

Generated (UTC): 2026-02-21T20:12:08.554479+00:00  
Sites: [2, 3] | boundary=open | ordering=blocked | seed=7  
Caps: per\_method=15.00s, adapt\_trial=3.00s, adapt\_fixed\_trial=4.00s  
Gates: VQE(L2<=1.0e-08, L3<=1.0e-06) | UCCSD-fixed(L2<=1.0e-08, L3<=1.0e-06) | UCCSD-adapt(L2<=1.0e-07, L3<=1.0e-05) | CSE(gap>=0.90)  
Warnings: L=2 adapt\_uccsd\_fixed: stopped due to budget:max\_time\_s. | L=2 adapt\_uccsd\_adapt: stopped due to budget:max\_time\_s. | L=2 adapt\_cse\_adapt: stopped due to budget:max\_time\_s.

PASS/FAIL Matrix (Method x L)

Method	L=2	L=3
Hardcoded VQE (UCCSD)	FAIL  dE =1.734e-08 <= 1.000e-08 reason=tol	PASS  dE =3.547e-09 <= 1.000e-06 reason=ok
Qiskit VQE (UCCSD)	PASS  dE =5.600e-10 <= 1.000e-08 reason=ok	PASS  dE =3.795e-08 <= 1.000e-06 reason=ok
ADAPT-UCCSD (Fixed Sequence)	FAIL  dE =3.281e-01 <= 1.000e-08 reason=timeout/cap	FAIL  dE =1.467e-02 <= 1.000e-06 reason=timeout/cap
ADAPT-UCCSD (Adaptive)	FAIL  dE =3.281e-01 <= 1.000e-07 reason=timeout/cap	FAIL  dE =7.516e-01 <= 1.000e-05 reason=timeout/cap
ADAPT-CSE (Adaptive)	PASS gap=0.938 >= 0.90 reason=timeout/cap	FAIL gap=0.856 >= 0.90 reason=timeout/cap

L=2 Best Results

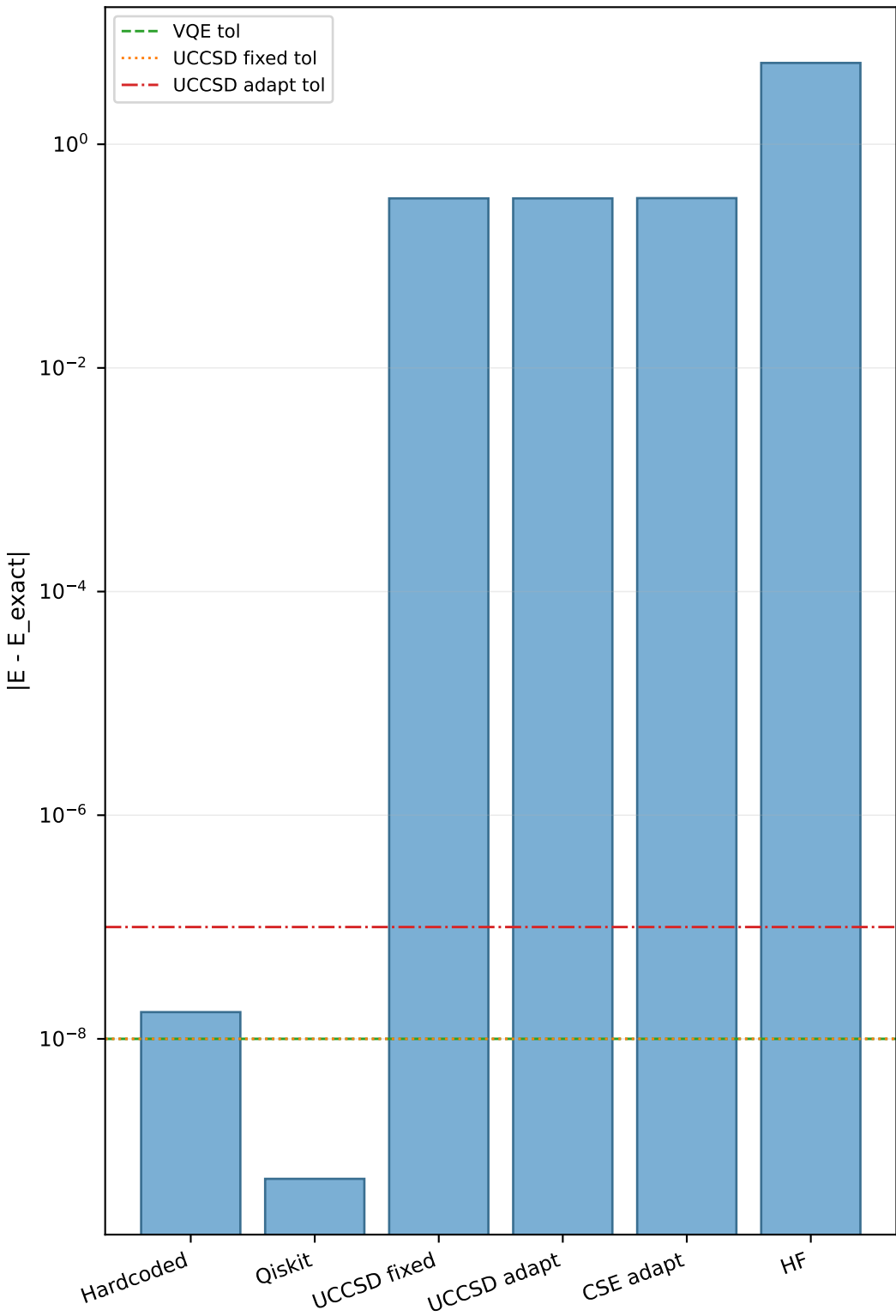
Method	E_best	dE	gap	Runtime(s)	Gate	Reason
Exact (Hartree-Fock)	-6.36057110	0.000e+00	NA	0.00	PASS	reference
Hartree-Fock	-6.3600000000	0.336e+00	0.000	0.00	PASS	reference
Hardcoded VQE (UCCSD)	-6.36057110	1.734e-08	1.000	0.10	FAIL	tol
Qiskit VQE (UCCSD)	-6.36057115	5.600e-10	1.000	1.81	PASS	ok
ADAPT-UCCSD (Fixed Sequence)	-6.36079365	3.281e-01	0.939	7.53	FAIL	timeout/cap
ADAPT-UCCSD (Adaptive)	-6.36079365	3.281e-01	0.939	14.85	FAIL	timeout/cap
ADAPT-CSE (Adaptive)	-6.36312973	2.297e-01	0.938	5.41	PASS	timeout/cap

