

# Carbon Nanoring Molecule [12]Cycloparaphenylene



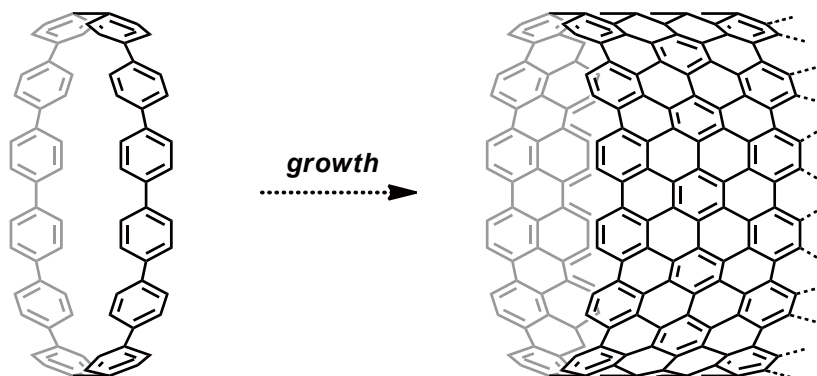
[C2449]

Cycloparaphenylenes (CPPs), in which benzene rings are bound to each other at their *para* positions, represent the shortest sidewall segment (carbon nanoring) of single-walled carbon nanotubes (SWCNTs). In 2009, Itami *et al.* have reported the first synthesis of [12]cycloparaphenylene (C2449), which is composed of twelve benzene rings.<sup>1,2)</sup> Various applications using C2449 are expected.

## Applications

- Organic Electronics
- Host-Guest Chemistry

Moreover, by using C2449 as a "template" to grow a nanotube, the selective synthesis of structurally uniform SWCNTs is also expected in the future.<sup>3)</sup>



- References
- 1) H. Takaba, H. Omachi, Y. Yamamoto, J. Bouffard, K. Itami, *Angew. Chem. Int. Ed.* **2009**, *48*, 6112;
  - 2) H. Omachi, S. Matsuura, Y. Segawa, K. Itami, *Angew. Chem. Int. Ed.* **2010**, *49*, 10202.
  - 3) E. H. Fort, P. M. Donovan, L. T. Scott, *J. Am. Chem. Soc.* **2009**, *131*, 16006.

[12]Cycloparaphenylene (= [12]CPP)

10mg [C2449]

This product is commercialized under instruction by Professor Kenichiro Itami, Nagoya University.

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### TOKYO CHEMICAL INDUSTRY CO., LTD.

Tel : +81 (0)3-5640-8878  
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