Effects of carbon supports on Pt nano-cluster catalyst

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Abstract: A first-principles electronic structure calculation is performed to explore stability and electronic structure of Pt_{13} cluster adsorbed on carbon supports. The stability of Pt_{13} cluster on carbon nanotube supports has enhanced significantly, compared with that on graphene support. Charge re-distribution among Pt atoms takes place. Electronic structure of carbon supported-Pt cluster exhibits metallic characteristics, similar to a Pt metal surface.
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