L=3 Best Results

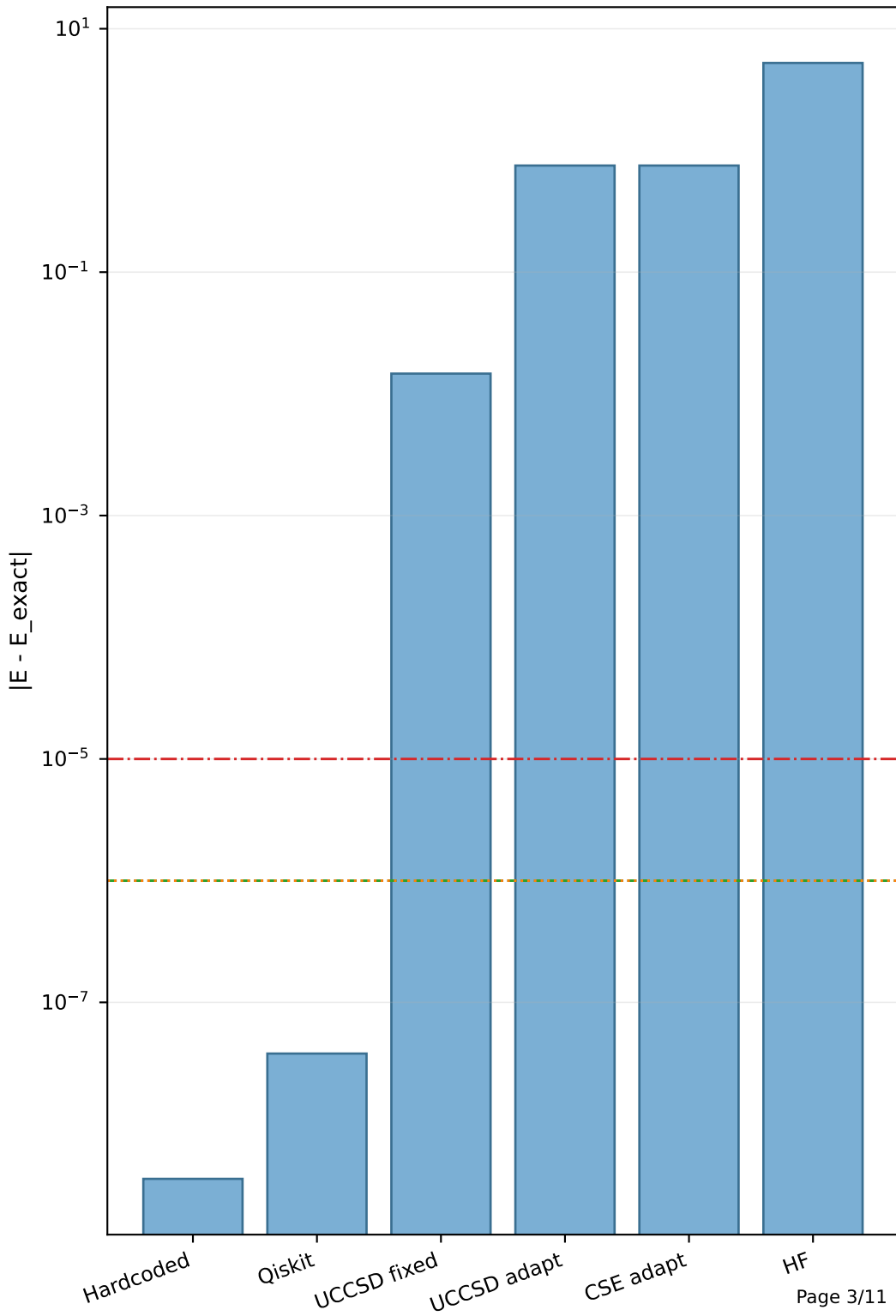
Method	E_best	dE	gap	Runtime(s)	Gate	Reason
Exact (Hartree-Fock)	-6.36067900	0.000e+00	NA	0.00	PASS	reference
Hartree-Fock	-6.3600000000	0.236e+00	0.000	0.00	PASS	reference
Hardcoded VQE (UCCSD)	-6.36067938	3.547e-09	1.000	4.30	PASS	ok
Qiskit VQE (UCCSD)	-6.36067933	3.795e-08	1.000	41.84	PASS	ok
ADAPT-UCCSD (Fixed Sequence)	-6.36139971	1.467e-02	0.997	336.92	FAIL	timeout/cap
ADAPT-UCCSD (Adaptive)	-6.36443533	7.516e-01	0.856	3.66	FAIL	timeout/cap
ADAPT-CSE (Adaptive)	-6.36443533	7.516e-01	0.856	3.23	FAIL	timeout/cap

