Plots for Exercise 1: Question 5: Lithium
Ansatz 1

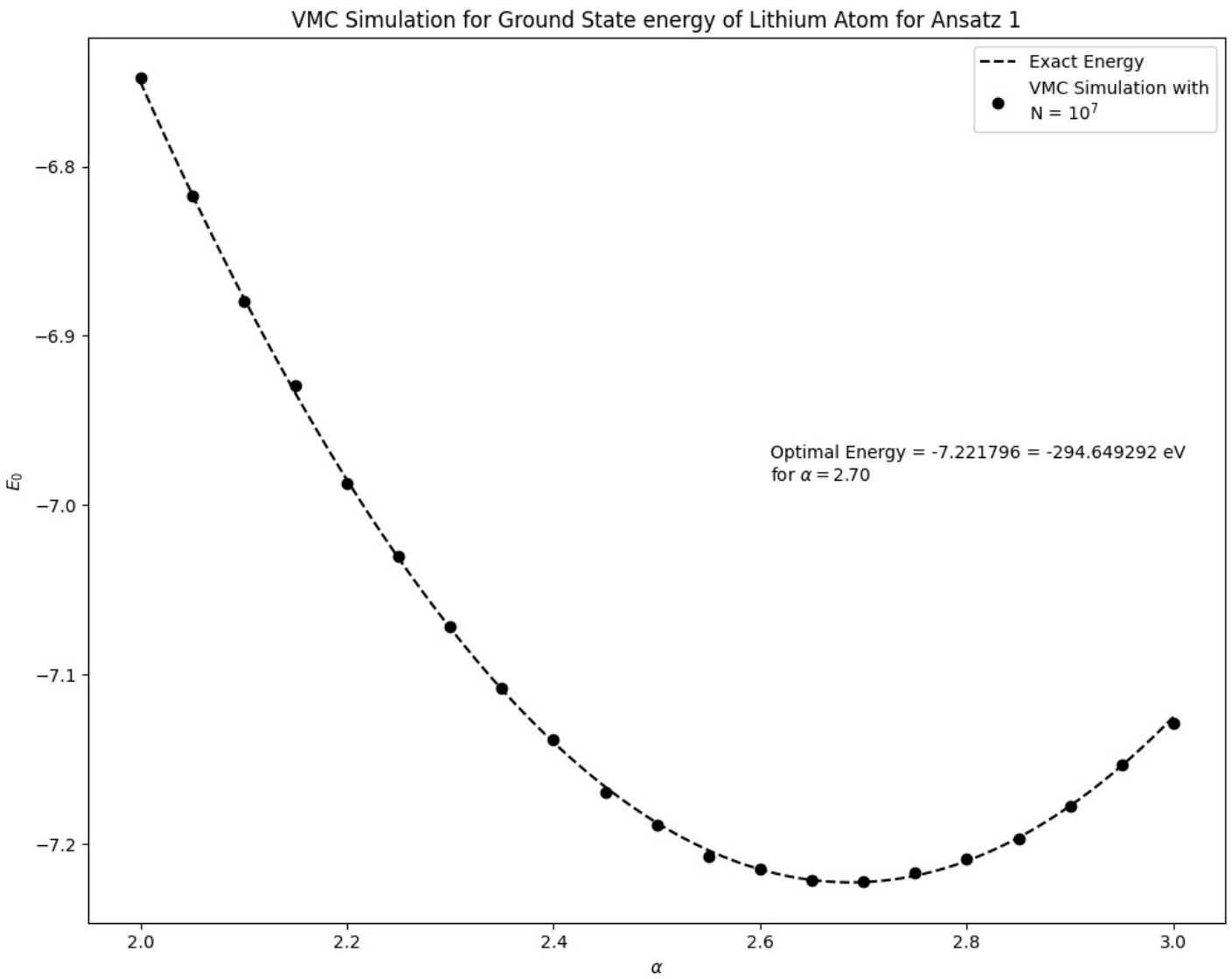

Table 4: Lithium: Ansatz 1

alpha	energy	variance
2.0000	-6.7479	6.8482
2.0500	-6.8175	6.7456
2.1000	-6.8793	6.1327
2.1500	-6.9295	5.6893
2.2000	-6.9874	5.4425
2.2500	-7.0303	5.1732
2.3000	-7.0719	4.7831
2.3500	-7.1082	4.3054
2.4000	-7.1387	4.4107
2.4500	-7.1698	3.6296
2.5000	-7.1891	3.3775
2.5500	-7.2071	3.2824
2.6000	-7.2147	2.5710
2.6500	-7.2217	2.4588
2.7000	-7.2218	2.1755
2.7500	-7.2167	2.8505
2.8000	-7.2088	2.1415
2.8500	-7.1966	2.0171
2.9000	-7.1775	2.4008
2.9500	-7.1532	2.1370
3.0000	-7.1290	2.2657

