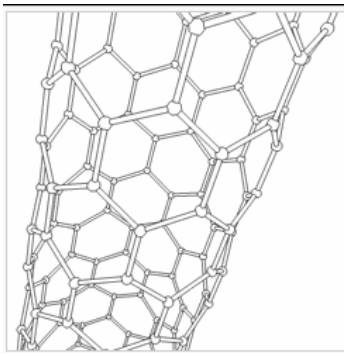
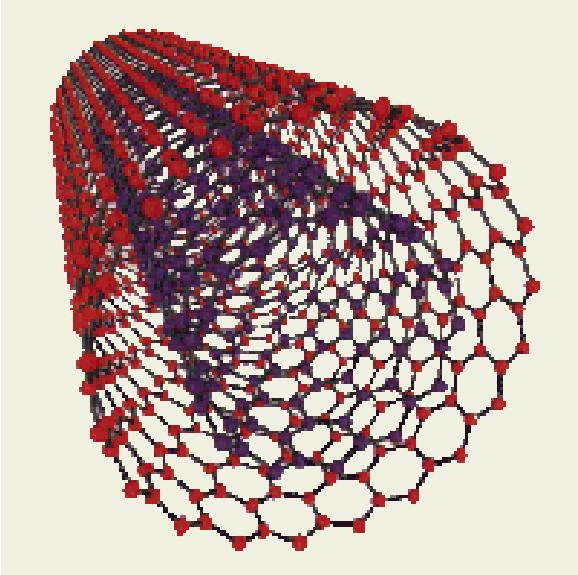
Nano Business News



Background

Nanotubes are like a cylinder of molecules. These nanotubes are usually a few nanometers wide, and they are very helpful to us, humans. Their neat structure can form into a pointy edge, like a diamond's point. They have a lot of strength. If you took this nanotube, and stretched it out into a wire, it could lift about 2,000 cars!

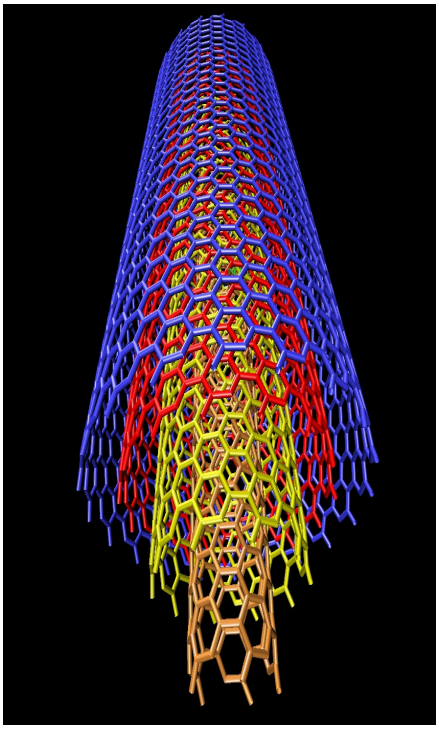


Making them

An easy routine used to make nanotubes is to send a big or huge current across the two soft black carbon molecules in the atmosphere. The result is carbon plasma that is arced between the electrode cools into residue from *many* fullerenes.

Safety

In 2005, Biophysical Journal found out that C60 is against safety, when its dissolved in water. The journal gives you the results, of a detailed simulation from the computer. The computer shows C60 binds, turn into spirals of DNA molecules, that could effect humans and other living organisms.

