

ADAPT/VQE Benchmark Summary

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Settings:

sites=[2, 3] t=1.0 u=4.0 dv=0.5 boundary=open ordering=blocked odd_policy=min_sz

ADAPT(inner_optimizer=lbfgs, inner_steps=1, max_depth=1, max_time_s=1.0, allow_repeats=False)

VQE(reps=2, restarts=1, maxiter=100, seed=7)

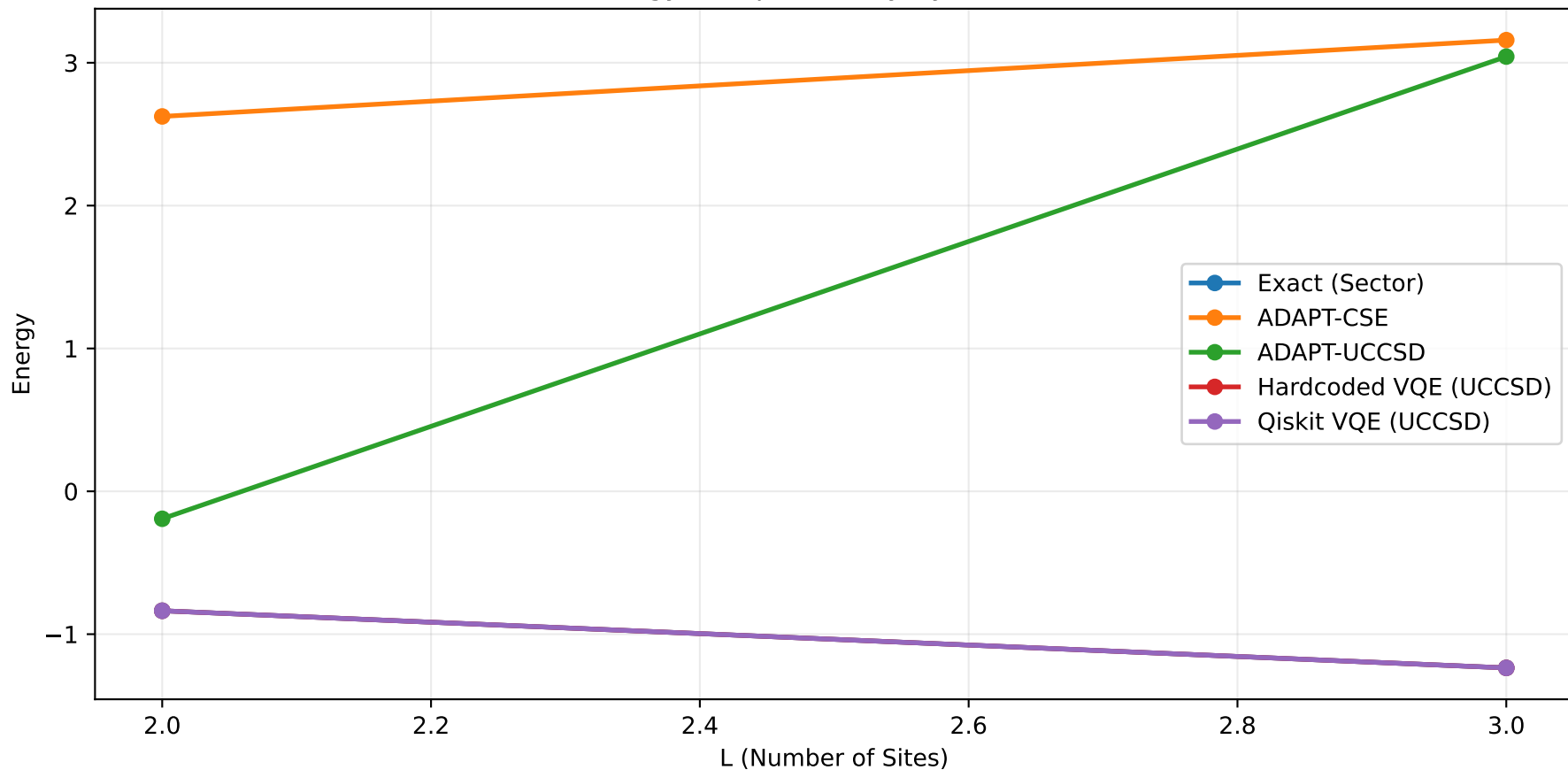
L=2 (n_up=1, n_down=1)

Exact (Sector)	E=-0.836057118155	dE =0.000e+00	t=0.00s
ADAPT-CSE	E= 2.624209203055	dE =3.460e+00	t=0.51s
ADAPT-UCCSD	E=-0.192228194594	dE =6.438e-01	t=0.24s
Hardcoded VQE (UCCSD)	E=-0.836056968909	dE =1.492e-07	t=0.06s
Qiskit VQE (UCCSD)	E=-0.836057117595	dE =5.600e-10	t=2.04s

