

## Electronic Supplementary Information

### **In situ growth of MoS<sub>2</sub> nano-sheets on reduced graphene oxide (RGO) surfaces: interfacial enhancement on absorbing performance against electromagnetic pollution**

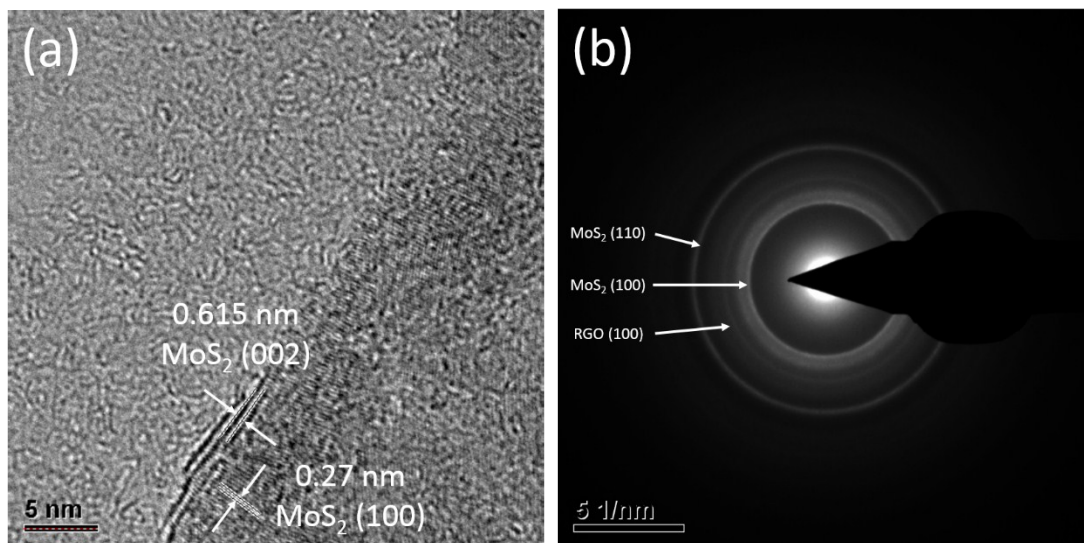
Aming Xie,<sup>ab</sup> Mengxiao Sun,<sup>b</sup> Kun Zhang,<sup>b</sup> Wanchun Jiang,<sup>b</sup> Fan Wu,<sup>ab\*</sup>  
Meng He<sup>c\*</sup>

<sup>a</sup> *School of Mechanical Engineering, Nanjing University of Science & Technology, Nanjing 210094, P. R. China.*

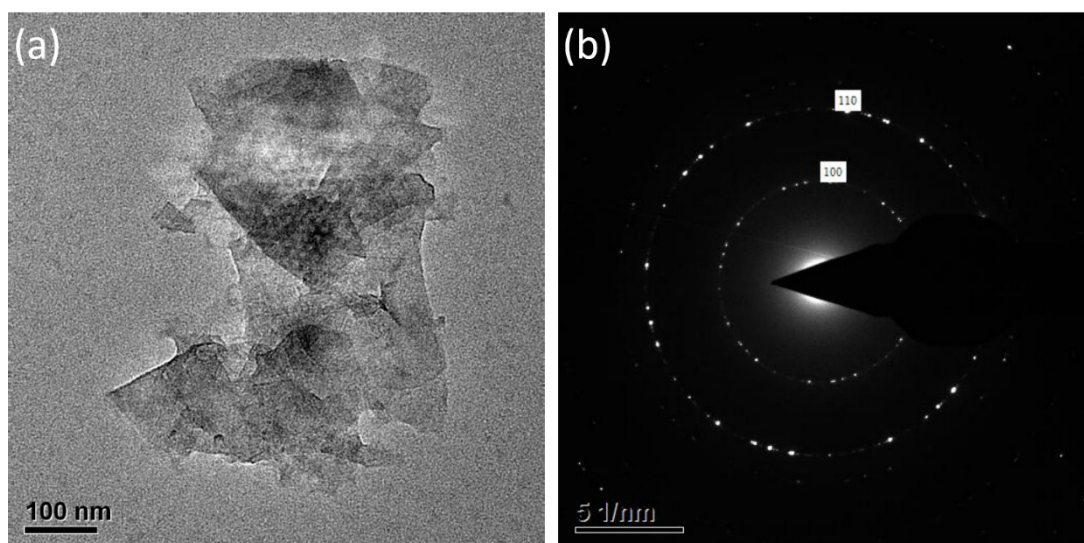
<sup>b</sup> *State Key Laboratory for Disaster Prevention & Mitigation of Explosion & Impact, PLA University of Science and Technology, Nanjing 210007, P. R. China.*

