

Supporting information for the manuscript

Defective TiO₂ with oxygen vacancies: synthesis, properties and photocatalytic applications

*Xiaoyang Pan, Min-Quan Yang, Xianzhi Fu, Nan Zhang and Yi-Jun Xu**

State Key Laboratory Breeding Base of Photocatalysis, College of Chemistry and Chemical Engineering, Fuzhou University, Fuzhou, 350002, P.R. China

** To whom correspondence should be addressed.*

E-mail Address: yjxu@fzu.edu.cn Tel. +86 591 83779326

Contents List:

Fig. S1. Bond lengths (in Å) for the partially delocalized oxygen vacancy in anatase TiO₂.

Fig. S2. Bond lengths (in Å) for the oxygen vacancy in rutile TiO₂.

Fig. S3. Raman spectra of surface-fluorine-terminated anatase TiO₂ sheets and anatase TiO₂ sheets free of fluorine.

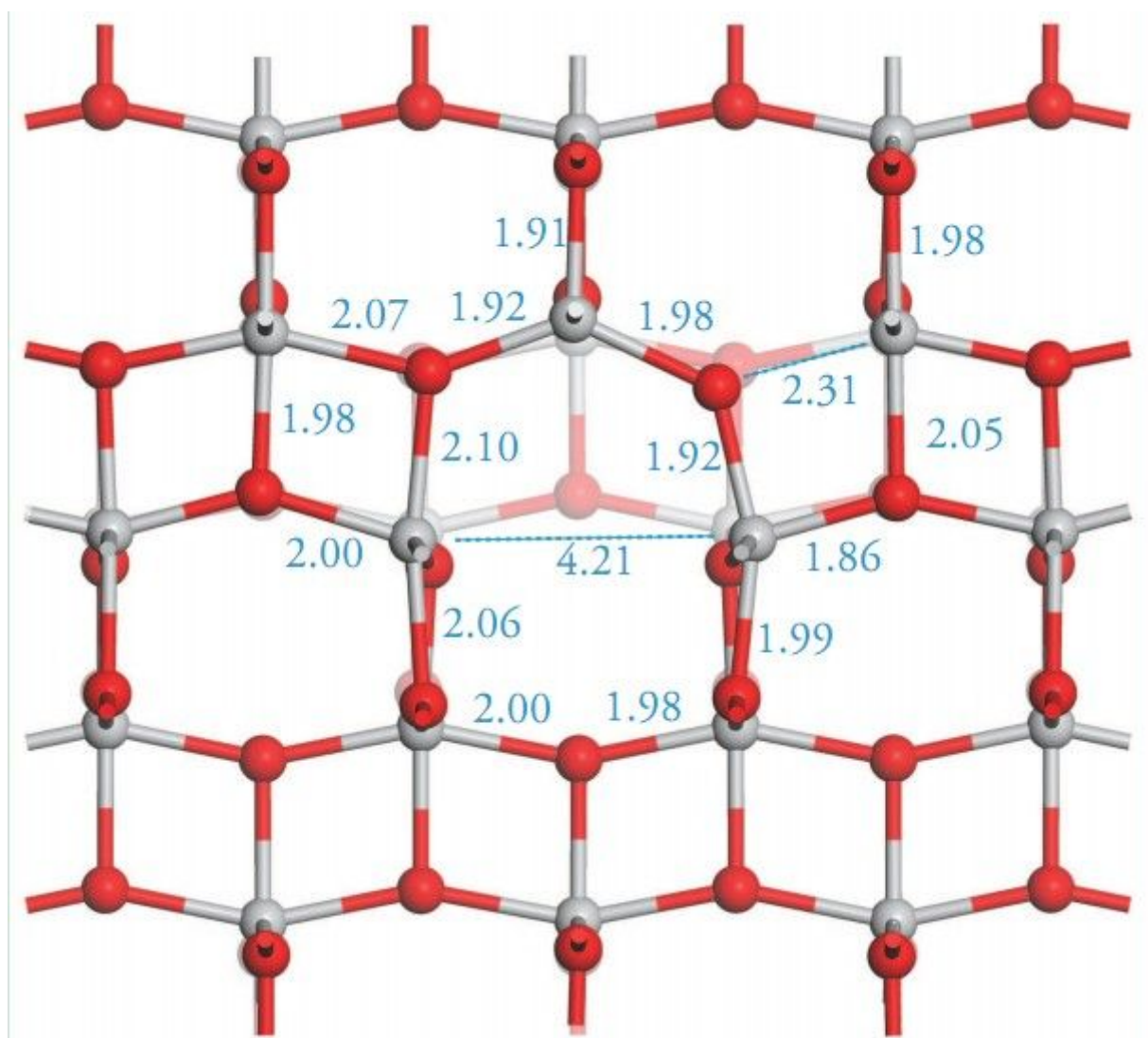


Fig. S1. Bond lengths (in Å) for the partially delocalized oxygen vacancy in anatase TiO₂. (Reprinted with the permission from American Chemical Society.)¹

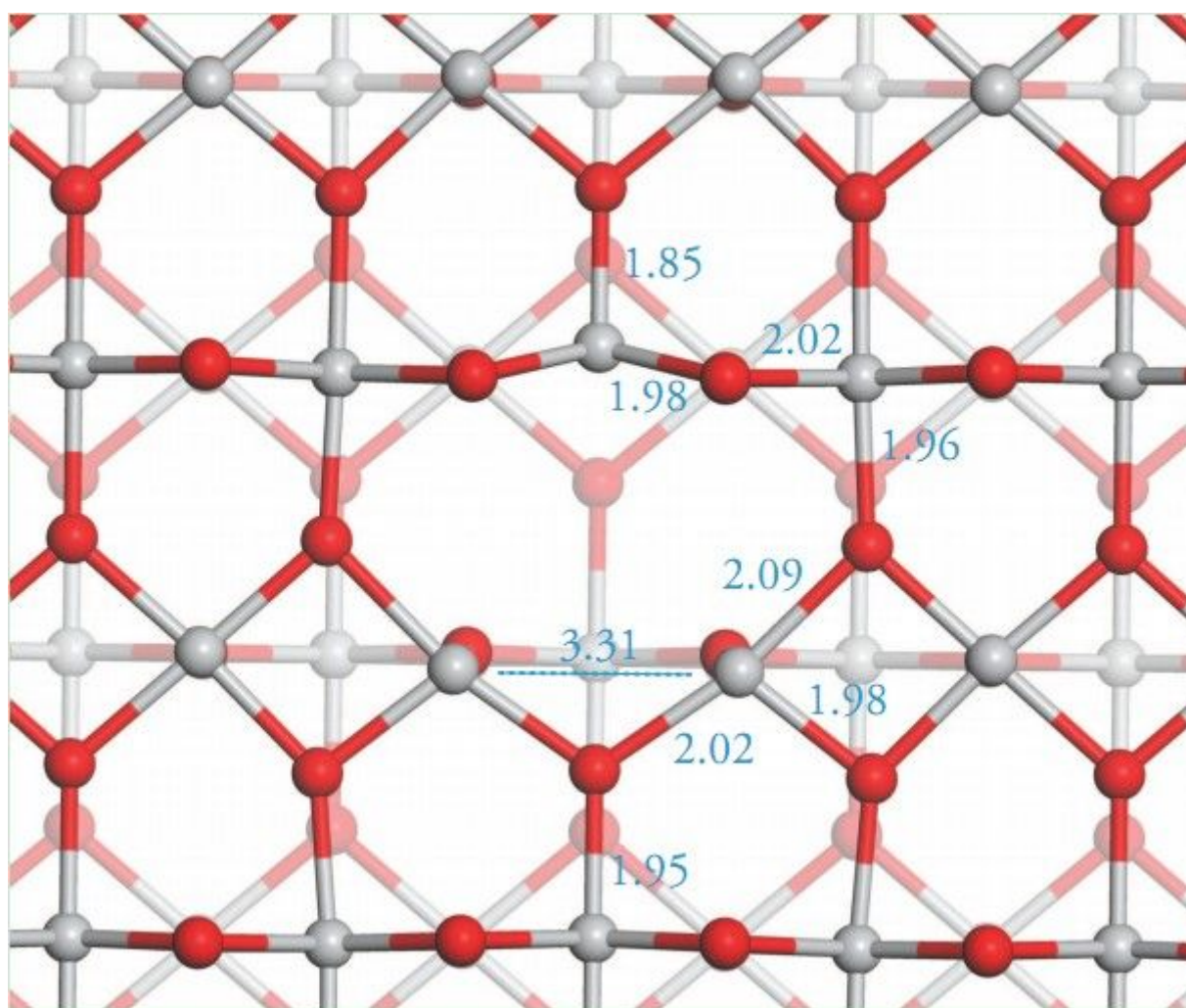


Fig. S2. Bond lengths (in Å) for the oxygen vacancy in rutile TiO₂. (Reprinted with the permission from American Chemical Society.)¹

