THE EFFECT OF PRESSURE ON THE RATE AND DIRECTION OF CHEMICAL REACTIONS

by

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The pressure effect (up to 2 kbar) on the rate of aromatic nucleophylic substitution-interaction of 2, 4-dinitrochlorobenzene with n-butyl-and tert. butyl aminosin ethanol-has been studied. In this pressure interval the rate constant of the former reaction increased 3, 3 times compared with 7, 5 times increase in the case of the second (sterically hindered) reaction.

The pressure effect (up to 6 kbar) on the relation between structural isomers of tert. butyl diphenyle formed by action of benzoyl peroxide on tert. butyl benzene has been studied. The relation ortho (sterically hindered) isomer; para (unhindered) isomer increased almost twice, the relation meta; para being only slightly increased.

The pressure effect on the relation between structural and cis-trans isomers in the products of 1-vinyl cyclopentene condensation with methyl acrylate has been studied. The mole fraction of the ortho-cis isomer increased from 0,.. at atmospheric pressure to 0,.. at 6 kbar.

In all these reactions the observed pressure effects are in fair correlation with activated complex models.
