

Extended Electrical Percolation via Inner Tubes

YuHuang Wang, Department of Chemistry and Biochemistry,
University of Maryland, College Park, MD 20724

- A percolated network of extensive diazonium functionalization double-walled carbon nanotubes retain approximately 50% of the electrical conductivity, 33 times better than single-walled carbon nanotubes.
- The high conductivity retention suggests an “outer wall” materials strategy to address the electrical contact problem between chemically functionalized carbon nanostructures, which is a recognized critical issue for the use of these types of nanomaterials as conductive, functional electrodes for high performance electrical energy storages and solar energy harvesting.

