

## Hardcoded vs Qiskit Pipeline Comparison Summary

generated\_utc: 2026-02-13T17:54:37.171289+00:00

all\_pass: True

l\_values: [4]

trajectory\_comparison\_basis: trotter trajectories start from each pipeline's selected initial\_state\_source (default: vqe)

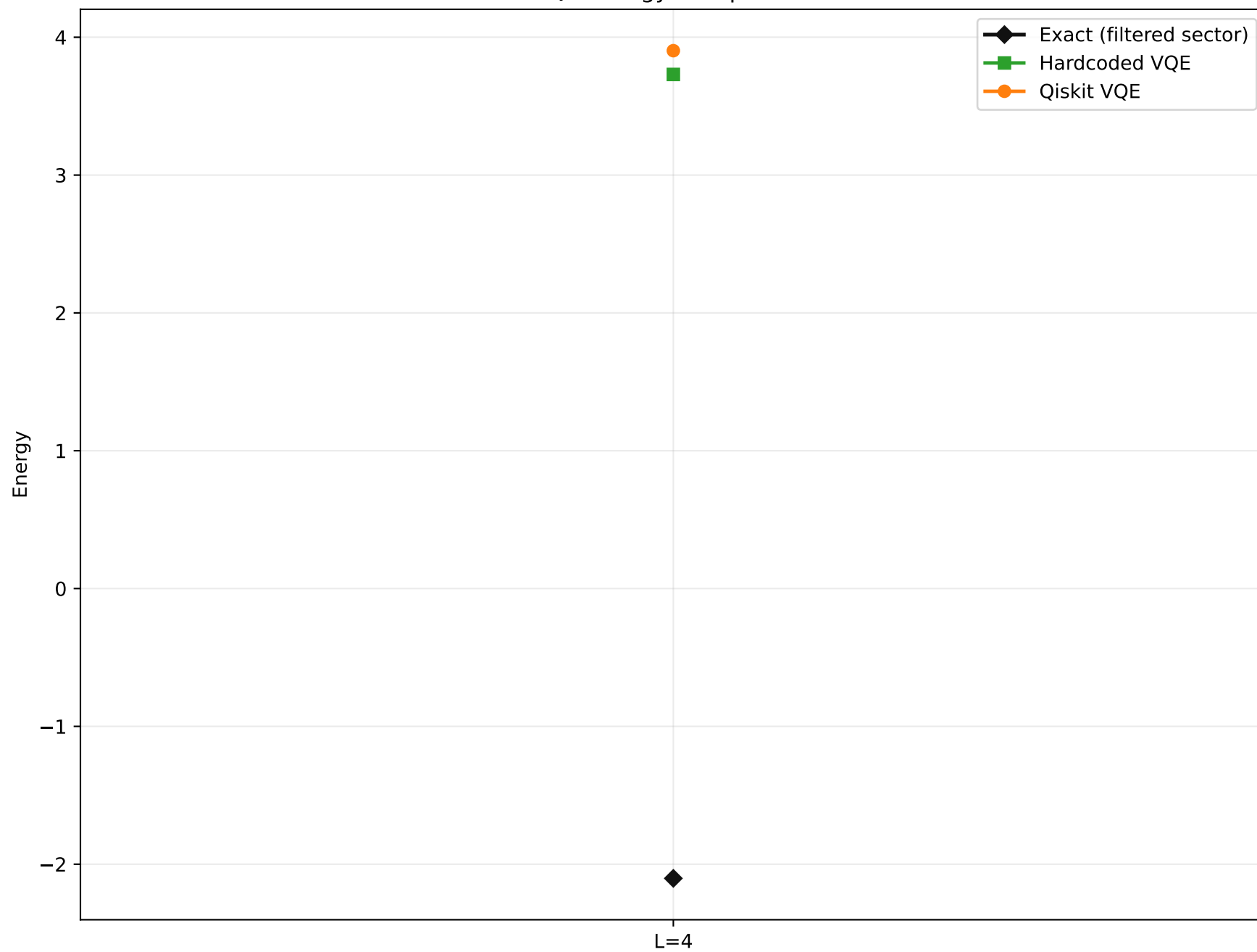
thresholds: {"ground\_state\_energy\_abs\_delta": 1e-08, "fidelity\_max\_abs\_delta": 0.0001, "energy\_trotter\_max\_abs\_delta": 0.001,

hardcoded\_qiskit\_import\_isolation: {'pass': True, 'qpe\_adapter\_range': {'start\_line': 299, 'end\_line': 416}, 'qiskit\_imports':

