

ADAPT Confidence Campaign

Generated (UTC): 2026-02-21T19:11:02.182737+00:00

Scope:

Methods: exact, HF, hardcoded VQE, Qiskit VQE, ADAPT-UCCSD(adapt/fixed), ADAPT-CSE

Sites: [2, 3]

Gates:

VQE: $L2 \leq 1.0e-08$, $L3 \leq 1.0e-06$

ADAPT-UCCSD fixed: $L2 \leq 1.0e-08$, $L3 \leq 1.0e-06$

ADAPT-UCCSD adapt: $L2 \leq 1.0e-07$, $L3 \leq 1.0e-05$

ADAPT-CSE: gap_closure ≥ 0.90

Run caps:

per_method_max_time_s=120.0

adapt_trial_max_time_s=30.0

adapt_fixed_trial_max_time_s=45.0

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

Exact=-0.836057118155 HF= 4.500000000000

Hardcoded VQE (UCCSD) E=-0.836057110705 |dE|=7.450e-09 t=0.25s gate_pass=True

Qiskit VQE (UCCSD) E=-0.836057117595 |dE|=5.600e-10 t=4.76s gate_pass=True

ADAPT-UCCSD (Fixed Sequence) E=-0.507936507937 |dE|=3.281e-01 t=33.40s gate_pass=False

ADAPT-UCCSD (Adaptive) E=-0.507936507936 |dE|=3.281e-01 t=47.02s gate_pass=False

ADAPT-CSE (Adaptive) E=-0.506312970694 |dE|=3.297e-01 t=14.12s gate_pass=True

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

Exact=-1.236067977500 HF= 4.000000000000

Hardcoded VQE (UCCSD) E=-1.236067973953 |dE|=3.547e-09 t=9.13s gate_pass=True

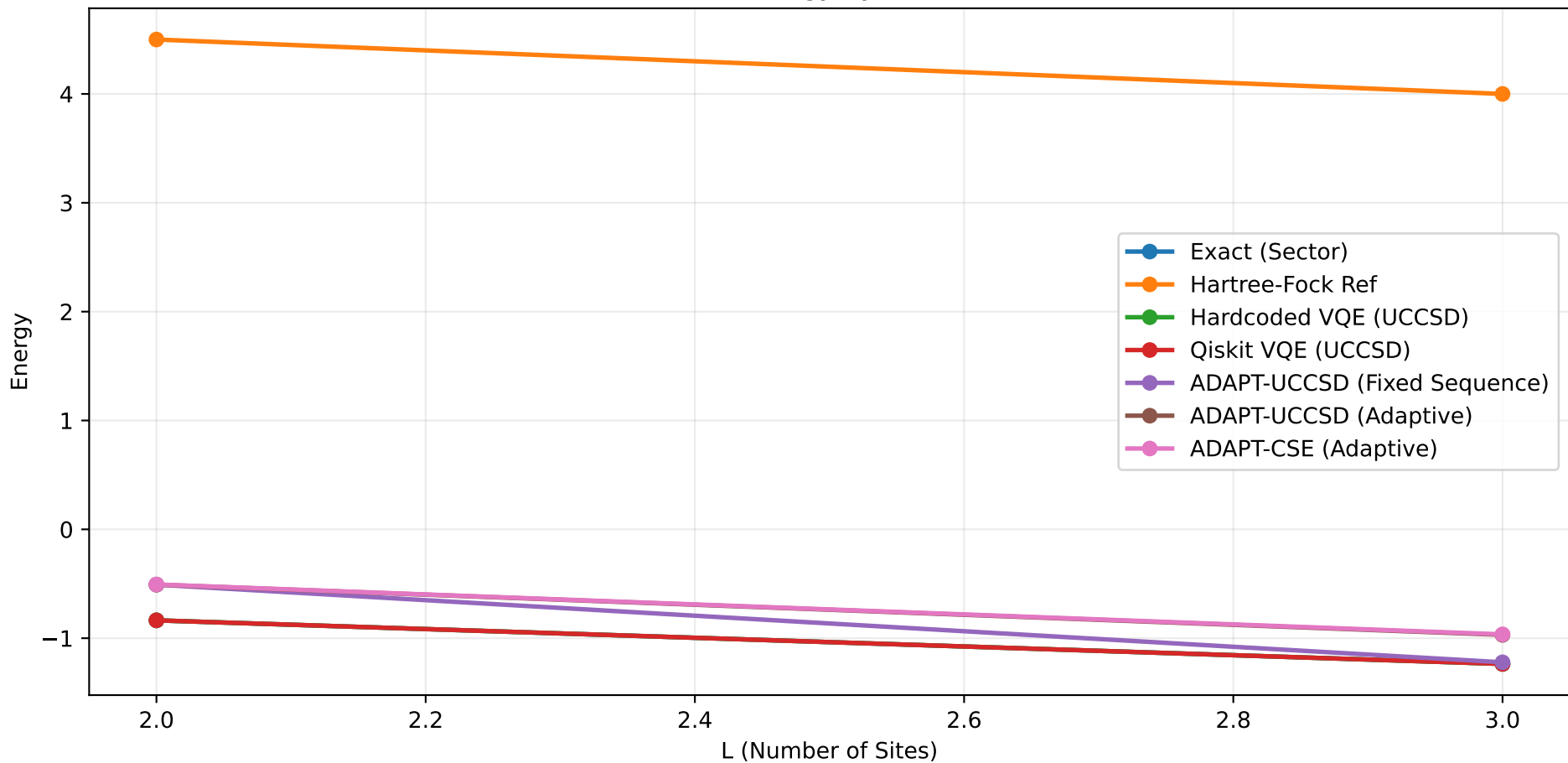
Qiskit VQE (UCCSD) E=-1.236067939546 |dE|=3.795e-08 t=87.26s gate_pass=True