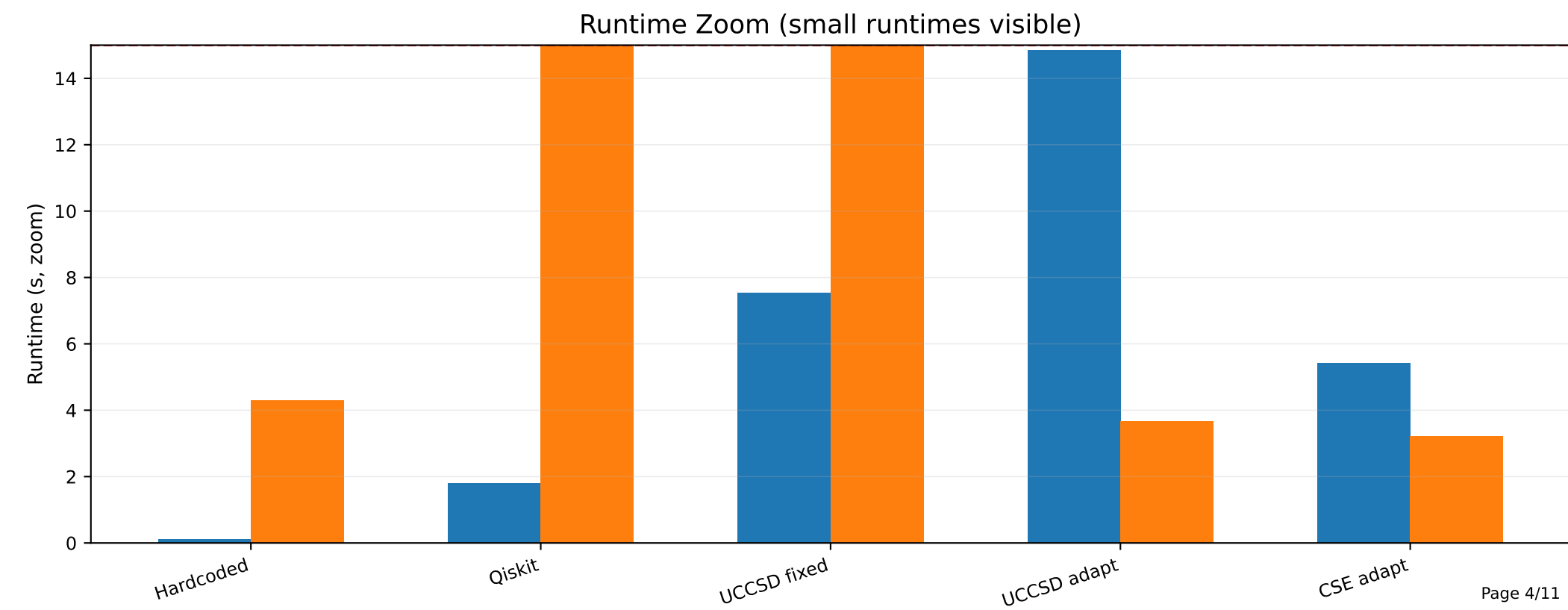
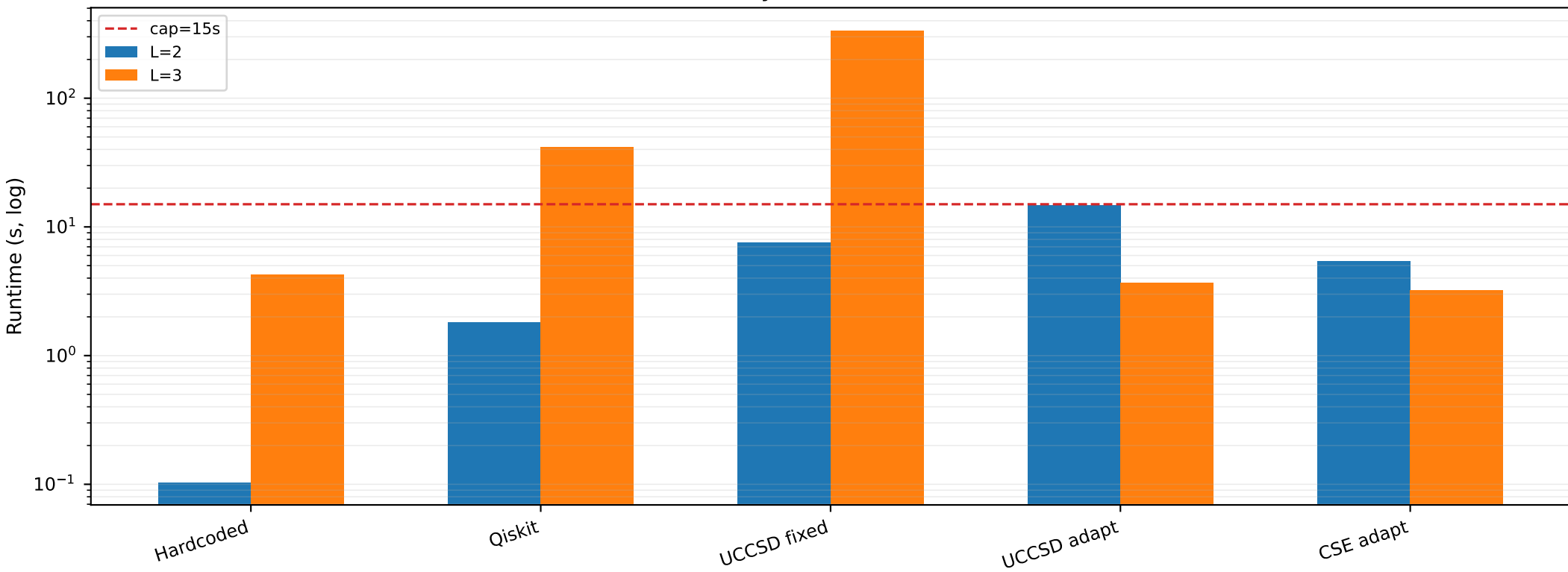
L	Method	E_best	dE	gap	Runtime(s)	Gate	Reason
L=2	Hardcoded VQE (UCCSD)	-0.836057100816	1.734e-08	1.000	0.10	FAIL	tol
L=2	Qiskit VQE (UCCSD)	-0.836057117595	5.600e-10	1.000	1.81	PASS	ok
L=2	ADAPT-UCCSD (Fixed Sequen	-0.507936507927	3.281e-01	0.939	7.53	FAIL	timeout/cap
L=2	ADAPT-UCCSD (Adaptive)	-0.507936507936	3.281e-01	0.939	14.85	FAIL	timeout/cap
L=2	ADAPT-CSE (Adaptive)	-0.506312970694	3.297e-01	0.938	5.41	PASS	timeout/cap
L=3	Hardcoded VQE (UCCSD)	-1.236067973953	3.547e-09	1.000	4.30	PASS	ok
L=3	Qiskit VQE (UCCSD)	-1.236067939546	3.795e-08	1.000	41.84	PASS	ok
L=3	ADAPT-UCCSD (Fixed Sequen	-1.221399776886	1.467e-02	0.997	336.92	FAIL	timeout/cap
L=3	ADAPT-UCCSD (Adaptive)	-0.484435331766	7.516e-01	0.856	3.66	FAIL	timeout/cap
L=3	ADAPT-CSE (Adaptive)	-0.484435331759	7.516e-01	0.856	3.23	FAIL	timeout/cap

