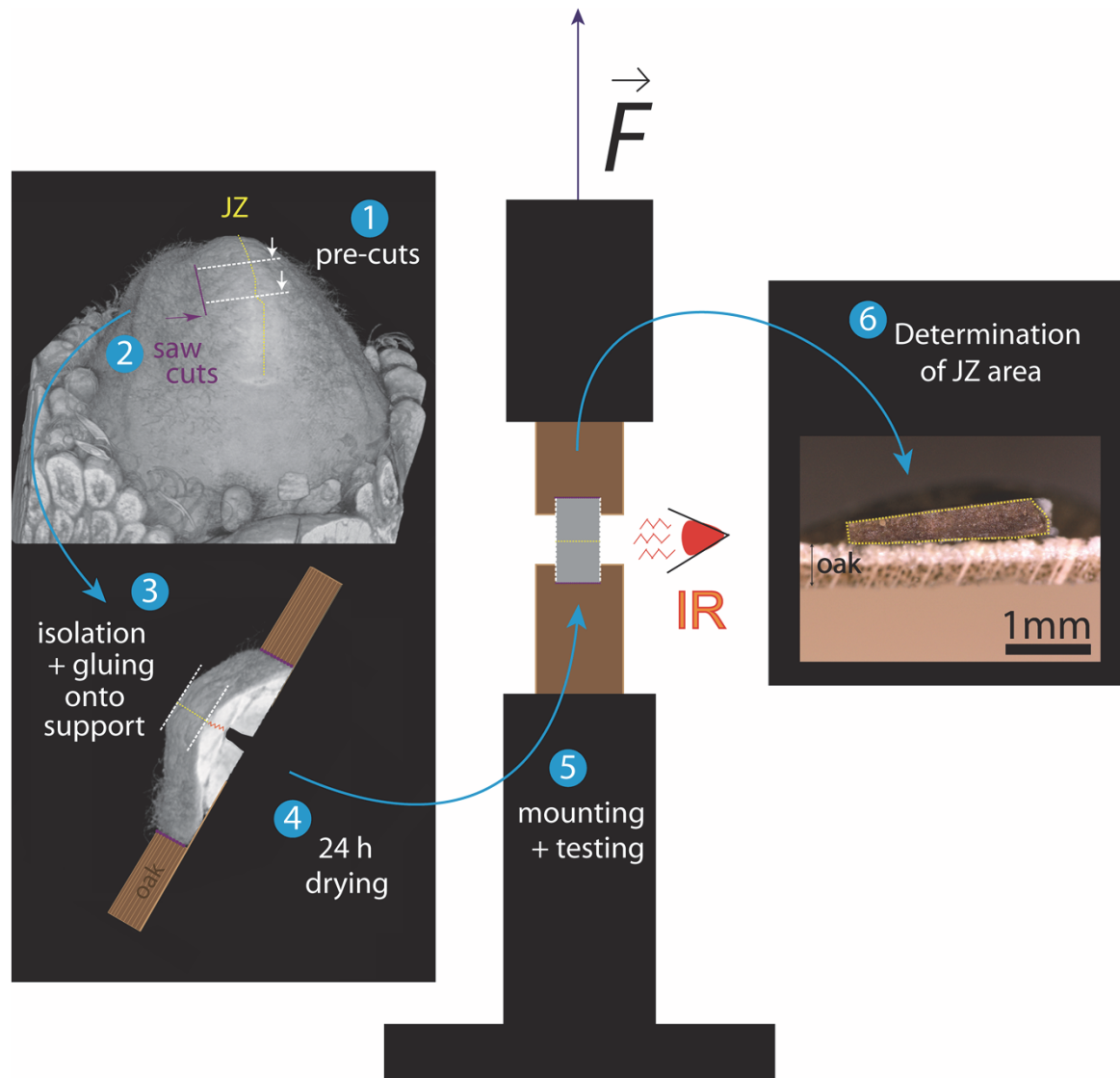


Figure S3. Schematic representation of the tensile testing set-up: After sample isolation (1-3 with cutting planes indicated by arrows), they were glued onto oak support veneers (3) and mounted (5) after drying (4). During testing, the samples were heated with an infrared source (IR) heating the sample that is fixed to holders, which are pulled apart during the experiment. After the experiment, the contact area in the JZ (6) was determined for normalisation of the force. For illustration purposes, dimensions in 1-5 are not to scale (true dimensions shown in 6).