ADAPT-UCCSD (Fixed Sequence) E=-1.221399776886 |dE|=1.467e-02 t=627.98s gate_pass=False

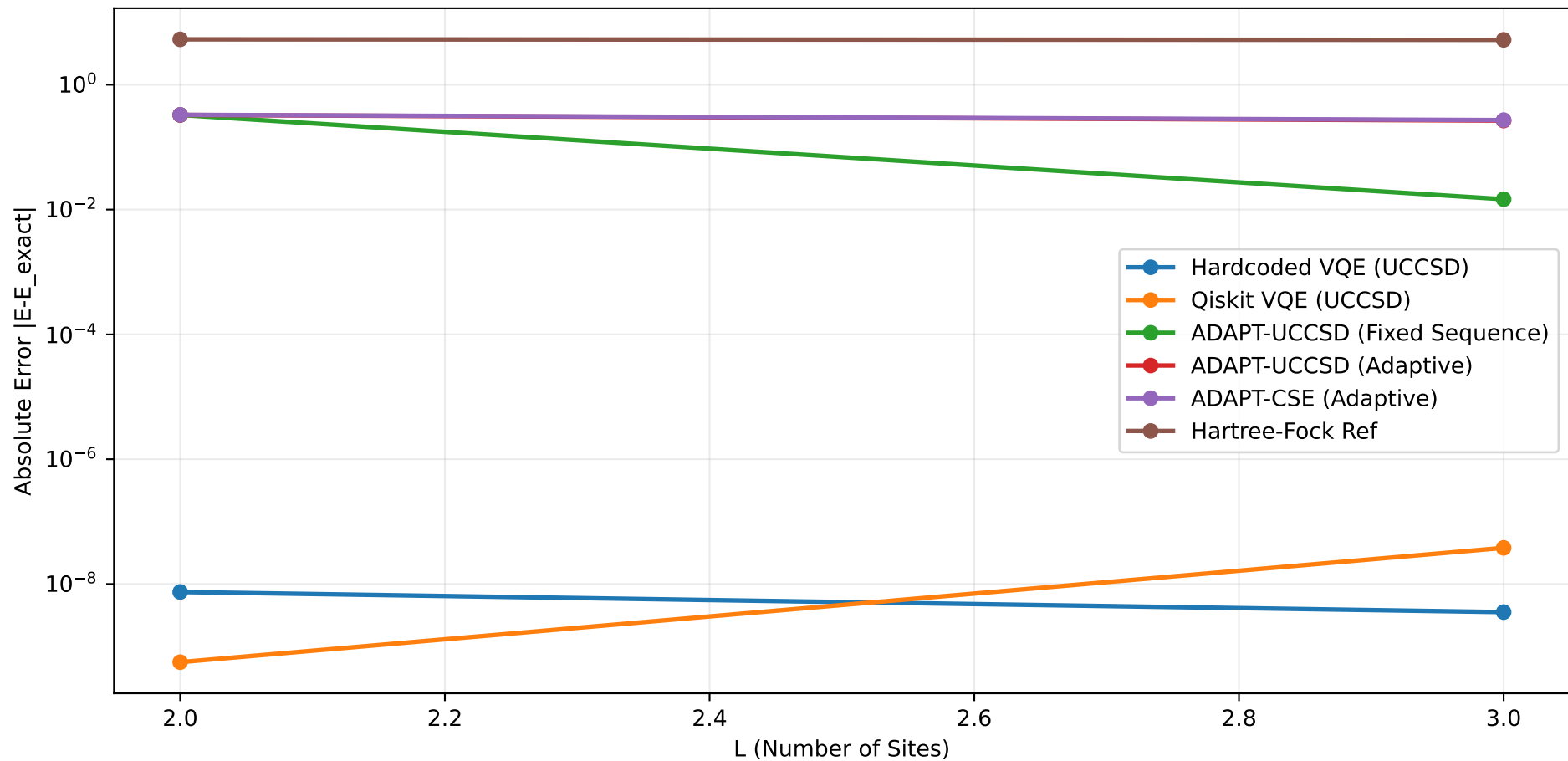
ADAPT-UCCSD (Adaptive) E=-0.969560234766 |dE|=2.665e-01 t=42.80s gate_pass=False