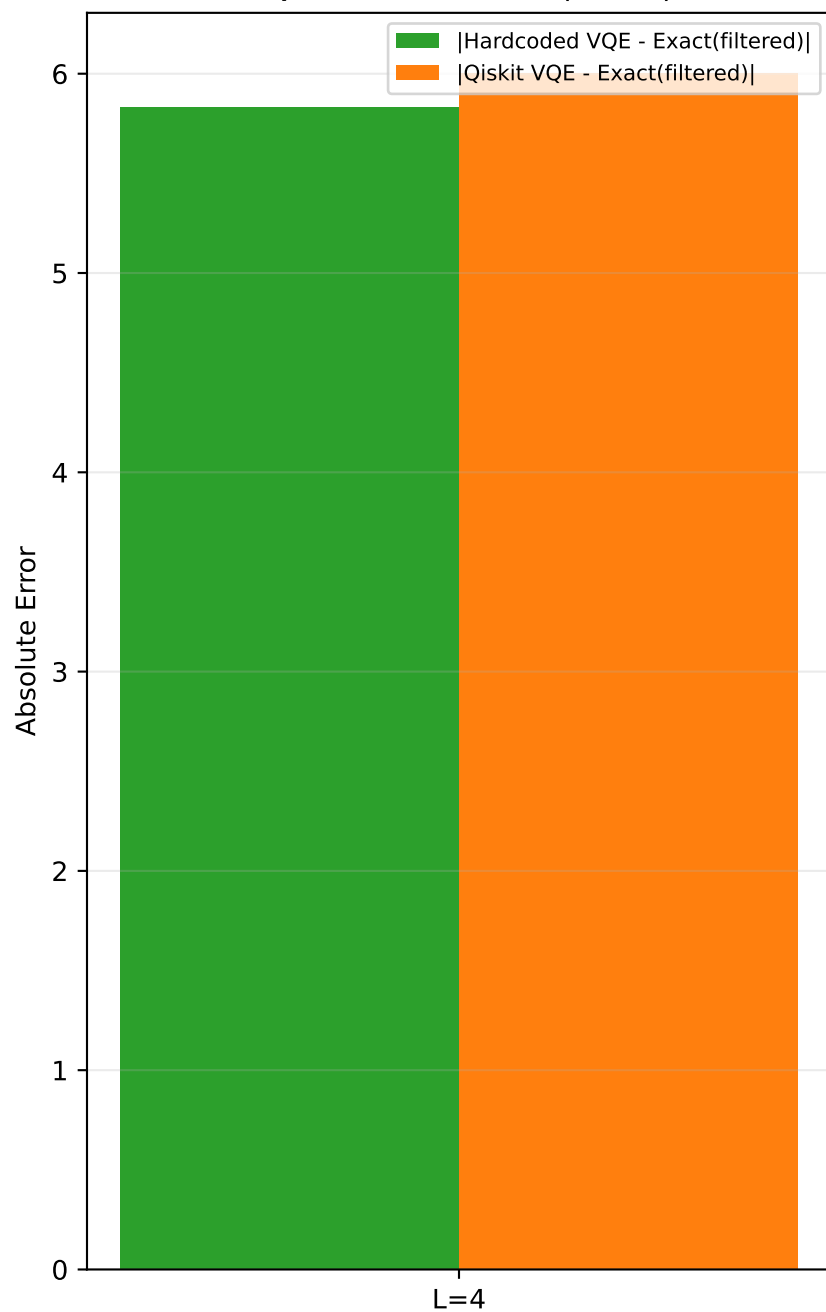
Per-L pass flags:

L=4 pass=True metrics\_json=Tests/artifacts/hardcoded\_vs\_qiskit\_pipeline\_L4\_metrics.json

