Henry's law

The partial pressure (fugacity) of a solute (B) in a solution is directly proportional to the rational chemical activity (a_x) of the solute; this relationship is called Henry's law:

$$p_B = a_{x,B} / \alpha_{x,B}^{\infty}$$

where $\alpha_{x,B}^{\infty}$ is the rational solubility coefficient for infinite dilution, i.e. for pure solvent. For the solvent (A) the relationship is called Raoult's law, and the proportionality factor is the fugacity of the pure solvent, p_A^*:

$$p_A = \tilde{p}_A^* a_A$$

1984, *56*, 571; see also 1990, *62*, 2193; 1994, *66*, 544