$$C_{3,i+1} = C_{3,i} + rac{C_1 - C_3}{ au} rac{1 - eta}{\left(1 - lpha_1
ight)lpha_2\left(1 - lpha_3
ight)} \Delta t$$

$$C_1(1-\beta)\nu = C_3(1-\beta)\nu + (1-\alpha_1)\alpha_2(1-\alpha_3)V\frac{dC_3}{dt} \Longrightarrow$$

$$\Longrightarrow C_1(1-\beta) = C_3(1-\beta) + (1-\alpha_1)\alpha_2(1-\alpha_3)\tau\frac{dC_3}{dt} \Longrightarrow$$

$$\Rightarrow C_1(1-\beta) = C_3(1-\beta)t + (1-\alpha_1)\alpha_2(1-\alpha_3)t \frac{dC_3}{dt} \Rightarrow$$

$$\Rightarrow \frac{dC_3}{dt} = \frac{C_1 - C_3}{\tau} \frac{1-\beta}{(1-\alpha_1)\alpha_2(1-\alpha_3)} \Rightarrow$$

$$\Rightarrow C_1 (1 - \beta) = C_3 (1 - \beta) + (1 - \alpha_1) \alpha_2 (1 - \alpha_3) \tau \frac{dC_3}{dt} \Rightarrow$$

$$\Rightarrow \frac{dC_3}{dt} = \frac{C_1 - C_3}{\tau} \frac{1 - \beta}{(1 - \alpha_1) \alpha_2 (1 - \alpha_3)} \Rightarrow$$

$$\Rightarrow \frac{\Delta C_3}{\Delta t} = \frac{C_{3,i+1} - C_{3,i}}{\Delta t} = \frac{C_{1,i} - C_{3,i}}{\tau} \frac{1 - \beta}{(1 - \alpha_1) \alpha_2 (1 - \alpha_3)} \Rightarrow$$

$$\Rightarrow \frac{dC_3}{dt} = \frac{C_1 - C_3}{\tau} \frac{1 - \beta}{(1 - \alpha_1) \alpha_2 (1 - \alpha_3)} \Rightarrow$$

$$\Rightarrow \frac{\Delta C_3}{\Delta t} = \frac{C_{3,i+1} - C_{3,i}}{\Delta t} = \frac{C_{1,i} - C_{3,i}}{\tau} \frac{1 - \beta}{(1 - \alpha_1) \alpha_2 (1 - \alpha_3)} \Rightarrow$$

 $\implies C_{3,i+1} = C_{3,i} + \frac{C_{1,i} - C_{3,i}}{\tau} \frac{1 - \beta}{(1 - \alpha_1) \alpha_2 (1 - \alpha_3)} \Delta t$