

Supporting Information for

Exploration of New Ferromagnetic, Semiconducting and Biocompatible Nb₃X₈ (X=Cl, Br or I) Monolayers with Considerable Visible and Infrared Light Absorption

Junke Jiang,^{1,2,†} Qihua Liang,^{2,†} Ruishen Meng,² Qun Yang,¹ Chunjian Tan,¹ Xiang Sun,^{1,2} and Xianping Chen^{1,2,*}

¹Key Laboratory of Optoelectronic Technology & Systems, Education Ministry of China, Chongqing University and College of Optoelectronic Engineering, Chongqing University, Chongqing 400044, China

²School of Mechanical and Electrical Engineering, Guilin University of Electronic Technology, Guilin 541004, China

† These authors contributed equally to this work.

*Correspondence and requests for materials should be addressed to X.P.C. (e-mail: xianpingchen@cqu.edu.cn).

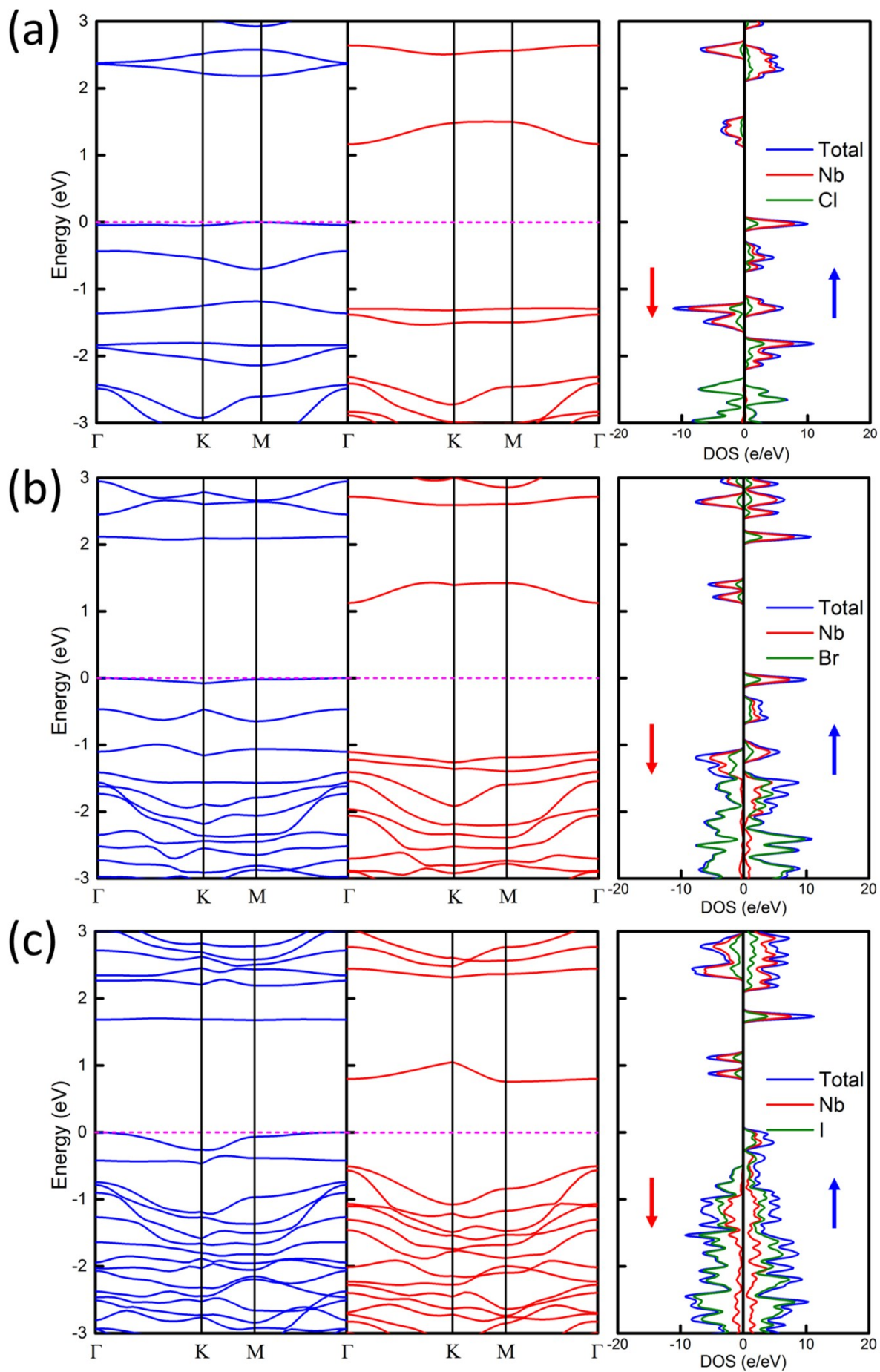


Fig. S1. Band structure and corresponding density of states of (a) Nb_3Cl_8 , (b) Nb_3Br_8 and (c) Nb_3I_8 monolayers calculated in HSE06 theoretical level, respectively.

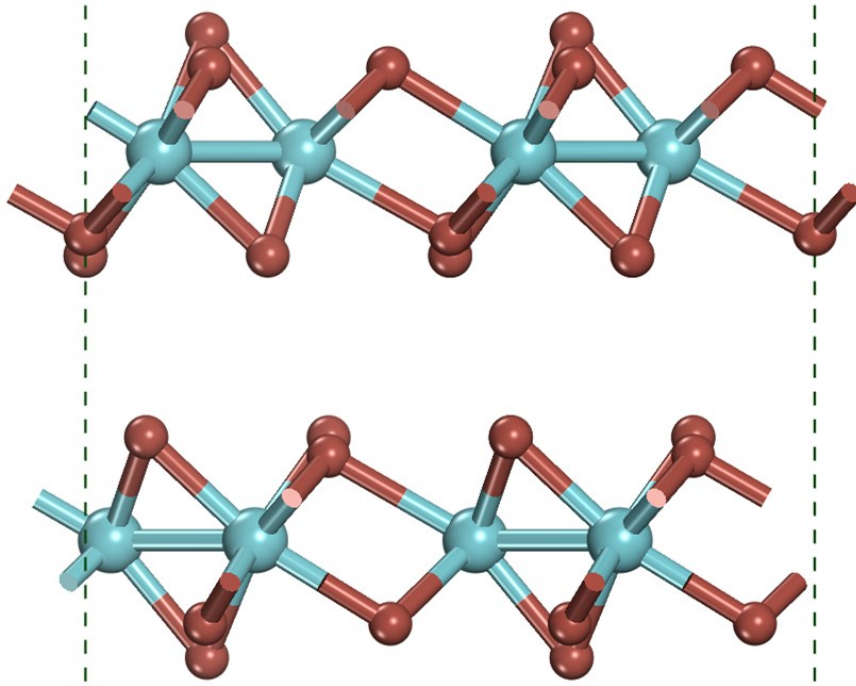


Fig. S2. Side view of optimized geometries of Nb₃I₈ bilayer.

