

## Molecular Dynamics Simulation Report

Optimized Lattice Parameter:  $5.2742 \times 10^{-10}$  m

Melting Point: 80 K

Boiling Point: 130 K

Total Runtime: 290.50 seconds

Best Verlet Algorithm: Velocity-Verlet (Adaptive)

Best Time Step:  $5.00 \times 10^{-16}$  s

Reason: Lowest average potential energy ( $-1.44 \times 10^{-18}$  J) and minimal energy drift ( $8.94 \times 10^{-24}$  J) during preliminary simulation.