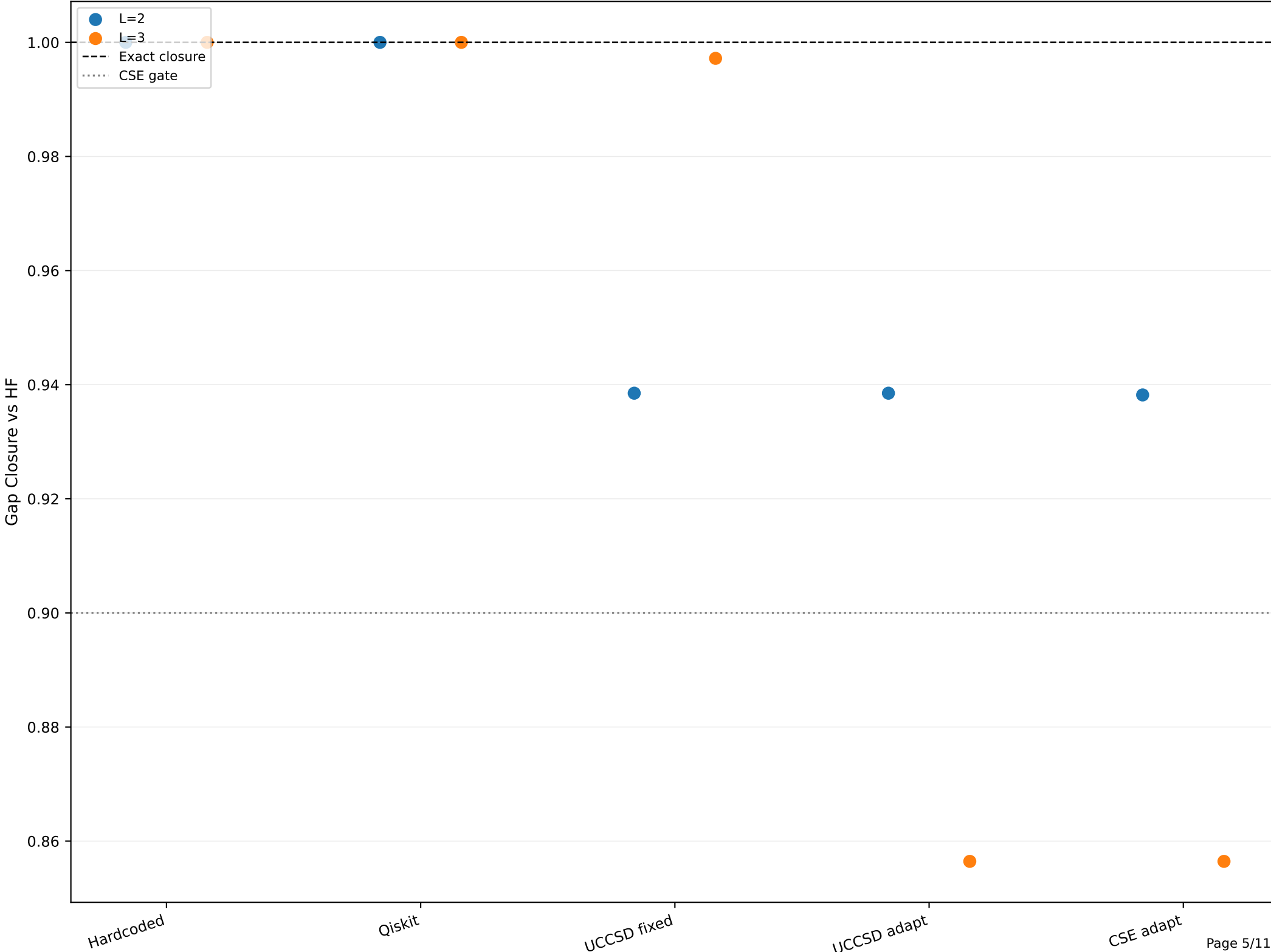
L=2 Absolute Error