Optimal $r_{12} = 0.811$

Ansatz 2

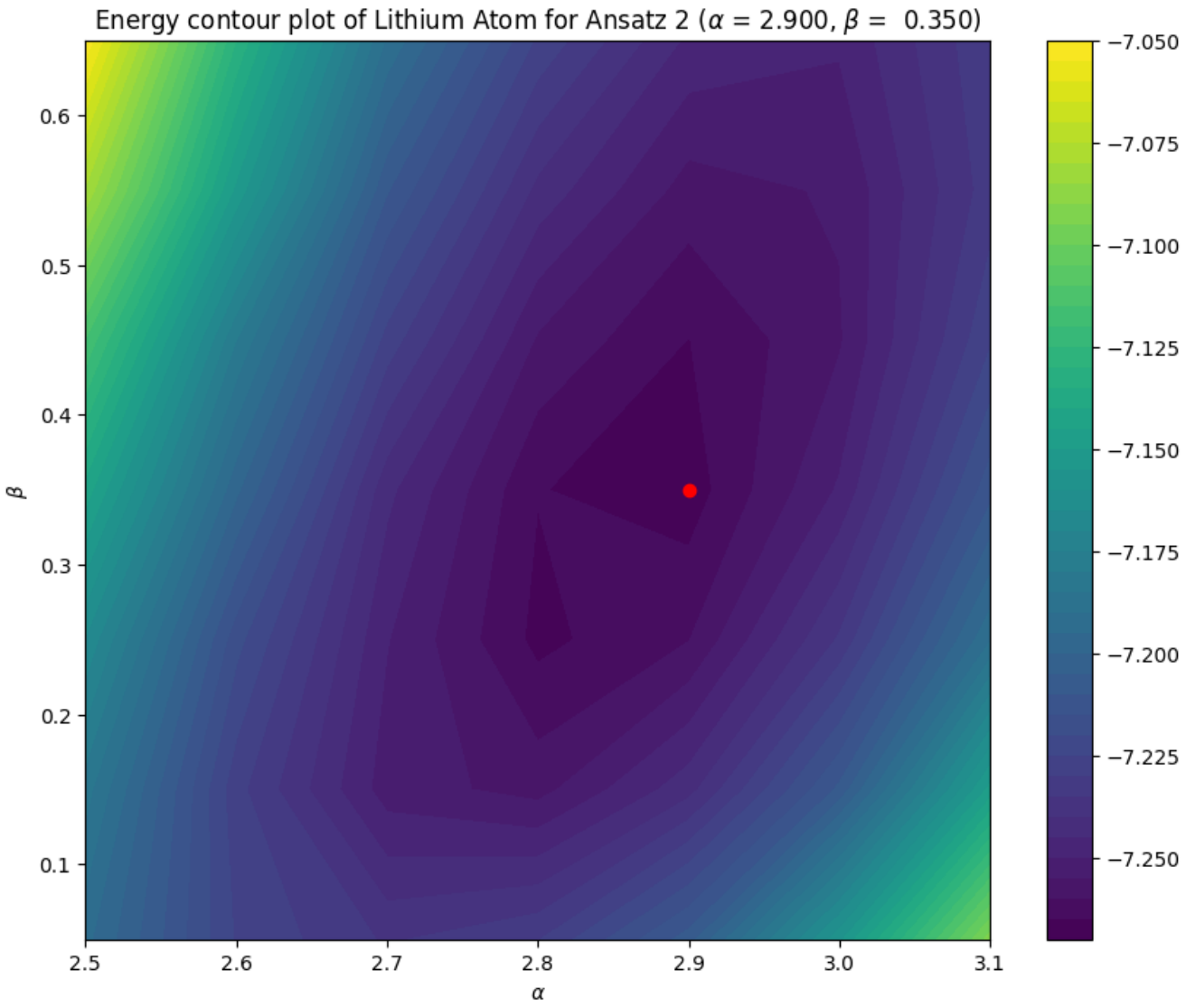

Table 5: Lithium: Ansatz 2

alpha	beta	energy	variance
2.8000	0.2500	-7.2665	0.5955
2.8000	0.3500	-7.2648	0.5229
2.8000	0.4500	-7.2558	0.5754
2.9000	0.2500	-7.2603	0.3825
2.9000	0.3500	-7.2679	0.2469
2.9000	0.4500	-7.2651	0.2757
3.0000	0.2500	-7.2343	0.4555
3.0000	0.3500	-7.2494	0.2311
3.0000	0.4500	-7.2557	0.2174

