

Supplementary Material of:

**Two-dimensional TiCl<sub>2</sub>: A high-performance anode material for Na-ion batteries with high capacity and fast diffusion**

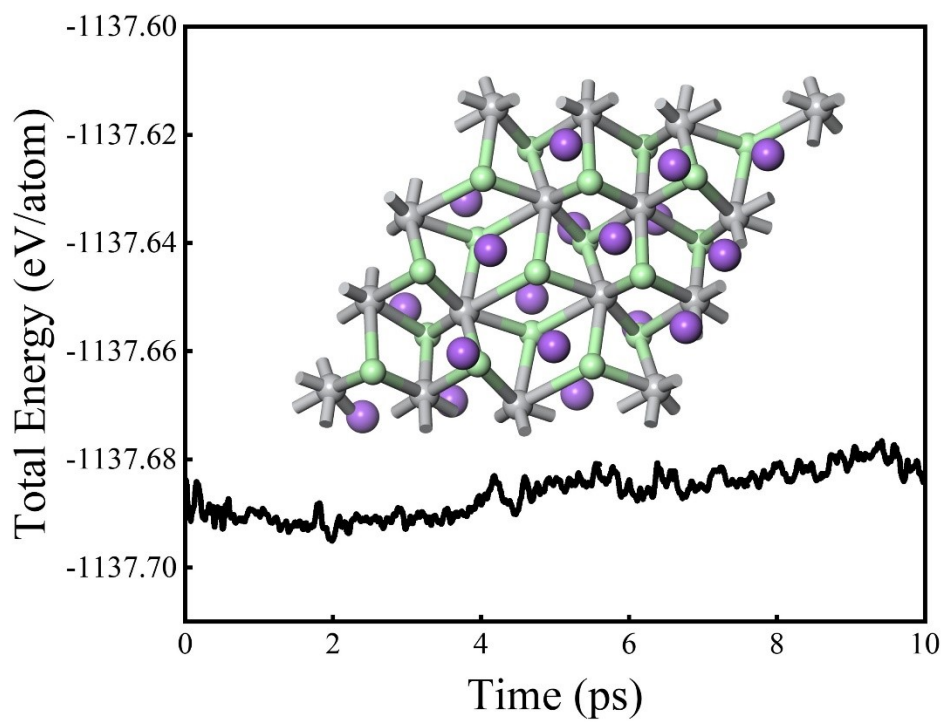
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**Fig. S1.** Total energy evolution of Na<sub>2</sub>TiCl<sub>2</sub> at 300 K. The inset is the snapshot of the final configuration from the top view.

**Table S1.** Calculated differential adsorption energy ( $E_{\text{diff-ads}}$ ) with different numbers of Na adsorbed on  $\text{TiCl}_2$ .

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Number of Na atoms adsorbed on $\text{TiCl}_2$	$E_{\text{diff-ads}}$ (eV)
1	-1.48
2	-1.36
3	-1.18
4	-1.26
5	-1.21
6	-1.24
7	-1.19
8	-1.16
9	-1.23
10	-1.15
11	-1.20
12	-1.18
13	-1.17
14	-1.15
15	-1.19
16	-1.18
17	-1.21
18	-1.16
19	0.14

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