Intramolecular hydrogen bonding in *o*-hydroxyaryl.

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Streszczenie

This review deals with selected aspects of research on *o*-hydroxyaryl Schiff bases. Special attention is given to results obtained by x-ray, IR, UV and NMR spectroscopic methods and quantum-mechanical calculations that allow a better understanding of the nature of *o*-hydroxyaryl Schiff bases. The paper reports on studies of sterically modified *o*-hydroxyaryl Schiff bases with an intramolecular hydrogen bond made short owing to steric repulsion. The following points are focused upon: structural and energetic analysis of the steric effect and its influence on the hydrogen bond length; proton localization and the proton transfer process; the impact of proton transfer on the chelate and phenol rings in the intramolecular hydrogen bond; a generalized scheme of tautomer equilibrium and its study with the use of experimental and theoretical methods; some discrepancies found in standard parameters for a particular tautomeric form; calculations of the potential energy curve for basic tautomer forms; influence of the steric effect on the potential curve shape; and a review of semi-empirical and quantum-mechanical calculations of molecular structures in the ground state.

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