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# Scheme-7 Reactor-1

*Part-2, Case-9*

*ta = 4500 sec, tm = 1200 sec  
k1 = 0.1, k2 = 0.01*

*NBt/NA<sub>t</sub> = 1.00392*

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

*WA = 200  
WB = 50.1959  
NB<sub>t</sub> = 2.67711  
V<sub>t</sub> = 2.1251  
V<sub>at</sub> = 1.0251  
Tot.Solv. = 2  
SolA/(SolR+SolA) = 0.5*

*NA<sub>0</sub> = 2.66667  
NB<sub>0</sub> = 0*

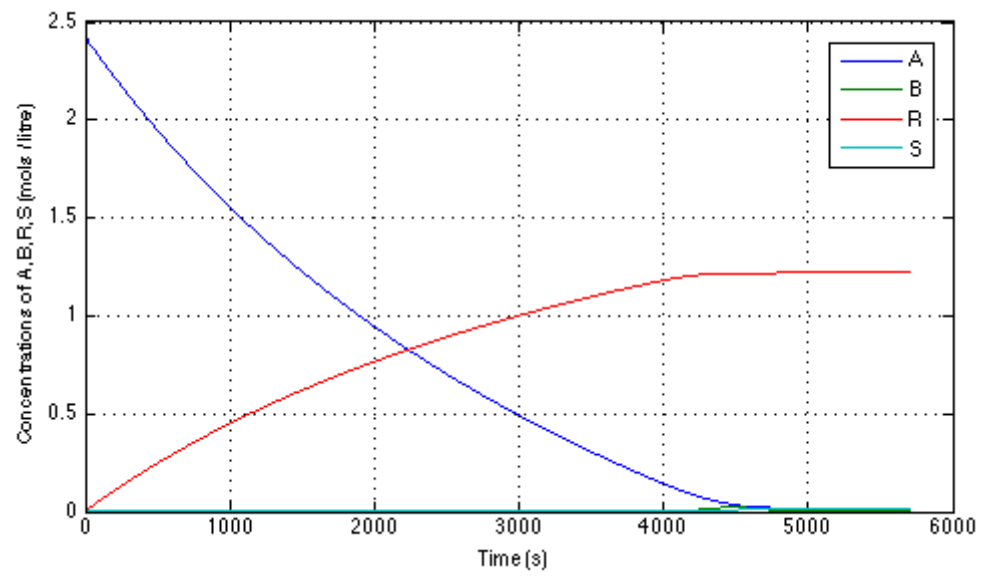
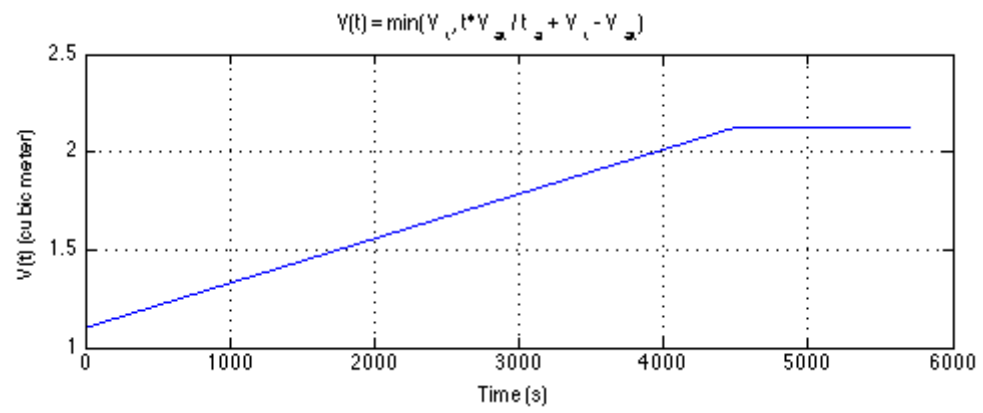
*Total input = 250.196 kg  
Total output = 250.196 kg*

*Chemical Balance Error = 3.56055e-05 kg (% 1.42311e-07)*

*Solver: Explicit Runge-Kutta (4,5) Variable step (Dormand-Prince Pair)  
Error tolerance: 0.01%*

*Final Concentrations with Step Size limited to 0.001  
NA (final) = 0.0266225  
NB (final) = 1.70434e-06  
NR (final) = 2.60298  
NS (final) = 0.0370663*

*Final Concentrations with Step Size limited to 0.01  
NA (final) = 0.0266228  
NB (final) = 1.69967e-06  
NR (final) = 2.60298  
NS (final) = 0.0370659*



*Published with MATLAB® 7.12*