ADAPT-CSE (Adaptive) E=-0.964712231458 |dE|=2.714e-01 t=25.59s gate_pass=True

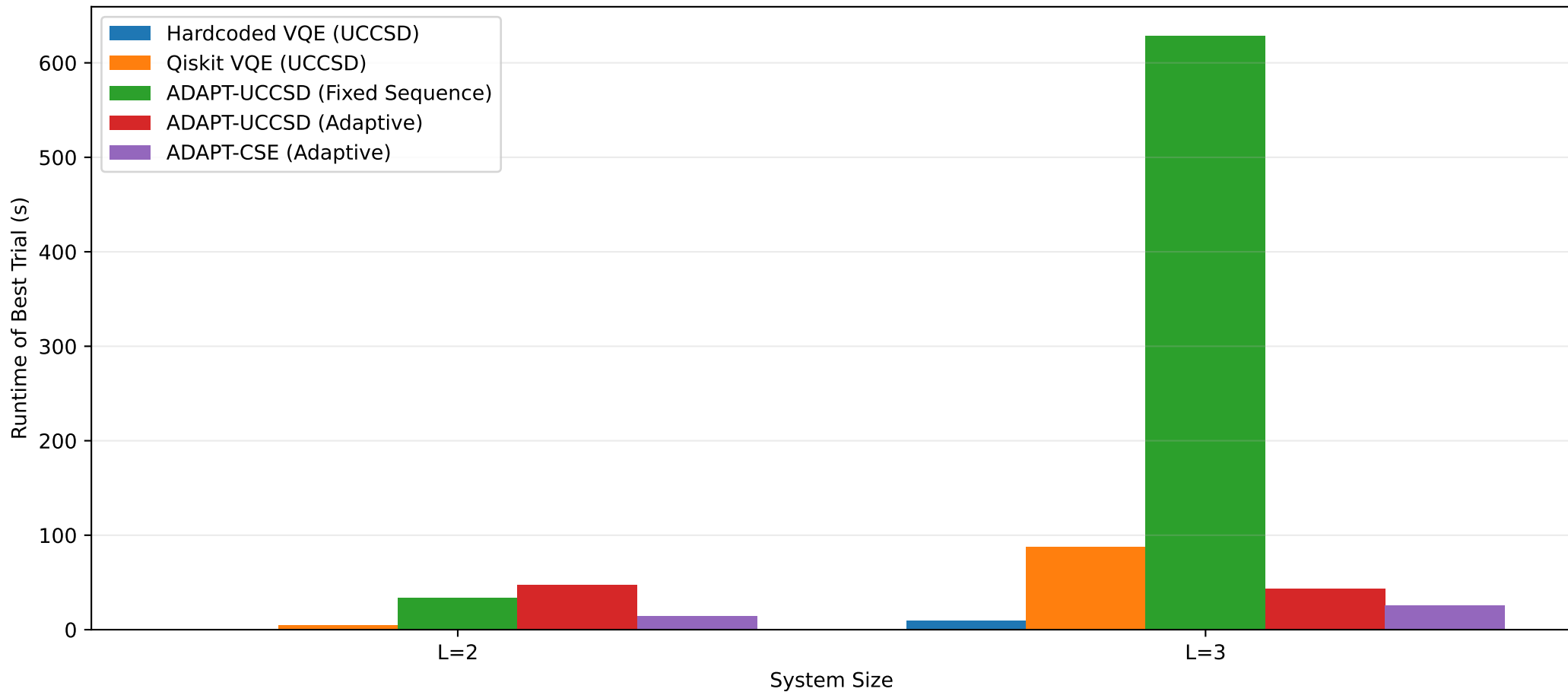
Best Energy by Method



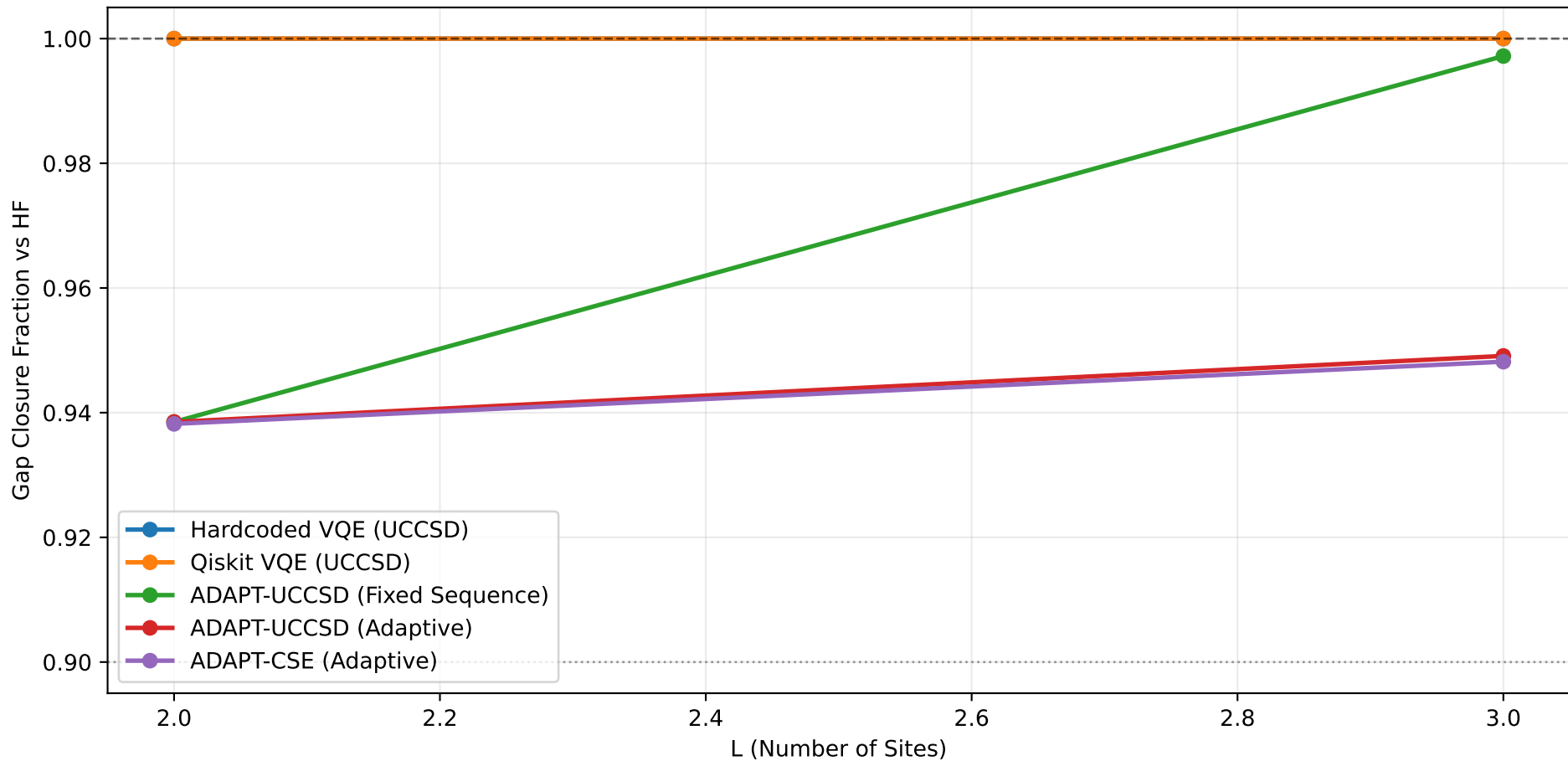
