

# Molecular Dynamics Simulation Report

Optimized Lattice Parameter:  $5.2756 \times 10^{-10}$  m

Melting Point: 60 K

Boiling Point: 145 K

Total Runtime: 1350.99 seconds

Best Verlet Algorithm: Leapfrog Verlet (Adaptive)

Best Time Step:  $1.00 \times 10^{-15}$  s

Reason: Lowest average potential energy ( $-1.21 \times 10^{-20}$  J) and minimal energy drift ( $2.32 \times 10^{-23}$  J) during preliminary simulation.

