

# Molecular Dynamics Simulation Report

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

Melting Point: 185 K

Boiling Point: 200 K

Total Runtime: 3769.81 seconds

Best Verlet Algorithm: Velocity-Verlet (Adaptive)

Best Time Step:  $1.00 \times 10^{-14}$  s

Reason: Lowest average potential energy ( $-1.41 \times 10^{-18}$  J) and minimal energy drift ( $3.38 \times 10^{-23}$  J) during preliminary simulation.

