Heptazine-based porous graphitic carbon nitride: a visible-light driven photocatalyst for water splitting

Bin Liu^a, Bo Xu ^{a, b, *}, Shenchang Li^a, Jinli Du^a, Jiang Yin^{b, c}, Zhiguo Liu^{c,}

c, Wenying Zhong ^{a, *}

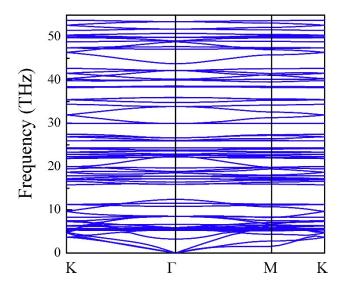


Fig. S1 The full of phonon dispersion of C_6N_7 monolayer.

^a School of Science and Key Laboratory of Biomedical Functional Materials, China Pharmaceutical University, Nanjing 211198, China. Emails: xubo@cpu.edu.cn and wyzhong@cpu.edu.cn.

^b National Laboratory of Solid State Microstructures and Department of Materials Science and Engineering, College of Engineering and Applied Sciences, Nanjing University, Nanjing 210093, China.

^c Collaborative Innovation Center of Advanced Microstructures, Nanjing University, Nanjing, 210093, China.

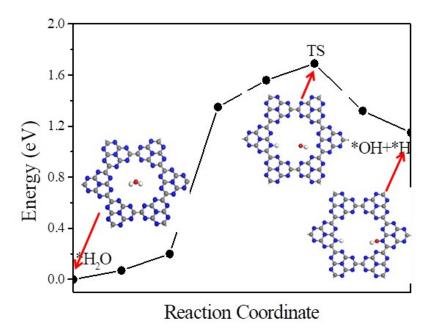


Fig. S2 Minimum energy path for the dissociation of a water molecule on the surface of C_6N_7 monolayer with the optimized geometries of the * H_2O , transition state (TS), and *OH + *H.

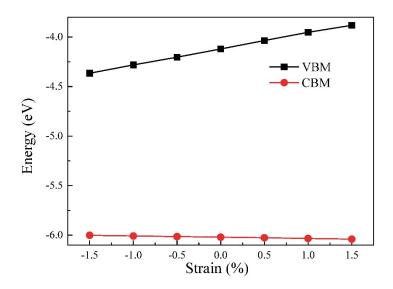


Fig. S3 The shift of VBM and CBM for C_6N_7 monolayer with respect to the vacuum energy, as a function of the applied strain. The linear fit of the data yields the deformation potential constant.