

## Supplementary data

### Giant magnetoresistance in silicene nanoribbons

Chengyong Xu,<sup>1</sup> Guangfu Luo,<sup>1,2</sup> Qihang Liu,<sup>1</sup> Jiabin Zheng,<sup>1,3</sup> Zhimeng Zhang,<sup>1</sup> Shigeru  
Nagase,<sup>2</sup> Zhengxiang Gao,<sup>1</sup> and Jing Lu<sup>1,\*</sup>

<sup>1</sup> State Key Laboratory of Mesoscopic Physics and Department of Physics,  
Peking University, Beijing 100871, P. R. China

<sup>2</sup> Department of Theoretical and Computational Molecular Science, Institute for Molecular  
Science, Okazaki 444-8585, Japan

<sup>3</sup> Academy for Advanced Interdisciplinary Studies, Peking University, Beijing 100871,  
P. R. China

E-mail: jinglu@pku.edu.cn

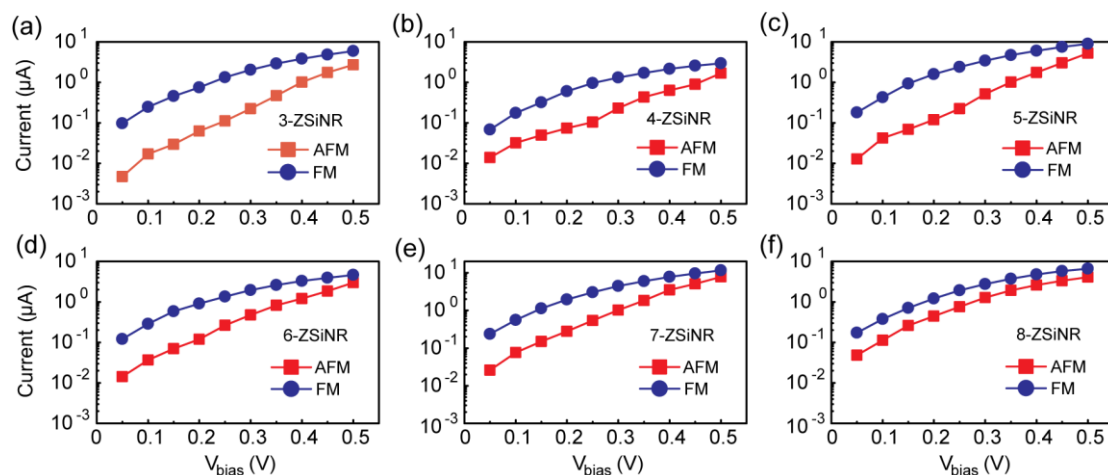


Figure S1.  $I$ - $V_{\text{bias}}$  characteristics of the AFM- and FM-coupled (a) 3-ZSiNR, (b) 4-ZSiNR, (c) 5-ZSiNR, (d) 6-ZSiNR, (e) 7-ZSiNR and (f) 8-ZSiNR as a function of bias.

