

Supplementary Information

Nano-Si/FeSi₂Ti hetero-structure with structural stability for highly reversible lithium storage

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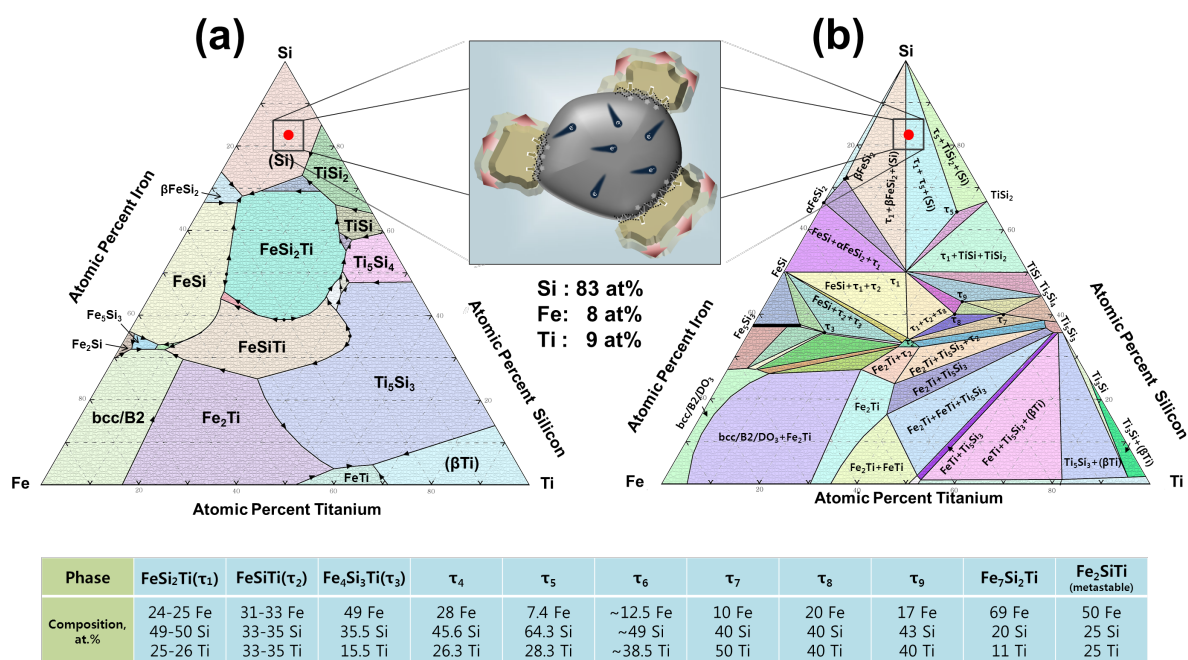


Fig. S1 Ternary system of (a) Fe-Si-Ti liquidus projection and (b) Fe-Si-Ti tentative isothermal section at 900°C.

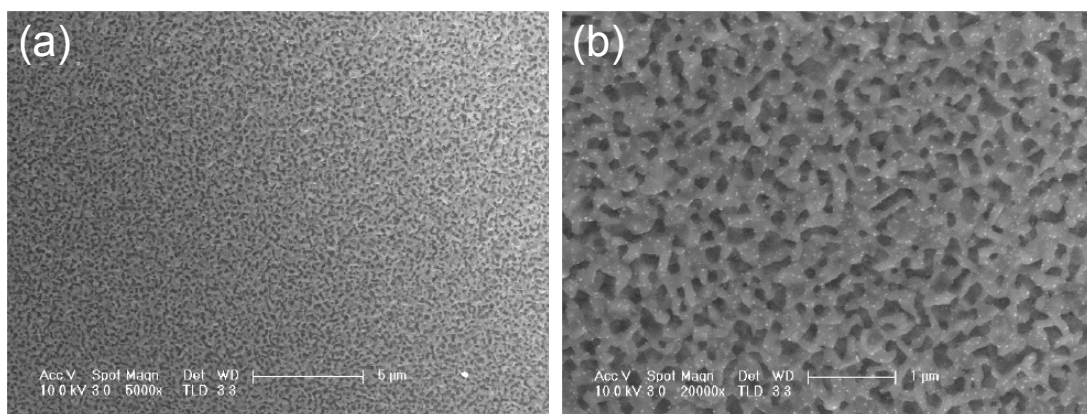


Fig. S2 SEM image of Melt-spun Si-Ti-Fe alloy ribbons before grinding; (a) $\times 5,000$, (b) $\times 20,000$.

