

Thermo-Oxidative Degradation of Styryl Derivatives of Pyridine-*N*-Oxides

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Abstract—Kinetic parameters of thermo-oxidative degradation of various derivatives of pyridine-*N*-oxide have been calculated. Thermo-oxidative degradation is a multi-stage process. 4-Substituted pyridine-*N*-oxides are more thermally stable than the 2-substituted isomers. Stability of 4-substituted pyridine-*N*-oxides towards thermo-oxidation is enhanced in the presence of electron-donating ability of the substituent. In the case of 4-styrylpyridine-*N*-oxide, the rate-limiting stage of thermo-oxidation is a chemical reaction; for other studied compounds, the limiting stage is free nucleation and further nuclei growth.

Keywords: styryl, pyridine-*N*-oxide, thermo-oxidative degradation, crystal hydrate

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