Organometallic complexes of [(η^5-cp)Ru(12[CPP])]PF_6

Konstantinos Ypsilantis, Theodoros Tsolis and Achilleas Garoufis
Laboratory of Inorganic Chemistry, Department of Chemistry, University of Ioannina, Ioannina 45110, Greece
k_ipsilantis@yahoo.gr

In recent years, a great flourishing of different sizes of cyclopolyphenylene [CPP] nano-rings has been observed [1], examining their rich photophysical and redox properties. The coordination of these particular organic molecules to metallic centers, such as chromium [2] palladium [3] and ruthenium [4], has opened up a new field to investigate the photophysical properties of these complexes for further applications. Ruthenium-CPP complexes would affect the properties of CPPs and would be useful for their selective functionalization. In this work is presented the synthesis of new complexes, containing 12[CPP] nano-ring with various equivalents of Ru(cp) units.

The reaction between [12]CPP and [(η^5-cp)Ru($CH_3CN)_3$]PF_6 equivalents at room temperature under nitrogen atmosphere provides the mono and poly substituted metal complexes.

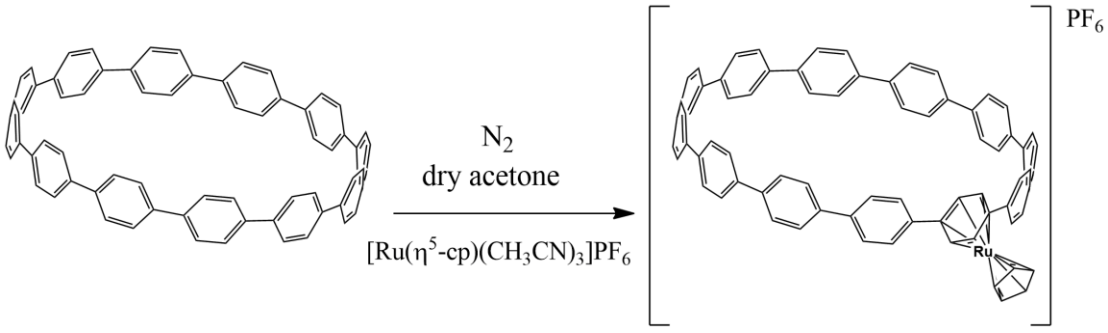

Figure 1: Synthetic route of mono-substituted ruthenium complex containing 12[CPP] nanoring

References:

1. Takahiro Iwamoto, Yoshiki Watanabe, Youichi Sakamoto, Toshiyasu Suzuki, and Shigeru Yamago *J. Am. Chem. Soc.* **2011**, 133, 8354–8361.
2. N. Kubota, Y. Segawa, K. Itami, *J. Am. Chem. Soc.* **2015**, 137, 1356-1361.
3. Jeff Van Raden, Shayan Louie, Lev N. Zakharov, and Ramesh Jasti *J. Am. Chem. Soc*. **2017**, 139, 8, 2936–2939.
4. Eiichi Kayahara, Vijay Kumar Patel, Audrey Mercier, E. Peter Kîndig, and Shigeru Yamago, Angew. Chem. **2016**, 128, 310 –314.

Ευρωπαϊκή Ένωση
Ευρωπαϊκό Κοινωνικό Ταμείο
Επιχειρησιακό Πρόγραμμα
Ανάπτυξη Ανθρώπινου Δυναμικού, Εκπαίδευση και Διά Βίου Μάθηση
Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης
ΕΣΠΑ 2014-2020
ανάπτυξη - εργασία - αλληλεγγύη