

From nano-peapods through DWNTs to elongated tori

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ABSTRACT. The encapsulation of fullerene cages inside single-walled nanotubes SWNT can be performed very efficiently in both vapor phase and in solution. In the inner space of SWNT, zero dimensional molecules, like C_{60} , are ordered in one-dimensional arrays. Such structures are called nanopeapods. Annealing peapods over 800°C , results in double-walled carbon nanotubes DWNT. We propose that controlled irradiation at the tip of nano-peapods could initiate the fusion between the inner and parent nanotube, resulting a torus.

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