<sup>c</sup> *CAS Key Laboratory of Nanosystem and Hierarchical Fabrication, National Center for Nanoscience and Technology, Beijing 100190, P. R. China.*

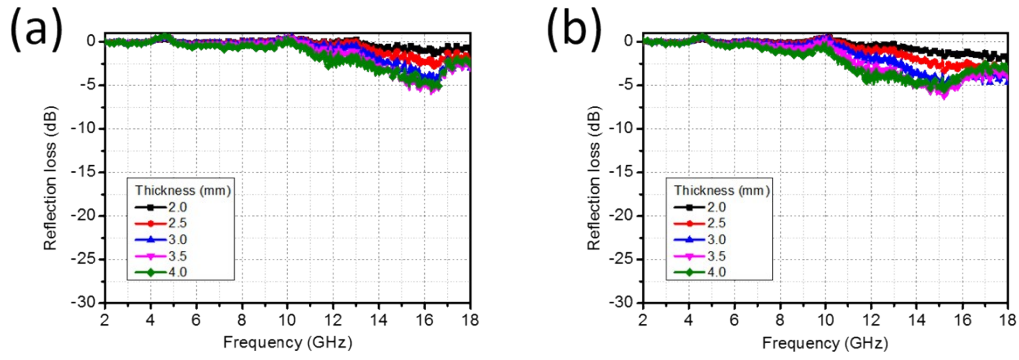
Corresponding authors: [wufanjlg@163.com](mailto:wufanjlg@163.com) (Fan Wu); [mhe@nanoctr.cn](mailto:mhe@nanoctr.cn) (Meng He)



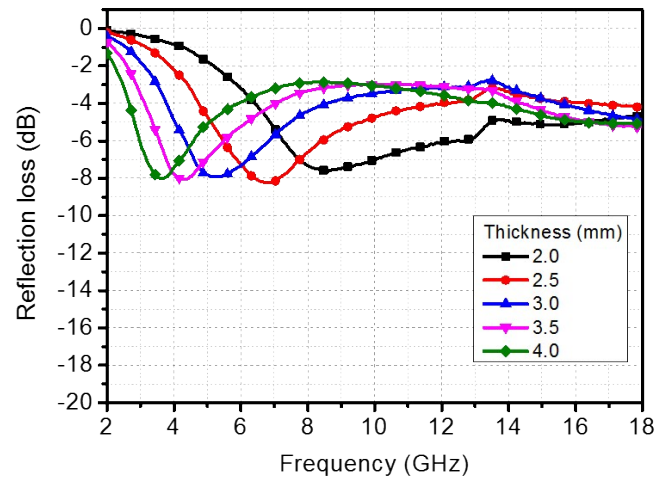
**Fig. S1** HRTEM images (a) and the corresponding SAED pattern (b) of MoS<sub>2</sub>/RGO nano-sheets prepared by 175 mg of GO in the experiment.



**Fig. S2** HRTEM images (a) and the corresponding SAED pattern (b) of as-prepared RGO. GO was fabricated from 5000 mesh of graphite, and RGO was fabricated through chemical reduction.



**Fig. S3** RL curves of MoS<sub>2</sub>/RGO with the filler loading ratio of 5 wt. % (a) and 10 wt. % (b) in wax composites, the test frequency range is from 2 to 18 GHz.



**Fig. S4** The best RL curves of composite only loaded pure RGO, the filler loading ratio is 10 wt. %.