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Anchoring effect of Ni^{2+} in stabilizing reduced metallic particles for growing single-walled carbon nanotubes

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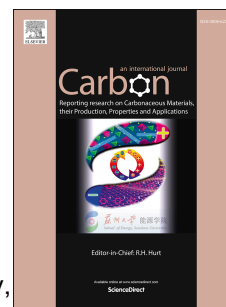
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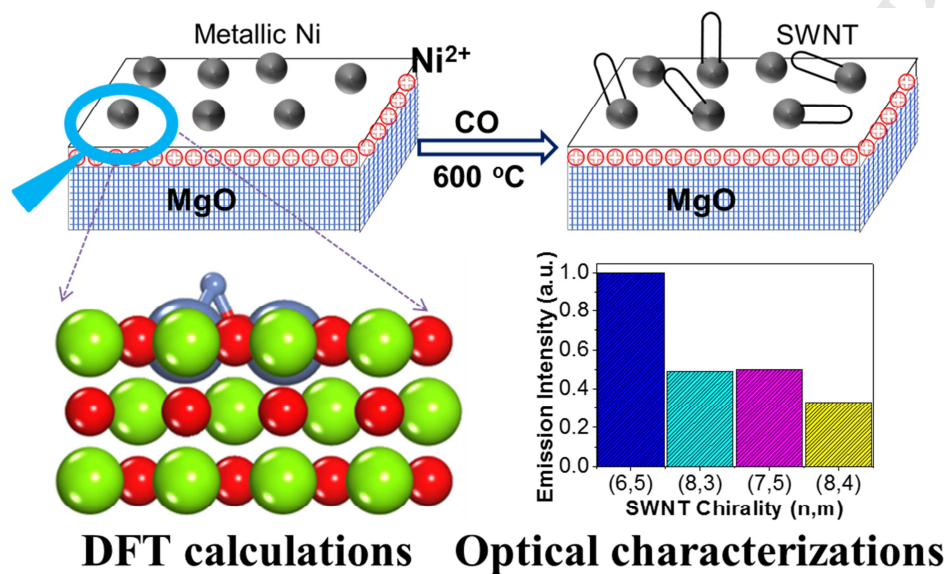


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Graphical Abstract

A Ni-incorporated MgO catalyst was developed for predominant synthesis of (6, 5) single walled carbon nanotubes. Density functional theory-based calculations revealed that the unreduced subsurface Ni stabilized reduced Ni atoms on the surface, facilitating the growth of carbon nanotubes with a narrow chirality distribution.



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