Modulation of arene-Ru^{II} complexes structures and properties with *ortho*-sulfonamide azobenzene ligands

Jonathan Long,[1] Elsa Van Elsande,[2] Pascal Retailleau,[2] Juan Xie,[1] Nicolas Bogliotti[1]

[1] *Université Paris-Saclay, ENS Paris-Saclay, CNRS, PPSM, 91190, Gif-sur-Yvette, France*
[2] *Université Paris-Saclay, CNRS, ICSN, UPR 2301, 91198, Gif-sur-Yvette, France*
Email: jonathan.long@ens-paris-saclay.fr

The external manipulation of molecular systems with light is being increasingly exploited for the control of events at various scale, eventually giving rise to "smart" systems, with applications in the field of biology, material science or catalysis. [1]

Arene-Ru^{II} complexes bearing *ortho*-sulfonamide azobenzene ligands display a great diversity of structures, with coordination patterns such as **exo-*E***, **exo-*Z*** and **endo-*E*** (Figure 1). [2] Here, we will report the results of a systematic study aiming to understand the influence of substituents (R, R' and X) on the structure and photophysical properties of this type of complexes.

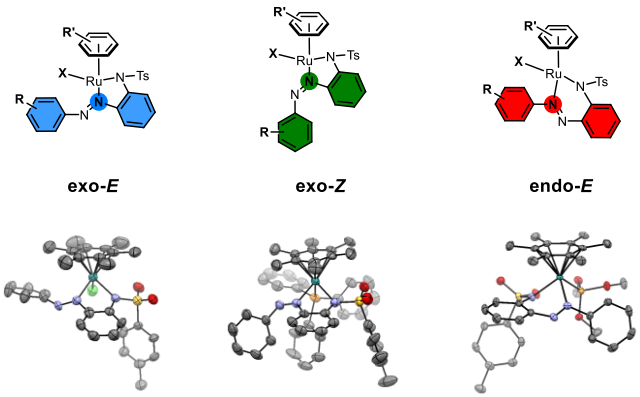

Figure 1. Coordination patterns of arene-Ru^{II} complexes bearing *o*-sulfonamide azobenzene ligands

[1] a) R. Göstl, A. Senf, S. Hecht, *Chem. Soc. Rev.* **2014**, *43*, 1982–1996; b) M. Vlatković, B. S. L. Collins, B. L. Feringa, *Chem. Eur. J.* **2016**, *22*, 17080–17111; c) B. Tylkowski, A. Trojanowska, V. Marturano, M. Nowak, L. Marciniak, M. Giamberini, V. Ambrogi, P. Cerruti, *Coord. Chem. Rev.* **2017**, *351*, 205–217; d) H. Ren, P. Yang, F. M. Winnik, *Polym. Chem.* **2020**, *11*, 5955–5961; e) Z. Freixa, *Catal. Sci Technol.* **2021**, *10*, 3122–3139.

[2] a) C. Deo, N. Bogliotti, R. Métivier, P. Retailleau, J. Xie, *Organometallics* **2015**, *34*, 5775–5784; b) C. Deo, N. Bogliotti, P. Retailleau, J. Xie, *Organometallics* **2016**, *35*, 2694–2700.