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