

**Supplementary Material for
“Low temperature structural anomalies arisen from competing
exchange interactions in pyrochlore $\text{Nd}_2\text{Ru}_2\text{O}_7$ probed by XRD and
EXAFS”**

Shi-Wei Chen^a, Shao-Wei Fu^a, Chih-Wen Pao^a, Jenn-Min Lee^a, Shin-An Chen^a, Shu-Chih Haw^a, Jyh-Fu Lee^a, Chun-Hsia Liu^a, Chung-Kai Chang^a, Yu-Chun Chuang^a, Hwo-Shuenn Sheu^a, Kueih-Tzu Lu^a, Szu-Tu Ku^{b,c}, Lieh-Jeng Chang^{b,*}, and Jin-Ming Chen^{a,*}

^aNational Synchrotron Radiation Research Center, Hsinchu 30076, Taiwan

^bDepartment of Physics, National Cheng Kung University, Tainan 70101, Taiwan

^cInstitute of Physics, Academia Sinica, Taipei 11529, Taiwan.

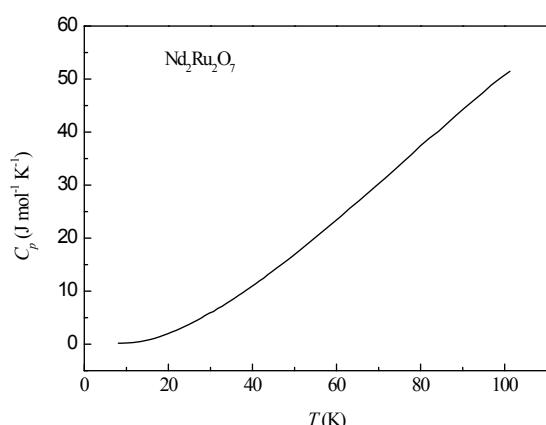


Fig. S1. Specific heat capacity (C_p) of $\text{Nd}_2\text{Ru}_2\text{O}_7$ measured below 100 K.

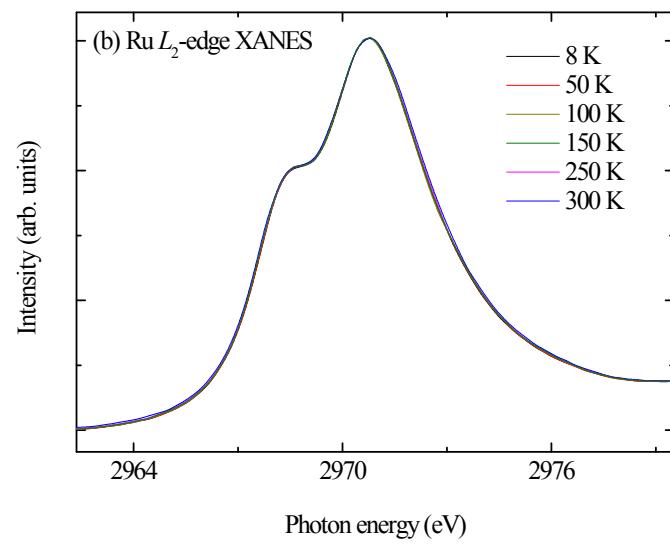
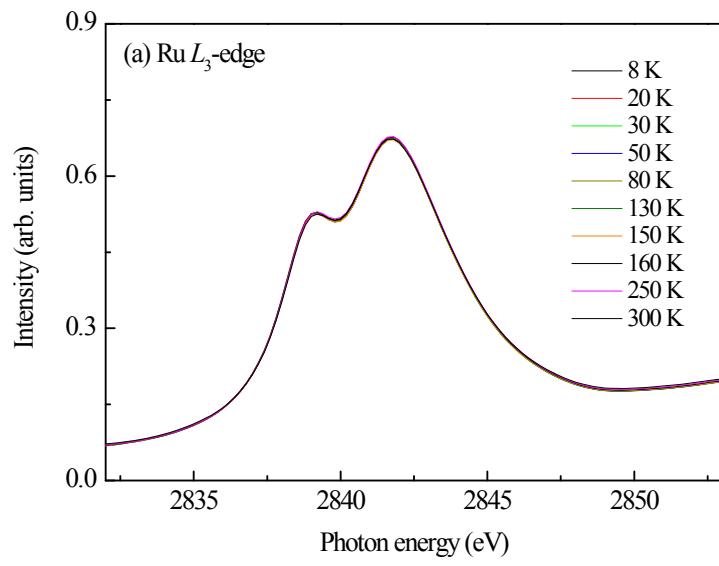


Fig. S2. (a) Ru L_3 -edge and (b) Ru L_2 -edge XANES spectra of $\text{Nd}_2\text{Ru}_2\text{O}_7$ recorded at various temperatures.

