## Electronic Transport Properties of Nb<sub>1-x</sub>Ta<sub>x</sub>Sb<sub>2</sub> Single-Crystal Semimetals Grown By Chemical Vapor Transport Based High-Throughput Method

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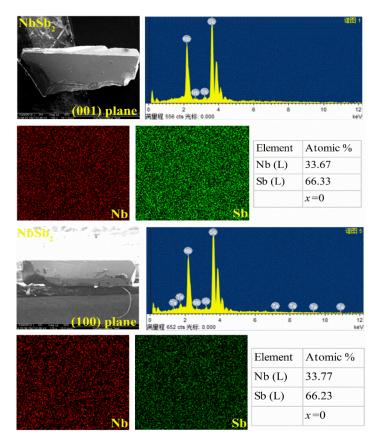


Figure S1 SEM and element mapping pictures of Ta-0 single crystal.

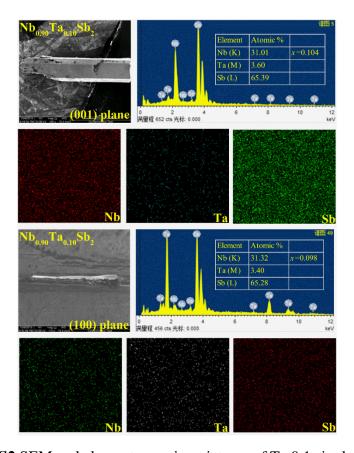


Figure S2 SEM and element mapping pictures of Ta-0.1 single crystal.

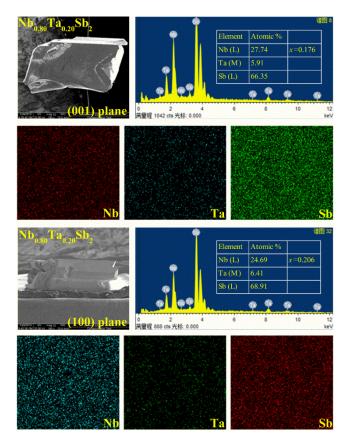


Figure S3 SEM and element mapping pictures of Ta-0.2 single crystal.

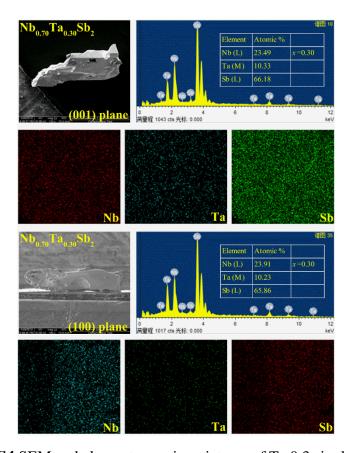


Figure S4 SEM and element mapping pictures of Ta-0.3 single crystal.

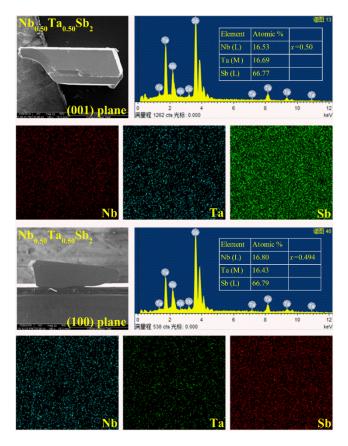


Figure S5 SEM and element mapping pictures of Ta-0.5 single crystal.

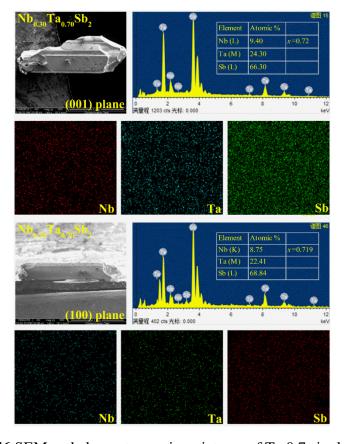


Figure S6 SEM and element mapping pictures of Ta-0.7 single crystal.

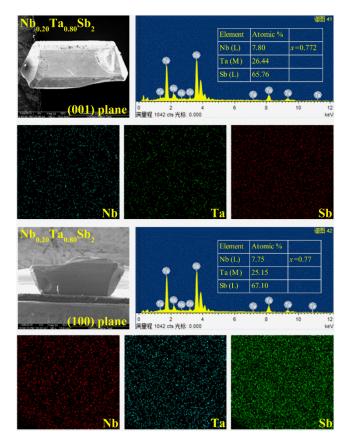


Figure S7 SEM and element mapping pictures of Ta-0.8 single crystal.

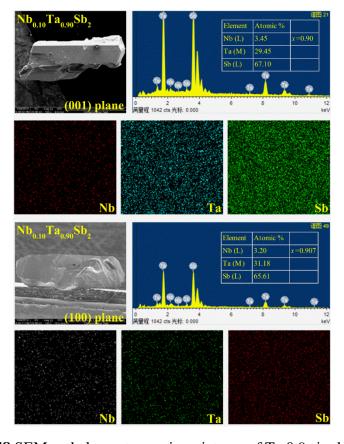


Figure S8 SEM and element mapping pictures of Ta-0.9 single crystal.

