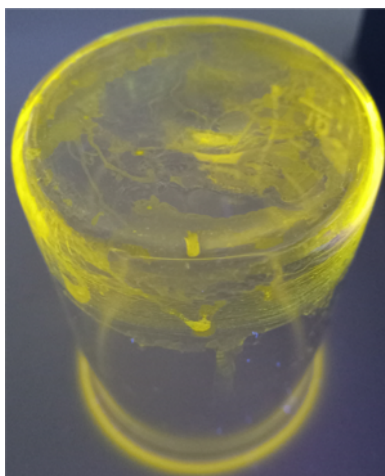
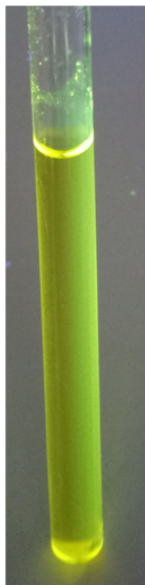


Organometallic dopants for optoelectronic devices

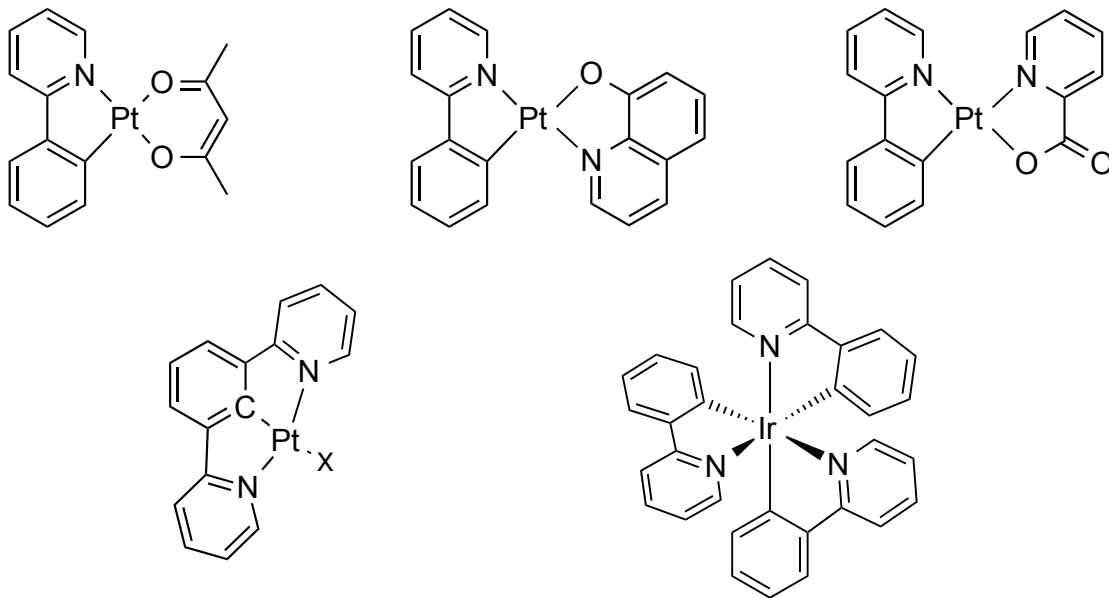
Ammar Hassoun, Salwa Simona Jamil, Amina Benchohra, Jérémy Forté, Lise-Marie Chamoreau,
Geoffrey Gontard, Jamal Moussa