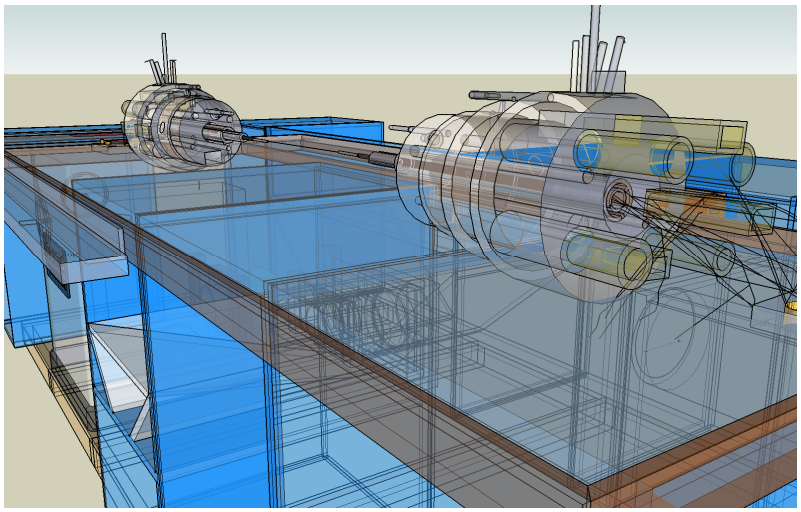


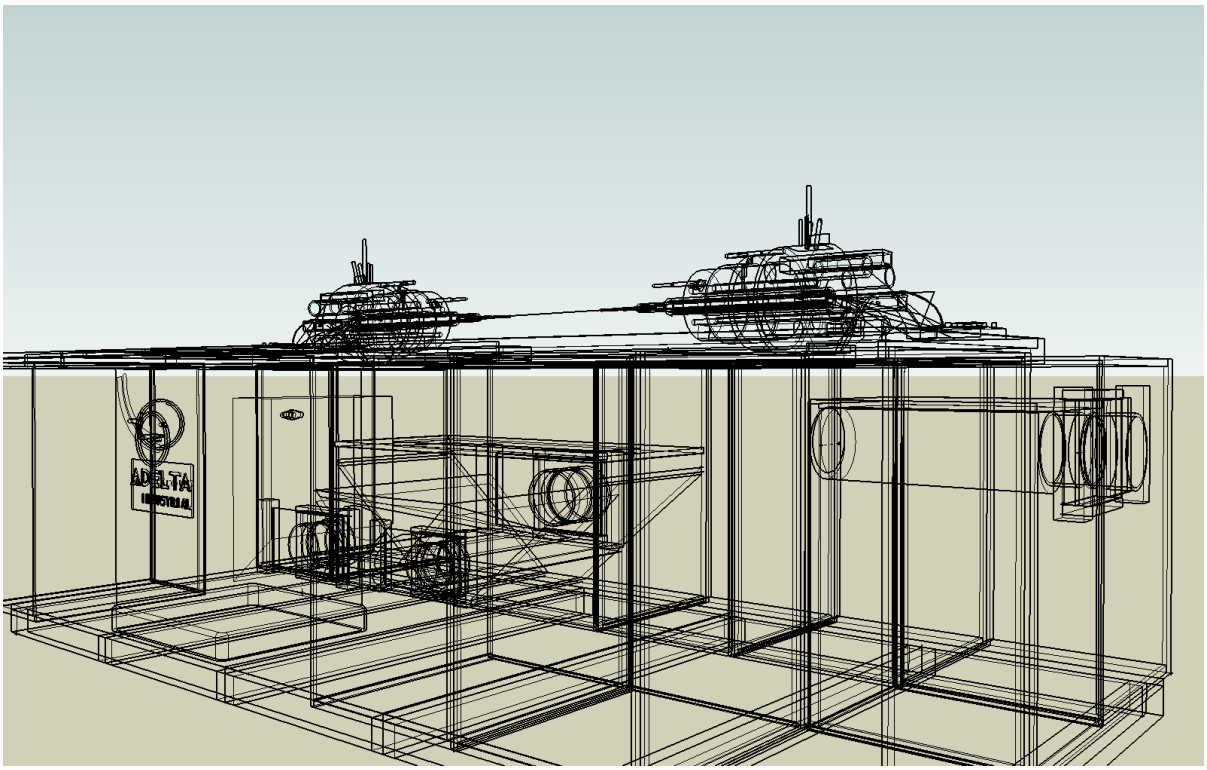
Properties

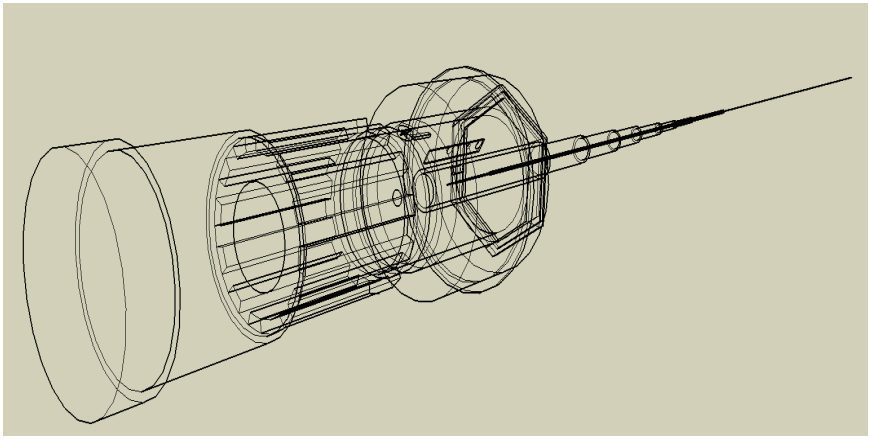
The strongest strength a wall of carbon nanotubes has been tested, and the result is: 63 gigapascals (equals 9,000,000 pounds per square inch)! Experimental observations of different deformation modes under one multi-walled carbon nanotubes

Industrial product uses

- Amputation
- Cutting metal
- Weapon
- Cutting lumber/trees
- Rock cutting
- Drilling holes in earth

