

Fullerenes Nanotubes and Carbon Nanostructures

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Phenylene and naphthylenic tori[Diudea, M.V.](#)

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Abstract

Toroidal polyhex lattices have been proposed in the literature as models for the "circle crops" observed in soot condensed from arc-vaporized graphite. Other covering patterns, including azulenic C_5C_7 , "bathroom floor" C_4C_8 , and mixed patterns have been suggested. In this paper, novel phenylene (PH) and naphthylenic patterns are proposed. Molecular-mechanics estimates of energetic stability and Hückel calculations of the π -electronic structure of the toroidal objects are given. Topological characterization of these objects includes Wiener number and Hosoya polynomial.

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[Fullerenes Nanotubes and Carbon Nanostructures](#)

Volume 10, Issue 4, 2002, Pages 273-292

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