NU Tech
Technology Partnership of Nagoya University, Inc.

(E-08)

Carbon Nanobelt

Background:
The synthesis of a carbon nanobelt, comprising a closed loop of fully fused edge-sharing benzene rings, has been an elusive goal in organic chemistry for more than 60 years.

Technology Overview:
Nagoya University researchers have succeeded in the synthesis of one such compound through iterative Wittig reactions followed by a nickel-mediated aryl-aryl coupling reaction. The new nanobelt is 0.83 nanometer (nm) in diameter. The cylindrical shape of its belt structure was confirmed by x-ray crystallography, and its fundamental optoelectronic properties were elucidated by ultraviolet-visible absorption, fluorescence, and Raman spectroscopic studies, as well as theoretical calculations.

Applications:
A seed for the preparation of structurally well-defined carbon nanotubes.
A useful template for building carbon nanotubes.
Open a new field of nanocarbon science.

Further Details:
Science, Povie *et al*., 2017

IP Status:
A patent application has been filed

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