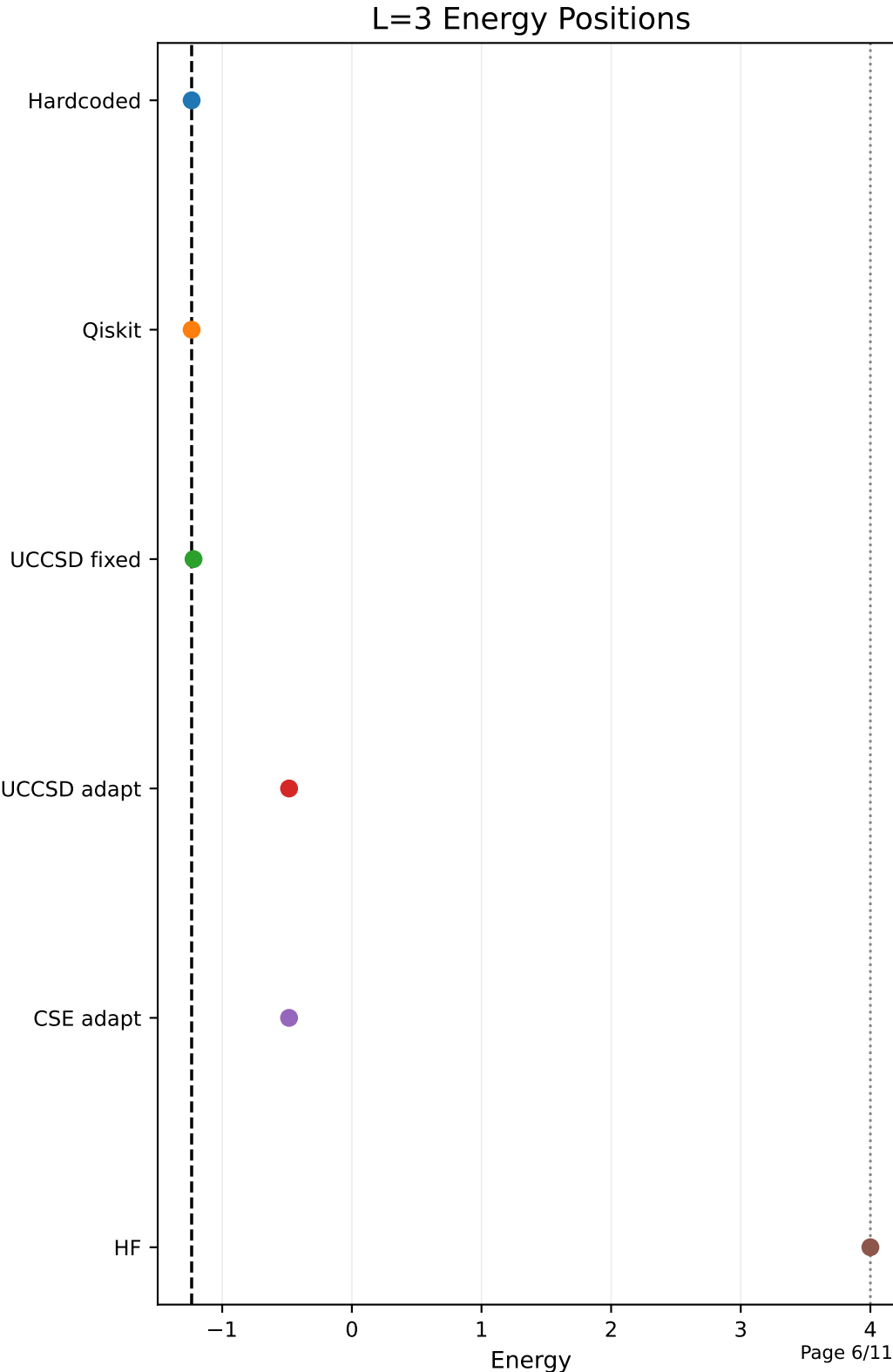
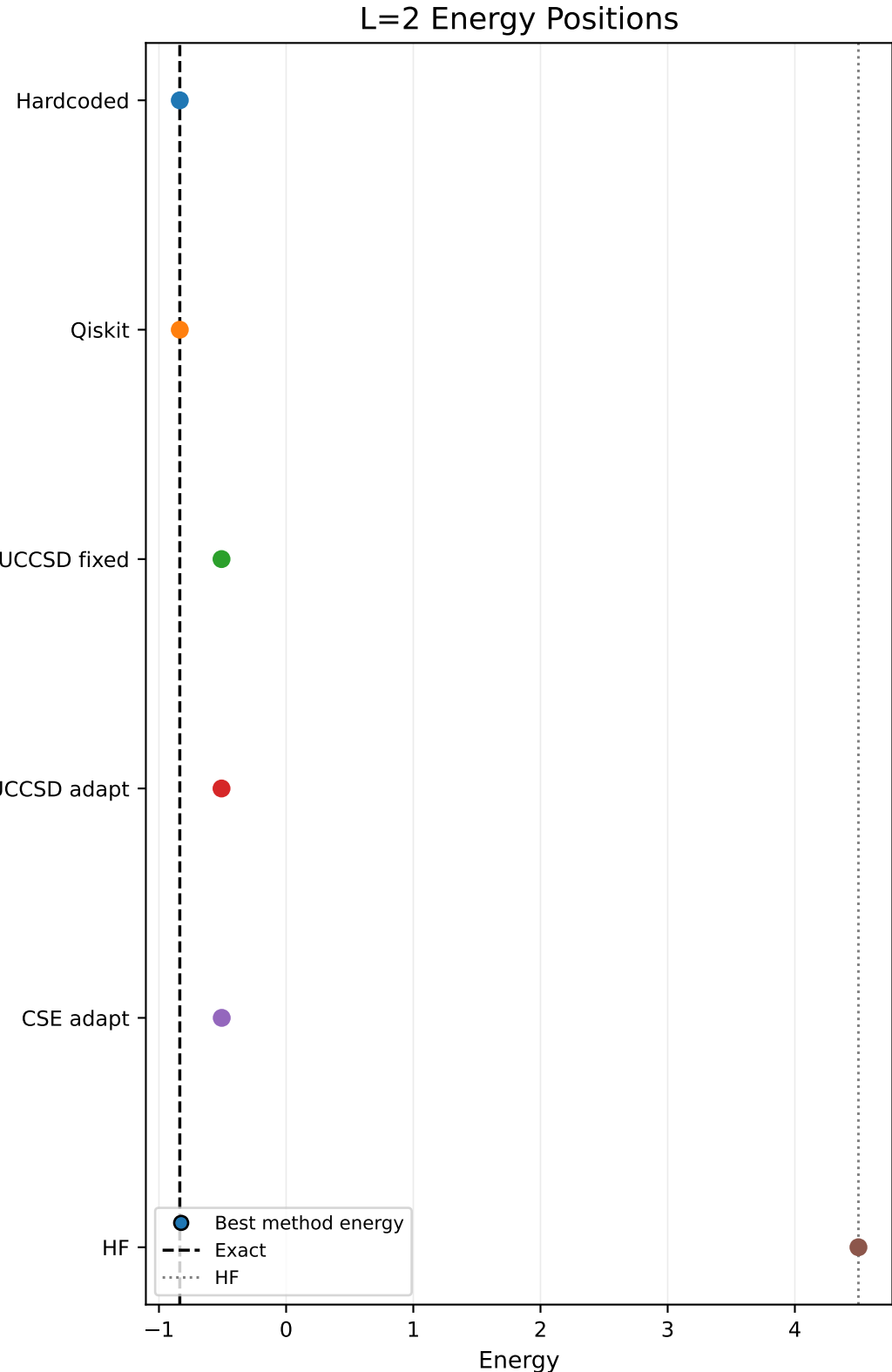


