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S1. Optical characterization: calculation details

Detailed calculation of the absorption and scattering coefficients for quantum efficiency values:

$$K = \frac{1}{2d1 + R_{\infty}} ln \left(\frac{R_{\infty} (1 - R_{\infty} R_{0})}{R_{\infty} - R_{0}} \right)$$
(1)

$$S = \frac{1}{2d_1 - R_{\infty}^2} ln \left(\frac{R_{\infty} (1 - R_{\infty} R_0)}{R_{\infty} - R_0} \right)$$

(2)

Linear absorption and scattering coefficients a and s can be calculated as:

$$K=2a$$

$$S = \frac{3s(1-g) - a}{4}$$
 (4)

where *K*, *S*, d and g are diffuse absorption coefficient, diffuse scattering coefficient,) sample thickness (cm) and g is scattering anisotropy factor.