SYNTHESIS OF HETROBIMETALLIC RUTHENIUM(II) COMPLEXES

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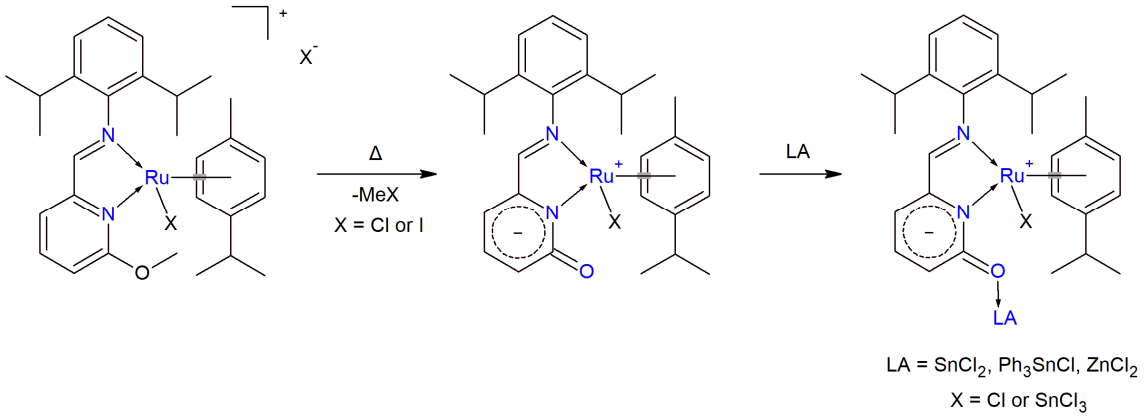
In this work, we showed unusual eliminative reaction of ionic Ru(II) complexes containing (methoxy-pyridine)-imine ligand. After heating, the neutral Ru(II) complexes with pyridone-imine ligand were obtained quantitatively. The structural limits and mechanism of this demethylation were also studied theoretically and experimentally after preparation of complexes with different anion, different methoxy group position and neutral analogue. The electron rich keto-group provides additional coordination site for another Lewis acid. Heterobimetallic complexes on the base of pyridone were studied.[1] On the other hand, the structural predictability of these complexes is difficult with strong depending on the used solvent.[2] In this work, we prepared few well characterized bimetallic complexes based on pyridone-imine ligand by the procedure *complex as a ligand*: *N,N*-coordinated pyridine-imine Ru(II) complex was made, then the keto-group of pyridone fragment was generated by heating and heterobimetallic complexes were isolated after *O*-coordination of $SnCl_2$, Ph_3SnCl and $ZnCl_2$. The ligand-metal cooperation during catalysis and redox ability of pyridone-based ligand is known.[3] Here, we reported the effect both free and coordinated keto-group during tranfer-hydrogenation of ketones.[4]



[1] J. M. Rawson and R. E.P. Winpenny, *Coordination Chemistry Reviews* **1995**, 139, 313-374.

[2] A. J. Blake, P. E. Y. Milne and R. E. P. Winpenny, *J. Chem. Soc., Dalton Trans*. **1993**, 3727-3734.

[3] R. Wang, Y. Tang, M. Xu, C. Meng, and F. Li, *J. Org. Chem*. **2018**, 83, 2274−2281.

[4] J. Shi, B. Hu, X. Chen, S. Shang, D. Deng, Y. Sun, W. Shi, X. Yang and D. Chen, *ACS Omega* **2017**, 2, 3406−3416.