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Ruthenium(II) Complexes with 6,7-Diaza[5]phenacene

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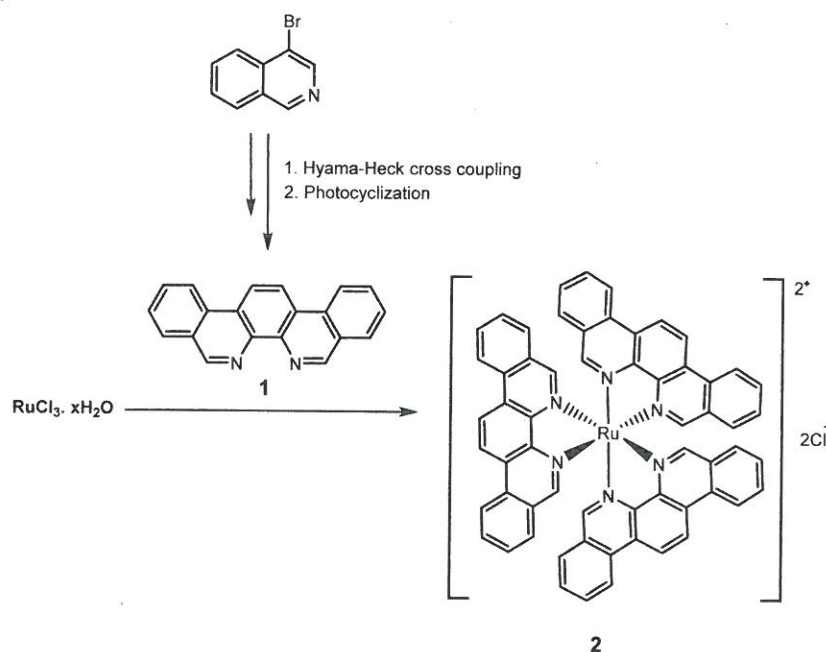
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Ruthenium complexes with polydentate-nitrogen ligands are widely used in the field of photocatalysis¹, optoelectronics² or as chromophors in dye-sensitized solar cells².

In this work we focused on preparation of novel bidentate and fully aromatic *N,N*-ligand and its ruthenium complexes. 6,7-Diaza[5]phenacene (**1**) was synthesized from 4-bromoisoquinoline by microwave-assisted tandem Hyama-Heck cross coupling reaction³ followed by photocyclization (Scheme 1).

With 6,7-diaza[5]phenacene (**1**) in our hand, we prepared some new ruthenium(II) complexes (e.g. **2**), characterized them from structural point of view and determined some of their electronic and optical properties with regard to their application potential.

Scheme 1



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1 Prier, Ch.; Rankic, D.; MacMillan, D. *Chem. Rev.* **2013**, *113*, 5322.

2 Hiroki M., *Kobunshi* **2014**, *63*, 866.

3 Grätzel M., et al. *J. Am. Chem. Soc.* **1985**, *107*, 2988.

4 Gordillo A., et. al. *J. Am. Chem. Soc.*, **2013**, *135*, 13749.