Photophysically active platinum(II) NHC complexes

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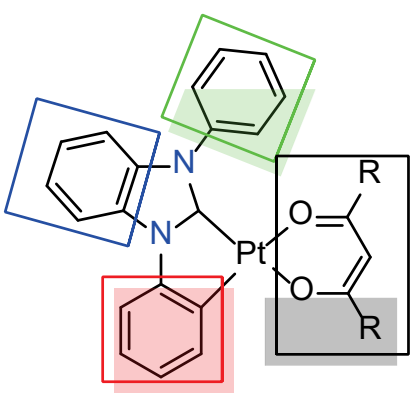
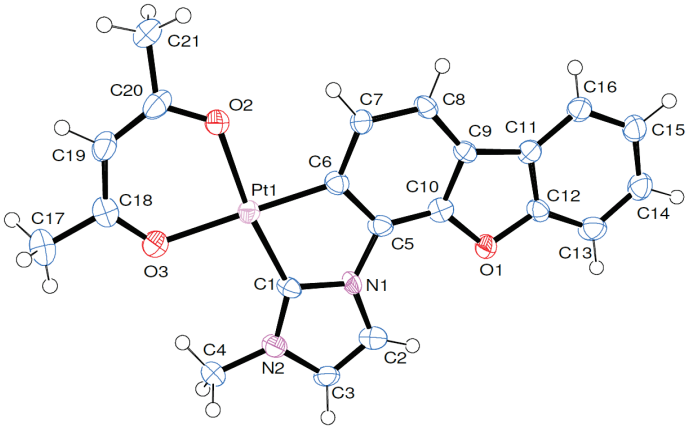
During the last decade luminescent platinum(II) complexes have been investigated as functional molecular materials for the potential application as **Ph**osphorescent, triplet emitting metal complexes in **O**rganic **L**ight **E**mitting **D**iodes (PhOLEDs) [1]. Depending on the design of the ligands in the square planar platinum(II) complexes efficient phosphorescence has been observed [2,3]. We recently synthesized a new class of photophysically active complexes [4], which will be presented in the talk. These cyclometalated platinum(II) complexes with donating *N*-heterocyclic carbenes ([Pt(C*^C)(O^O)]) show interesting photophysical properties and a high potential for the application as triplet emitters in organic light emitting devices.





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Thomas STRASSNER studied chemistry at the FAU Erlangen-Nürnberg and obtained his PhD with P.v.R. Schleyer in 1994. After a lectureship at the TU Dresden (1995/96) he was a postdoctoral research associate with Ken Houk at the University of California, Los Angeles (1997/98). From 1998-2002 he worked on his habilitation in the chair of W.A. Herrmann at the TU Munich. He was appointed as a tenured Associate Professor at the TU Dresden in 2004.

Research in his group is based upon synthetic organometallic chemistry, in particular the synthesis and structures of late–transition metal NHC complexes. Topics include research on catalytic CC coupling reactions and on the activation and functionalization of C-H (alkanes like methane or propane) and Si-H bonds (hydrosilylation). His recent interests include catalysis in new ionic liquids and the photophysical properties of metal-organic complexes for use in OLEDs. Computational methods are employed to understand the electronic structure and reactivity of the metal-organic compounds as well as the reaction mechanisms involved in catalytic reactions.