

## Confocal Raman Microscopy – Semicrystalline Polypropylene Film

In the following study, semicrystalline polypropylene film was investigated with the Confocal Raman Microscope alpha300 R.

The right image show two typical Raman spectra of the polypropylene film. The ratio of the Raman lines at 809  $\text{cm}^{-1}$  and 841  $\text{cm}^{-1}$  increases as the molecular orientation (crystallinity) increases in isotactic polypropylene films (Hendra et al. 1995).

A 60 x 20 micron area was scanned (300 x 100 pixel) taking 30 000 spectra (50 ms per spectra, 25 min total acquisition time, laser power 5 mW @532 nm). The lower image shows a map which was generated by evaluating the ratio of the Raman lines at 809 and 841 wavenumbers .

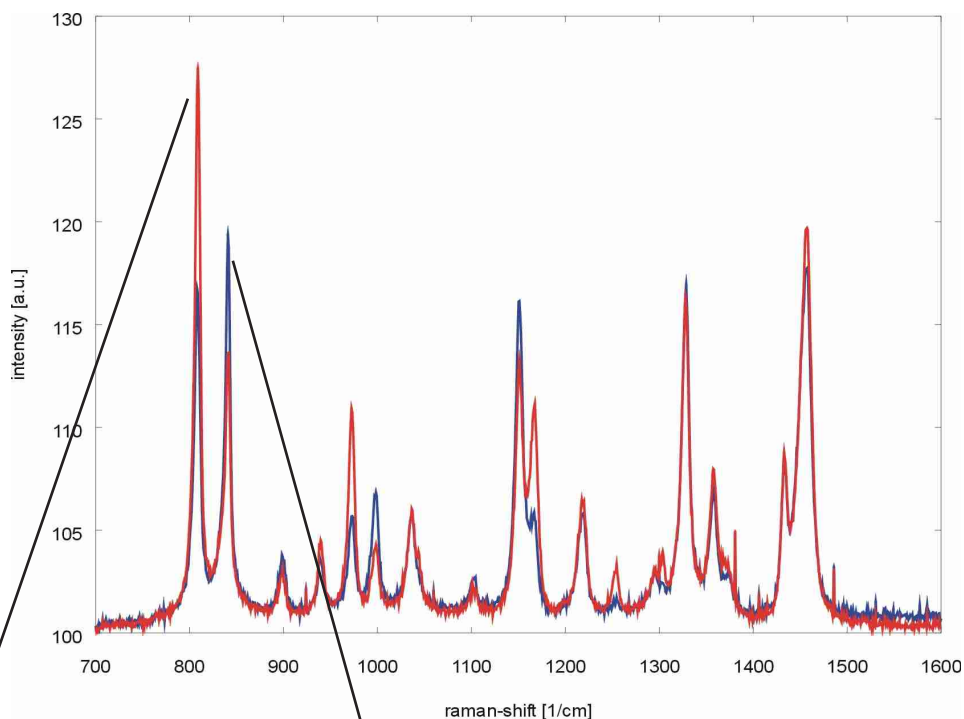


Fig. 1: Spectra of the polypropylene film

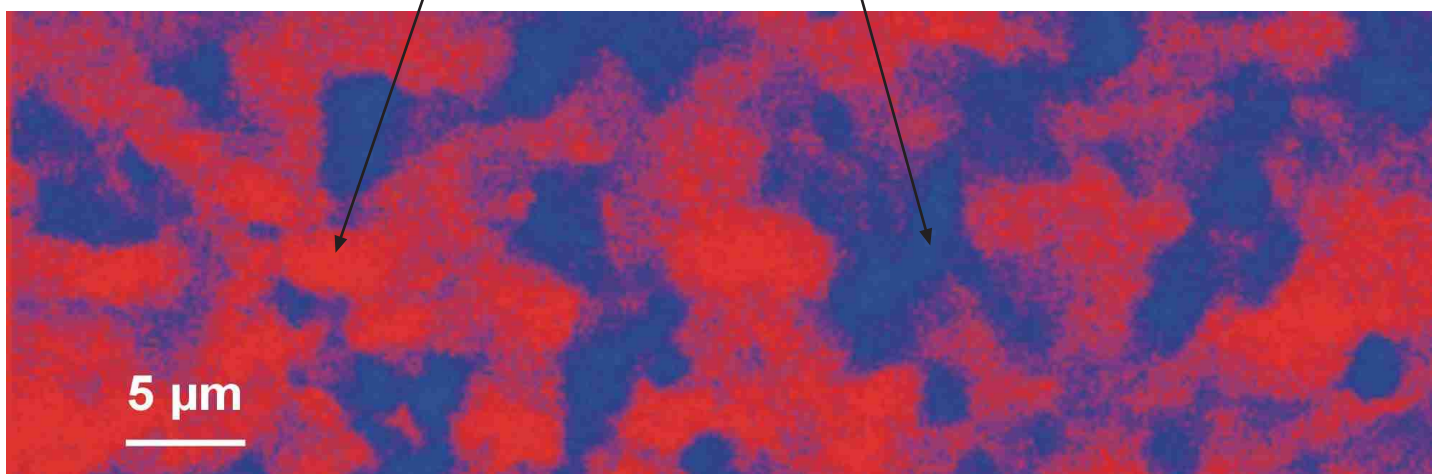


Fig. 2: Raman Image of the polypropylene film