

C2P7 (7 parameters)

$$\begin{aligned}a_{\text{ph}}(\lambda) &= A_{\text{ph}}(\lambda)[\mathbf{Chla}]^{E_{\text{ph}}(\lambda)} \\a_{\text{dg}}(\lambda) &= \mathbf{a}_{\text{dg}}(440) \exp[-\mathbf{S}_{\text{dg}}(\lambda - 440)] \\b_{\text{bp}}(\lambda) &= \mathbf{b}_{\text{bp}}(660) \left(\frac{\lambda}{660}\right)^{-S_{\text{bp}}} \\B_{\text{p}}(\lambda) &= \mathbf{B}_{\text{p}}(660) \left(\frac{\lambda}{660}\right)^{-S_{\text{Bp}}}\end{aligned}$$

C2P3 (3 parameters)

$$\begin{aligned}a_{\text{ph}}(\lambda) &= A_{\text{ph}}(\lambda)[\mathbf{Chla}]^{E_{\text{ph}}(\lambda)} \\a_{\text{dg}}(\lambda) &= \mathbf{a}_{\text{dg}}(440) \exp[-0.018(\lambda - 440)] \\b_{\text{bp}}(\lambda) &= \mathbf{b}_{\text{bp}}(660) \left(\frac{\lambda}{660}\right)^{-0.3} \\B_{\text{p}} &= 0.01\end{aligned}$$

C1P1 (1 parameter)

$$\begin{aligned}a_{\text{ph}}(\lambda) &= A_{\text{ph}}(\lambda)[\mathbf{Chla}]^{E_{\text{ph}}(\lambda)} \\a_{\text{dg}}(\lambda) &= a_{\text{dg}}(440, [\mathbf{Chla}]) \exp[-0.018(\lambda - 440)] \\b_{\text{bp}}(\lambda) &= b_{\text{p}}(660, [\mathbf{Chla}]) \left(\frac{\lambda}{660}\right)^{-S_{\text{bp}}([\mathbf{Chla}])} \\B_{\text{p}} &= [0.02 + 0.01(0.5 - 0.25 \log_{10}[\mathbf{Chla}])]\end{aligned}$$