$m_{1_1} = 2.0, \, m_{2_1} = 20.0, \, m_{1_2} = 2.0, \, m_{2_2} = 0.2 \, , \, L_{1_1} = 1.0, \, L_{2_1} = 1.0, \, L_{1_2} = 1.0, \, L_{2_2} = 1.0 \, \theta_{1_1} = \pi/5, \, \omega_{1_1} = 0.35, \, \theta_{2_1} = 0.0, \, \omega_{2_1} = 0.0, \, \theta_{1_2} = \pi/10, \, \omega_{1_2} = 0.15, \, \theta_{2_2} = 0.0, \, \omega_{2_2} = 0.0 \, K = 0.3, \, \sigma_T = 0.001$ 

