Breakdown of the Wiedemann-Franz Law and phonon-dominated thermal transport in topological semimetal NbP_2

Jie Yang,[1,2] Luyao Zhong,[3] and Xiaolong Yang[1,2,*]

[1] *College of Physics and Center of Quantum Materials and Devices, Chongqing University, Chongqing 401331, China*
[2] *Department of Physics and Chongqing Key Laboratory for Strongly Coupled Physics, Chongqing University, Chongqing 401331, People's Republic of China*
[3] *Department of Physics, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong, China*

* yangxl@cqu.edu.cn

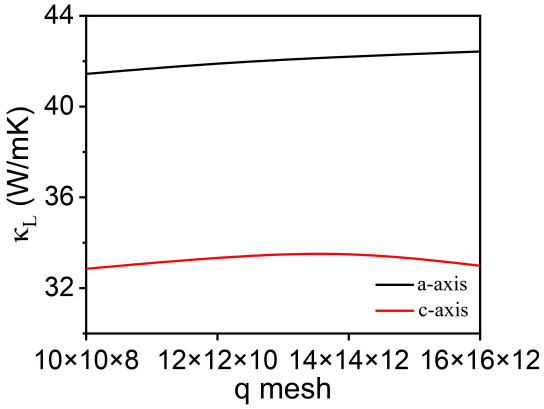

FIG. S1. Convergence test of κ_L with respect to $\mathbf{q}$ mesh grid for NbP_2.

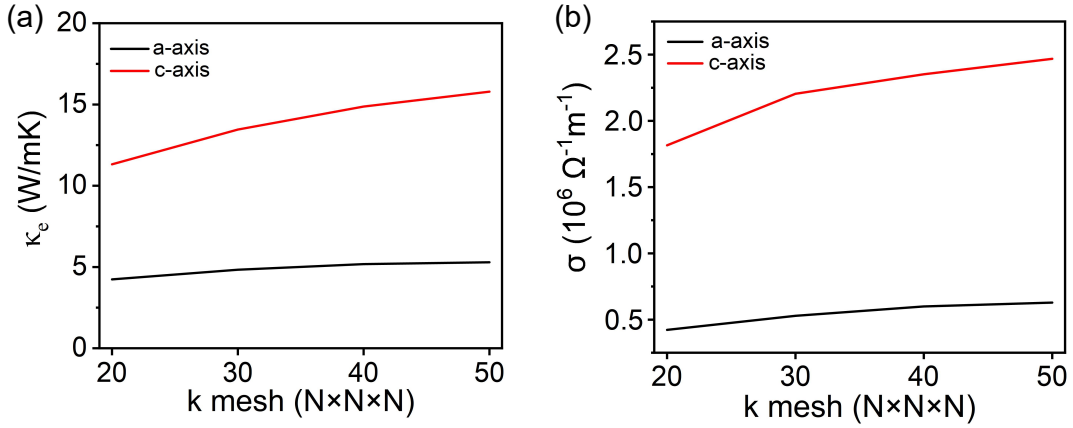

FIG. S2. Convergence test of (a) κ_e and (b) σ with respect to $\mathbf{k}$ mesh grid for NbP_2.

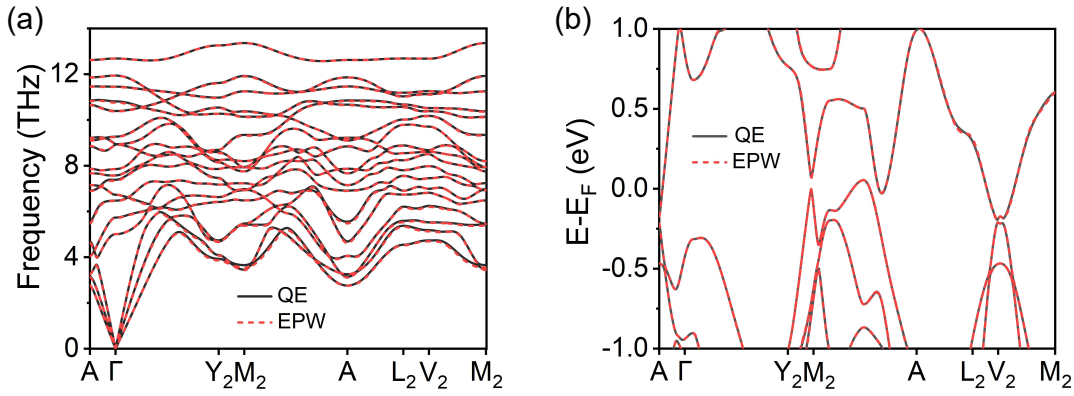

FIG. S3. Validation of (a) phononic and (b) electronic band structures.

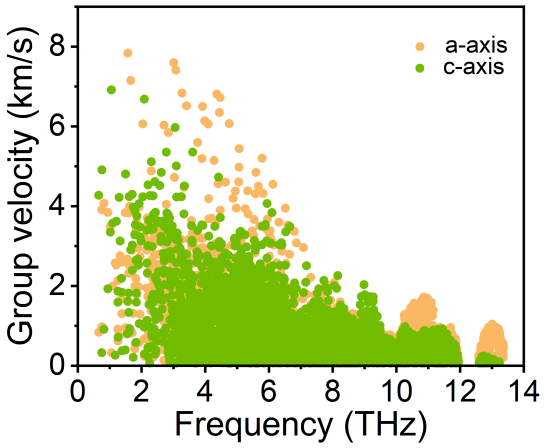

FIG. S4. Phonon group velocities at RT.