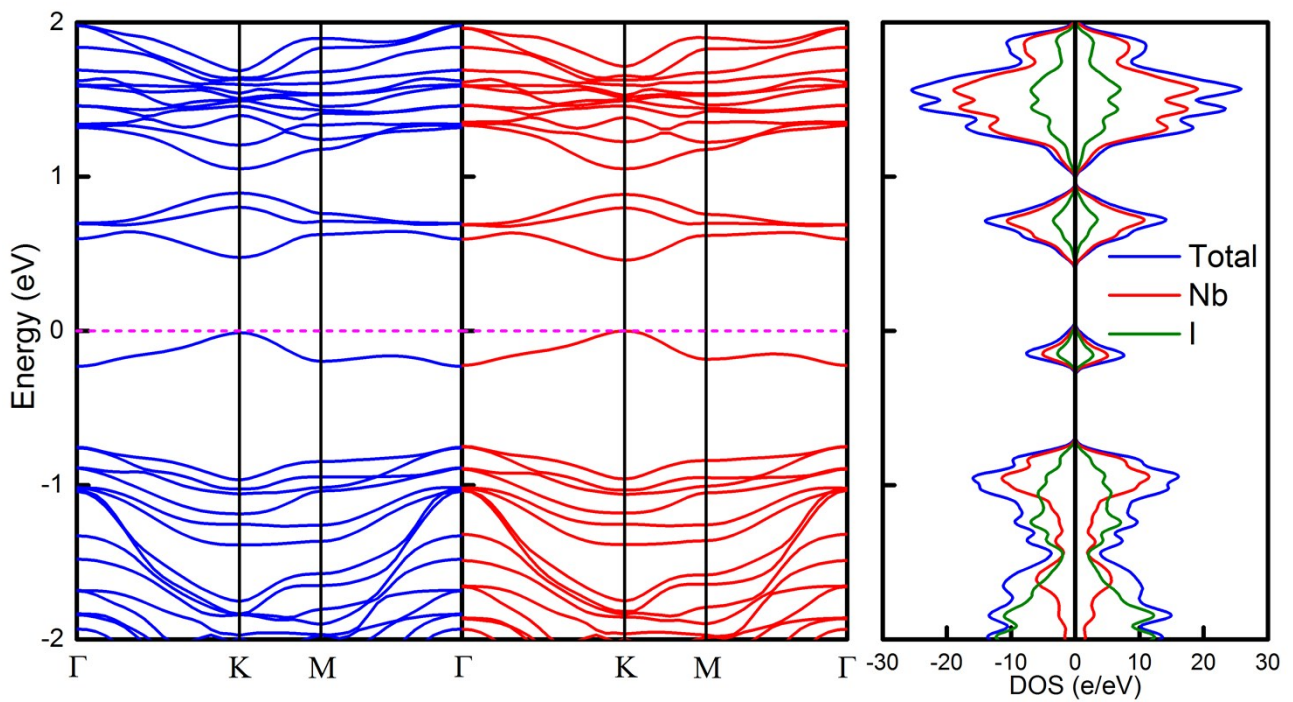


Fig. S3. Band structure and corresponding density of states of Nb₃I₈ bilayer.

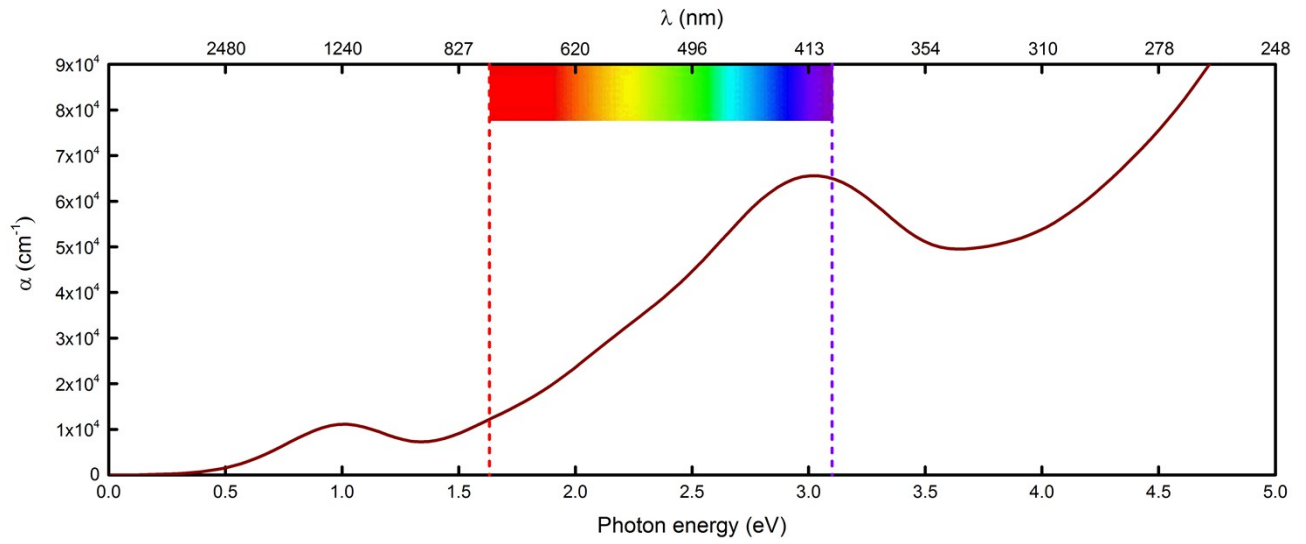


Fig. S4 Optical absorption coefficients α for Nb_3I_8 bilayer. The seven-colour-light area between the red and the purple lines represents the visible light range.