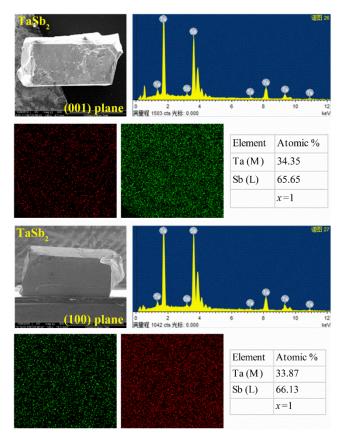
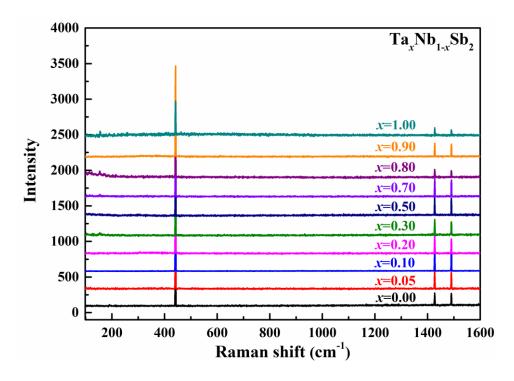


Figure S9 SEM and element mapping pictures of Ta-1.0 single crystal.



**Figure S10** Raman spectra of  $Nb_xTa_{1-x}Sb_2$  single crystals, the peak positions of the vibrational modes are locked at 442, 1427, 1490 cm<sup>-1</sup>, respectively.

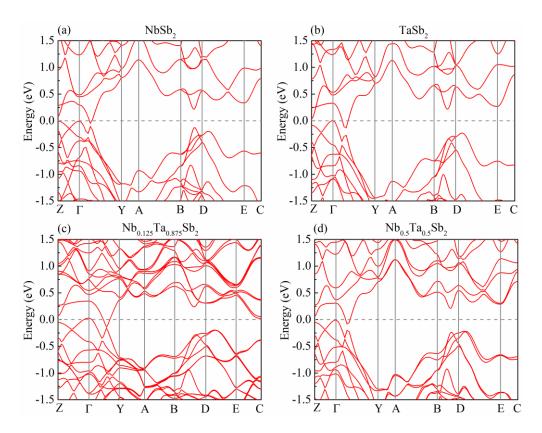


Figure S11 Band structures of NTS systems.

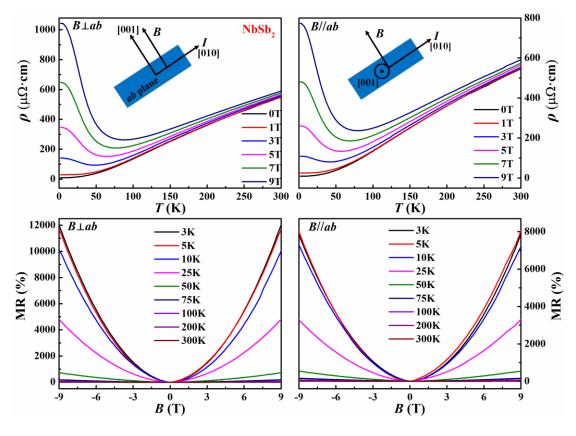


Figure S12 Transport and magnetoresistance curves of Ta-0 single crystal.

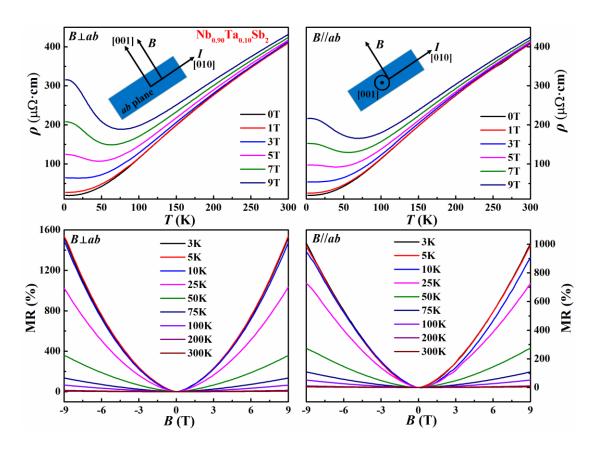


Figure S13 Transport and magnetoresistance curves of Ta-0.1 single crystal.

