

BiPhasic model equation is:

$$\log_{10}(N_t) = \log_{10}(N_0) + \log_{10}(A + B)$$

where

$$A = f \times \exp(-k_{max1} \times t)$$

$$B = (1 - f) \times \exp(-k_{max2} \times t)$$

t is time, \log_{10} is base 10 logarithm. The parameters to estimate are f , k_{max1} , k_{max2} , and $\log_{10}N_0$.

The noisy output is defined as:

$$\log_{10}(N_t) = \mathcal{N}(\log_{10}(N_t), \%noise)$$

i.e random number from the normal distribution with mean parameter $\log_{10}(N_t)$ and standard deviation parameter $\%noise$.

Example of BiPhasic curve

Time unit is mn. Maximal time is 60mn. $f = 0.5$, $k_{max1} = 5$, $k_{max2} = 0.4$, and $\log_{10}N_0 = 9$.

