

Cover Picture

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The cover picture shows a single-walled carbon nanotube (SWNT) functionalized with nucleophilic carbenes at the sidewall. Normally, single-walled nanotubes exist in the form of insoluble bundles. The sidewall addition of reactive organic groups such as radicals, nitrenes, or carbenes such as the ones shown in the cover picture disrupts the bundles. The background of the picture shows a typical AFM image of such derivatized SWNTs. The isolated SWNTs are soluble in organic solvents giving black solutions. This enables a spectroscopic characterization of nanotubes in solution. With this versatile sidewall functionalization the decisive requirements for the development of technological applications such as the production of ultrathin films or the processing to polymer composites with new electronic and mechanic properties have been compiled. Details about this new chemical functionalization of SWNTs is described by Hirsch et al. on pp. 4002 ff.

