

*Supporting Information for*

**Pentagonal B<sub>2</sub>C monolayer with offering extremely high  
theoretical capacity for Li-/Na-ion batteries**

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1. Evolution of the potential energy versus simulation time for Penta-B<sub>2</sub>C before and after adsorption Li/Na during AIMD simulations. (Figure S1)
2. Changes of potential energy with the distance between a single Li/Na atom and Penta-B<sub>2</sub>C. (Figure S2)

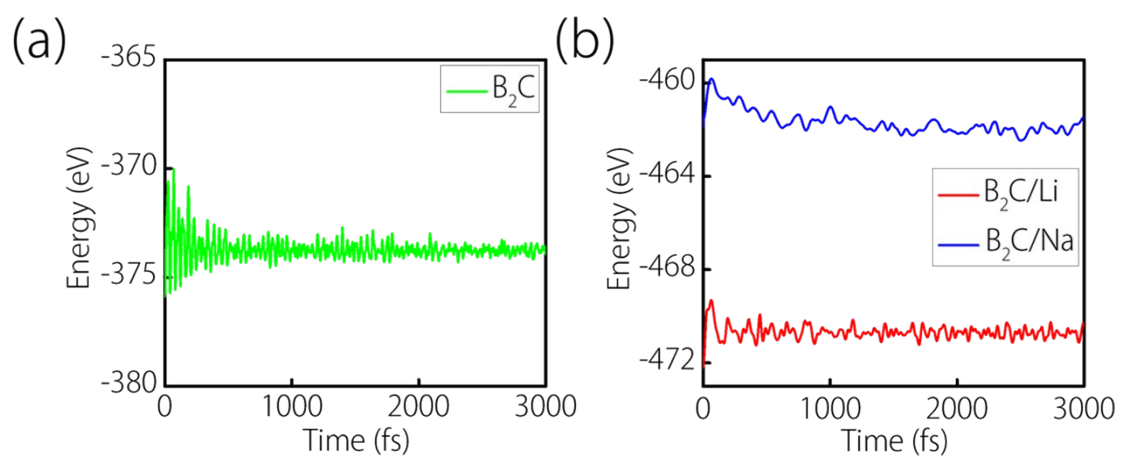


Figure S1 Evolution of the potential energy versus simulation time for Penta-B<sub>2</sub>C (a) before and (b) after adsorption Li/Na during AIMD simulations at the temperature of 300 K.

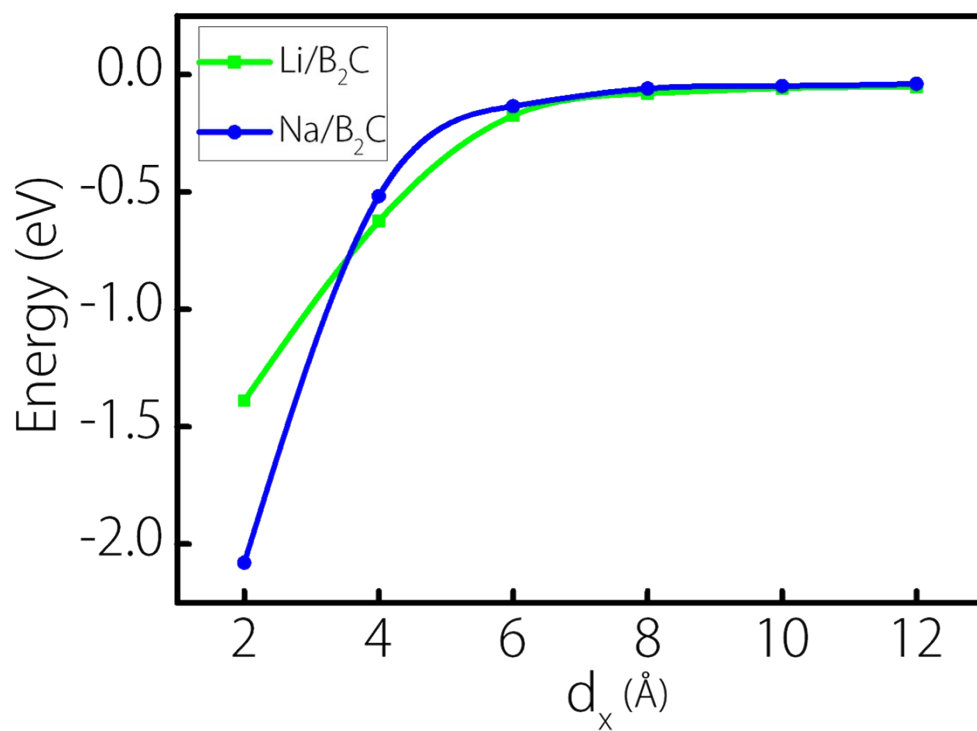


Figure S2 Changes of potential energy with the distance between a single Li/Na atom and Penta-B<sub>2</sub>C.