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PROGRAM & ABSTRACTS

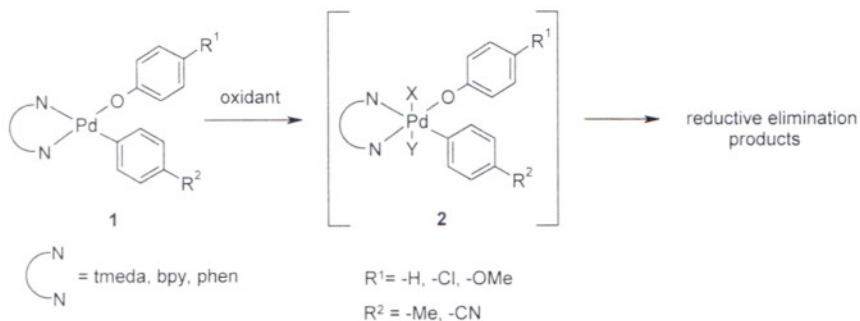
Synthesis and oxidation of aryloxo palladium complexes of the type $[\text{Pd}(\text{N-N})(\text{Ar})(\text{OAr}')] \quad \text{PO96}$

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Palladium mediated synthesis of diaryl ethers which proceed by Pd(0)-Pd(II) catalytic cycle is well studied.¹ Reductive elimination from palladium (II) is the product-forming step of these catalytic processes. However, development of Pd(II)-Pd(IV) catalyzed C-O bond forming reactions is still a synthetic challenge. Reductive elimination of diaryl ethers from palladium complexes in higher oxidation states - Pd(III) or Pd(IV) has not been reported.

Complexes of the type $[\text{Pd}(\text{N-N})(\text{Ar})(\text{OAr}')] \quad [\text{N-N} = \text{N,N,N}', \text{N}'\text{-tetramethylethylenediamine (tmeda), 2,2'-bipyridine (bpy) and 1,10-phenanthroline (phen)}] \quad \mathbf{1}$ have been prepared by reaction of $[\text{Pd}(\text{N-N})(\text{Ar})(\text{OAc})]$ with sodium phenolates.



Oxidation of the palladium (II) complexes would produce Pd (III) or Pd (IV) intermediates **2**, which were not observed due to low stability. Reductive elimination products were detected by GC/MS.

References:

1. a) Mann, G.; Incarvito, C.; Rheingold, A. L.; Hartwig, J. F. *J. Am. Chem. Soc.* **1999**, 121, 3224. b) Mann, G.; Shelby, Q.; Roy, A. H. Hartwig, J. F. *Organometallics* **2003**, 22, 2755.