

Description of Additional Supplementary Files

File name: Supplementary Movie 1

Description: Full spectrum fluorescence lifetime imaging of *Convallaria Majalis*. The movie shows a walk-through of the datacube with a colour representation of the intensity data, the corresponding lifetime image, weighted by the intensity, and the corresponding lifetime histogram for each wavelength.

File name: Supplementary Movie 2

Description: Full spectrum fluorescence lifetime imaging of a honeybee wing. The movie shows a walk-through of the datacube with the lifetime image for each wavelength, weighted by the intensity, and the corresponding lifetime histogram.