

Organic Seminar

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Tuesday, October 20, 2009

3:30 p.m.

Room 1315 Chemistry

New Circulenes: Quadrannulene (Like Corannulene but Smaller) to Septuléne (Like Kekuléne but Bigger)

The presence of non-hexagonal rings in an otherwise graphitic lattice induces curvature. Pentagons are common – twelve pentagons surrounded by hexagons make up C₆₀. The smallest examples of these graphitic structures are the [n]circulenes, where a central n-sided polygon is surrounded by fused benzenoid rings. We have recently prepared a [4]circulene, or quadrannulene, via a key alkyne cyclotrimerization. Its synthesis and properties will be discussed, along with developments on other circulenes. The connection between the circulenes and graphenes, fullerenes, and carbon nanotubes will be emphasized.

