

Supporting information

for

Cr₃X₄ (X=Se, Te) monolayers as new platform to realize robust spin filter, spin diode and spin valve

Qihong Wu,^a Rongkun Liu,^a Zhanjun Qiu,^a Dengfeng Li,^a Jie Li,^b Xiaotian Wang*^c and
Guangqian Ding*^a

^a*School of Science, Chongqing University of Posts and Telecommunications, Chongqing 400065,
China.*

^b*Key Laboratory for the Physics and Chemistry of Nanodevices, School of Electronics, Peking
University, Beijing 100871, China.*

^c*School of Physical Science and Technology, Southwest University, Chongqing, 400715, China.*

Corresponding authors: Xiaotian Wang

E-mail: xiaotianwang@swu.edu.cn;

Guangqian Ding

E-mail: dinggq@cqupt.edu.cn;

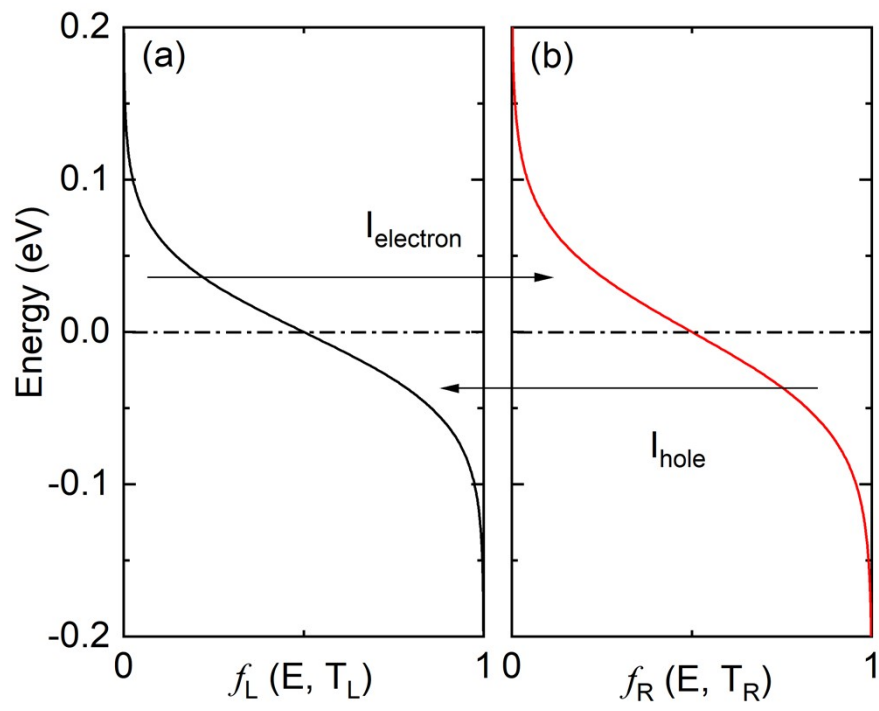


Fig. S1. The Fermi distribution of left and right electrodes.

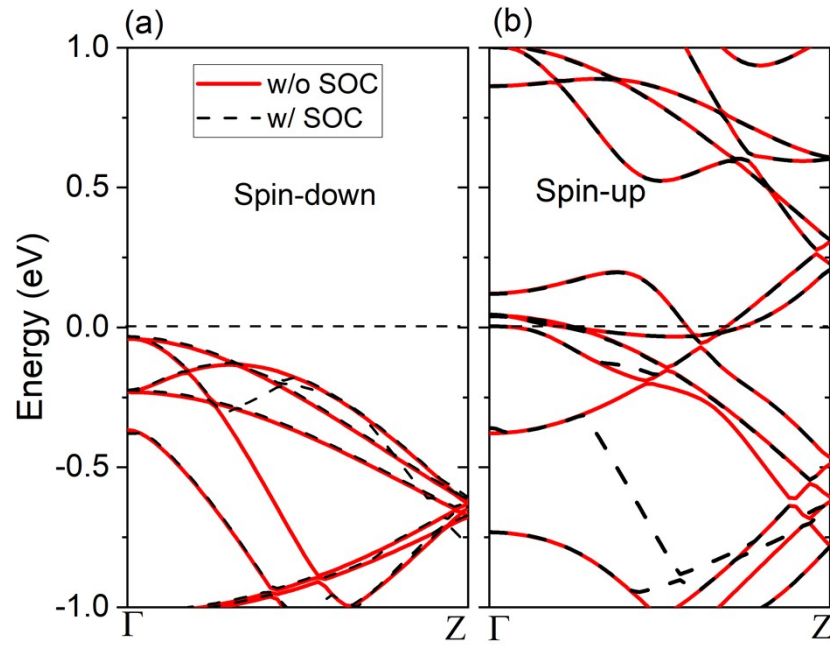


Fig. S2. Calculated band structure of monolayer Cr₃Te₄ within and without SOC effect, (a) and (b) represent the spin down and spin up band structure, respectively.

