Supporting information

Atomic-scale Identification of Influence Factors of Sodium Dendrite Growth on Different Current Collectors

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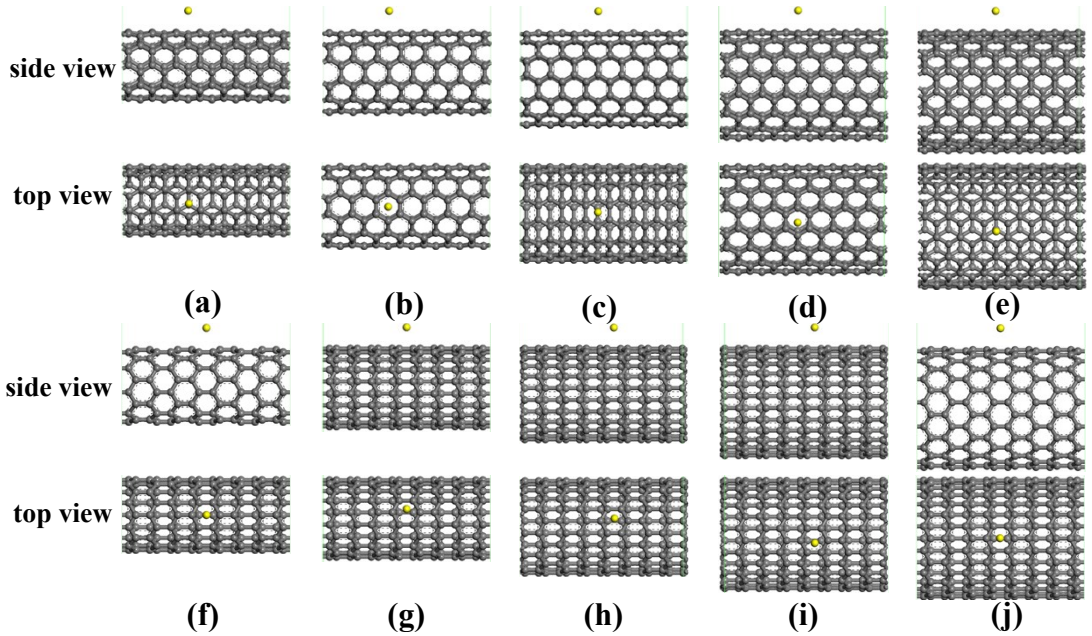


Fig. S1 Panels (a)-(e): the schematic diagram of single Na adsorption respectively on (5,5), (6,6), (7,7), (8,8), (9,9) armchair SWCNT. Panels (f)-(j): the schematic diagram of single Na adsorption respectively on (9,0), (10,0), (12,0), (14,0), (15,0) zigzag SWCNT.

