

# Pressure Effects on the Thermal *Z/E* Isomerization of 4-(Dimethylamino)-4'-nitroazobenzene in a Liquid Polymer. A Comparison of Dynamic Solvent Effects in Polymeric and Monomeric Solvents

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Effects of pressure on the thermal *Z/E* isomerization of 4-(dimethylamino)-4'-nitroazobenzene were studied in a silicon oil at various temperatures. The results were compared with the ones previously obtained in glycerol triacetate (GTA) and 2-methylpentane-2,4-diol (MPD). Even in the polymer, pressure effects expected from the transition state theory were obtained at low pressures ( $P < 200$  MPa). However, as in GTA and MPD, the transition state theory became invalid at higher pressures. For the polymeric liquid, the macroscopic shear viscosity obviously does not suffice for a quantitative description of the microscopic frictions between the reactant and the solvent molecules.

*Key words:* High-pressure Kinetics; *Z/E* Isomerization; Dynamic Solvent Effects; Liquid Polymer.