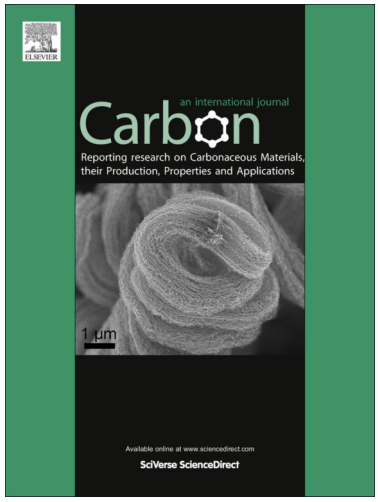

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Towards Type-Selective Carbon Nanotube Growth at Low Substrate Temperature via Photo-Thermal Chemical Vapour Deposition

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ABSTRACT

Carbon nanotubes have been intensively researched for electronic applications, driven by their excellent electronic properties, with the goals being control and reproducibility of growth, semiconducting/metallic type selectivity and maintaining high quality of carbon nanotubes, in a process that is temperature-compatible with the electronics. Photo-thermal chemical vapour deposition can achieve these goals and, through a thorough investigation of the parameter space, we achieve very high nanotube-quality and growth rates, and produce a phase-diagram that reveals distinct regions for growing semiconducting and metallic single-walled nanotubes, as well as

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