

## Bottom-up Synthesis of GNRs using APEX Polymerization

### Background:

Graphene nanoribbons (GNRs) are attracting significant attention as next-generation carbon materials. Bottom-up synthesis of GNRs in atom-by-atom precision is highly desired to control their tremendous properties.

### Technology Overview:

The researchers at Nagoya University have developed the bottom-up synthesis of structurally well-defined GNRs using palladium-catalyzed annulative  $\pi$ -extension (APEX) polymerization of silicon-bridged polycyclic aromatic hydrocarbons.

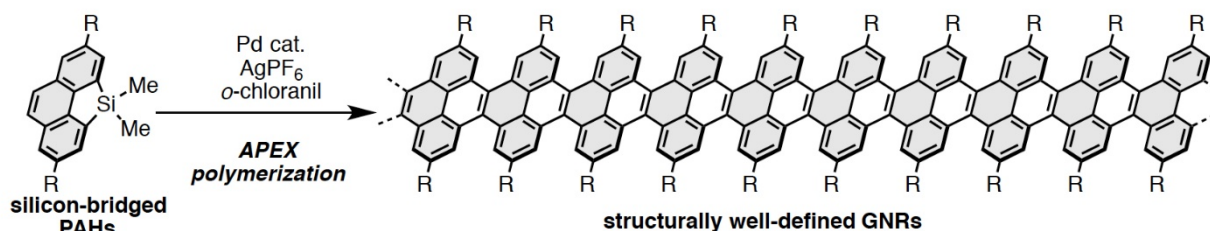


Figure 1: Synthesis of structurally well-defined GNRs using palladium-catalyzed APEX polymerization

### Further Details:

Segawa, Y.; Ito, H.; Itami, K. *Nature Rev. Mater.* 2016, 1, 15002.

Ozaki, K.; Kawasumi, K.; Shibata, M.; Ito, H.; Itami, K. *Nature Commun.* 2015, 6, 6251.

### IP Status:

A patent application has been filed.

## Contact

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