H_eff eigenstates at N=100, $arepsilon_2=$ 8.0

 $arepsilon_1=0.0$, n=0, E=-64.7 $arepsilon_1=0.0$, n=1, E=-64.7 $arepsilon_1=0.0$, n=2, E=-34.6 $arepsilon_1=0.0$, n=3, E=-34.6 $arepsilon_1=0.0$, n=4, E=-10.0