Erratum

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Equation (18), page 400, should read as follows:

$$C(l', p_o) = \frac{m\beta(p_o + k_{-1} + k_2)}{V\pi^2(1/3 + R_1 + R_2)} \left\{ p_o^2 + \left[\frac{\beta}{\pi^2(1/3 + R_1 + R_2)} + \frac{R_2 k_1}{1/3 + R_1 + R_2} + k_{-1} + k_2 \right] p_o + \frac{\beta(k_{-1} + k_2)}{\pi^2(1/3 + R_1 + R_2)} + \frac{R_2 k_1 k_2}{1/3 + R_1 + R_2} \right\}^{-1} \quad (18)$$

Also, the sub-section entitled "Approximations for the product(s)", pages 401 and 402, should read as follows:

Approximations for the product(s)

Equation (35) is the equivalent of Eq. (16) for each product. It can be simplified by again adopting approximations 17 and similar relations for $\sinh q_{1p}L_1$, $\coth q_{1p}L_1$ and $\tanh q_{1p}L_3$ for the product. The result is

$$C_p(l', p_o) = N_3 \left\{ p_o^2 + X p_o + \frac{X^2 - Y^2}{4} \right\}^{-1} \left\{ p_o^2 + X p_o + \frac{X_p^2 - Y_p^2}{4} \right\}^{-1} \quad (36)$$

where

$$N_3 = \frac{a'_G}{a_G} \frac{mL_2 D_{1p}^2 k_{1p} k_{-1} k_2 K}{V D_{2p} K_p L_1^3 (1/3 + R_1 + R_2) (1/3 + R_1 + R_{2p})} \quad (37)$$

X and $(X^2 - Y^2)/4$ are given by Eqs. (20) and (21), respectively, while X_p and $(X_p^2 - Y_p^2)/4$ have similar meaning, viz

$$X_p = \frac{\beta_p}{\pi^2(1/3 + R_1 + R_{2p})} + \frac{R_{2p} k_{1p}}{1/3 + R_1 + R_{2p}} + k_{-1p} \quad (38)$$

$$\frac{X_p^2 - Y_p^2}{4} = \frac{\beta_p k_{-1p}}{\pi^2(1/3 + R_1 + R_{2p})} \quad (39)$$

the symbol β_p meaning a diffusion parameter like β (cf. Eq. (17)) for the product, namely $\beta_p = \pi^2 D_{1p} / L_1^2$, R_1 and R_2 being given by Eq. (19), and $R_{2p} = V'_G D_{1p} / V_G D_{2p}$. The four roots of the denominator of Eq. (36) are $-(X+Y)/2$, $-(X-Y)/2$, $-(X_p+Y_p)/2$ and $-(X_p-Y_p)/2$, and thus one can write

$$C_p(l', p_o) = N_3 \left[\left(p_o + \frac{X+Y}{2} \right) \left(p_o + \frac{X-Y}{2} \right) \left(p_o + \frac{X_p+Y_p}{2} \right) \left(p_o + \frac{X_p-Y_p}{2} \right) \right]^{-1}$$

which, on taking the inverse Laplace transform with respect to p_o and using the relation [10] $h_p^{1/M} \approx 2c_p(l', t_o)$ for the height of the sample peaks due to a product, gives

$$h_p^{1/M} = 8N_3 \left[Q_1^{-1} \exp\left(-\frac{X+Y}{2} t_o\right) + Q_2^{-1} \exp\left(-\frac{X-Y}{2} t_o\right) + Q_3^{-1} \exp\left(-\frac{X_p+Y_p}{2} t_o\right) + Q_4^{-1} \exp\left(-\frac{X_p-Y_p}{2} t_o\right) \right] \quad (40)$$

where

$$Q_1 = -Y [(X_p+Y_p) - (X+Y)] [(X_p-Y_p) - (X+Y)] \quad (41)$$

$$Q_2 = Y [(X_p+Y_p) - (X-Y)] [(X_p-Y_p) - (X-Y)] \quad (42)$$

$$Q_3 = -Y_p [(X_p+Y_p) - (X+Y)] [(X_p+Y_p) - (X-Y)] \quad (43)$$

$$Q_4 = Y_p [(X_p-Y_p) - (X+Y)] [(X_p-Y_p) - (X-Y)] \quad (44)$$

Eq. (40) is the equivalent of Eq. (22) for a product. A similar equation with different physical content of the various parameters has been derived before [5].