Institut Parisien de Chimie Moléculaire UMR CNRS 8232, Sorbonne Université

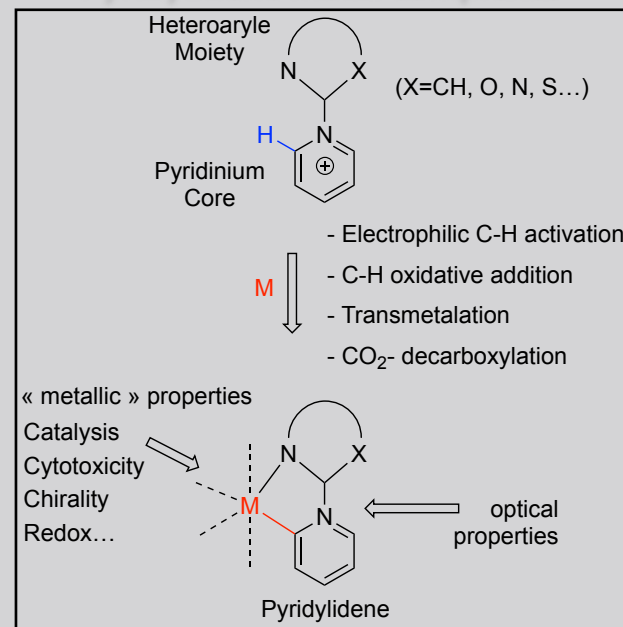


Pt(II) and Ir(III) cyclometalated complexes: Powerful doping materials in photonic devices

M = Ir(I/III), Pt(II) HIGH SPIN ORBITAL COUPLING



Pyridylidene metal complexes



M = Ru(II), Rh(I/III), Ir(I/III), Pt(II), Au(I/III), Ag(I), Hg(II), Cu(I)

Thompson, M. E.; Baldo, M.A.; O'Brien, D.F.; You, Y.; Shoustikov, A.; Sibley, S.; Forrest, S.R. *Nature* 395 **1998**, 151

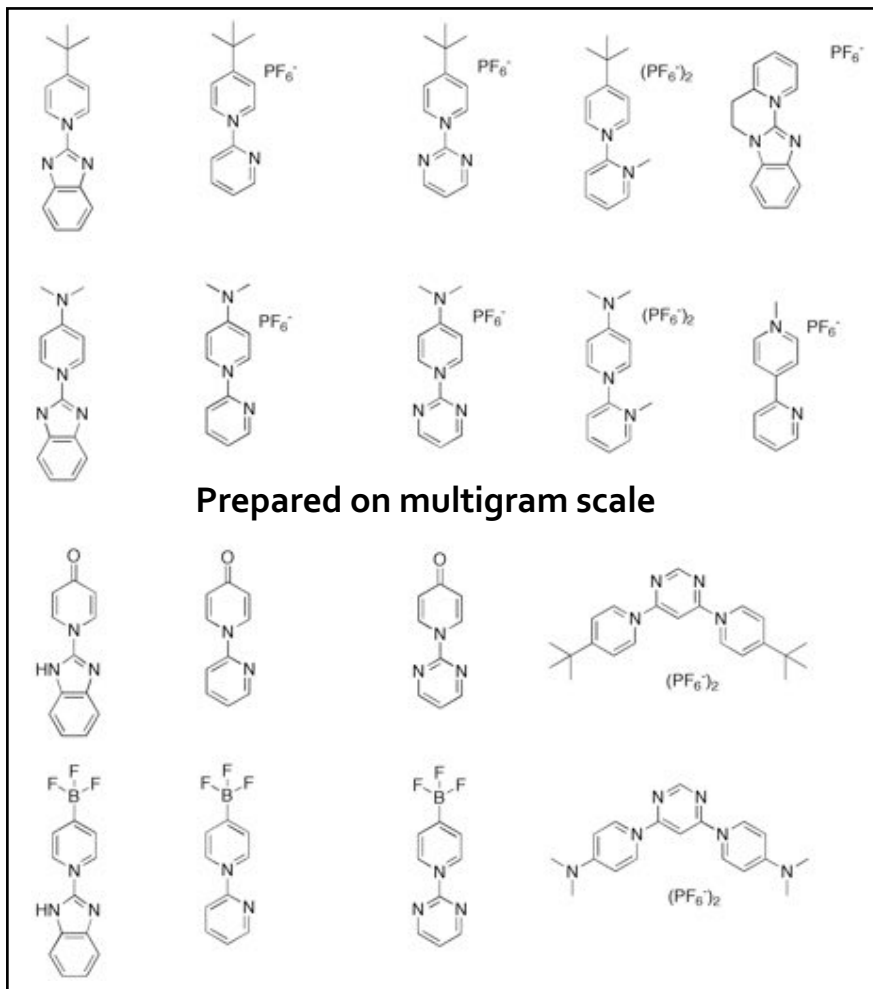
Highly Efficient OLEDs with Phosphorescent Materials, ed. H. Yersin, Wiley-VCH, Weinheim, Germany, **2007**

M.-C. Tang, D. P.-K. Tsang, M. M.-Y. Chan, K. M.-C. Wong, V. W.-W. Yam *Angew. Chem. Int. Ed.* **2013**, 52, 446

