Gaussian function:

$$y = y_o + \frac{A}{w\sqrt{\frac{\pi}{4ln(2)}}} e\left(\frac{-4ln(2)(x - x_c)^2}{w^2}\right) \quad (1)$$

Lorentzian function:

$$y = y_o + \frac{2A}{\pi} \frac{w}{4(x - x_c)^2 + w^2} \quad (2)$$

Pseudo-Voigt function:

$$y = y_o + (f_L * f_G)(x) \quad (3)$$

$$y = y_o + A\frac{2ln(2)}{\pi^{3/2}} \frac{wL}{wG} \int_{-\infty}^{\infty} \frac{e^{-t^2}}{(\sqrt{ln(2)}\frac{wL}{wG})^2 + (\sqrt{4ln(2)}\frac{x-x_c}{wG} - t)^2} dt \quad (4)$$

Mixing parameter:

$$k = \frac{wG}{wG + wL} \quad (5)$$

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