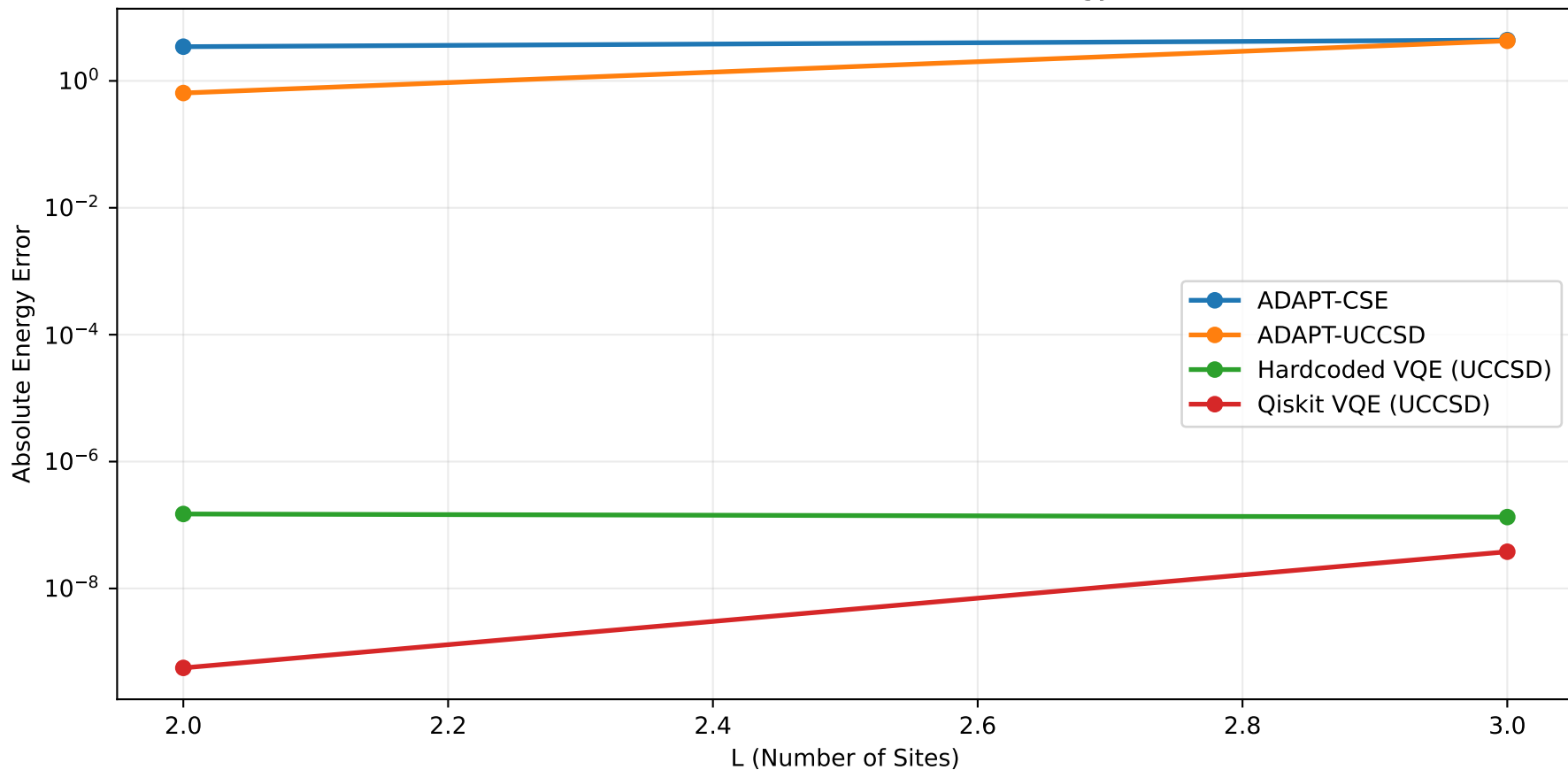
L=3 (n_up=2, n_down=1)

Exact (Sector)	E=-1.236067977500	dE =0.000e+00	t=0.00s
ADAPT-CSE	E= 3.158529015596	dE =4.395e+00	t=0.83s
ADAPT-UCCSD	E= 3.043066873062	dE =4.279e+00	t=1.06s
Hardcoded VQE (UCCSD)	E=-1.236067844029	dE =1.335e-07	t=2.40s
Qiskit VQE (UCCSD)	E=-1.236067939546	dE =3.795e-08	t=44.27s

Energy Comparison by System Size



Absolute Error vs Exact Sector Energy



Runtime by Method

