

## SUPPORTING INFORMATION

### Regulating structural stability and photoelectrical properties of FAPbI<sub>3</sub> via formamidinium cation orientation

Shuning Wang <sup>a</sup>, Qi Yang <sup>b</sup>, Xiuchen Han <sup>a</sup>, Dongmeng Chen <sup>a</sup>, Bing Liu <sup>a,b</sup>, Wenjing Fang <sup>a,\*</sup>

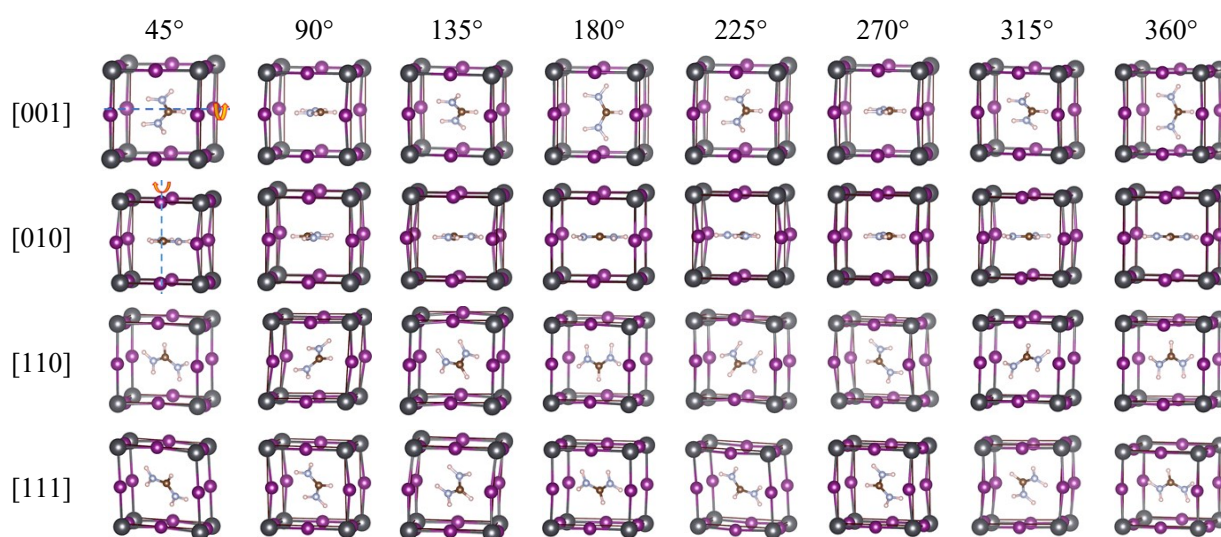
<sup>a</sup>College of Science, China University of Petroleum (East China), Qingdao 266580, P. R. China.

<sup>b</sup>College of Pipeline and Civil Engineering, China University of Petroleum (East China),

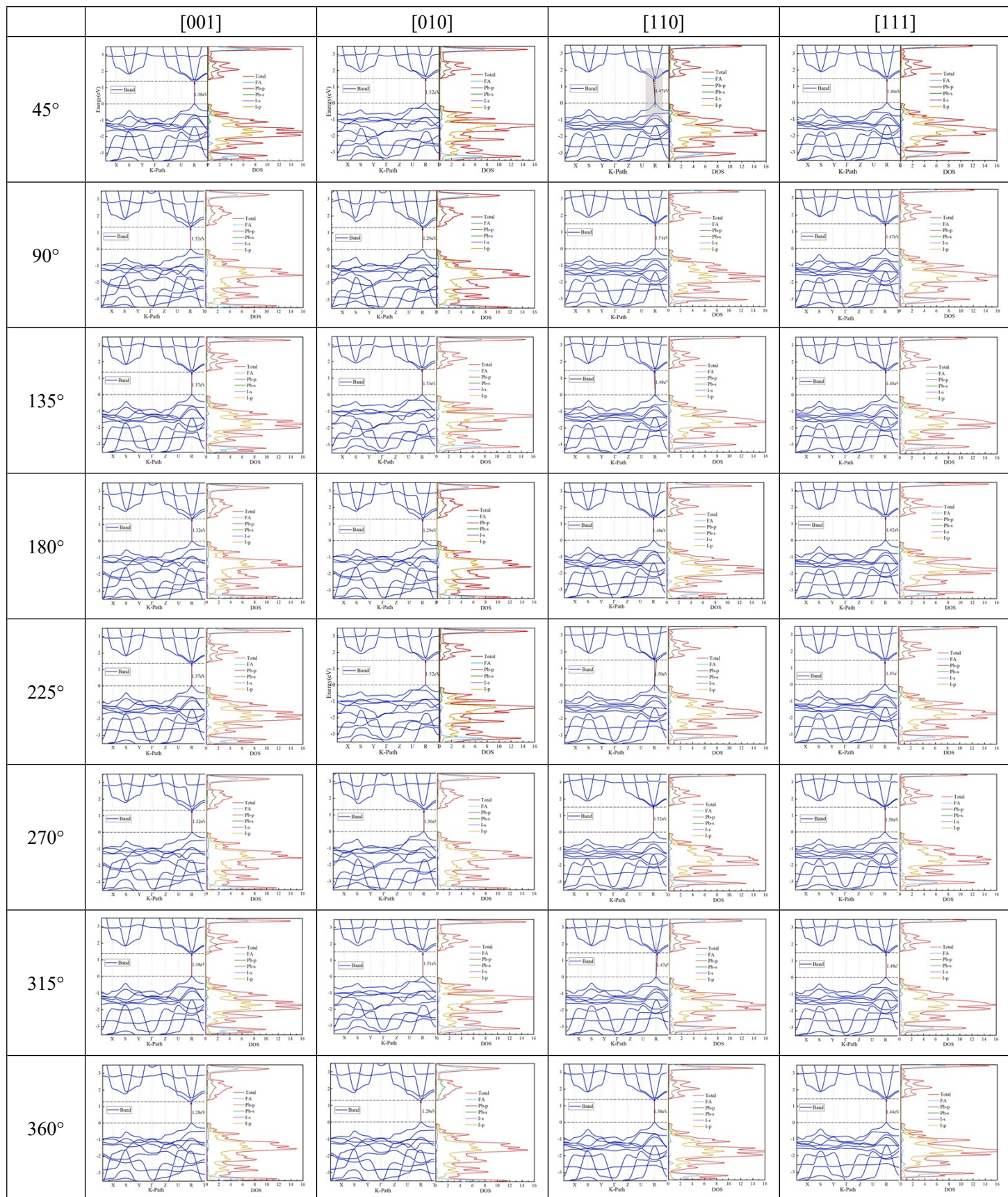
Qingdao 266580, P. R. China.

\*Corresponding authors.

E-mail addresses: [fangwj@upc.edu.cn](mailto:fangwj@upc.edu.cn) (W.J. Fang).



**Figure S1.** Schematic diagram of pseudo-cubic FAPbI<sub>3</sub> with different FA<sup>+</sup> orientations on different crystal planes.



**Figure S2.** Band structure and density of state (DOS) with different FA<sup>+</sup> cation orientation angles.