Optimal $r_{12} = 0.838$

Ansatz 3

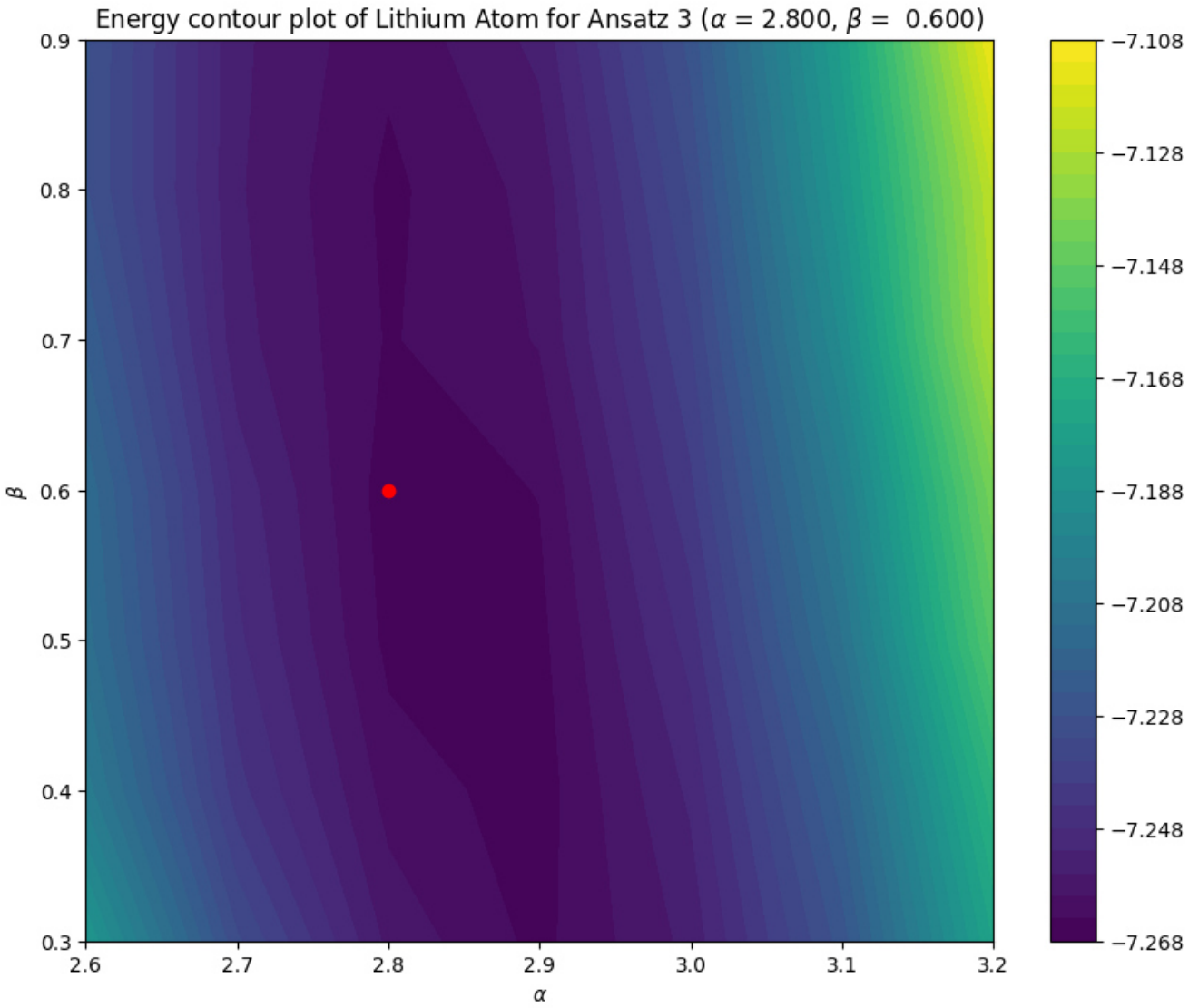

Table 6: Lithium: Ansatz 3

alpha	beta	energy	variance
2.7000	0.5000	-7.2471	1.0168
2.7000	0.6000	-7.2496	0.9217
2.7000	0.7000	-7.2546	0.9374
2.8000	0.5000	-7.2652	0.4770
2.8000	0.6000	-7.2662	0.4600
2.8000	0.7000	-7.2644	0.4447
2.9000	0.5000	-7.2653	0.2165
2.9000	0.6000	-7.2639	0.2121
2.9000	0.7000	-7.2597	0.1951

Optimal $r_{12} = 0.851$