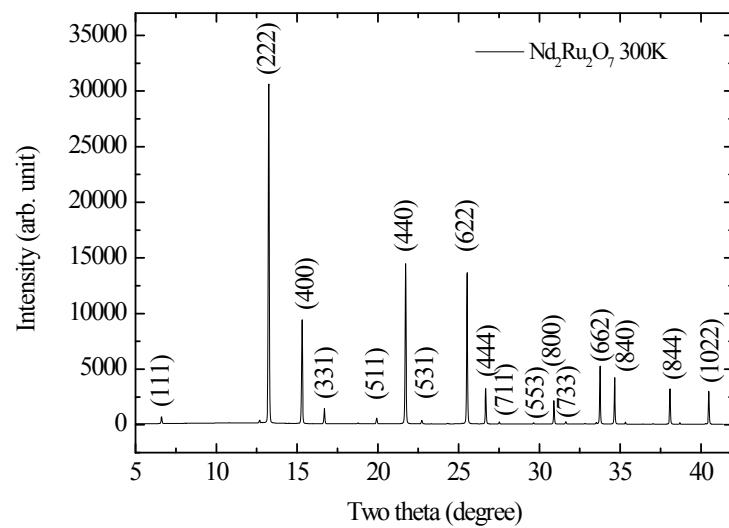


Fig. S3. XRD pattern of $\text{Nd}_2\text{Ru}_2\text{O}_7$ probed at 300K, indexed by ICSD #: 079327.

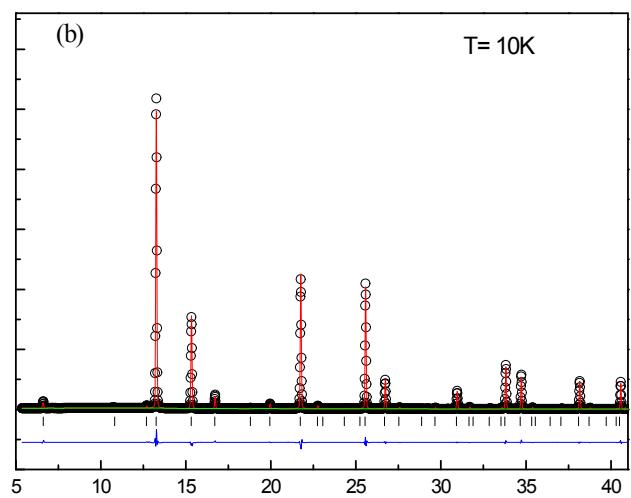
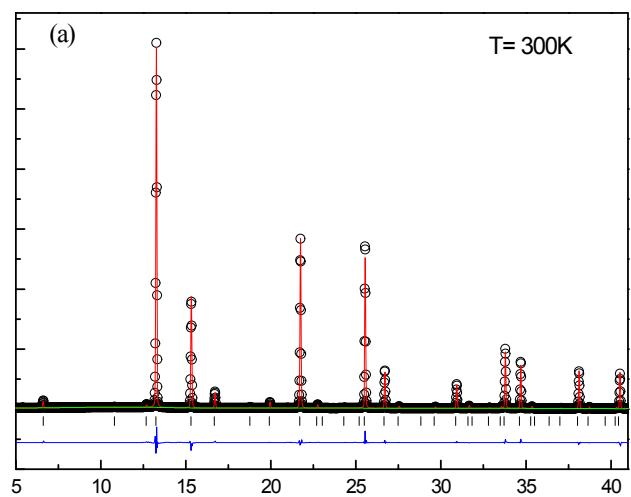


Fig. S4. XRD pattern of Nd₂Ru₂O₇ probed at (a) 300K and (b) 10K, refined with the Rietveld method.