doi:10.1351/goldbook.T06247

Taft equation

Various equations are associated with R.W. Taft, but the term is most often used to designate the family of equations that emerged from Taft's analysis of the reactivities of aliphatic esters, and which involved the polar substituent constant σ^* and the steric substituent constant E_s:

$$\log_{10}k = \log_{10}k_0 + \rho^* \sigma^* + \delta E_s$$

or the one-parameter forms applicable when the role of either the polar term or the steric term may be neglected. Nowadays σ^* is usually replaced by the related constant σ_I.

See also: Hammett equation, ρ-value, σ-constant

Source:
PAC, 1994, *66*, 1077 *(Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994))* on page 1171

