

---

# Scheme-4 Reactor-2

*Part-3, Case-1*

*tend = 360 sec  
k1 = 0.1, k2 = 0.002*

*NBt/NA<sub>t</sub> = 1.12364*

*Exponent a = 0.5  
Exponent b = 1.5  
Exponent c = 0.5  
Exponent d = 1.5*

*WA = 200  
WB = 56.182  
NBt = 2.99637  
Vt = 2.12809  
Tot.Solv. = 2  
Sola/(SolR+Sola) = 0.5*

*CA0 = 1.25308  
CB0 = 1.40801*

*Total input = 256.182 kg  
Total output = 256.182 kg*

*Chemical Balance Error = 0.000356355 kg (% 1.39102e-06)*

*Solver: Explicit Runge-Kutta (4,5) Variable step (Dormand-Prince Pair)  
Error tolerance: 0.1%*

*Final Concentrations with Step Size limited to 0.001*

*CA (final) = 0.0125228  
CB (final) = -4.64739e-13  
CR (final) = 1.0731  
CS (final) = 0.167453*

*CA @ 180.0s = 0.0146404  
CB @ 180.0s = 0.0302235  
CR @ 180.0s = 1.09909  
CS @ 180.0s = 0.139347*

*Final Concentrations with Step Size limited to 0.01*

*CA (final) = 0.0125228  
CB (final) = 8.451e-12  
CR (final) = 1.0731  
CS (final) = 0.167453*