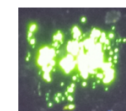
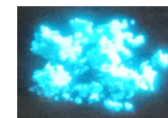
A. F. Henwood, A. K. Bansal, D. B. Cordes, A. M. Z. Slawin, I. D.W. Samuel, E. Zysman-Colman *J. Mater. Chem. C*, **2016**, 4, 3726

Slugovc, C.; Niedermair, F.; Kwon, O.; Zojer, K.; Kappaun, S.; Trimmel, G.; Mereiter, K. *Dalton Trans.* **2008**, 4006-4014

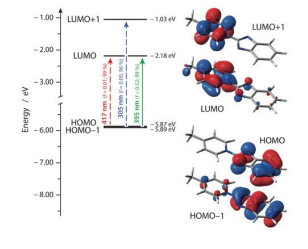
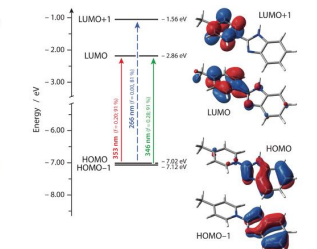
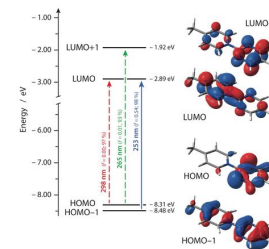
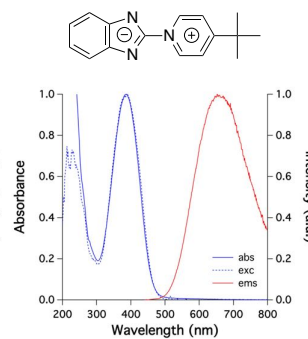
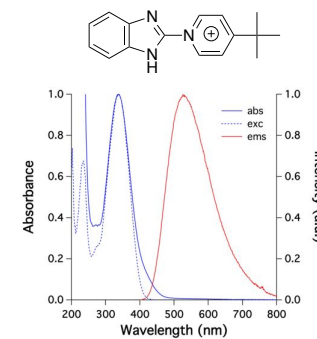
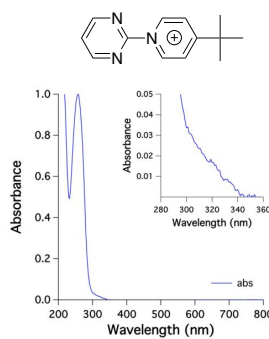
Intensely luminescent pyridinium proligands



Intramolecular Charge Transfer

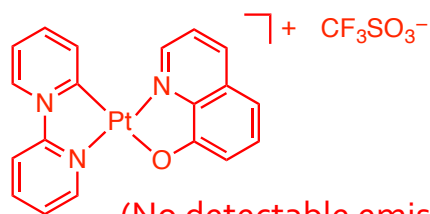
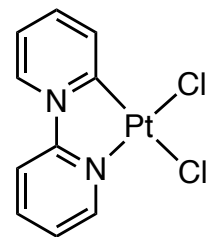
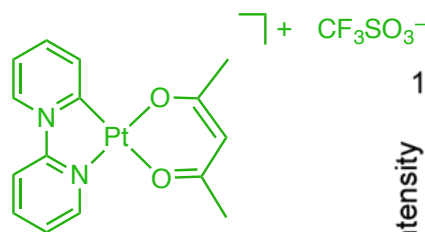
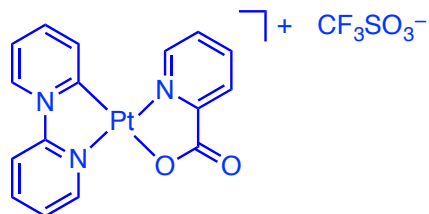
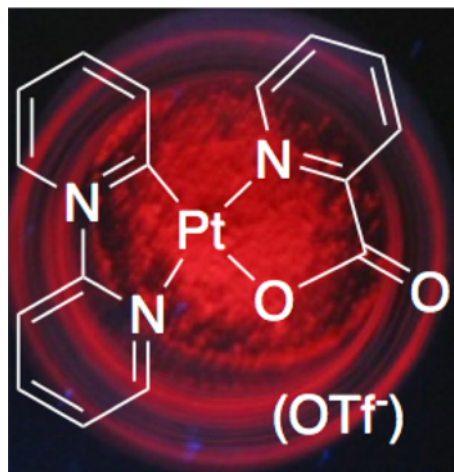


