

Accepted Manuscript

Towards type-selective carbon nanotube growth at low substrate temperature via photo-thermal chemical vapour deposition

Jeng-Shiung Chen, Vlad Stolojan, S.Ravi P. Silva

PII: S0008-6223(14)01173-7

DOI: <http://dx.doi.org/10.1016/j.carbon.2014.12.023>

Reference: CARBON 9556

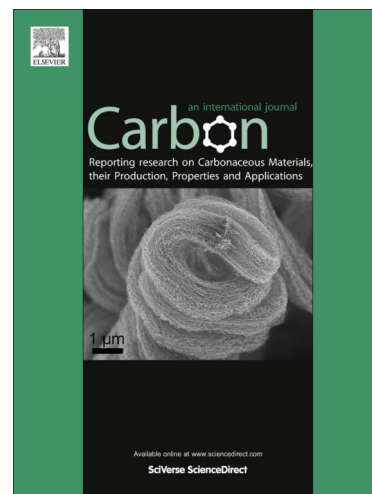
To appear in: *Carbon*

Received Date: 15 September 2014

Accepted Date: 4 December 2014

Please cite this article as: Chen, J-S., Stolojan, V., Silva, S.P., Towards type-selective carbon nanotube growth at low substrate temperature via photo-thermal chemical vapour deposition, *Carbon* (2014), doi: <http://dx.doi.org/10.1016/j.carbon.2014.12.023>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



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

Jeng-Shiung Chen,[†] Vlad Stolojan,[†] S. Ravi P. Silva^{†}*

[†]Advanced Technology Institute, University of Surrey, Guildford, Surrey, United Kingdom, GU2 7XH

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

* Corresponding author: Tel. +44 (0)1483 689825 Email: s.silva@surrey.ac.uk (S. Ravi P. Silva)

Download English Version:

<https://daneshyari.com/en/article/7852001>

Download Persian Version:

<https://daneshyari.com/article/7852001>

[Daneshyari.com](https://daneshyari.com)