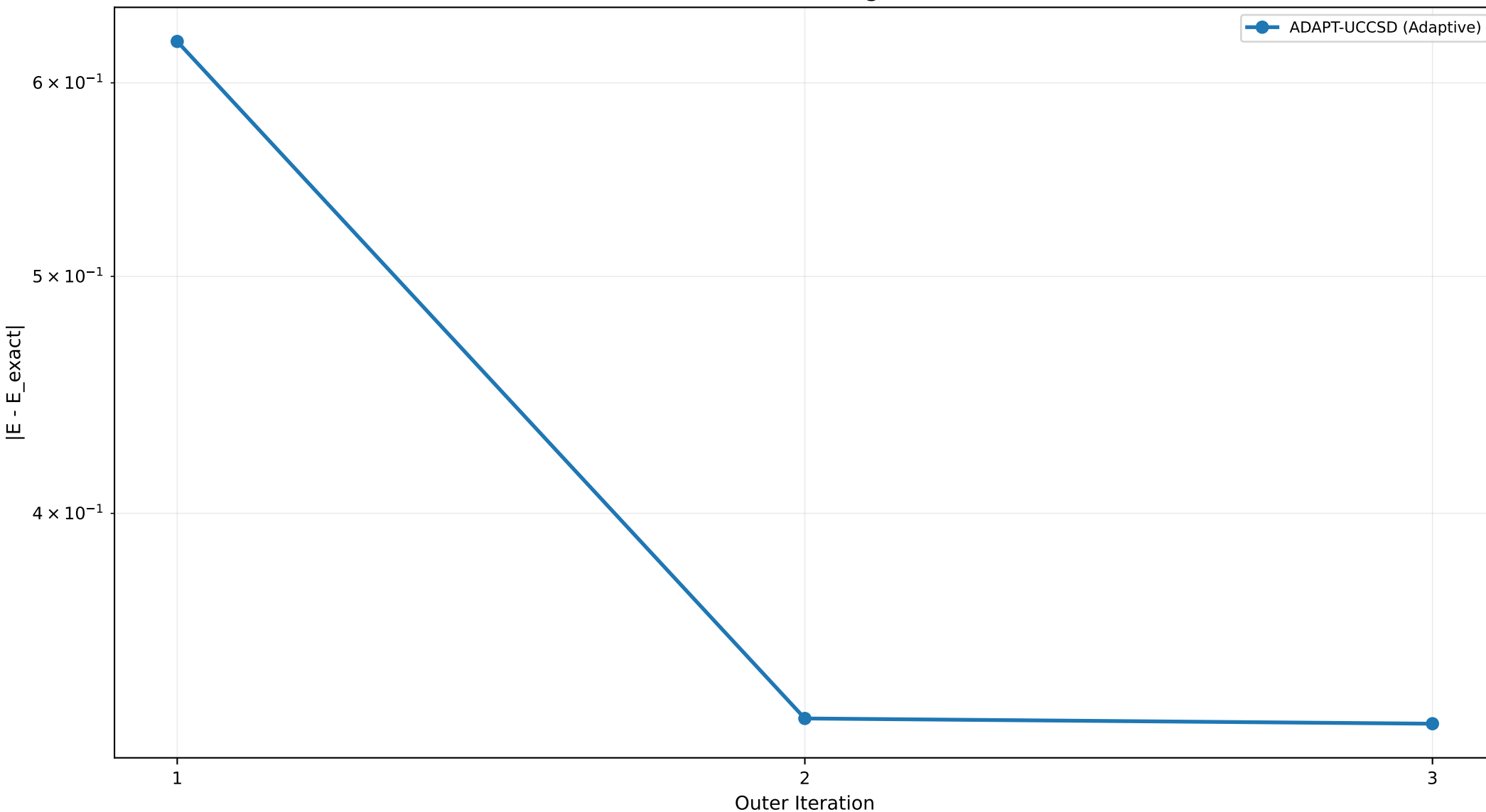
L=3 Absolute Error



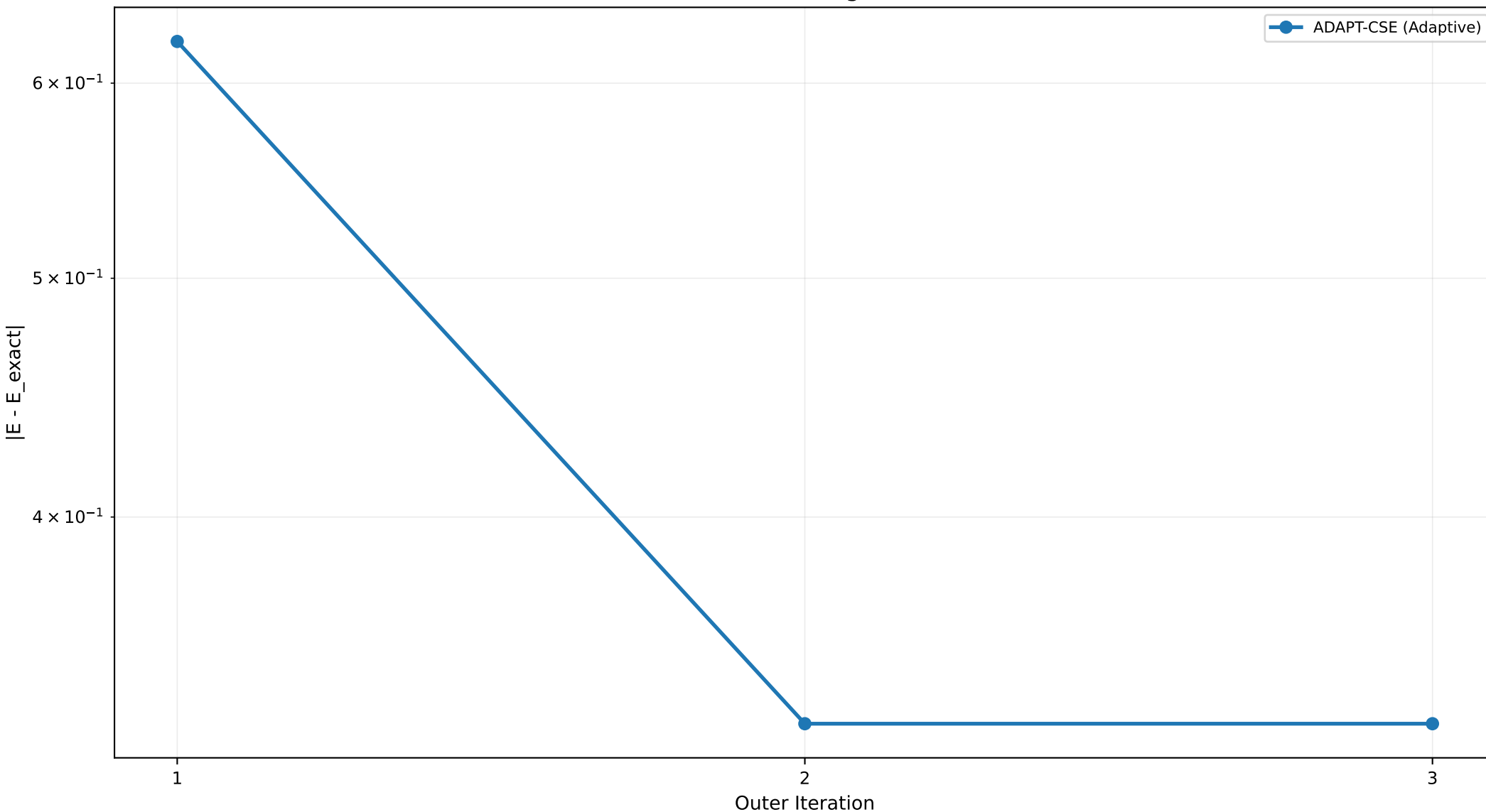






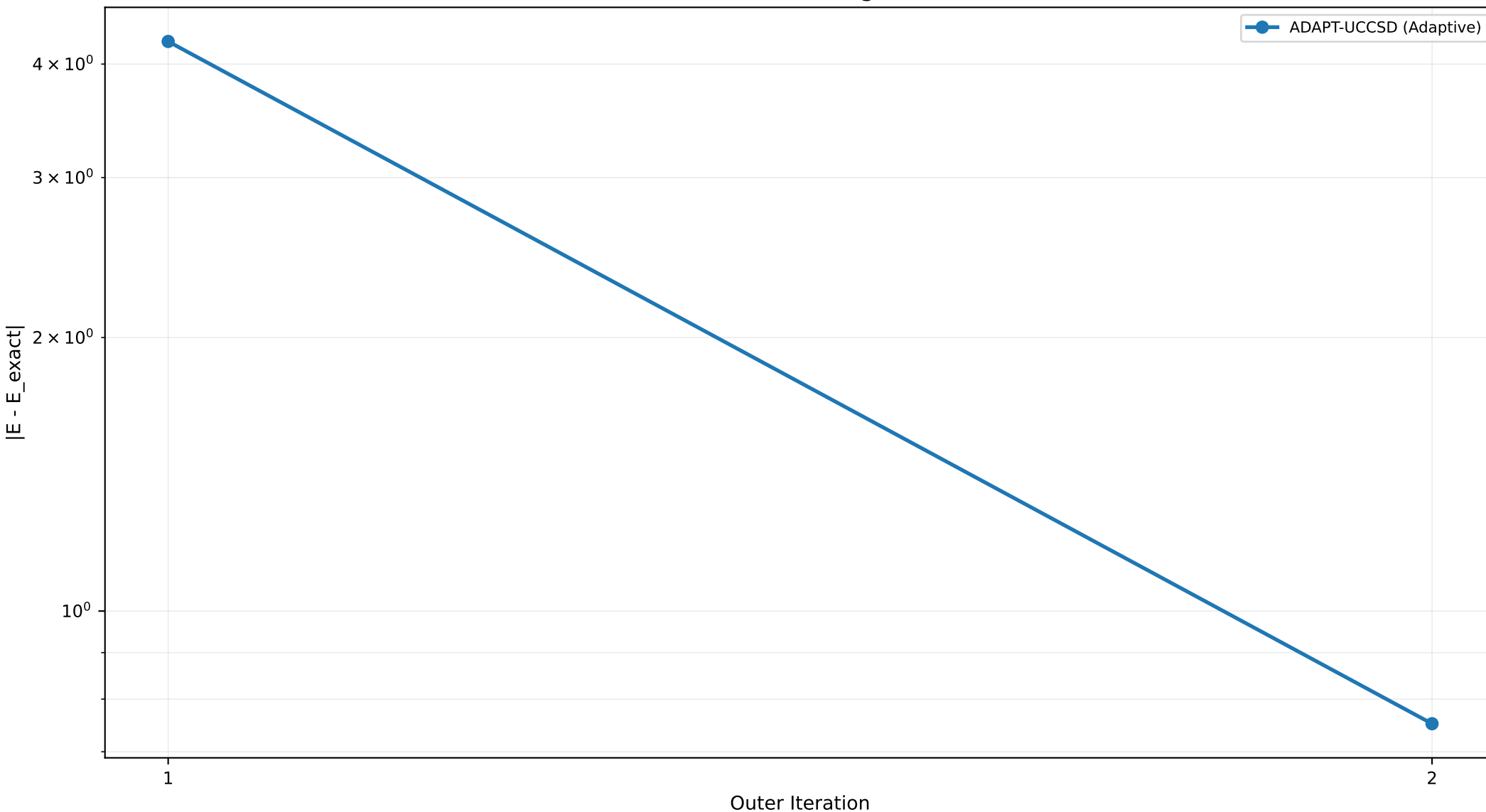


Method	N_iter	Final  dE	Runtime(s)	Stop/Note
ADAPT-UCCSD (Fixed Sequence)	1	3.281e-01	7.53	stopped after 1 iteration; stop=budget:max

