

## **FTIR investigation of molecular mobility in glassy epoxy-amine oligomers with azo-chromophores**

Nefedyeva K., Fishman A., Balakina M., Vakhonina T.  
*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

---

### **Abstract**

Molecular mobility in glassy epoxy-amine oligomer with covalently attached 4-amino--'-nitroazobenzene NLO chromophore fragments has been studied by conformational probes method. The conformational transitions in the probes (1,2-dichloroethane and chlorocyclohexane) embedded in the oligomer have been studied in the temperature range from -160°C to +20°C. The freezing of conformational transitions has been observed by FTIR at temperature near  $T_f$  -90°C. This value is correlated with the secondary relaxation transition temperature in the oligomer. The comparison of the activation volumes of the mobile groups in the probes with volumes of mobile groups in the oligomer allows us to conclude that there is the freezing of benzene rings mobility near  $\beta$ -process temperature. © Published under licence by IOP Publishing Ltd.

<http://dx.doi.org/10.1088/1742-6596/478/1/012023>

---