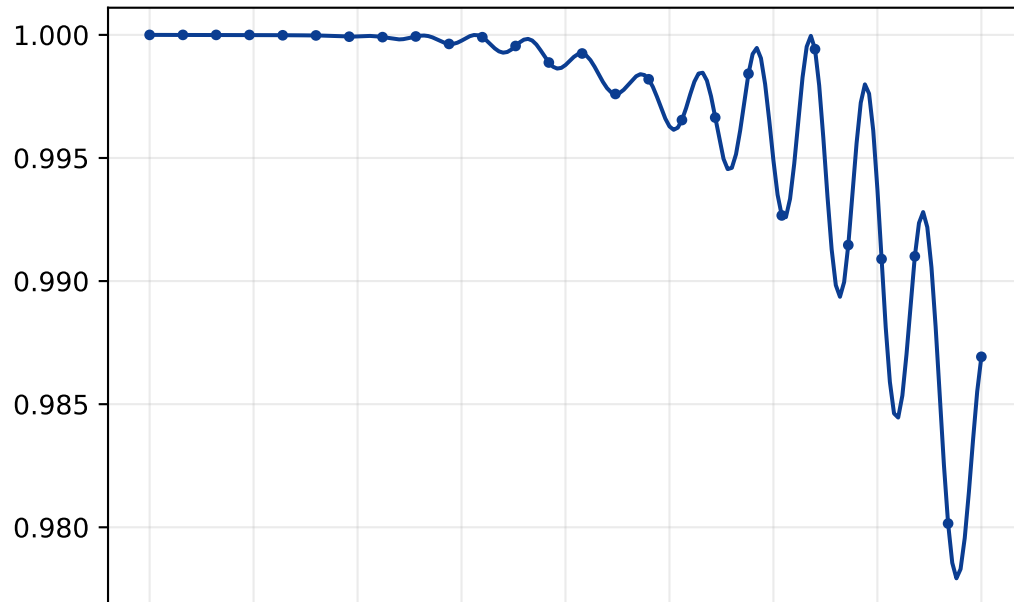
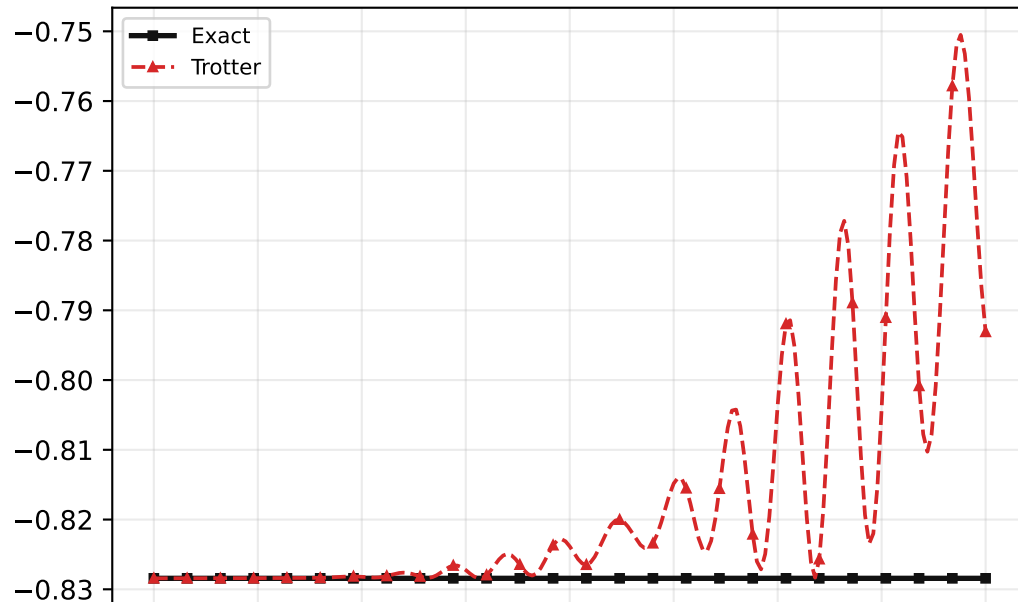


