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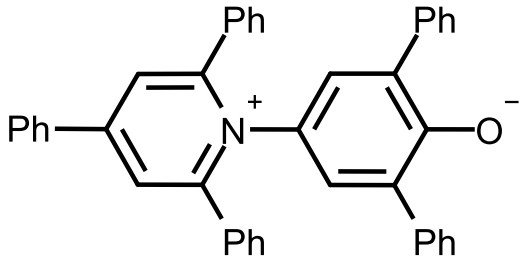
Dimroth–Reichardt E_T parameter

A measure of the ionizing power (loosely polarity) of a solvent, based on the maximum wavenumber of the longest wavelength electronic absorption band of:



in a given solvent. E_T, called $E_T(30)$ by its originators, is given by:

$$E_T = 2.859 \times 10^{-3}\,\nu = 2.859 \times 10^{4}\,\lambda^{-1}$$

where E_T is in kcal mol^{-1}, ν is in cm^{-1} and λ is in nm. The so-called normalized E_T^N scale is defined as:

$$E_T^N = \frac{E_T(\text{solvent}) - E_T(\text{Si Me}_4)}{E_T(\text{water}) - E_T(\text{Si Me}_4)} = \frac{E_T(\text{solvent}) - 30.7}{32.4}$$

See also: Grunwald–Winstein equation, Z-value

Source:
PAC, 1994, *66*, 1077 *(Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994))* on page 1106

