**MS30-P5** Ruthenium quinazoline complexes

Petra Kuzman¹, Anton Meden¹, Bogdan Štefane¹

1. Faculty of Chemistry and Chemical Technology, University of Ljubljana, Večna pot 113, SI-1000 Ljubljana, Slovenia

email: pkuzman1@gmail.com

Our research is based on the synthesis, characterization and evaluation of ruthenium quinazoline coordination compounds. We have successfully synthesized quinazoline derivatives 4 that were further used as ligands for the synthesis of ruthenium complexes 5 (Scheme 1). Successfully synthesized ruthenium complexes were fully characterized using X-ray single crystal analysis. A detailed kinetic studies of C-H activation reaction were carried out. Cyclometallation of ligands by transition metals is a very important reaction since it enables the synthesis of organometallic complexes with a carbon-metal bond. The most commonly used methods for the synthesis of cyclometallated complexes are (a) transmetallation (transfer of ligands from one metal to another) and (b) mettallation with selective C–H activation. Organometallic reagents that are used in transmetallation reaction are expensive and often commercially unavailable. C-H activation allows the selective and direct functionalization of the non-reactive (hetero)aromatic C-H bonds, which leads to economically and ecologically friendly synthesis.³

**Keywords:** Organometallic complexes, ruthenium, X-ray crystallography

---

**MS30-P6** Near-infrared to visible light-upconversion in molecular coordination complexes

Laure Guence¹, Davood Zare², Yan Suffren³, Andreas Hauser³, Claude Piguet⁴

1. Laboratory of Crystallography, University of Geneva, 24 quai Ernest Ansermet, 1211 Geneva 4, Switzerland
2. Department of Inorganic and Analytical Chemistry, University of Geneva, 30 quai Ernest Ansermet, 1211 Geneva 4, Switzerland
3. Department of Physical Chemistry, University of Geneva, 30 quai Ernest Ansermet, 1211 Geneva 4, Switzerland

email: laure.guence@unige.ch


**Keywords:** Light-upconversion, lanthanide complexes