

Solvent Effect on the Kinetics of Beckmann Rearrangement

G. G. Midyana^a, R. G. Makitra^a, and E. Ya. Pal'chikova^b

^a *Department of Physical Chemistry of Fossil Fuels, Litvinenko Institute of Physical Organic and Coal Chemistry,
National Academy of Sciences of Ukraine, ul. Nauchnaya 3a, L'vov, 79053 Ukraine
e-mail: gmidyana@gmail.com*

^b *Institute of Geology and Geochemistry of Fossil Fuels, National Academy of Sciences of Ukraine, L'vov, Ukraine*

Received December 10, 2008

Abstract—The rate constants for the Beckmann rearrangement of cyclohexanone oxime *p*-toluenesulfonate in 11 solvents are satisfactorily described by a three-parameter linear correlation including polarizability, electrophilicity, and molar volume of the solvent. The first two factors favor the reaction, whereas increase of the solvent molar volume makes the reaction slower, presumably due to steric hindrances to solvation.

DOI: 10.1134/S1070363210010068