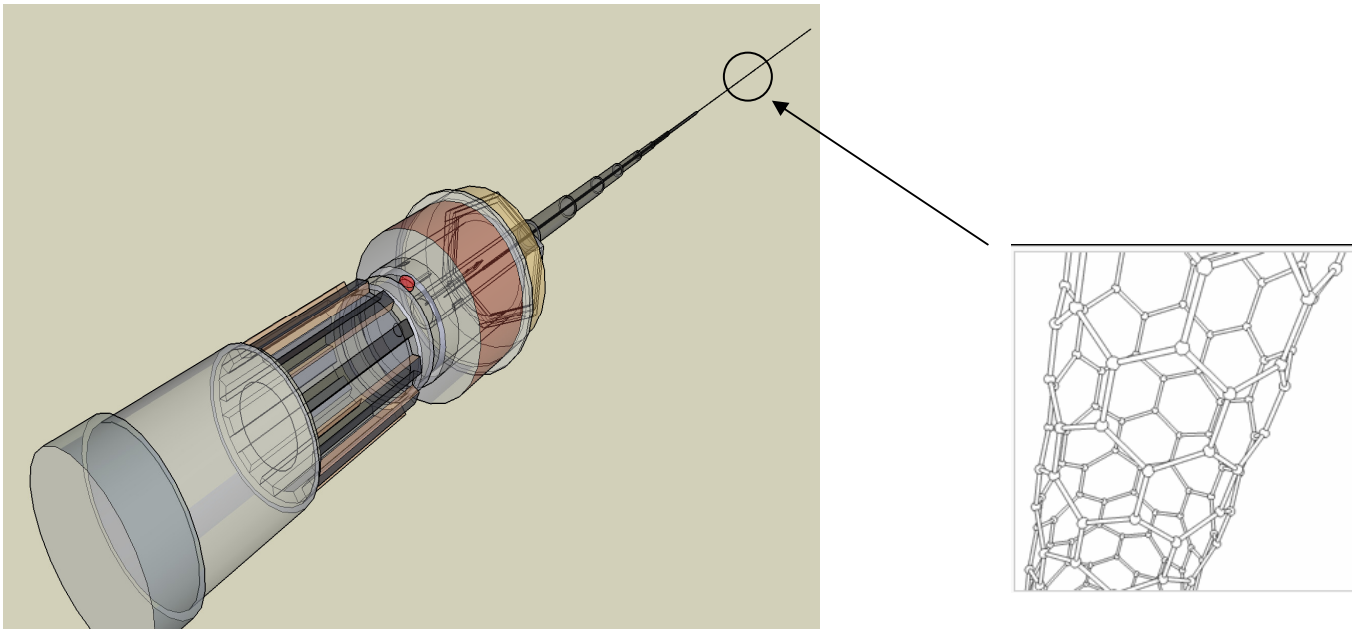






Handheld tool uses

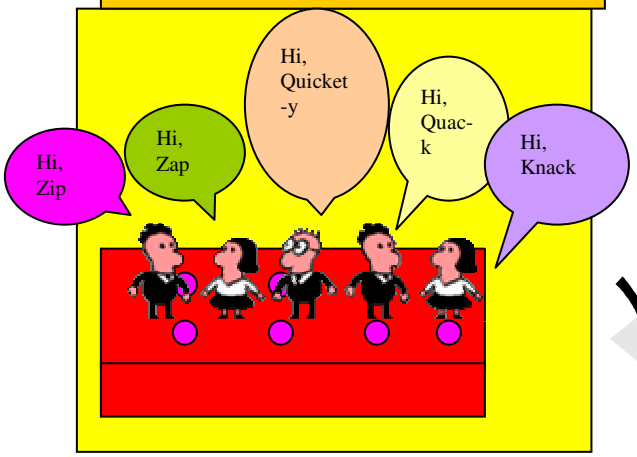
- Cutting bad guys head's off
- Break out of prison
- Cutting bricks and stone
- Cut wood
- Doctors can use it to cut things
- Cutting household objects
- Cutting frozen food
- Scientists cut open animals after they die
- Cutting ice
- Cutting a huge hunk of paper
- Cutting grass and shrubs
- Cutting Trees and lumber
- Cutting wrapping paper
- Protection



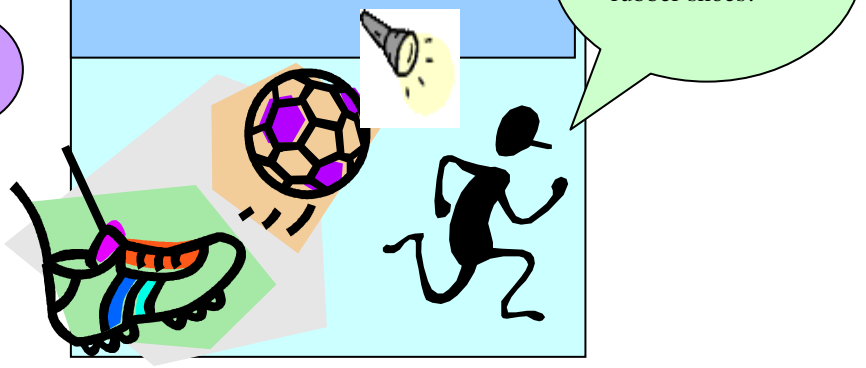
THE NANO-DUDES

By Katie Donahoe

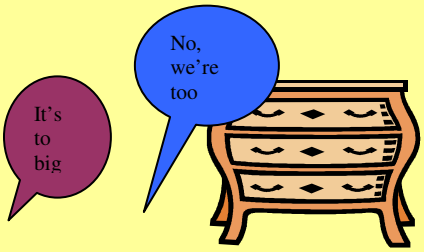
Once upon a time there where some nano-dudes. There names are Zip, Zap, Quickety, Quack, and Knack.



They always ran away from there fears.

