
Scheme-5 Reactor-2

Part-3, Case-1

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

NBt/NA_t = 1.27745

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

*WA = 200
WB = 63.8727
NBt = 3.40654
Vt = 2.13194
Tot.Solv. = 2
Sola/(SolR+Sola) = 0.5*

*CA0 = 1.25082
CB0 = 1.59786*

*Total input = 263.873 kg
Total output = 263.873 kg*

Chemical Balance Error = 0.000667175 kg (% 2.5284e-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) = 0.0125044
CB (final) = 0.0466062
CR (final) = 0.925371
CS (final) = 0.312943*

*CA @ 180.0s = 0.0262633
CB @ 180.0s = 0.166591
CR @ 180.0s = 1.01784
CS @ 180.0s = 0.206718*

Final Concentrations with Step Size limited to 0.01

*CA (final) = 0.0125044
CB (final) = 0.0466062
CR (final) = 0.925371
CS (final) = 0.312943*