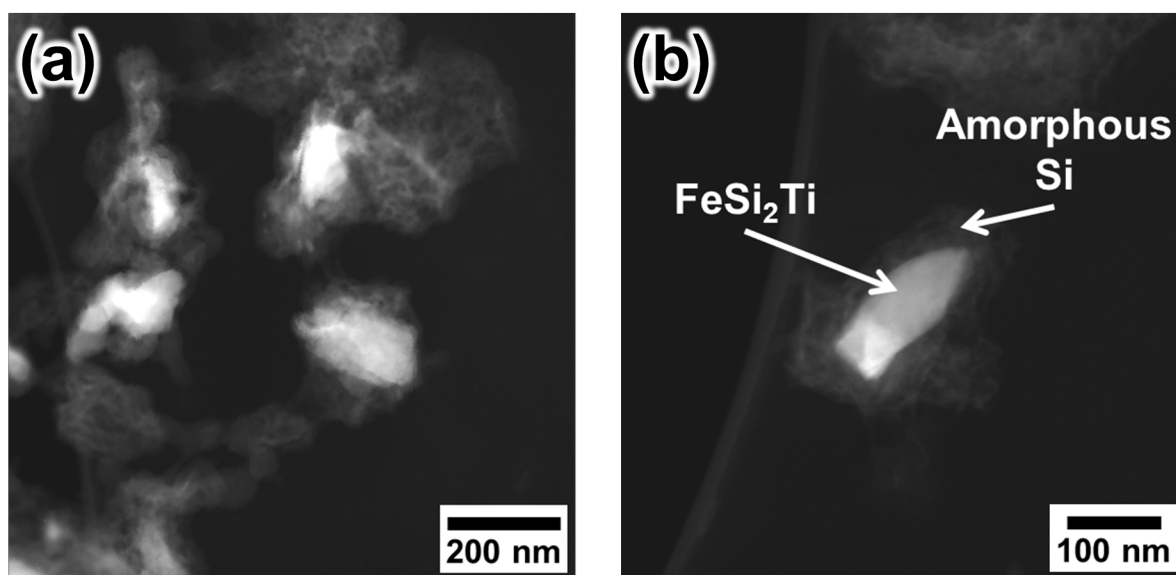


Fig. S3 STEM images of Nano-Si/FeSi₂Ti hetero-structure after 50th cycles.

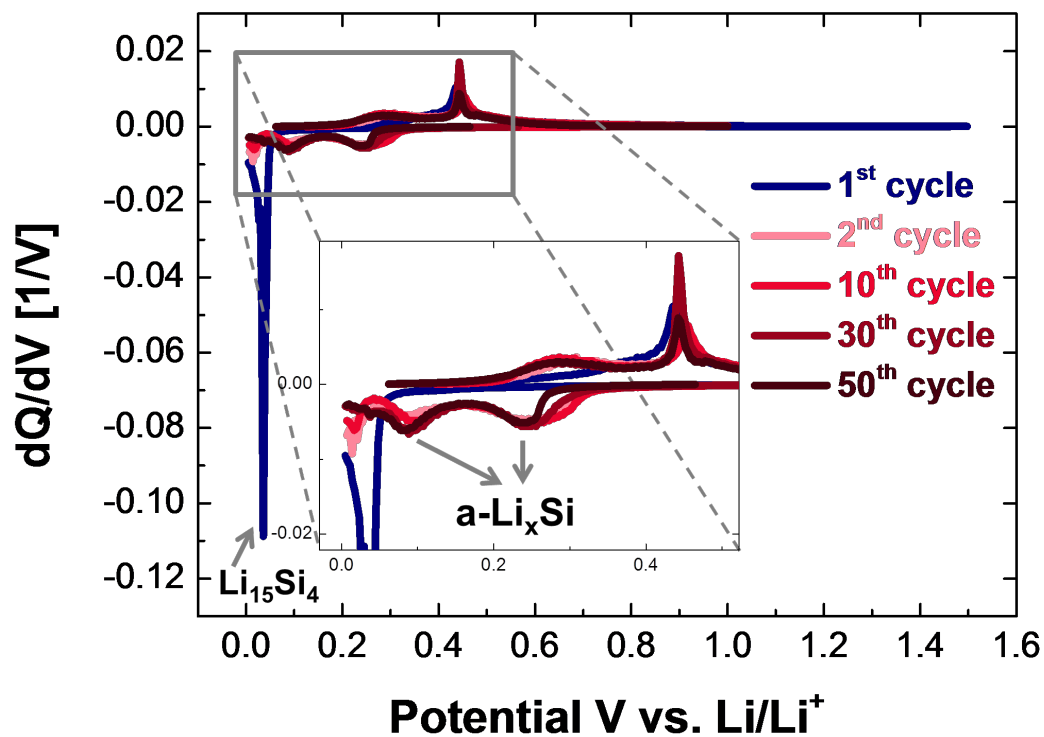


Fig. S4 The differential capacity plots of Nano-Si/FeSi₂Ti hetero-structure at 1, 2, 30 and 50th cycle.

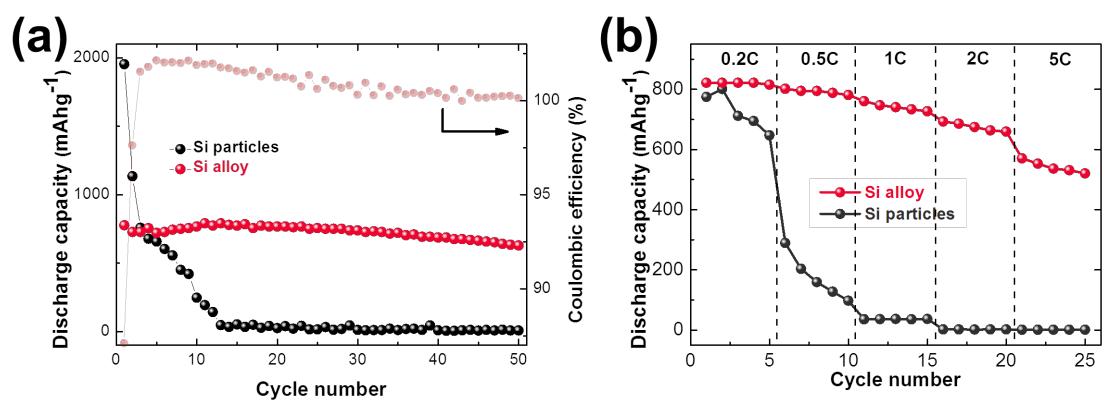


Fig. S5 The electrochemical performance of Si nanoparticles and Nano-Si/FeSi₂Ti heterostructure: (a) the cyclic performance at 0.1C, (c) capacity retention amounts when conducting charge-discharge cycles at various current rates.