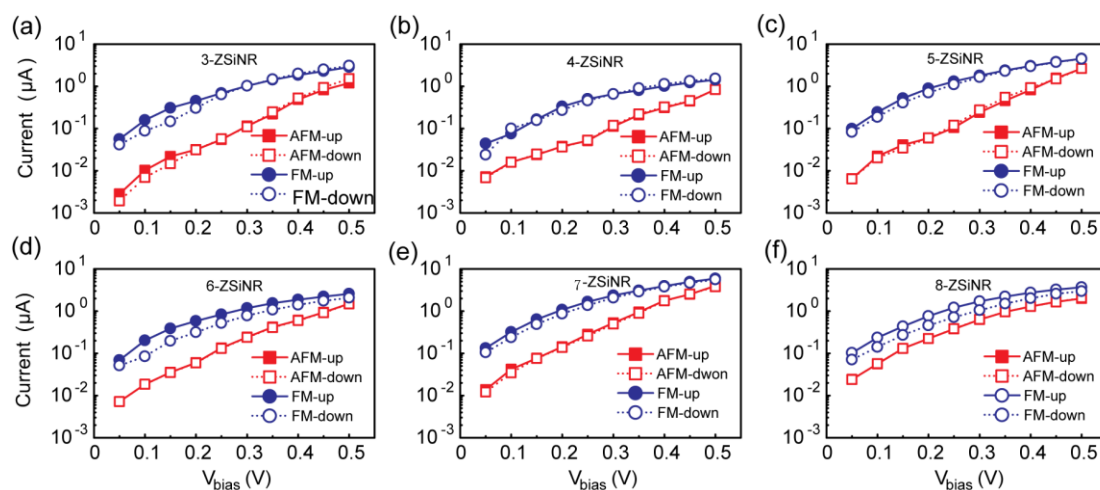


Figure S2. Spin-resolved  $I$ - $V_{\text{bias}}$  characteristics of the AFM- and FM-coupled (a) 3-ZSiNR, (b) 4-ZSiNR, (c) 5-ZSiNR, (d) 6-ZSiNR, (e) 7-ZSiNR, and (f) 8-ZSiNR as a function of bias. The red lines with solid and hollow icons in each panel are all almost overlapped.

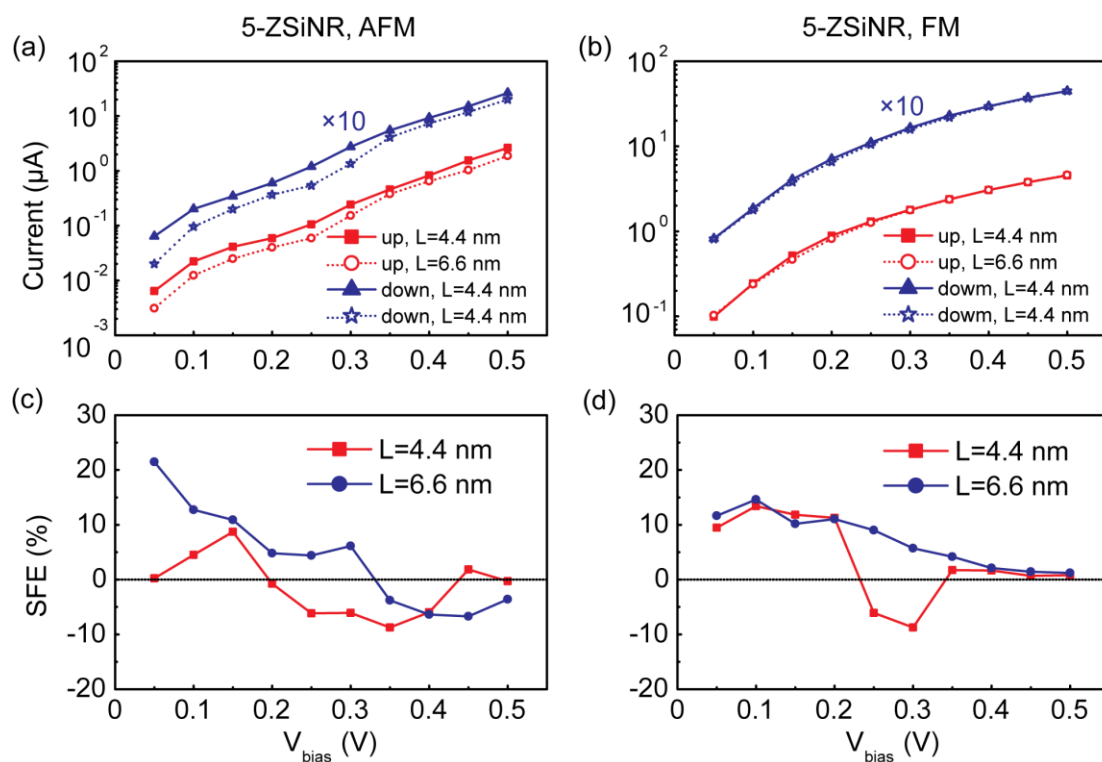


Figure S3. Spin-resolved currents of the different-length 5-ZSiNR in the (a) AFM and (b) FM configurations. SFEs of the different-length 5-ZSiNR in the (c) AFM and (d) FM configurations as a function of bias. Blue lines in panel (a) and (b) are 10 times augmented to separate from red lines.