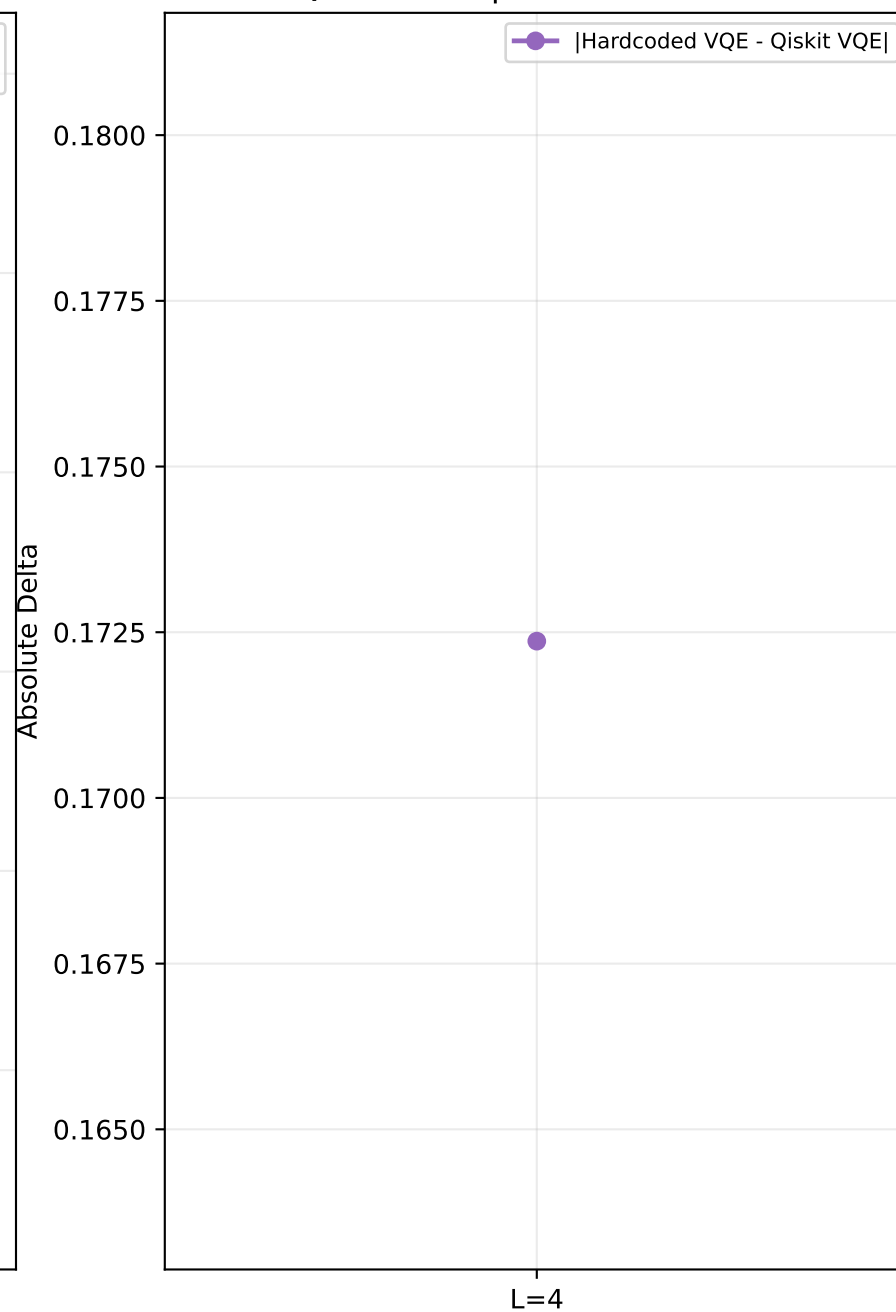
VQE Energy Comparison

