POLITECNICO DI TORINO Repository ISTITUZIONALE

Unraveling the Effect of Carbon Nanotube Oxidation on Solid-State Decomposition of Ammonia Borane/Carbon Nanotube Composites

Original

Unraveling the Effect of Carbon Nanotube Oxidation on Solid-State Decomposition of Ammonia Borane/Carbon Nanotube Composites / Bartoli, M.; Pirri, C. F.; Bocchini, S.. - In: JOURNAL OF PHYSICAL CHEMISTRY. C. - ISSN 1932-7447. - ELETTRONICO. - 126:39(2022), pp. 16587-16594. [10.1021/acs.jpcc.2c04693]

Availability: This version is available at: 11583/2974384 since: 2023-01-06T14:40:59Z

Publisher: American Chemical Society

Published DOI:10.1021/acs.jpcc.2c04693

Terms of use:

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)

Unravelling the Effect of Carbon Nanotubes Oxidation on Solid State Decomposition of Ammonia Borane/Carbon Nanotubes Composites

Mattia Bartoli^{1,2*}, Candido Fabrizio Pirri^{1,3}, Sergio Bocchini¹

- Center for Sustainable Future Technologies (CSFT), Istituto Italiano di Tecnologia (IIT), Via Livorno, 60, 10144, Torino, Italy
- Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali (INSTM), Via G. Giusti 9, 50121 Florence, Italy
- Department of Applied Science and Technology, Politecnico di Torino, Corso Duca Degli Abruzzi, 24, 10129, Torino, Italy

Figure S1: Survey spectra XPS spectra of xCNTs.



Figure S2: Fitted spectra XPS spectra of C 1s of a)0CNTs, b)15CNTs, c)30CNTs and d)60CNTs and O 1s of e)0CNTs, f)15CNTs, g)30CNTa and h)60CNTs.











Figure S5: FT-IR (ATR mode) spectra of AB@xCNTS in the range from 500 cm⁻¹ up to 4000 cm⁻¹ with a ratio of xCNTs/AB ratio of a) 0.1 and b) 1.



Figure S6: Kissinger plots for non-isothermal <u>DSC</u> runs at heating rates of 2, 5, and 10 °C min⁻¹ and activation energies of a) AB@xCNTs (xCNTs/AB ratio of 0.1) and b) AB@xCNTs (xCNTs/AB ratio of 1).



Figure S7: TGA curves of a) AB@xCNTs (xCNTs/AB ratio of 0.1) and b) AB@xCNTs (xCNTs/Ab ratio of 1)

