

Thematic direction: Influence of media on the reaction ability. Part 17.

Basicity dependences of organic substances in gaseous and aqueous phases on molecular properties

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Abstract

For a series of aliphatic, aromatic and heterocyclic amines, as well as alcohols, carbonyl compounds, carboxylic acids and esters dependences of basicity in gaseous phase on the ionization potential, topological index and molar mass have been obtained. Besides, for the considered amines there have been obtained linear dependences pK_a of conjugated acid on non-integral degree of the product of molar mass by the value of topological index to the power of 2/3. Supposition has been expressed about interdependence of basicity and the form of molecular motion.