# Hardcoded Hubbard Pipeline: L=2

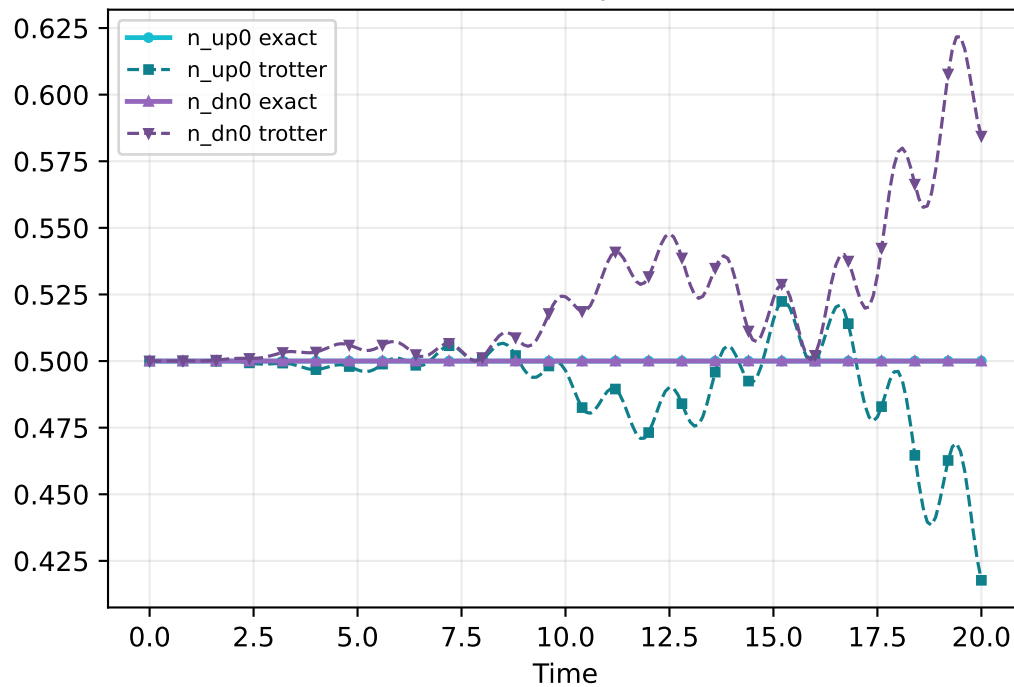
Fidelity(t) =  $|\langle \text{exact} | \text{trotter} \rangle|^2$