Best Absolute Error vs Exact



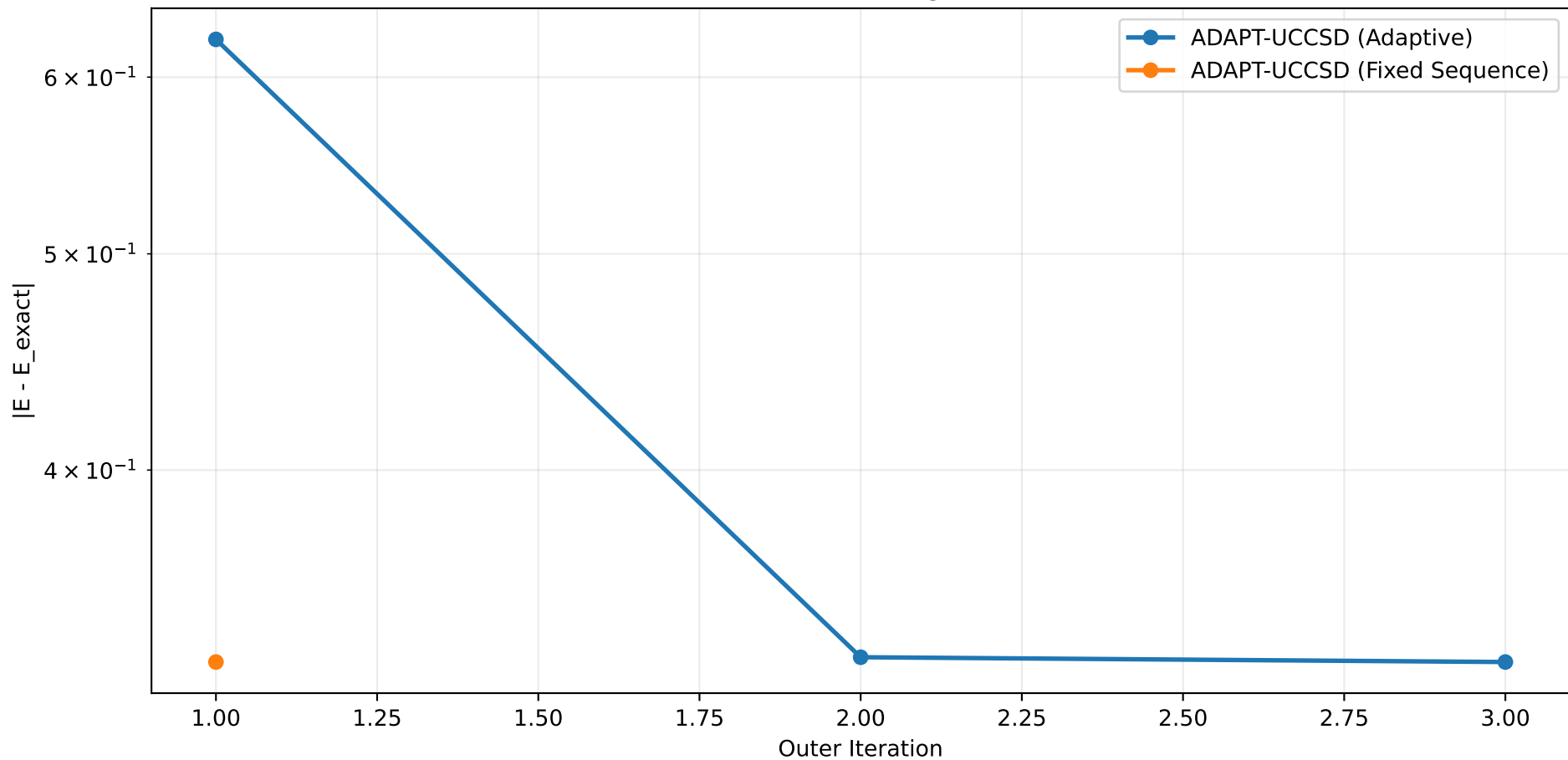
Best-Trial Runtime by Method



