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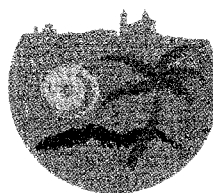


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Atti del Convegno

INCREASING THE MANIPULABILITY OF CARBON NANOTUBES

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The 1D structure of carbon nanotubes¹ endows them with outstanding electronic, thermal, and mechanical properties that are unrivaled by any other substance class. However, applications have so far been limited by their virtual insolubility in aqueous and organic solvents. In particular, single-walled carbon nanotubes (SWNTs) pack into bundles or "ropes" that typically contains hundreds of tubes held together by strong van der Waals interactions.

We have succeeded in producing well-dispersed and stable aqueous solutions of SWNTs with the aid of poly(ethylen glycol-*bl*-propylene sulfide) block copolymers (PEG-PPS).^{2,3} The obtained dispersions are biocompatible thus allowing an eventual use as drug delivery carriers in the biomedical field.

References:

1) Iijima, S.. *Nature* **1991**, *354*, 56-58A.

2) Cerritelli, S.; Fontana, A.; Velluto, D.; Adrian, M.; Dubochet, J.; De Maria, P.; Hubbell, J. A. *Macromolecules* **2005**, *38*, 7845-7851.

3) Cerritelli, S.; O'Neil, C. P.; Fontana, A.; Velluto, D.; Adrian, M.; Dubochet, J.; Hubbell, J. A. *Langmuir* **2009**, *25*, 11328-11335.