Univerzita Karlova v Praze, Přírodovědecká fakulta

Sekce chemie PřF UK v Praze
zve všechny zájemce na přednášku z cyklu

Quo Vadis Chemie

A Quantitative Approach to Polar Organic Reactivity

kterou přednese

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dne 26.1. v 14:50 hod.
v posluchárně CH2, v budově chemických kateder PřF UK
Hlavova 8, Praha 2

Abstrakt:

For the construction of a comprehensive nucleophilicity scale, benzhydrylium ions ($Aryl_2CH^+$) and structurally related Michael acceptors (quinone methides, benzylidene-malonates) have been defined as reference electrophiles, which presently cover a reactivity range of more than 30 orders of magnitude. By studying the kinetics of their reactions with π-nucleophiles (alkenes, arenes, allylsilanes, enol ethers, etc.), n-nucleophiles (carbanions, amines, pyridines, phosphines, alcohols, etc.) or σ-nucleophiles (hydride donors) it was possible to directly compare nucleophiles which differ widely in reactivity using the correlation log $k_{20°C} = s_N (E+N)$, where electrophiles are characterized by one (E) and nucleophiles are characterized by two, solvent dependent, parameters (N, s_N).[1,2] A thermodynamic counterpart to this kinetic approach was developed analogously.[3]

(1) Database: http://www.cup.uni-muenchen.de/oc/mayr/DBintro.html
(2) Reviews: a) H. Mayr, M. Patz, *Angew. Chem. Int. Ed. Engl.* **1994**, *33*, 938-957. b) H. Mayr, A. R. Ofial, *J. Phys. Org. Chem.* **2008**, *21*, 584-595.
(3) H. Mayr, J. Ammer, M. Baidya, B. Maji, T. A. Nigst, A. R. Ofial, T. Singer, *J. Am. Chem. Soc.* **2015**, JustAccepted, DOI: 10.1021/ja511639b.

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