Solid state pictures under UV irradiation $\lambda_{exc}=365$ nm



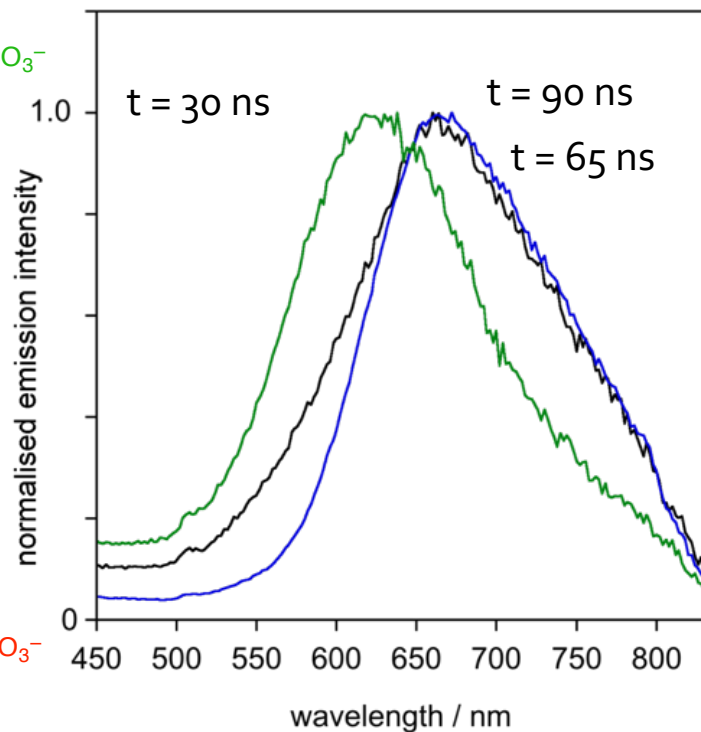
Intensely photoluminescent platinum(II) pyridylidene complexes

Mixed $^3\pi-\pi$ and $^3\text{MMLCT}$ excited states



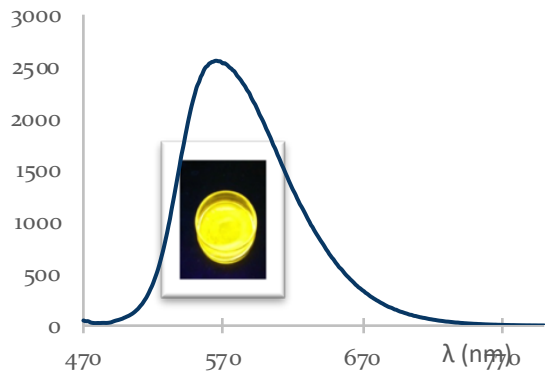
(No detectable emission in the visible region)

Solid state emission (RT)

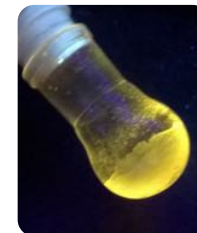
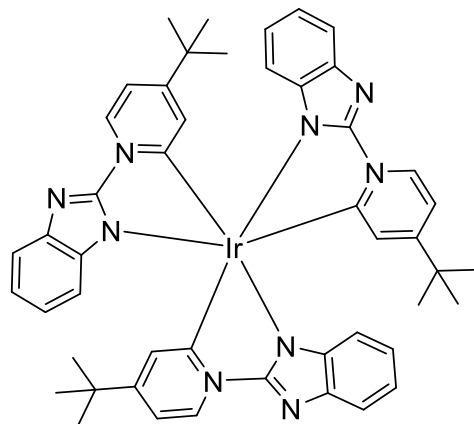