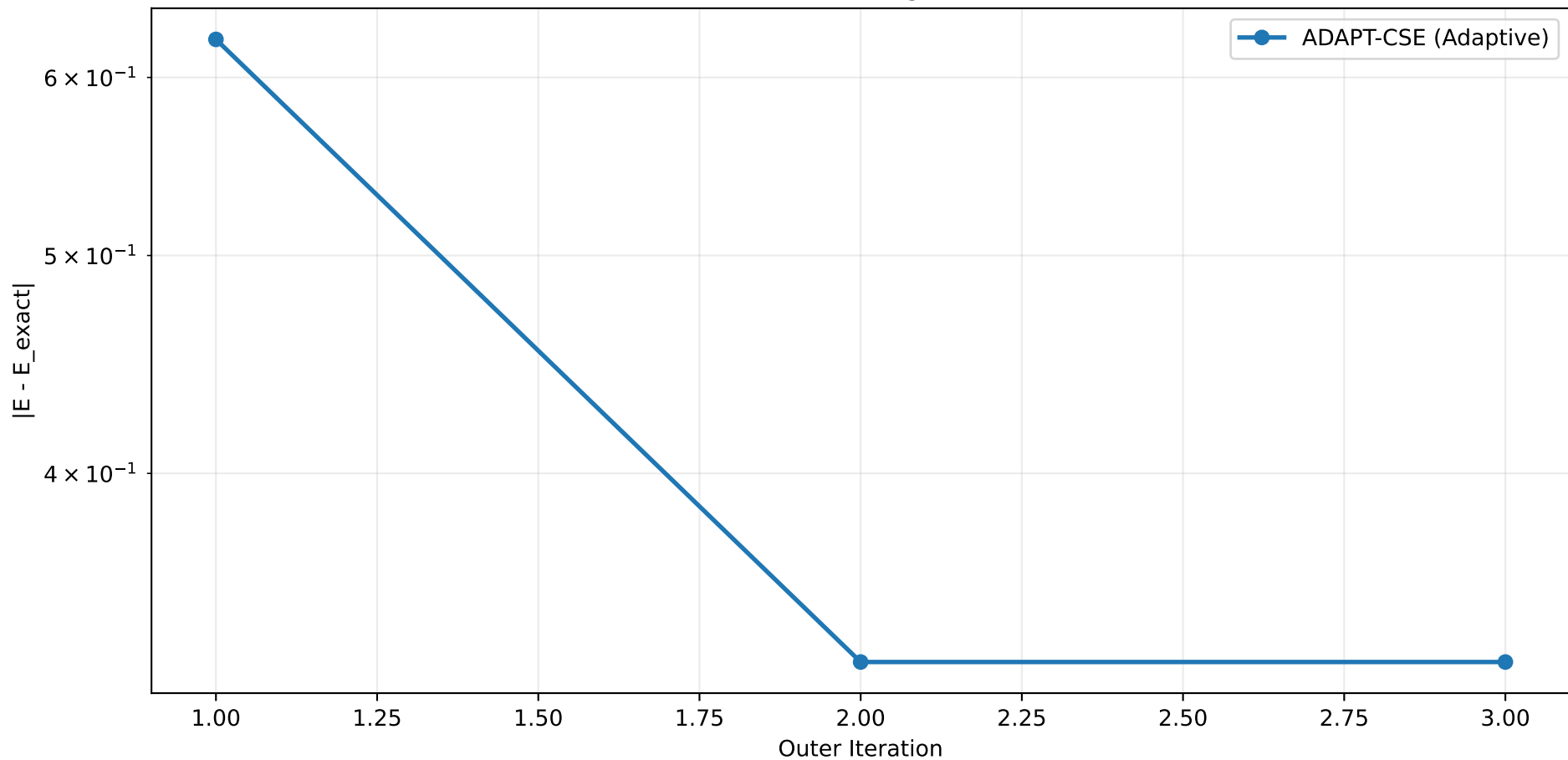
HF Gap-Closure by Method (1.0 = exact)



