

NATURE OF THE DYNAMIC  
CROSSOVER IN ORTHOTERPHENYL

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S u m m a r y

We have conducted the infrared spectroscopic study and differential scanning calorimetry measurements (DSC) on orthoterphenyl (OTP), aiming to explore the physical nature of the dynamic crossover at  $1.2Tg$  found in variety experiments on OTP. We have obtained that, at  $T \leq 1.2Tg$  ( $\sim 290$  K) in the supercooled liquid OTP, the crystal nuclei appear and are absent at higher temperatures. These results suggest that the origin of the dynamic crossover at  $1.2Tg$  is related to the formation of fluctuating nuclei in the supercooled liquid, as a temperature of  $1.2Tg$  is approached. Therefore, we would expect that the appearance of the nuclei would change the molecular dynamics from individual to cooperative.