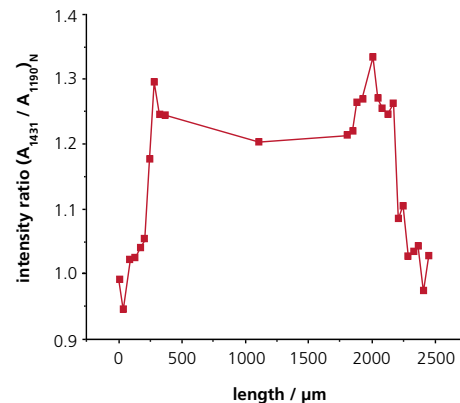


Detecting the preferred orientation of CF₂ groups on microscale

The example shows the intensity ratio of the bands at 1431 cm⁻¹ and 1190 cm⁻¹ in dependence on the location. These were calculated using FTIR microscope spectra recorded at defined sites along a straight line across a sample. The sample is a fluorine polymer layer on gold substrate which was partially irradiated in a scanning electron microscope (breadth of the radiated area ca. 2mm). The selected band ratio is the bigger, the stronger the CF₂ groups of the sample are oriented in field direction. Thus the profile shows that the CF₂ groups of the sample in the irradiated area show a preferred orientation and how this depends on the location (e.g. peaks close to the brink of the radiated area); outside this area there is no preferred orientation.



aperture: 32 μm x 32 μm
distance between measured areas: 40 μm

Figure 1 Poling profile of a fluorine polymer irradiated by an electron beam in microscopic areas, made visible by an orientation dependent intensity ratio (A. Büchtemann, R. Danz, *Vibrational Spectroscopy* 11 (1996), 93-104)