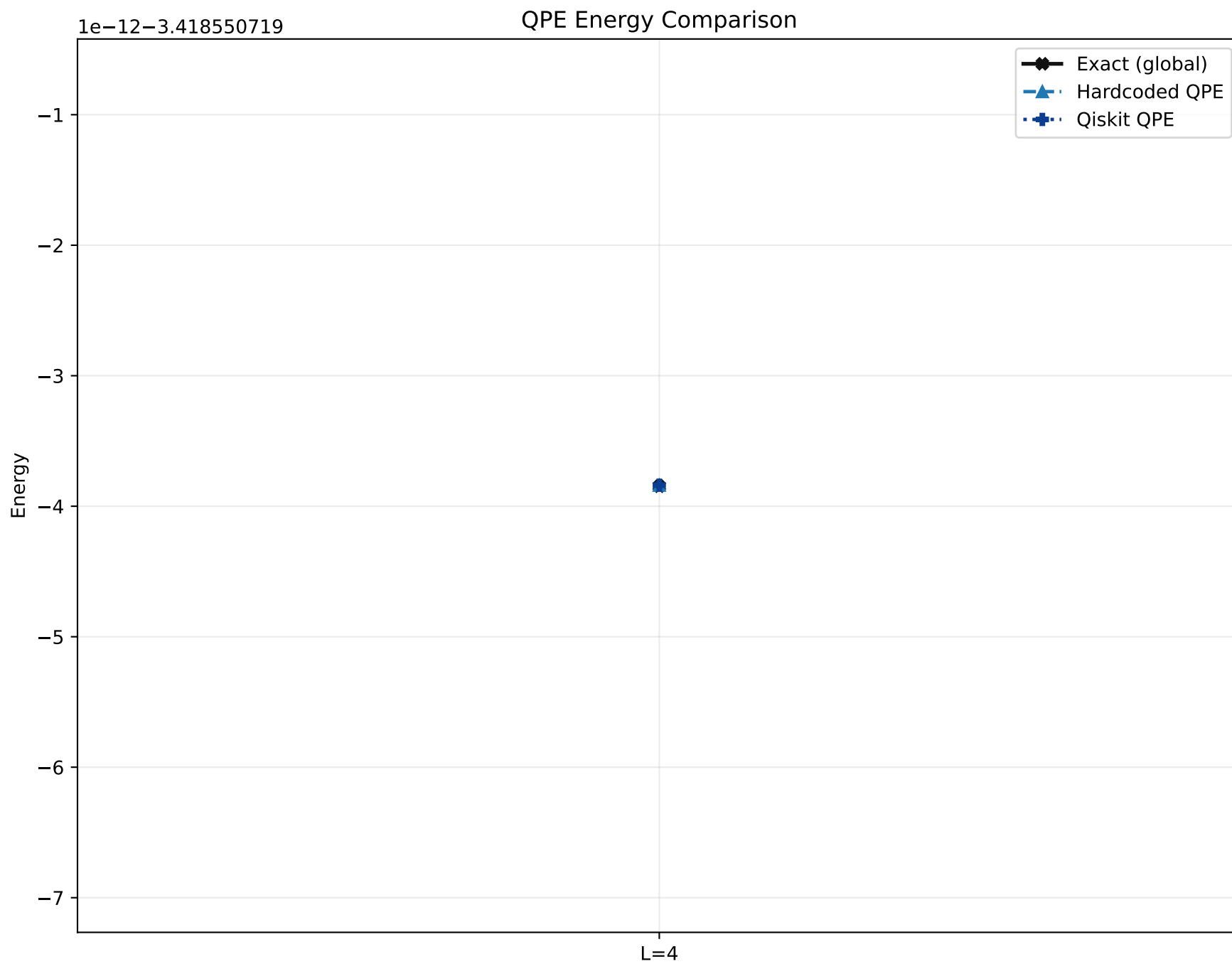


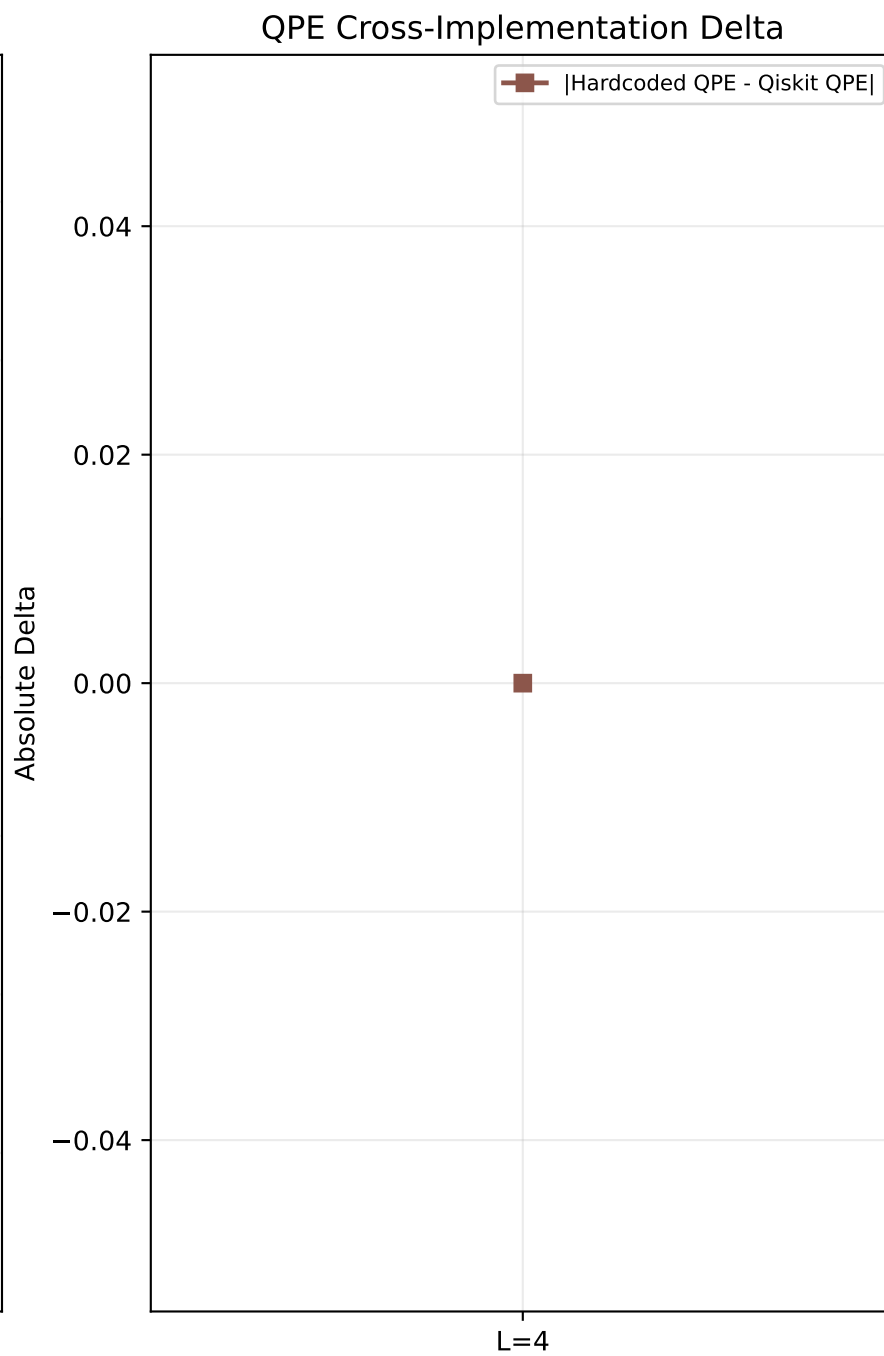