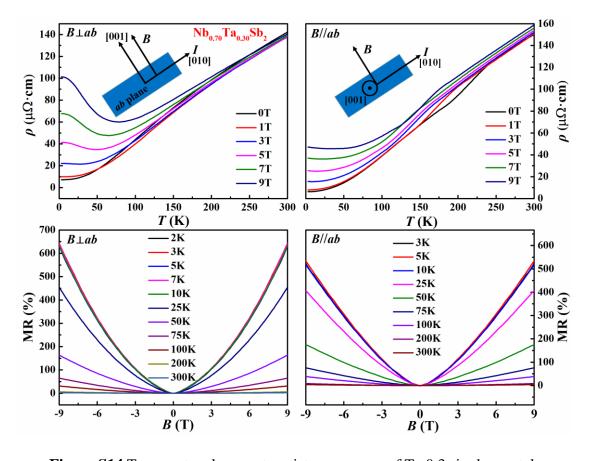
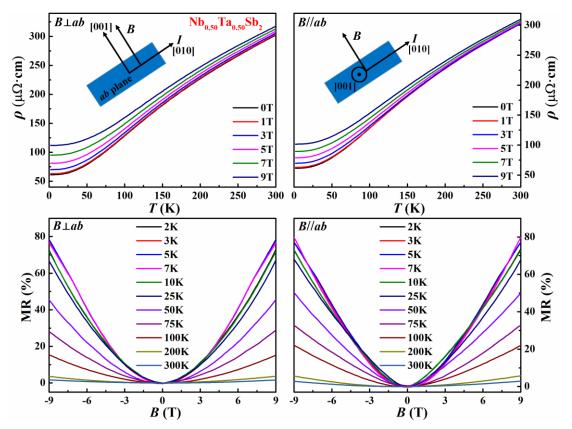


Figure S14 Transport and magnetoresistance curves of Ta-0.3 single crystal.



 $\textbf{Figure S15} \ \text{Transport and magnetoresistance curves of Ta-0.5 single crystal.}$ 

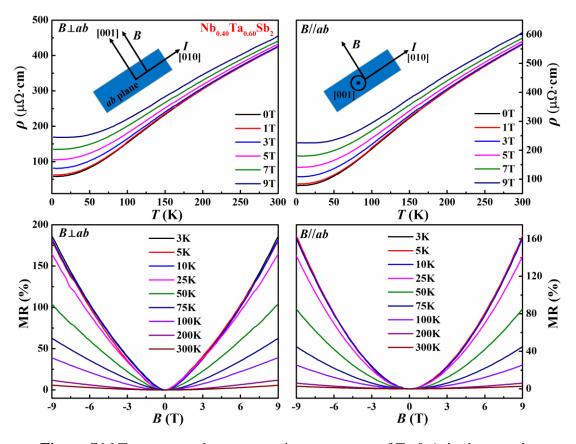


Figure S16 Transport and magnetoresistance curves of Ta-0.6 single crystal.

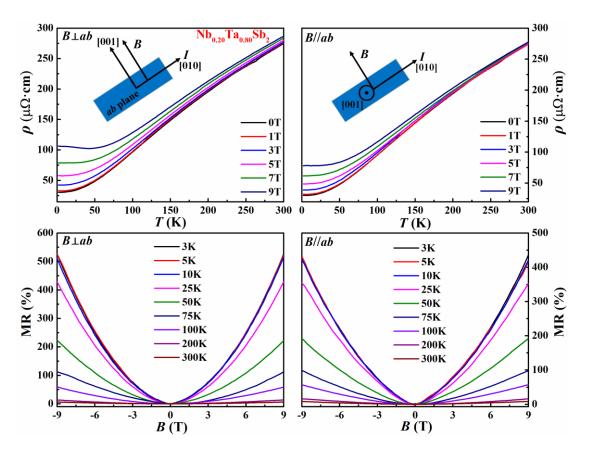


Figure S17 Transport and magnetoresistance curves of Ta-0.8 single crystal.

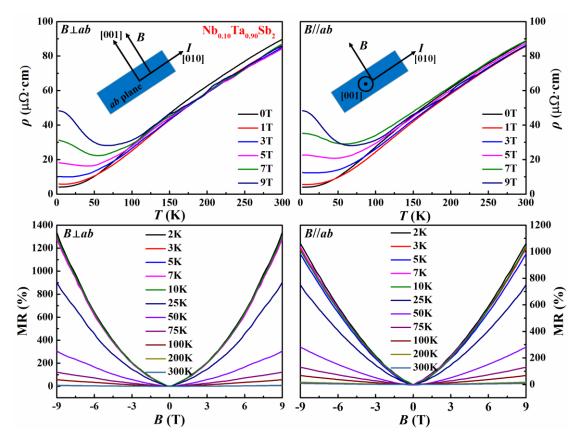


Figure S18 Transport and magnetoresistance curves of Ta-0.9 single crystal.

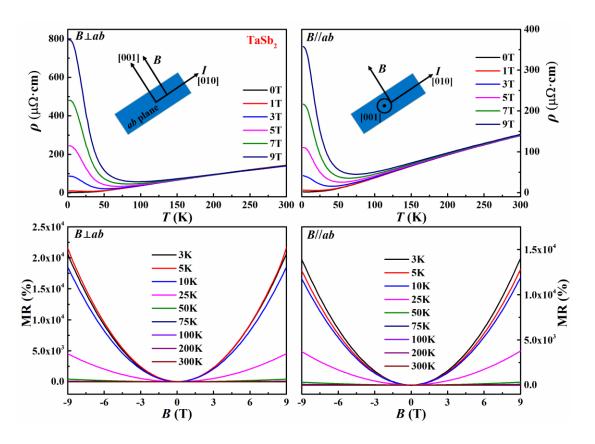


Figure S19 Transport and magnetoresistance curves of Ta-1 single crystal.