$$C_{3,i+1} = C_{3,i} + rac{C_1 - C_3}{ au} rac{1 - eta}{(1 - lpha_1)(1 - lpha_2)} \; \Delta t$$

$$C_1(1-\beta)\nu = C_3(1-\beta)\nu + (1-\alpha_1)(1-\alpha_2)V\frac{dC_3}{dt} \Longrightarrow$$

$$\Longrightarrow C_1(1-\beta) = C_3(1-\beta) + (1-\alpha_1)(1-\alpha_2)\tau\frac{dC_3}{dt} \Longrightarrow$$

$$\Longrightarrow dC_3 - C_1 - C_3 \qquad 1-\beta$$

$$\Rightarrow C_1(1-\beta) = C_3(1-\beta) + (1-\alpha_1)(1-\alpha_2)\tau \xrightarrow{\text{d}t} \Rightarrow$$

$$\Rightarrow \frac{dC_3}{dt} = \frac{C_1 - C_3}{\tau} \frac{1-\beta}{(1-\alpha_1)(1-\alpha_2)} \Rightarrow$$

$$\Rightarrow \frac{\Delta C_3}{dt} = \frac{C_{3,i+1} - C_{3,i}}{\tau} = \frac{C_1 - C_3}{\tau} \xrightarrow{1-\beta} \Rightarrow$$

$$\Rightarrow \frac{dC_3}{dt} = \frac{C_1 - C_3}{\tau} \frac{1 - \beta}{(1 - \alpha_1)(1 - \alpha_2)} \Rightarrow$$

$$\Rightarrow \frac{\Delta C_3}{\Delta t} = \frac{C_{3,i+1} - C_{3,i}}{\Delta t} = \frac{C_1 - C_3}{\tau} \frac{1 - \beta}{(1 - \alpha_1)(1 - \alpha_2)} \Rightarrow$$

$$\Rightarrow \frac{1}{dt} = \frac{1}{\tau} \frac{1}{(1 - \alpha_1)(1 - \alpha_2)} \Rightarrow$$

$$\Rightarrow \frac{\Delta C_3}{\Delta t} = \frac{C_{3,i+1} - C_{3,i}}{\Delta t} = \frac{C_1 - C_3}{\tau} \frac{1 - \beta}{(1 - \alpha_1)(1 - \alpha_2)} \Rightarrow$$

$$\Rightarrow C_{3,i+1} = C_{3,i} + \frac{C_1 - C_3}{\tau} \frac{1 - \beta}{(1 - \alpha_1)(1 - \alpha_2)} \Delta t$$