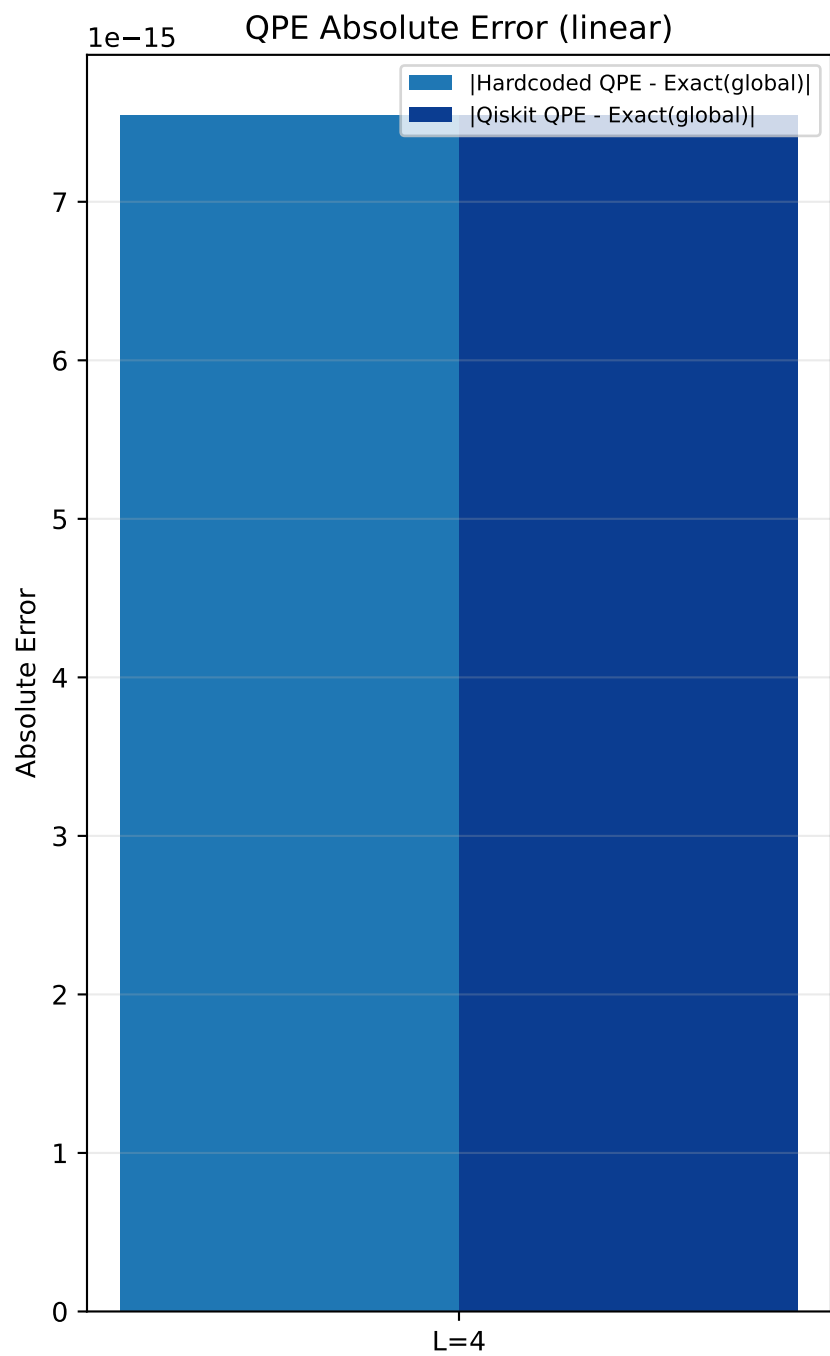
### VQE Absolute Error (linear)



