

Identification of polyimide in a reaction product

The example shows the formation of polyimide from a fluorinated diamine and a dianhydride (see reaction scheme). Since the reaction ensued on glass substrate opaque for IR below 2500 cm^{-1} , it was examined in transmission in the area around 3000 cm^{-1} . Already at 25°C the transformation started. This can be recognized at the boat form absorption around 3000 cm^{-1} and the bands at 2600 – 2500 cm^{-1} (COOH). In addition, solvent is still enclosed. At higher temperatures the COOH bands vanish and the first overtone of the strong, characteristic imid band appears with growing intensity below 3500 cm^{-1} . The intensity changes of CF_3 bands (above 3000 cm^{-1}) are due to different sample thicknesses.

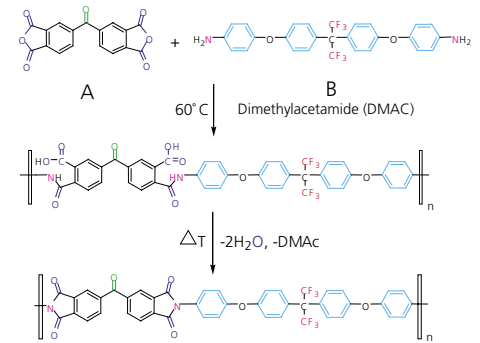


Figure 1
Reaction schema

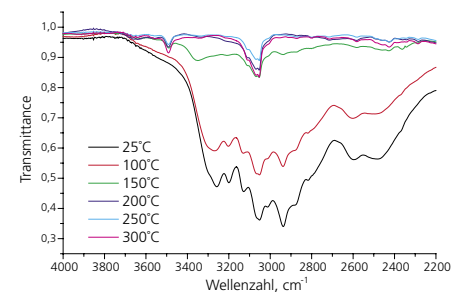


Figure 2