



without Proton ambiguity

$$k_{\text{obs}} = k_f C_B + k_d$$

$$-\frac{d[\text{B-L}]}{dt} = k_2 [\text{B(OH)}_2] [\text{HL}^-] + k_4 [\text{B(OH)}_2^-] [\text{OH}^-]$$

$$= \{ (k_2 + k_4 K_a^B [\text{H}^+]^{-1}) K^{*-1} C_B + k_{-2} \}$$

$$K^* = 1 + K_a^B [\text{H}^+]^{-1}$$

$$k_{\text{obs}} = (k_2 + k_4 K_a^B [\text{H}^+]^{-1}) K^{*-1} C_B + k_{-2}$$

$$k_{\text{obs}} = k_f C_B + k_d$$

$$\{ k_f K^* = k_2 + k_4 K_a^B [\text{H}^+]^{-1} \}$$



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