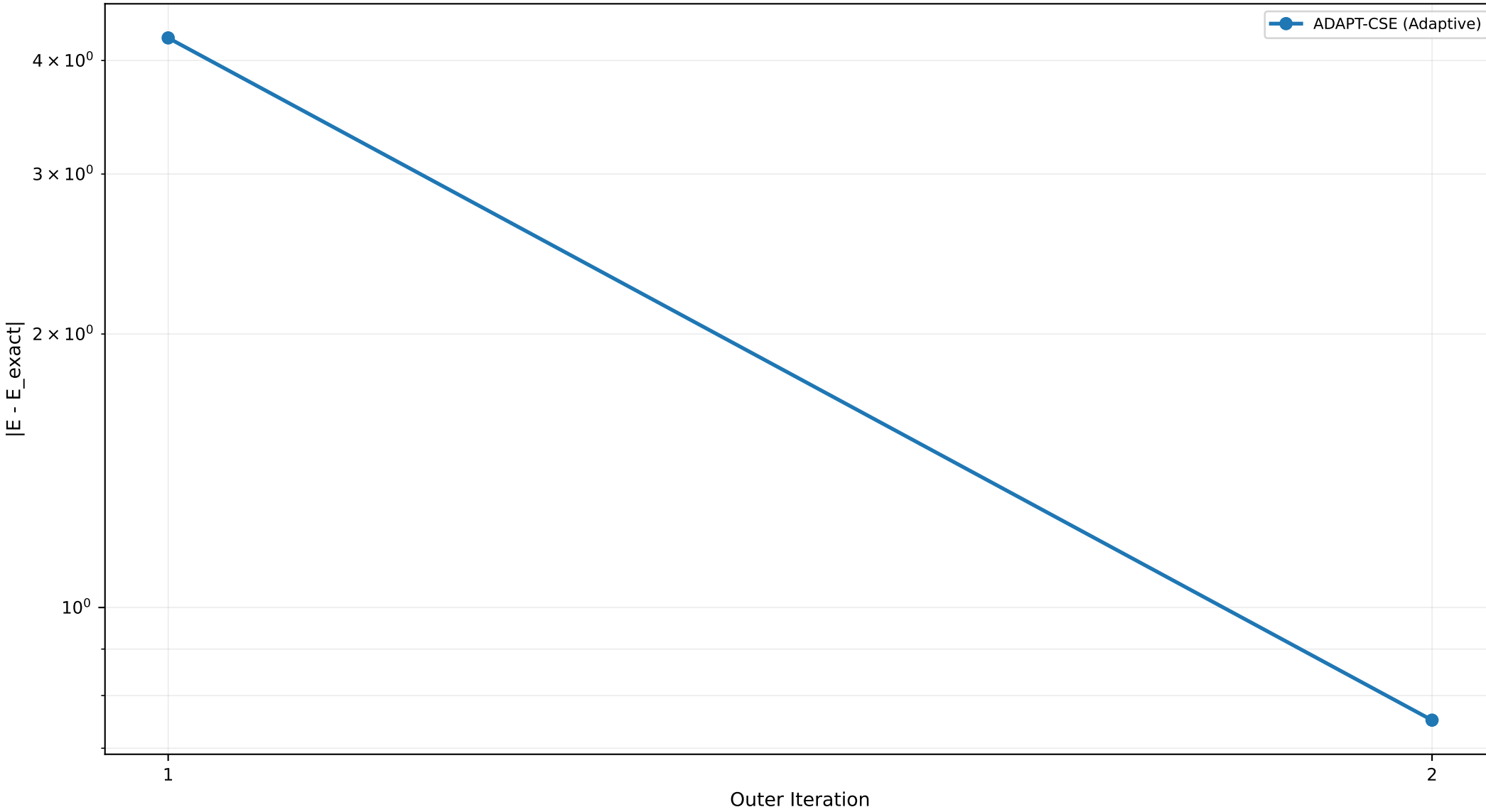


Method	N_iter	Final  dE	Runtime(s)	Stop/Note
ADAPT-CSE (Adaptive)	3	3.297e-01	5.41	stop=budget:max_time_s





Method	N_iter	Final  dE	Runtime(s)	Stop/Note
ADAPT-UCCSD (Fixed Sequence)	1	1.467e-02	336.92	stopped after 1 iteration; stop=budget:max



Method	N_iter	Final  dE	Runtime(s)	Stop/Note
ADAPT-CSE (Adaptive)	2	7.516e-01	3.23	stop=budget:max_time_s

L	Method	E_best	dE	gap	Runtime(s)
L=2	Hardcoded	-0.836057100816	1.734e-08	1.000	0.10
L=2	Qiskit	-0.836057117595	5.600e-10	1.000	1.81
L=2	UCCSD fixed	-0.507936507927	3.281e-01	0.939	7.53
L=2	UCCSD adapt	-0.507936507936	3.281e-01	0.939	14.85
L=2	CSE adapt	-0.506312970694	3.297e-01	0.938	5.41
L=3	Hardcoded	-1.236067973953	3.547e-09	1.000	4.30
L=3	Qiskit	-1.236067939546	3.795e-08	1.000	41.84
L=3	UCCSD fixed	-1.221399776886	1.467e-02	0.997	336.92
L=3	UCCSD adapt	-0.484435331766	7.516e-01	0.856	3.66
L=3	CSE adapt	-0.484435331759	7.516e-01	0.856	3.23

Appendix: Warnings

- L=2 adapt\_uccsd\_fixed: stopped due to budget:max\_time\_s.
- L=2 adapt\_uccsd\_adapt: stopped due to budget:max\_time\_s.
- L=2 adapt\_cse\_adapt: stopped due to budget:max\_time\_s.
- L=3 qiskit\_vqe: best runtime 41.84s exceeds cap 15.00s.
- L=3 adapt\_uccsd\_fixed: best runtime 336.92s exceeds cap 15.00s.
- L=3 adapt\_uccsd\_fixed: stopped due to budget:max\_time\_s.
- L=3 adapt\_uccsd\_adapt: stopped due to budget:max\_time\_s.
- L=3 adapt\_cse\_adapt: stopped due to budget:max\_time\_s.