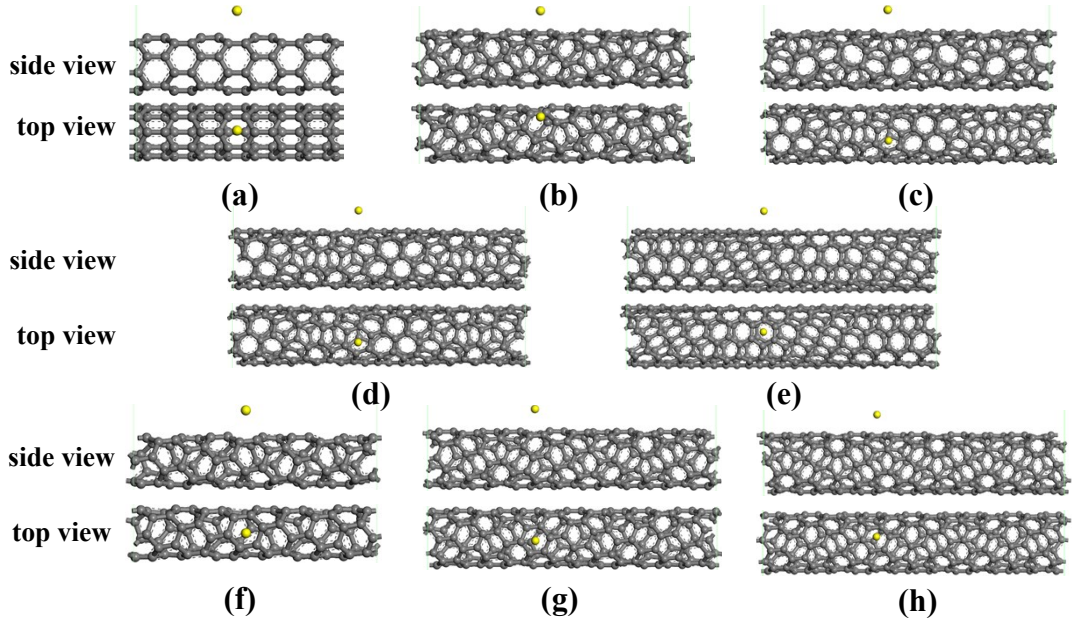
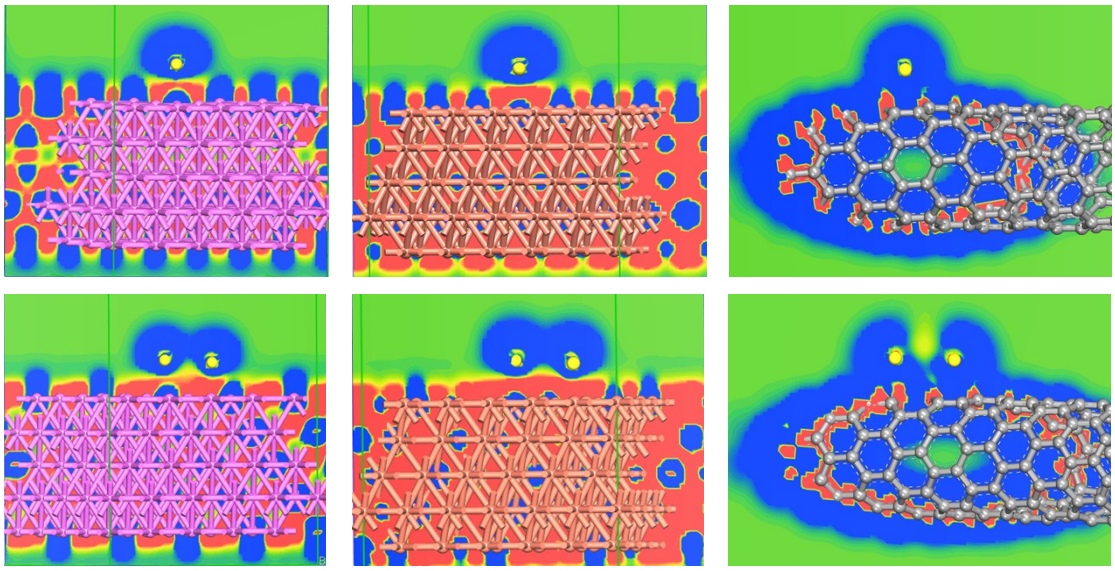
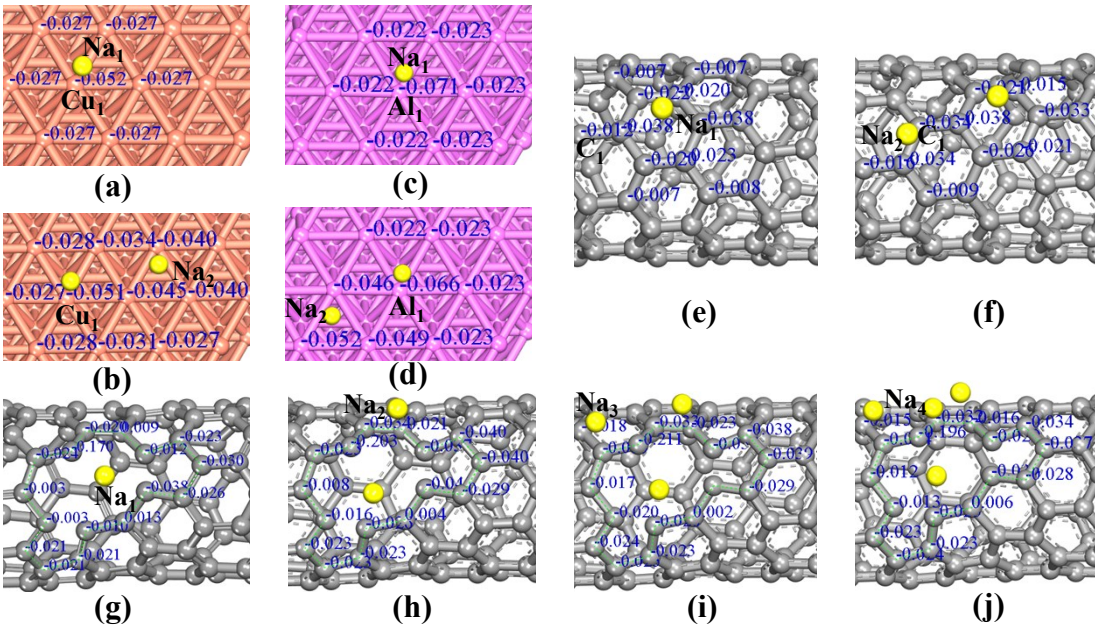