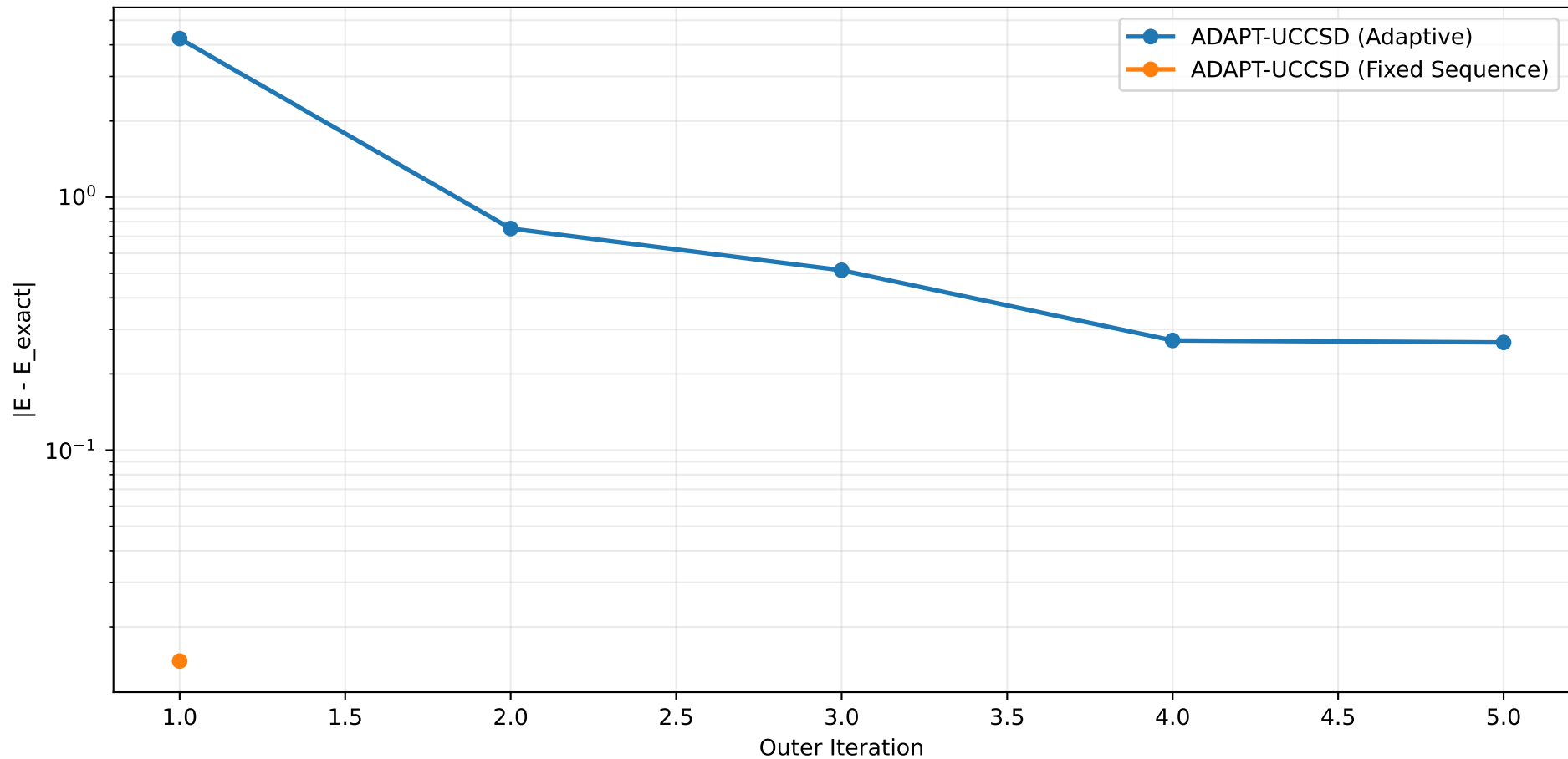
ADAPT-UCCSD Convergence (L=2)



ADAPT-CSE Convergence (L=2)



ADAPT-UCCSD Convergence (L=3)



ADAPT-CSE Convergence (L=3)

