

**Supporting information for:**  
**How Big Does a Si Nanocluster Favor Bulk Bonding Geometry?**

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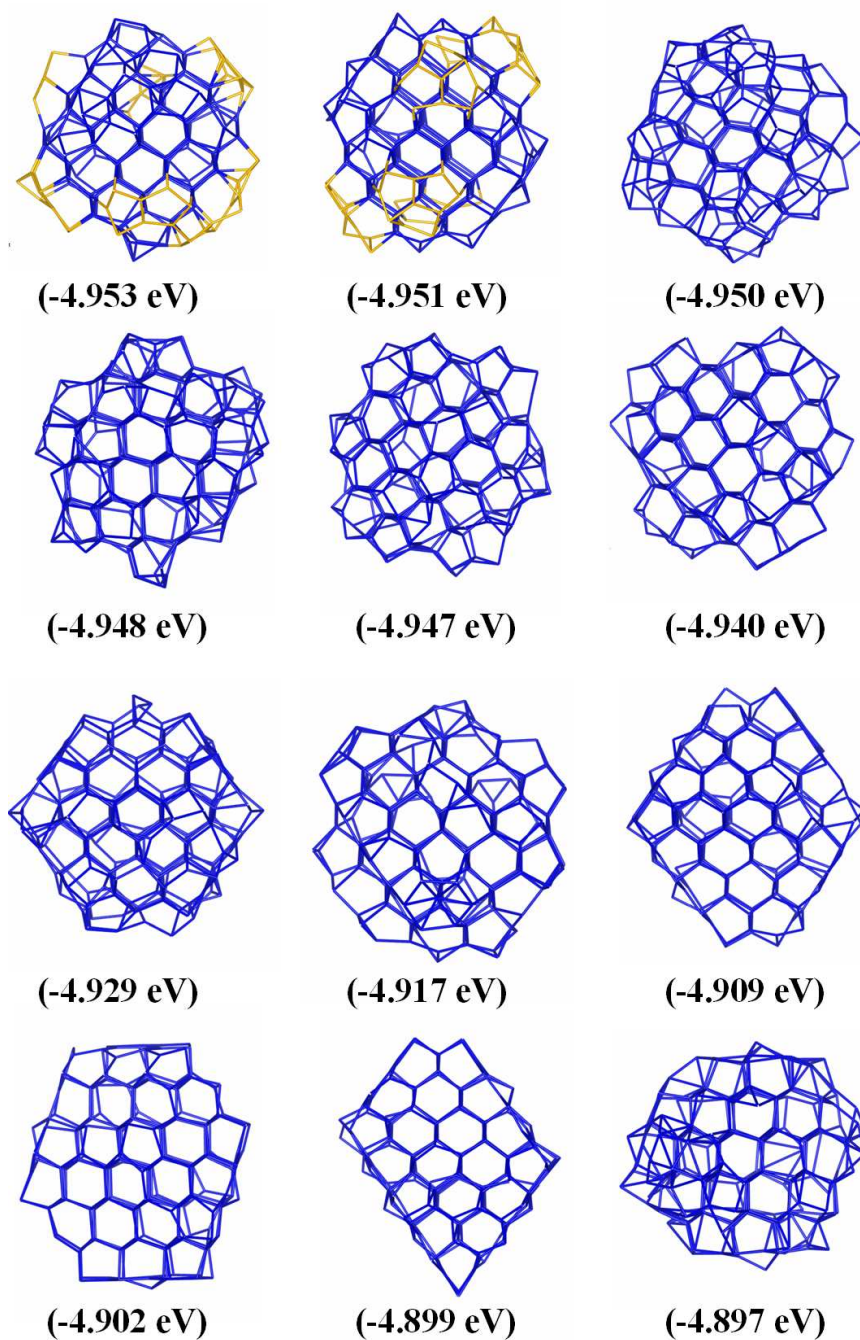
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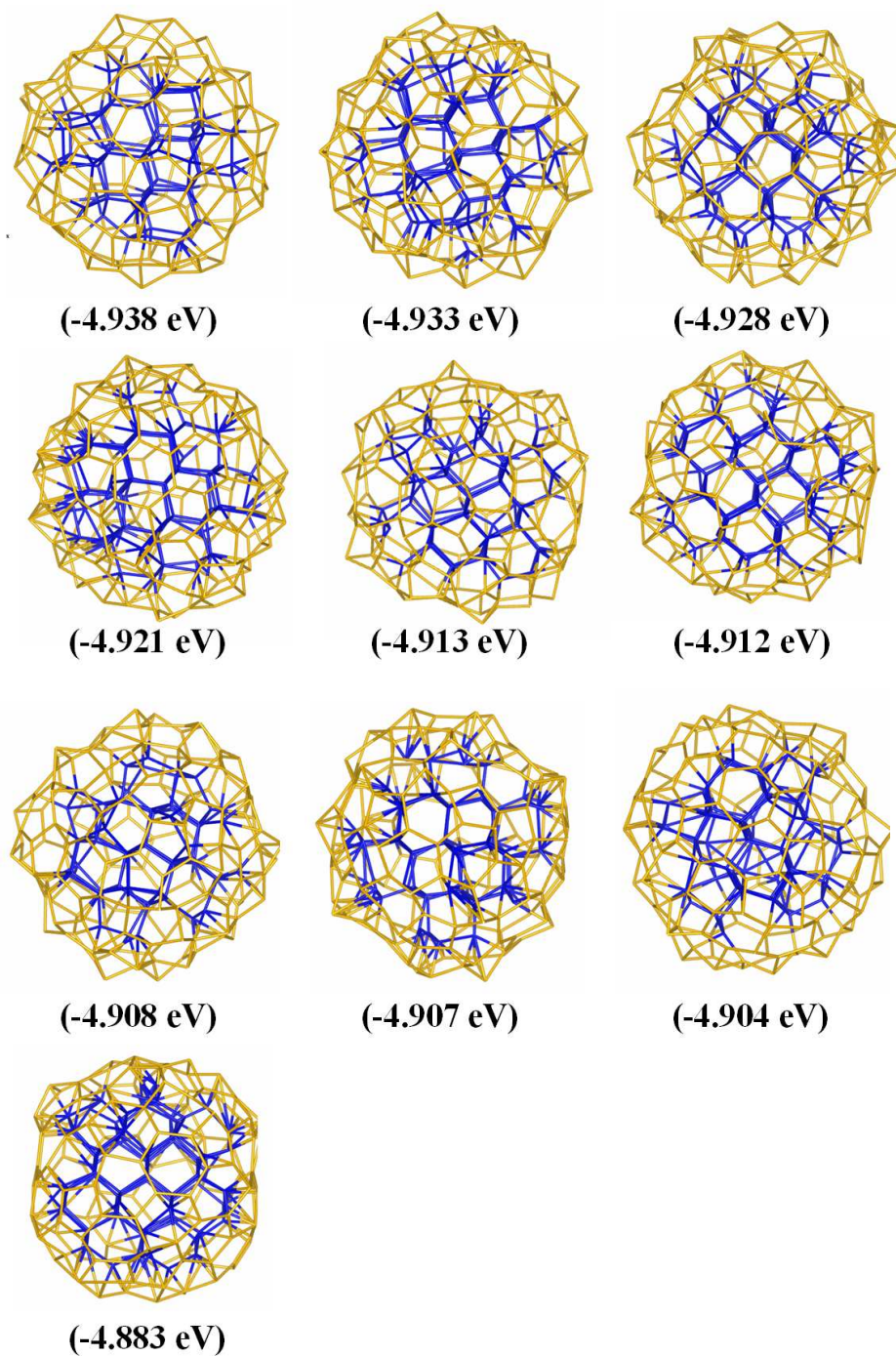
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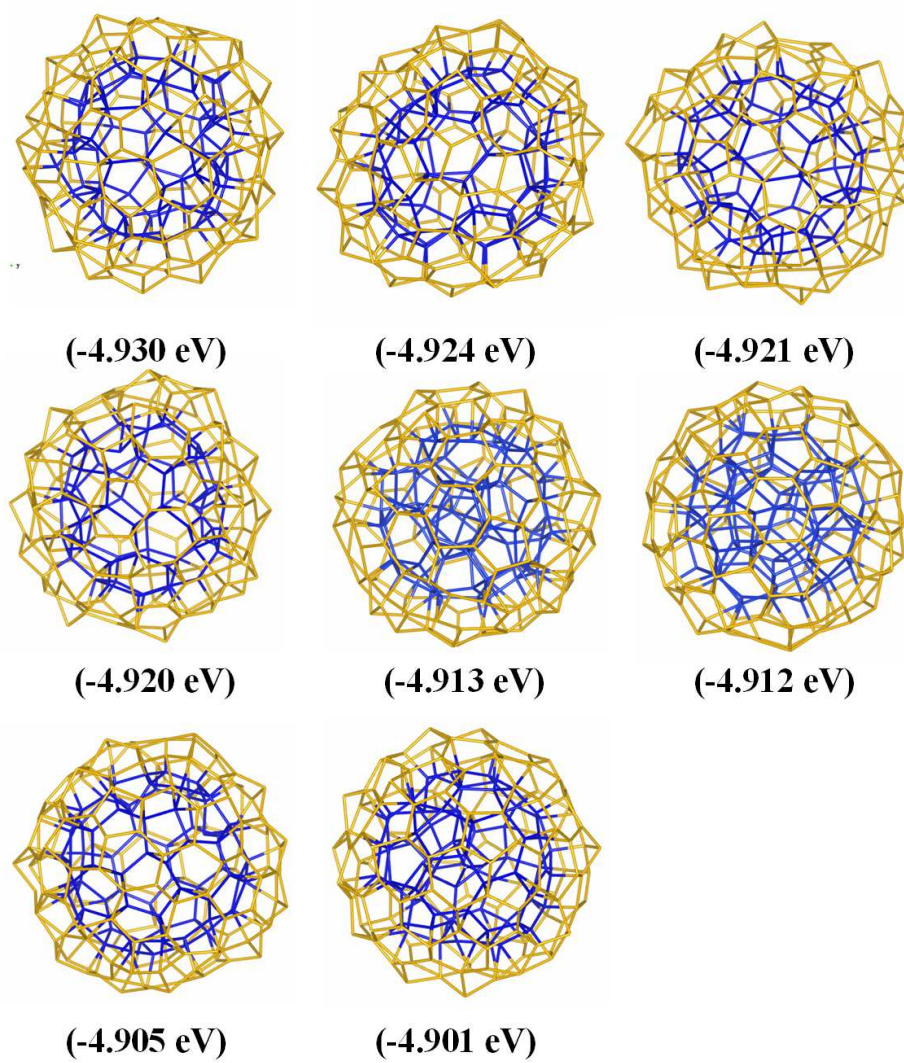
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**Figure S1:** Structures of the bulk-like  $\text{Si}_{220}$  NCs. The values in brackets are the DFT-PBE cohesive energies per atom. The surface and bulk-like Si atoms were denoted by yellow and blue colors, respectively.



**Figure S2:** Structures of the bucky-diamond  $\text{Si}_{220}$  NCs. The values in brackets are the DFT-PBE cohesive energies per atom. The surface and core atoms were denoted by yellow and blue colors, respectively.



**Figure S3:** Structures of the onion-like  $\text{Si}_{220}$  NCs. The values in brackets are the DFT-PBE cohesive energies per atom. The surface and core atoms were denoted by yellow and blue colors, respectively.