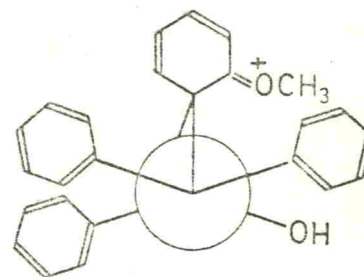
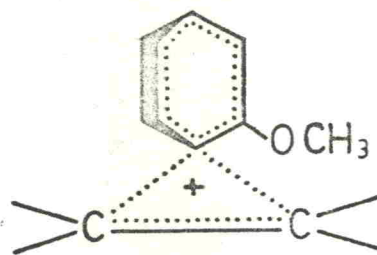


tion. The low migratory aptitude of *o*-anisyl group is ascribed to steric interference between the *o*-methoxyl group and the nonparticipating aryl groups in the transition state [II]³⁾. There has been an open question, what is meant by the term "steric interference".

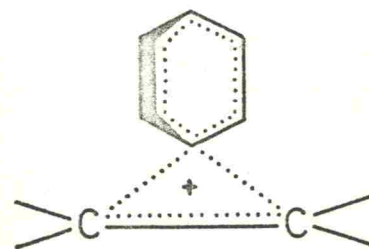
Hamann⁴⁾ and Gonikberg⁵⁾ studied about the effects of pressure on a number of organic reactions and they found that the accelerating effect of pressure upon the rate of a series of organic reactions, in general, increases with increasing geometrical complexity of the transition states. The most plausible explanation of such a change is Gonikberg's suggestion that ΔV^\ddagger contains a negative term $\Delta V^\ddagger_{steric}$ arising from the overlap of interfering atoms in the transition states. Accordingly, if the reason for the retardation of the *o*-anisyl migration is the purely sterical repulsion between the *o*-methoxyl group and the nonparticipating aryl groups in the transition state [II], it should be expected that the increasing pressure accelerates the migration of the *o*-anisyl group or at least does not affect it. If the effect of pressure is in the opposite direction, there must be other factors which make the transition state of the *o*-anisyl migration [III] less stable than that of the phenyl migration [IV] in addition to the purely sterical repulsion between substituents.



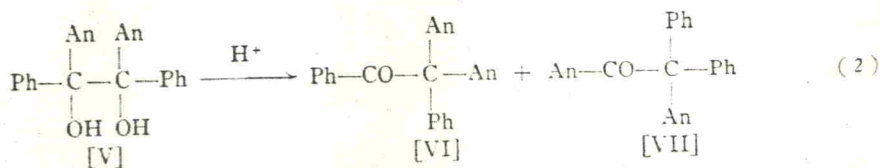
[II]



[III]



[IV]



An: *o*-anisyl group, Ph: phenyl group

[V]: 2, 2'-dimethoxybenzopinacol

[VI]: 2, 2'-dimethoxytrityl phenyl ketone

[VII]: 2-methoxytrityl *o*-anisyl ketone

3) For example, E. S. Gould, "Mechanism and Structure in Organic Chemistry", p. 609, Henry Holt and Company, Inc., New York (1960)

4) S. D. Hamann, *Ann. Rev. Phys. Chem.*, **15**, 353 (1964)

5) M. G. Gonikberg, "Chemical Equilibrium and Reaction Rates at High Pressures", p. 106, Izdatel. Akad. Nauk, SSSR, Moscow, (1960) [English transl. Israel Program for Scientific Translations, Jerusalem]