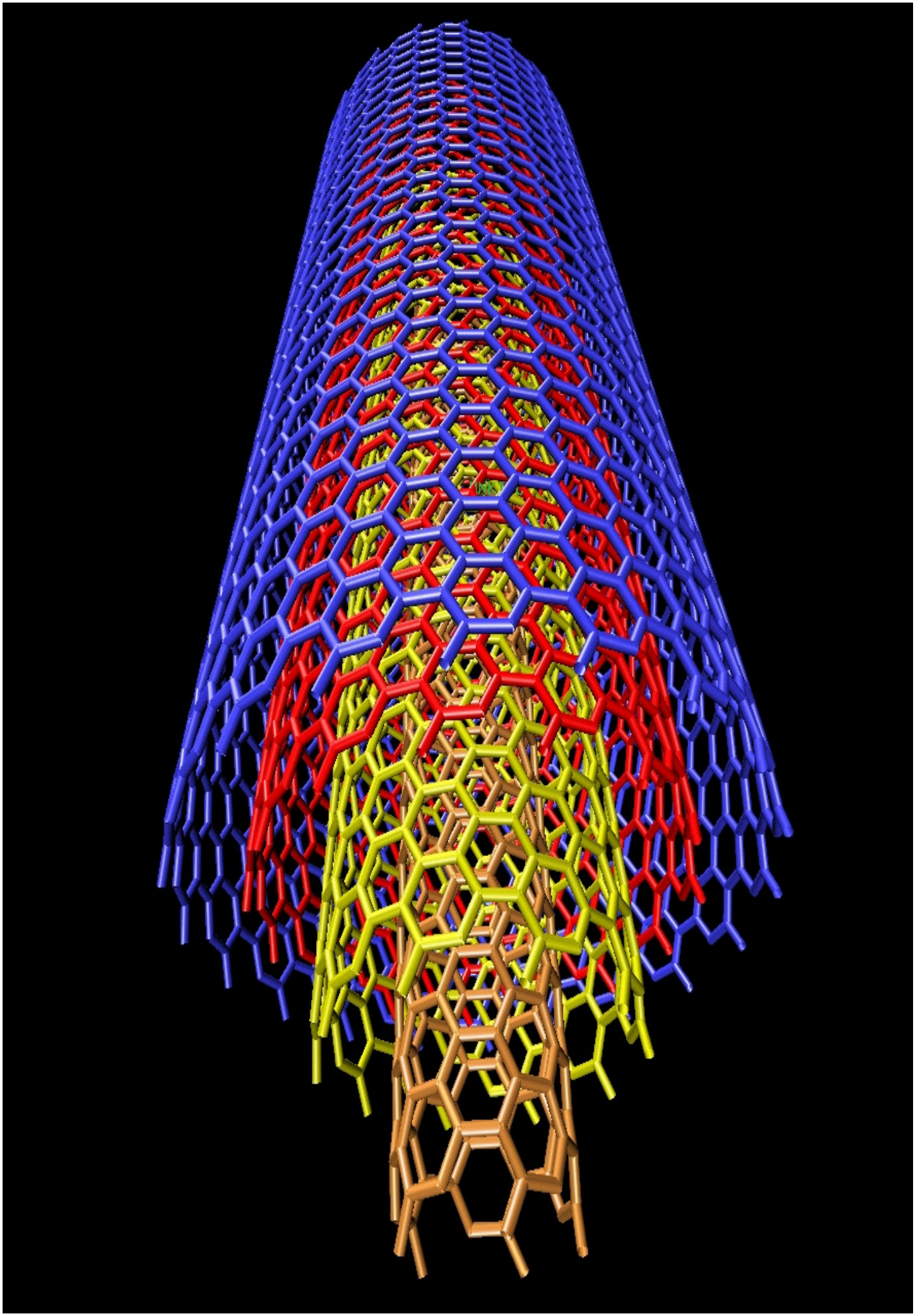


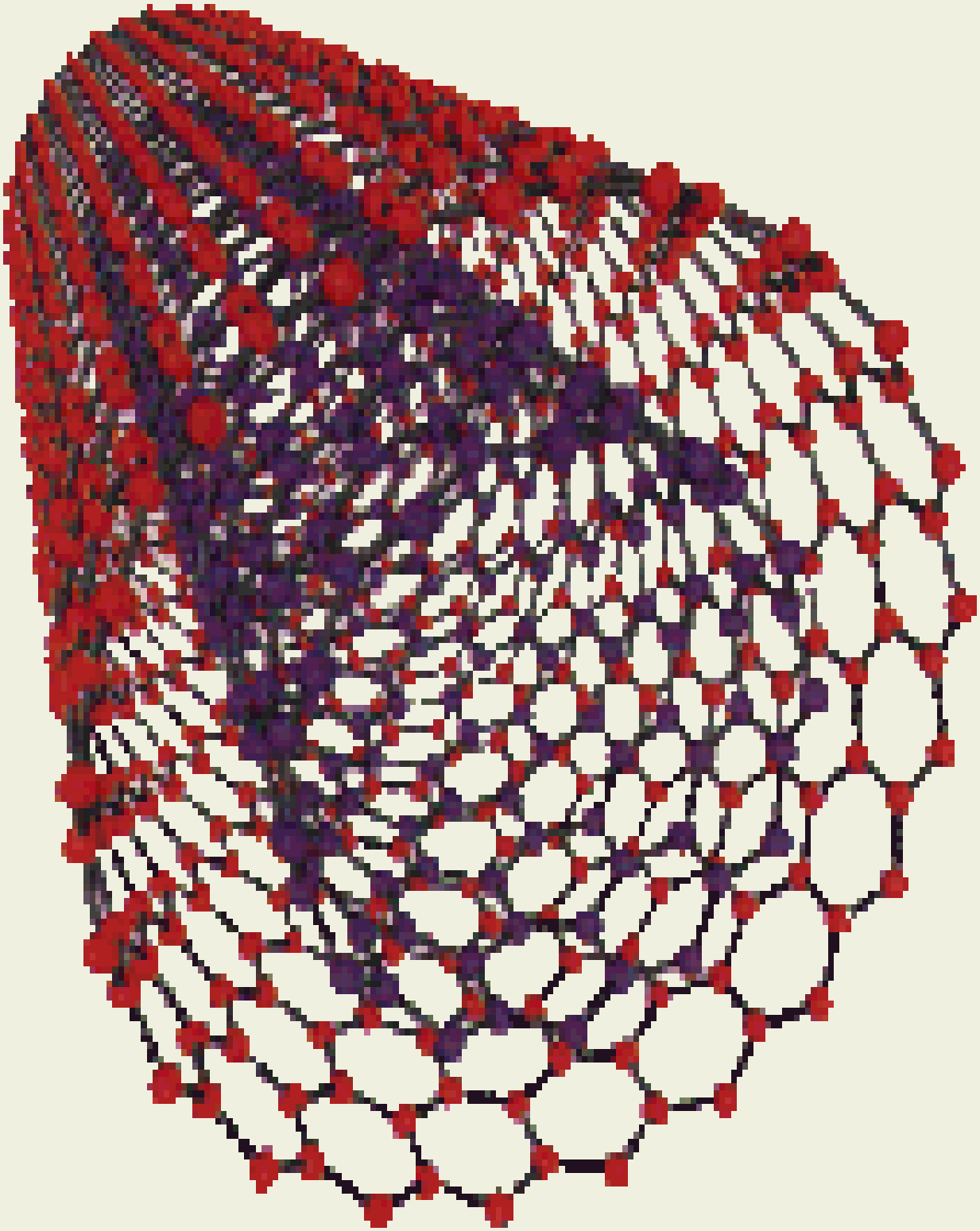
They didn't like being small.



So, Zip, and Zap made a molecular soup that they named a super duper height-mobober.

They were soon so big that, I had to make a bigger comic box for them.



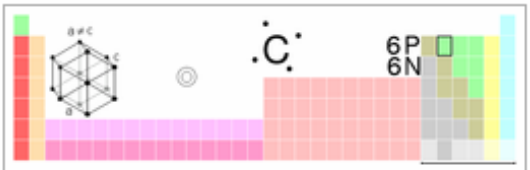


Research

Aggregated diamond nanorods

Is an allotrope of carbon believed to be the least compressible material known to mankind, as measured by its isothermal bulk modulus; aggregated diamond nanorods have a modulus of 491 gigapascals (GPa), while a conventional diamond has a modulus of 442 GPa. ADNRs are also 0.3% denser than regular diamond. The ADNR material is also harder than type IIa diamond and ultra hard fullerite.

A process to produce the substance was discovered by physicists in Germany, led by Natalia Dubrovinskaia, at the University of Bayreuth in 2005. ADNRs are made by compressing allotropic Carbon buckyballs molecules (generally 60 Carbon atoms per molecule) to a pressure of 20 GPa, while at the same time heating to 2500 Kelvin, using a unique 5000 metric tonne multi anvil press. The resulting substance is a series of interconnected diamond nanorods, with diameters of between 5 and 20 nanometers and lengths of around 1 micrometer each.

6	boron ← carbon → nitrogen
- ↑ C ↓ Si	 Periodic Table - Extended Periodic Table

General	
Name, Symbol, Number	carbon, C, 6
Chemical series	nonmetals
Group, Period, Block	14, 2, p
Appearance	black (graphite) colorless (diamond) 
Atomic mass	12.0107(8) g/mol
Electron configuration	$1s^2\ 2s^2\ 2p^2$
Electrons per shell	2, 4
Physical properties	
Phase	solid
Density (near r.t.)	(graphite) 2.267 g·cm^{-3}
Density (near r.t.)	(diamond) 3.513 g·cm^{-3}
Melting point	? triple point, ca. 10 MP and (4300–4700) K (4027–4427 °C

Bibliography

http://en.wikipedia.org