### VQE Cross-Implementation Delta

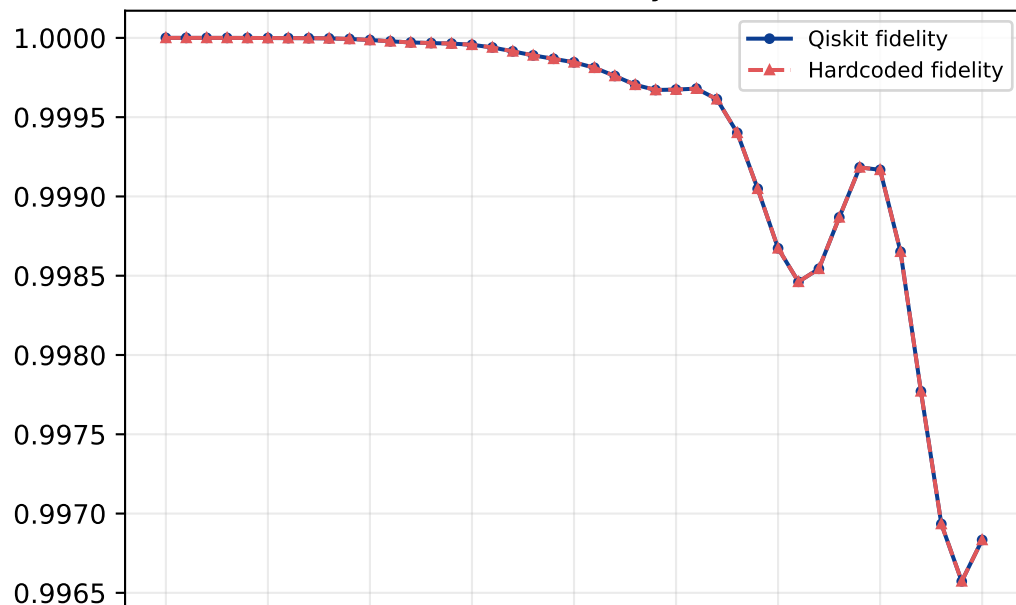




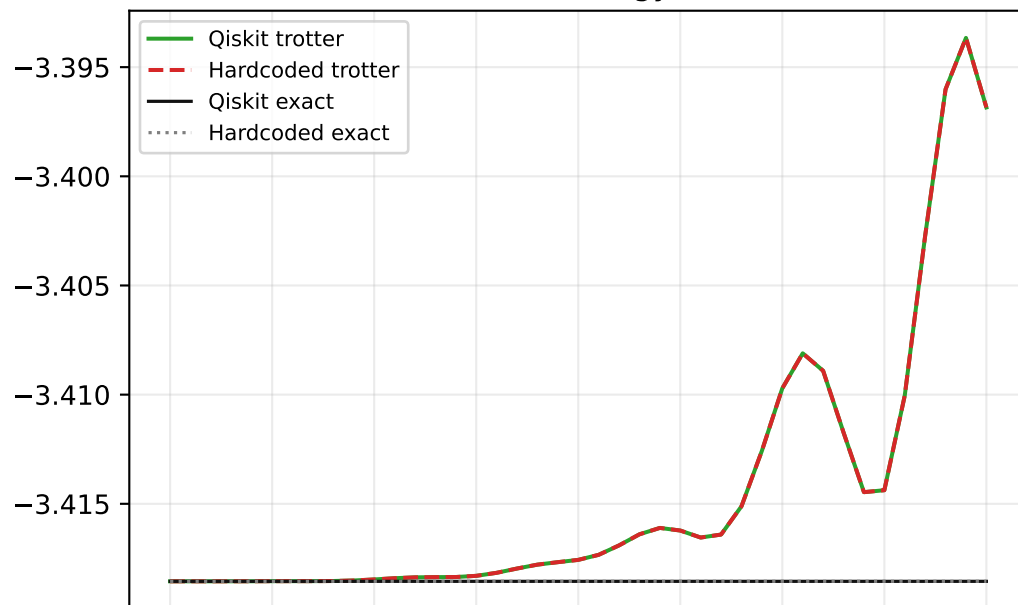


# Bundle Page: L=4 Trajectory Comparison

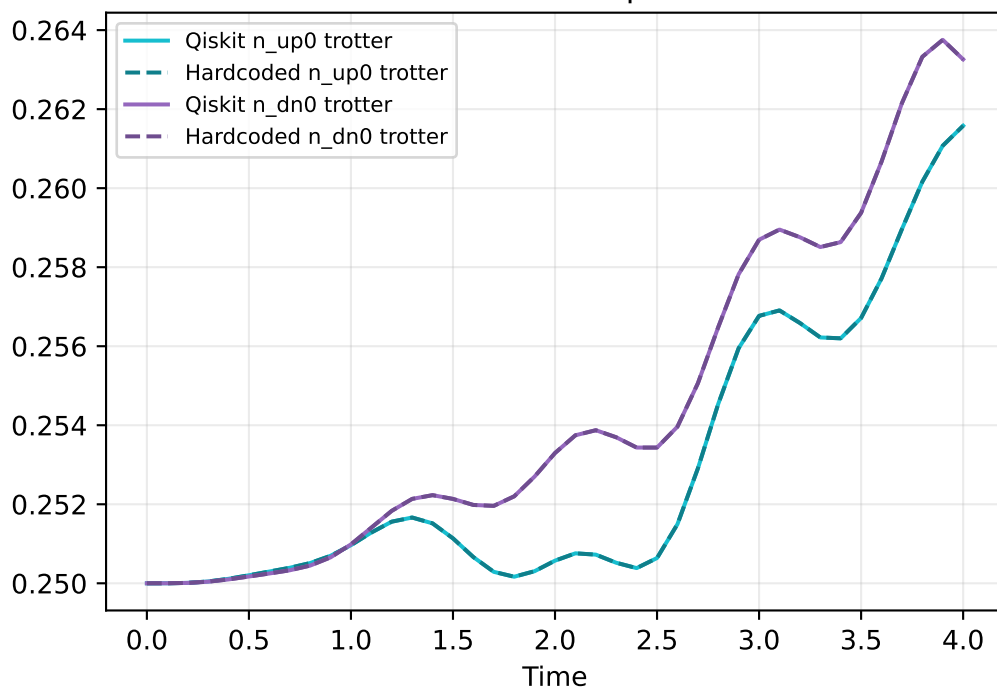
## L=4 Fidelity



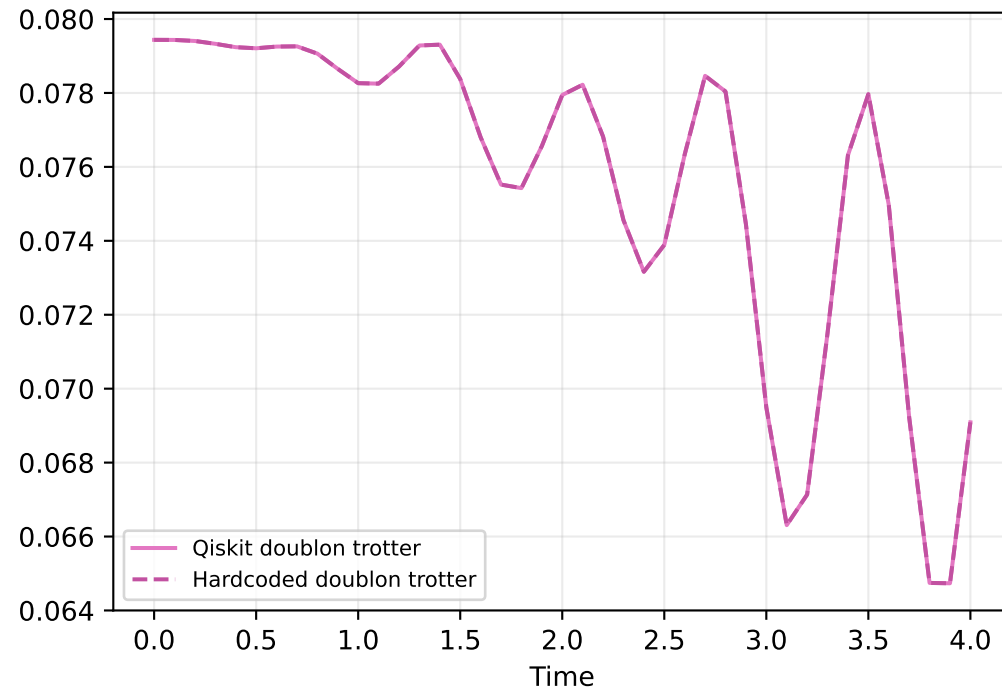
## L=4 Energy



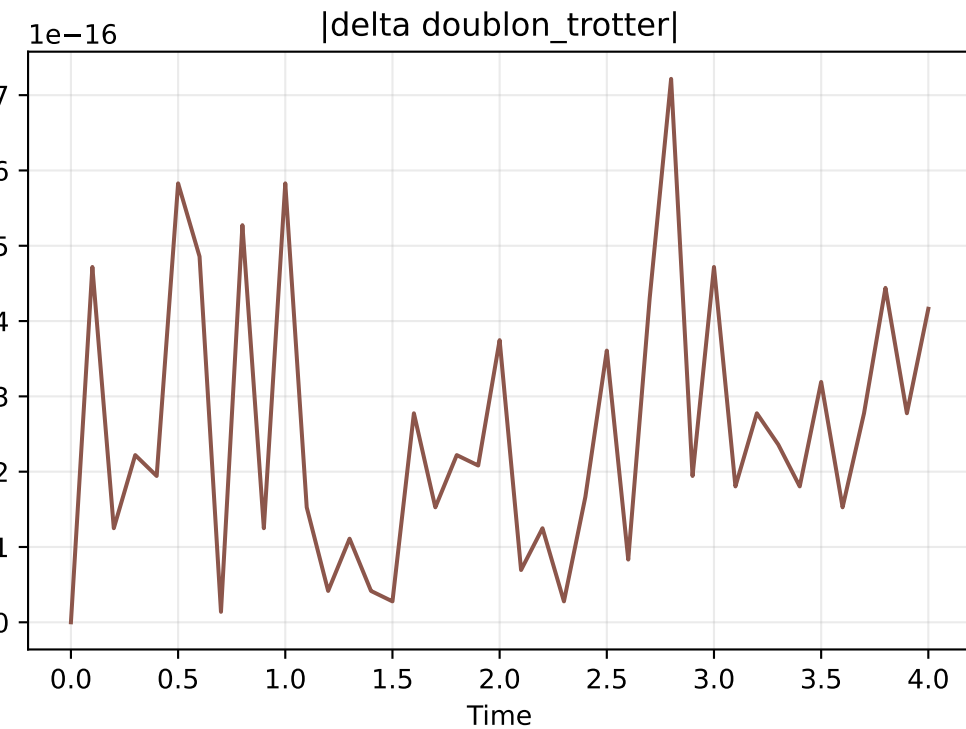
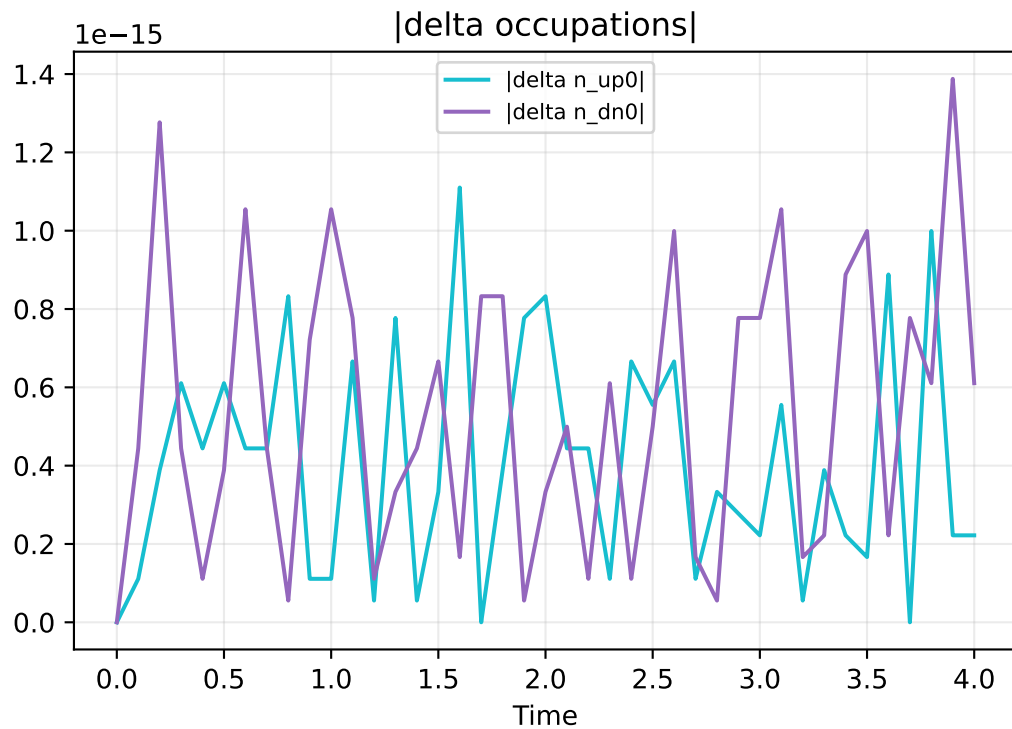
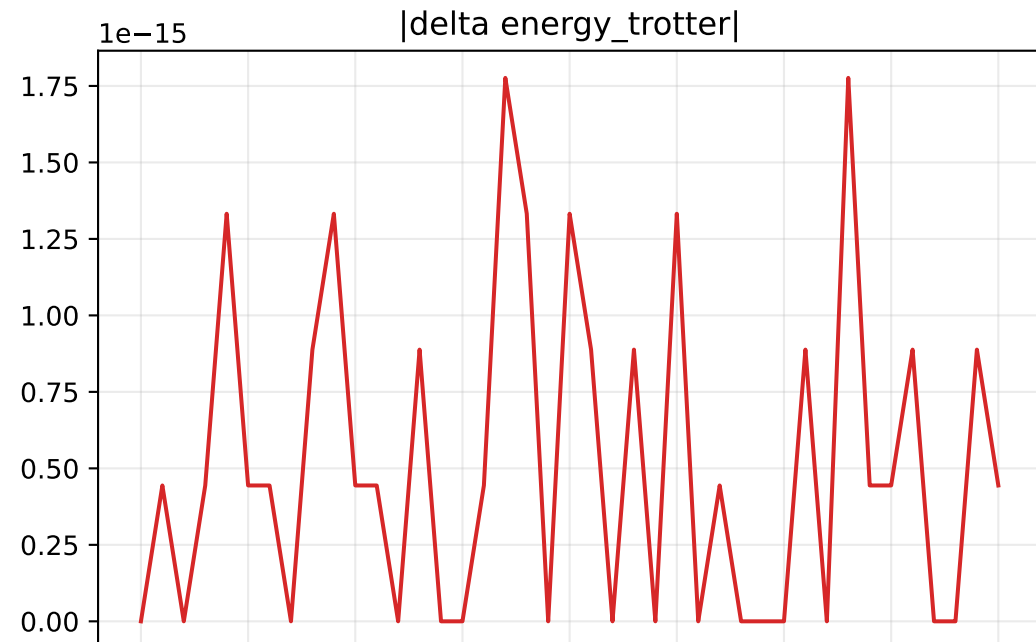
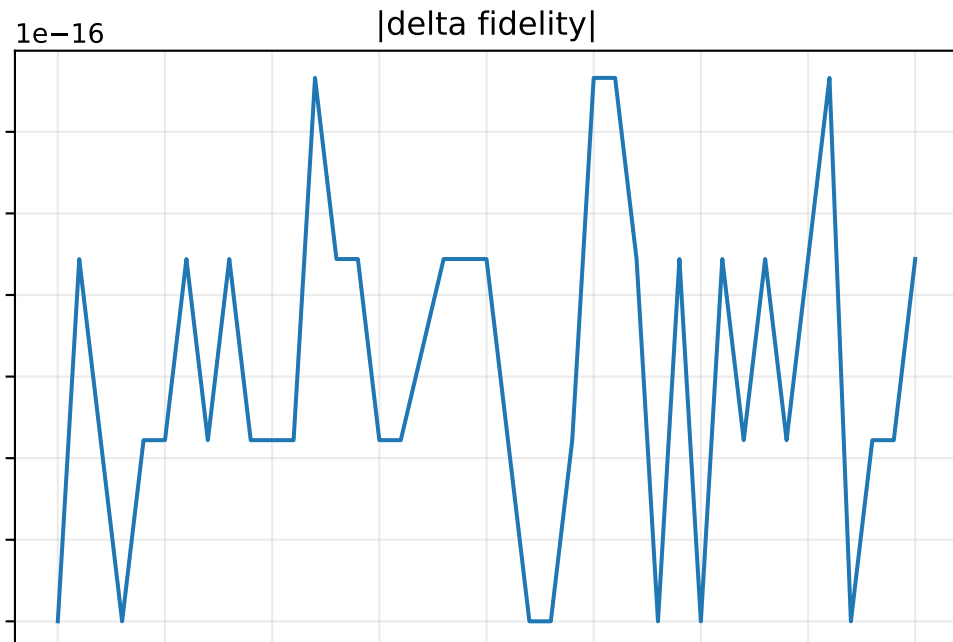
## L=4 Site-0 Occupations



## L=4 Doublon



# Bundle Delta Diagnostics L=4



Bundle metrics page L=4

Trotterization comparison uses each path's configured initial state.  
For VQE-init runs, both exact(t) and trotter(t) start from the VQE ansatz state.

```
ground_state_energy_abs_delta = 0.0
fidelity max/mean/final = 6.661338147750939e-16 / 3.059882970308358e-16 / 4.440892098500626e-16
energy_trotter max/mean/final = 1.7763568394002505e-15 / 5.199093188488538e-16 / 4.440892098500626e-16
n_up_site0_trotter max/mean/final = 1.1102230246251565e-15 / 4.0617915535066704e-16 / 2.220446049250313e-16
n_dn_site0_trotter max/mean/final = 1.3877787807814457e-15 / 5.388643460985516e-16 / 6.106226635438361e-16
doublon_trotter max/mean/final = 7.216449660063518e-16 / 2.5250804157633134e-16 / 4.163336342344337e-16
```

```
checks = {'ground_state_energy_abs_delta': True, 'fidelity_max_abs_delta': True, 'energy_trotter_max_abs_delta': True, 'n_up_s
PASS = True
```