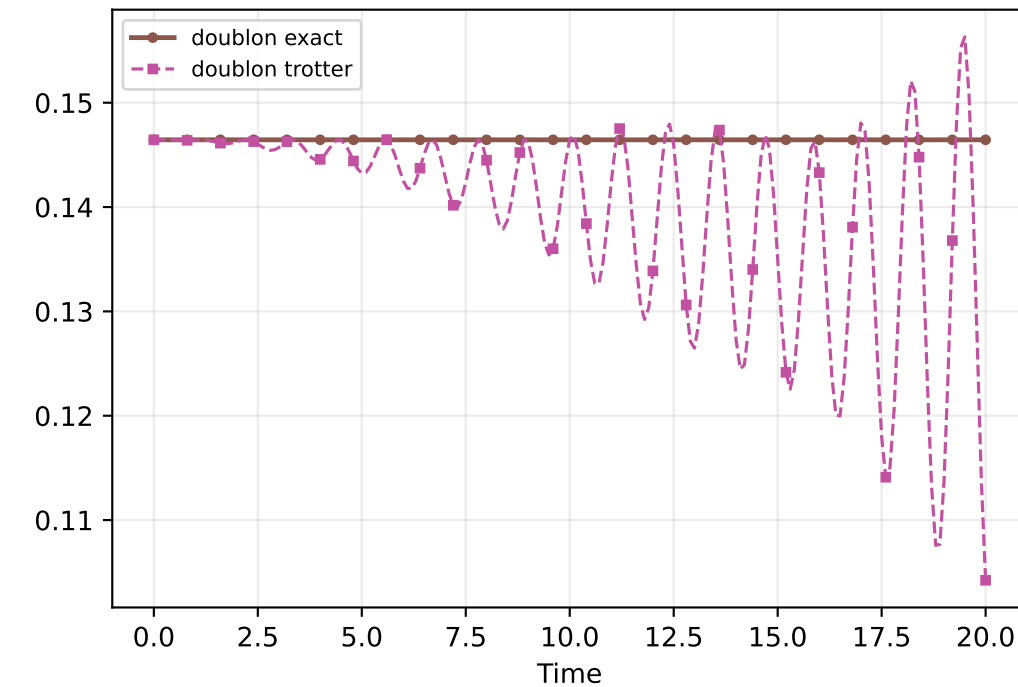
Energy



Site-0 Occupations

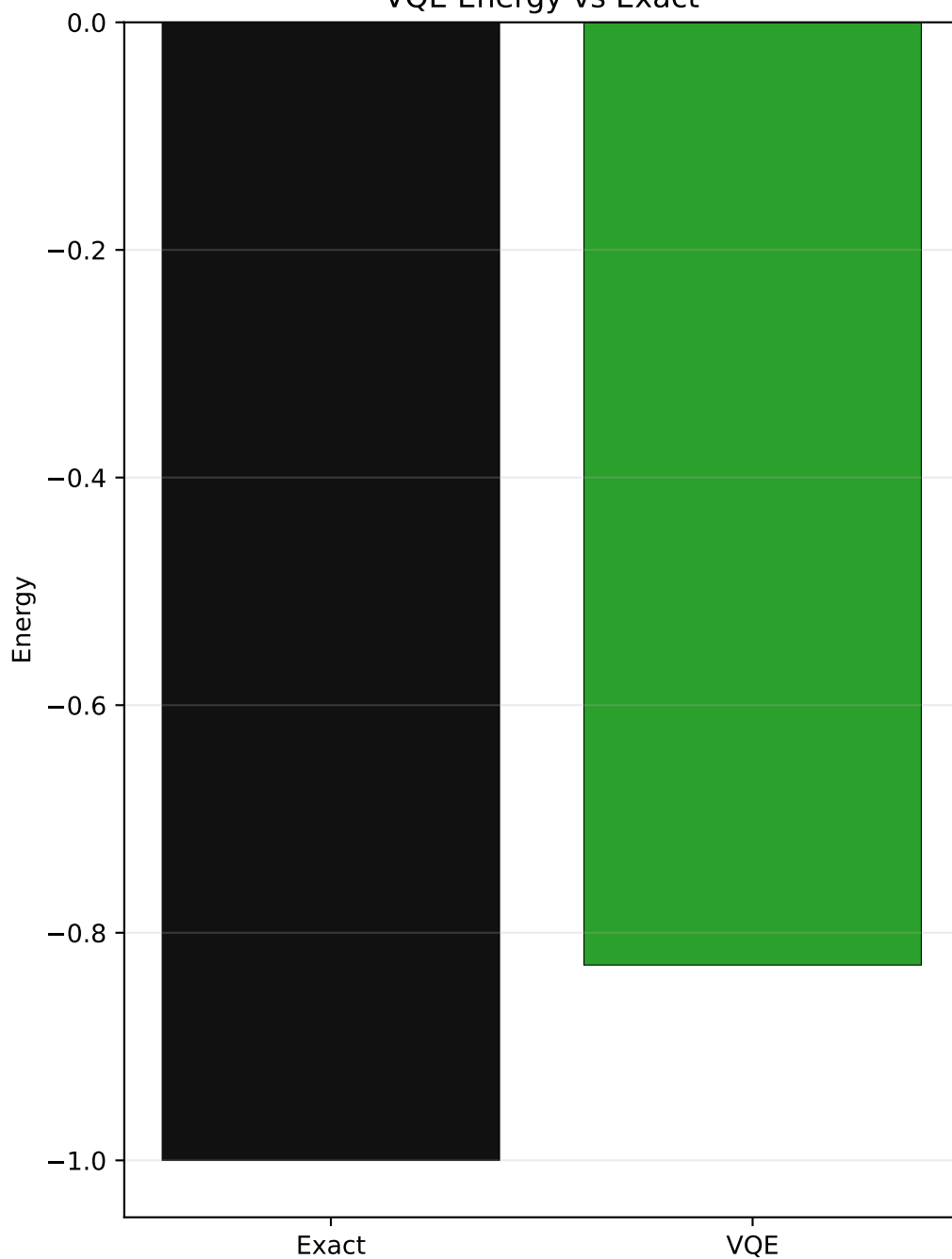


Total Doublon

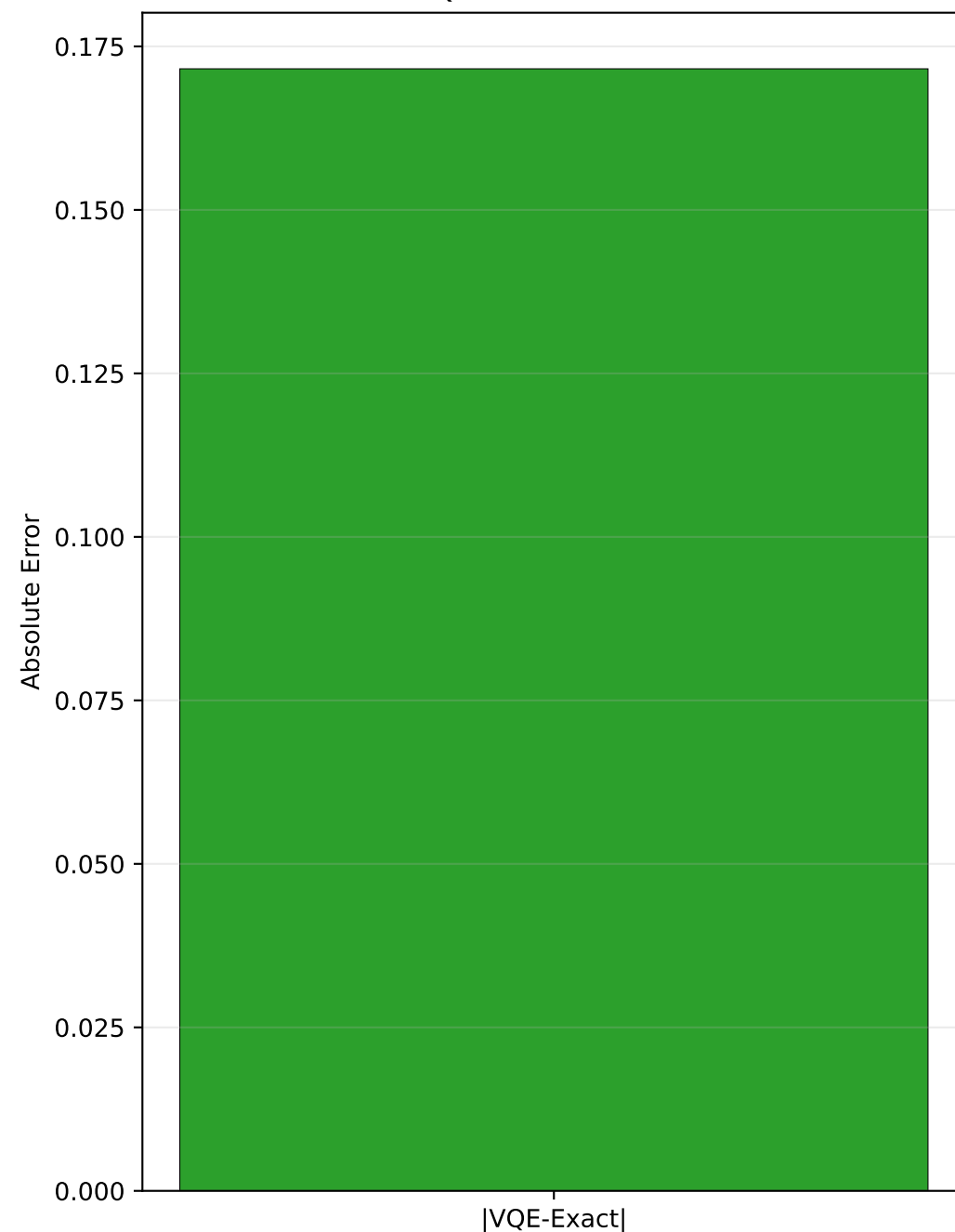


VQE energy is reported explicitly and is not inferred from Trotter  $t=0$ .

VQE Energy vs Exact



VQE Absolute Error



Hardcoded Hubbard pipeline summary

```
settings: {"L": 2, "t": 1.0, "u": 4.0, "dv": 0.0, "boundary": "periodic", "ordering": "blocked", "t_final": 20.0, "num_times": 1000000}
ground_state_exact_energy: -1.0000000000000000
vqe_energy: -0.8284271244738317
qpe_energy_estimate: -0.625
initial_state_source: vqe
hamiltonian_terms: 11
reference_sanity: {'checked': False, 'reason': 'no matching bundled reference for these settings'}
```