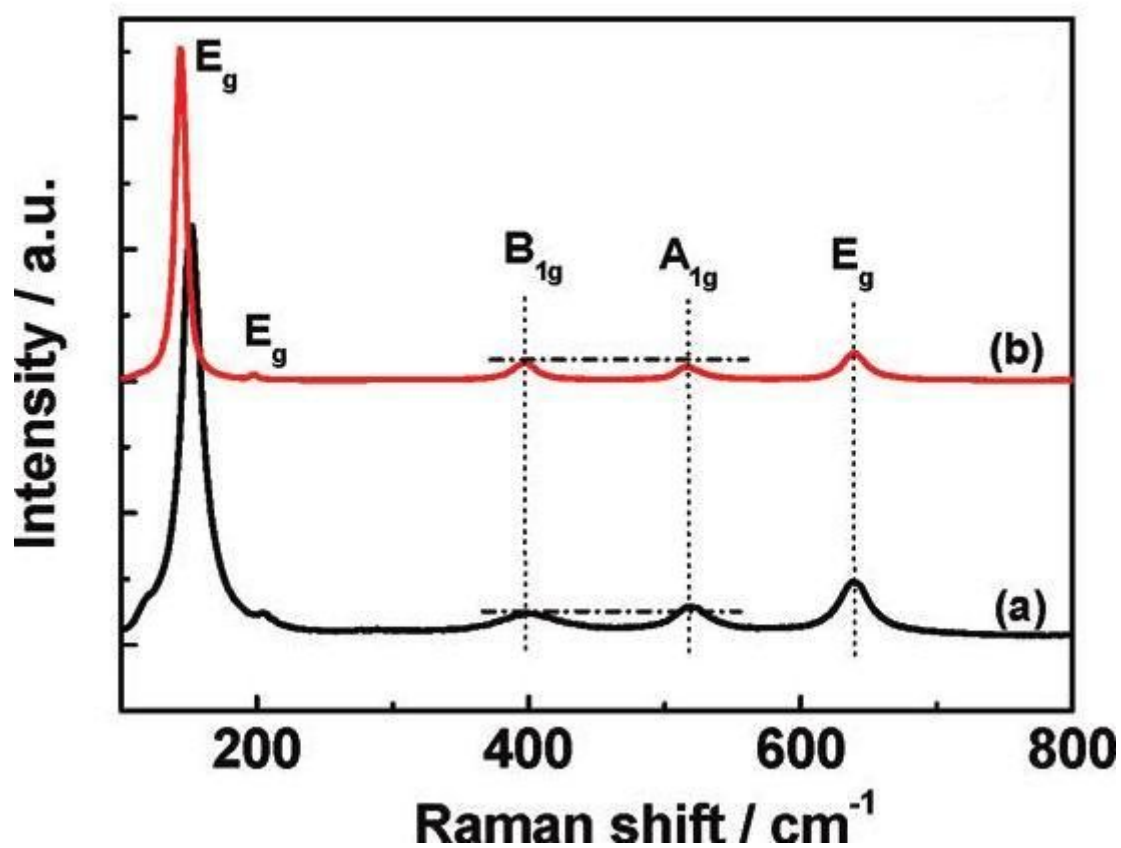


Fig. S3. Raman spectra of surface-fluorine-terminated anatase TiO_2 sheets and anatase TiO_2 sheets free of fluorine. (Reprinted with the permission from American Chemical Society.)²

References:

1. B. J. Morgan and G. W. Watson, *J. Phys. Chem. C*, 2010, **114**, 2321.
2. G. Liu, H. G. Yang, X. Wang, L. Cheng, H. Lu, L. Wang, G. Q. Lu and H.-M. Cheng, *J. Phys. Chem. C*, 2009, **113**, 21784.