Collaboration: Prof. J. A. G. Williams

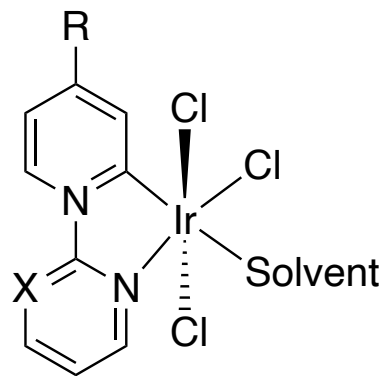
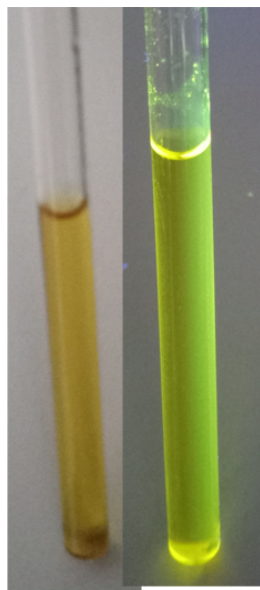
Intensely photoluminescent iridium(III) pyridylidene complexes



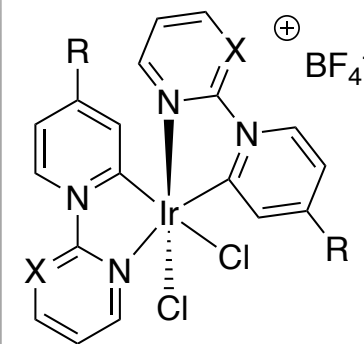
PS thin film 1% weight; $\lambda_{exc} = 420 \text{ nm}$



Solid state pictures under UV irradiation $\lambda_{exc} = 365 \text{ nm}$

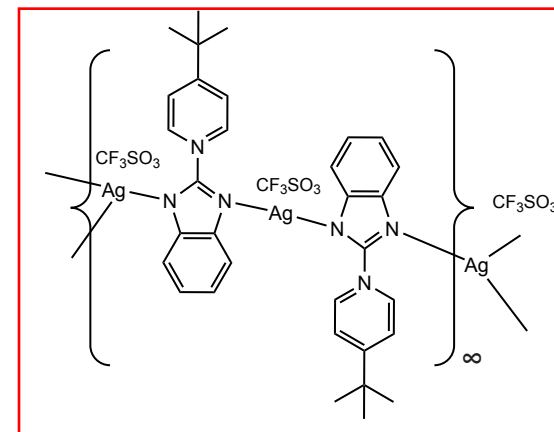
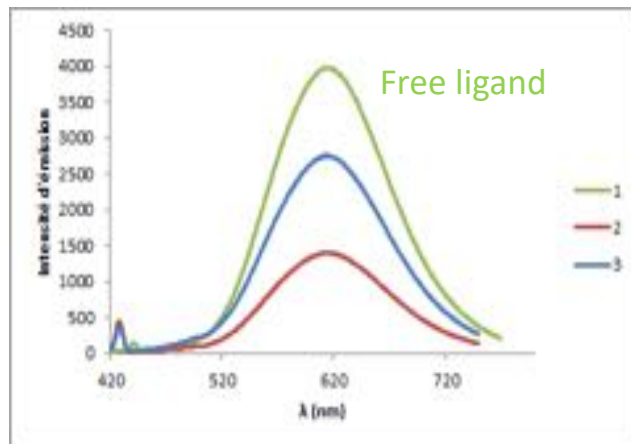
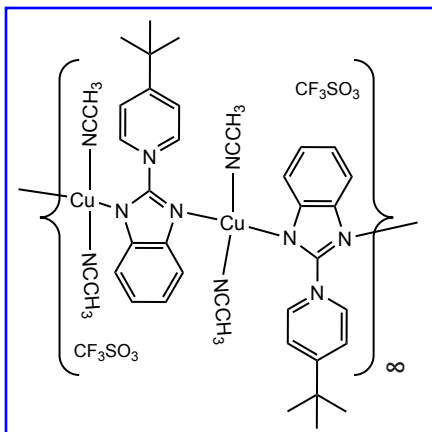


R = *t*-Bu



Collaboration A. Barbieri ISOF, Bologna Italy

Intensely photoluminescent copper(I) and silver(I) pyridylidene complexes



Photoluminescence spectra of the free ligand L and coordination polymers $\{[CuL(CH_3CN)_2]CF_3SO_3\}_n$ (**2**) and $\{[AgL]CF_3SO_3\}_n$ (**3**). ($I_{exc} = 390 \text{ nm}$)