Fig. S2 Panels (a)-(h): the schematic diagram of single Na adsorption respectively on (5, 0), (5, 1), (5, 2), (5, 3), (5,4), (4, 1), (6, 1), (7, 1) chirality SWCNT.



(a) (b) (c)

Fig. S3 The profile of deformation electron density of single Na/Na dimer adsorption on Cu (111) surface (a), Al (111) surface (b), (8,1) SWCNT (c).



(a) (b) (c) (d) (e) (f) (g) (h) (i) (j)

Fig. S4 The Hirshfeld atomic charges of substrate atoms near sodium atoms adsorption site.

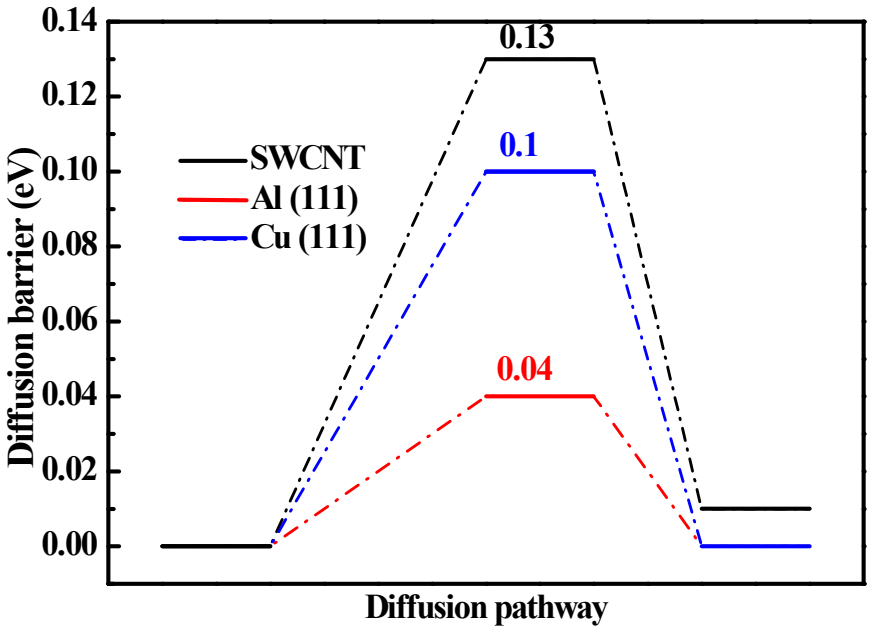


Fig. S5 The diffusion pathway and relevant diffusion energy barriers of a single Na atom on SWCNT, Al (111) surface and Cu (111) surface respectively.

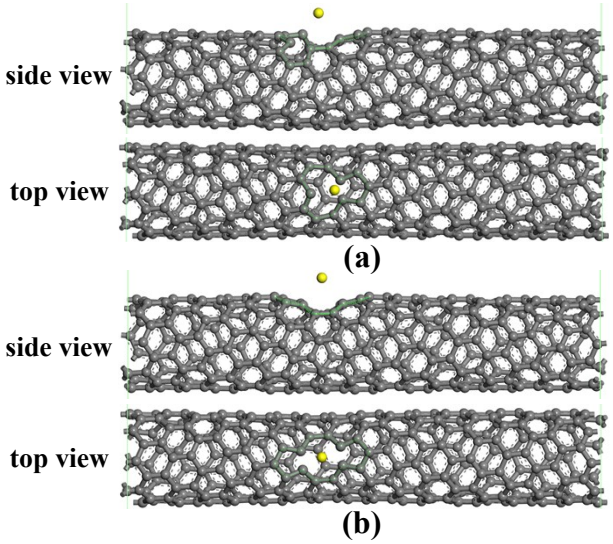


Fig. S6 The schematic diagram of single Na adsorption on (8,1) SWCNT without 1 C atom (a) and 2 C atoms (b) respectively.