

Spectroscopic Evidence of Carbon Nanotubes' Metallic Character Loss Induced by Covalent Functionalization via Nitric Acid Purification

Submitted by Emmanuel Lemoine on Tue, 02/04/2014 - 16:12

Titre	Spectroscopic Evidence of Carbon Nanotubes' Metallic Character Loss Induced by Covalent Functionalization via Nitric Acid Purification
Type de publication	Article de revue
Auteur	Bergeret, C�line [1], Cousseau, Jack [2], Fernandez, Vincent [3], Mevellec, Jean-Yves [4], Lefrant, Serge [5]
Type	Article scientifique dans une revue � comit� de lecture
Ann�e	2008
Langue	Anglais
Date	2008/10/23
Num�ro	42
Pagination	16411 - 16416
Volume	112
Titre de la revue	The Journal of Physical Chemistry C
ISSN	1932-7447
R�sum� en anglais	<p>A detailed characterization of covalently functionalized HiPco single-walled carbon nanotubes (SWNTs) has been carried out using several physicochemical methods (thermogravimetric analysis, Fourier transform infrared spectroscopy, X-ray photoelectron spectroscopy and Raman scattering). The chemical process, finally leading to SWNT?ester derivatives, starts from nitric acid purification of pristine SWNTs. Besides the efficiency of the functionalization, we show that a loss of metallic character of the carbon nanotubes is initiated by the nitric acid treatment of pristine SWNTs and is maintained in the final SWNT ester derivatives. A higher reactivity of the metallic tubes is also demonstrated.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua1949 [6]
DOI	10.1021/jp806602t [7]
Lien vers le document	http://dx.doi.org/10.1021/jp806602t [7]

Liens

- [1] [http://okina.univ-angers.fr/publications?f\[author\]=2606](http://okina.univ-angers.fr/publications?f[author]=2606)
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=2607](http://okina.univ-angers.fr/publications?f[author]=2607)
- [3] [http://okina.univ-angers.fr/publications?f\[author\]=2608](http://okina.univ-angers.fr/publications?f[author]=2608)
- [4] [http://okina.univ-angers.fr/publications?f\[author\]=2609](http://okina.univ-angers.fr/publications?f[author]=2609)
- [5] [http://okina.univ-angers.fr/publications?f\[author\]=2610](http://okina.univ-angers.fr/publications?f[author]=2610)
- [6] <http://okina.univ-angers.fr/publications/ua1949>

[7] <http://dx.doi.org/10.1021/jp806602t>

Publié sur *Okina* (<http://okina.univ-angers.fr>)