

Molecular Dynamics Simulation Report  
Optimized Lattice Parameter:  $5.2823 \times 10^{-10}$  m  
Melting Point: 200 K

Total Runtime: 1450.07 seconds  
Best Verlet Algorithm: Leapfrog Verlet (Adaptive)  
Best Time Step:  $1.00 \times 10^{-16}$  s  
Reason: Lowest average potential energy ( $-1.29 \times 10^{-20}$  J) and minimal energy drift ( $2.12 \times 10^{-22}$  J) during preliminary simulation.

