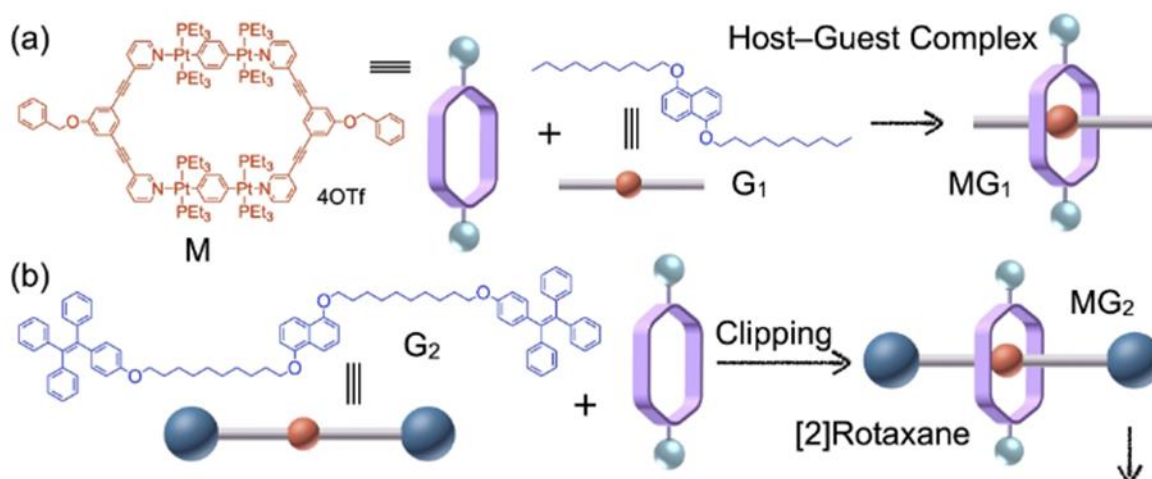


Platinum Metallacycle-Based Molecular Recognition: Establishment and Application in Spontaneous Formation of a [2]Rotaxane with Light-Harvesting Property

Bingbing Shi*, Xupeng Li, Yongping Chai, Peng Qin, Yi Zhou, Dr. Wen-Juan Qu, Prof. Qi Lin, Prof. Tai-Bao Wei, Yan Sun*, Peter J. Stang*

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Who are the corresponding authors and what are their research areas?

Bingbing Shi – works on pillararenes and coordination chemistry (worked with Feie Huang and Peter Stang)

Yan Sun – PhD with Zhibo Li in supramolecular chemistry in 2012, recently visited Stang group

Peter Stang – one of the key players in coordination-driven self-assembly (former JACS chief editor)

What is the main claim of the article?

The authors report a new host-guest recognition motif. They show that dioxynaphthalene derivatives can bind a particular Pt-based metallacycle.

How is it demonstrated?

The authors follow the formation of a pseudorotaxane by NMR, absorption and fluorescence spectroscopy (to measure the binding constant), as well as high-resolution mass spectrometry.

What are the typical experimental conditions?

μM to mM solutions in CHCl₃ (K ca. 10⁶ M⁻¹) or acetone, the Pt complex tolerates water.

Which are the key related papers?

K. Acharyya, P. S. Mukherjee, P. Stang, *et al.*, *Angew. Chem. Int.* **2022**, e202200715. Here the Stang group studies cascades of energy transfer with similar components, an aspect exploited also in this work.

M. Fujita, K. Ogura, *et al.*, *J. Am. Chem. Soc.* **1990**, 112, 5645. The historical milestone for this type of chemistry. Stang three most cited articles are Chem. Rev. on this topic.

Additional comments, including additional elements of interest

The authors do not discuss much the possibility of interactions from outside the cavity. Here the cavity width is 9.25 Å, compared with 6.8 Å of the blue box (36% larger). [Fujita's square width is 7.8 Å; Klajn recent cage 16-18 Å].

Besides the host-guest recognition, the work has a substantial part on aggregation-induced emission and energy transfer, which gives additional substance to the manuscript, albeit being less innovative.