Palladium-Catalysed Intermolecular 1,2-Diamination of Alkenes

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INTRODUCTION

We have recently been interested in the application of palladium catalysts to realise unprecedented 1,2-diamination reactions of alkenes.[1-3] Within this context, the application of suitable high oxidation state palladium catalysis[4] represents a key methodology.

RESULTS AND DISCUSSION

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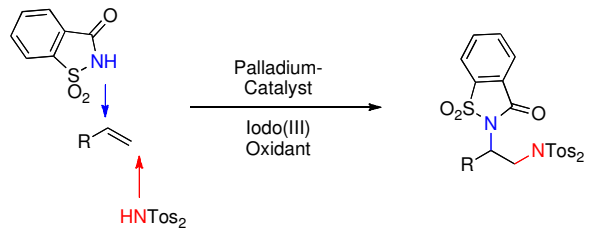
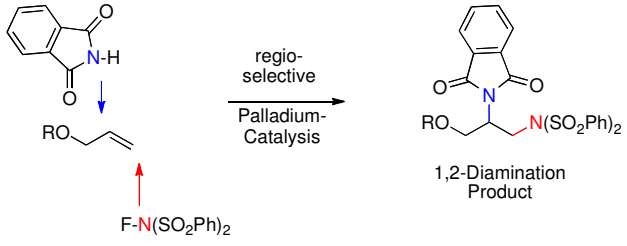
We now report two first protocols for palladium catalysed intermolecular diamination reactions of alkenes, which employ readily available nitrogen sources.[5,6] The diamination products are formed with complete regioselectivity and chemoselectivity.

Subsequent transformation of these products into more elaborate diamine building blocks will also be discussed.

intermolecular diamination of nonfunctionalised alkenes:



intermolecular diamination of allylic ethers:



Scheme 1. Intermolecular diamination methods

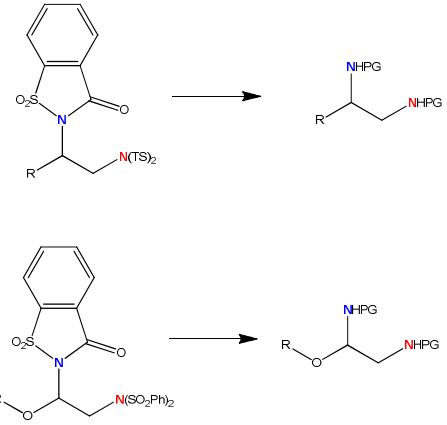


Figure 1. Deprotection of the diamination products to produce new building blocks.

CONCLUSION

The development of the first palladiumcatalyzed intermolecular diamination of non-activated terminal alkenes. The reaction employs two commercially available nitrogen sources and proceeds with complete regioselectivity under very mild conditions.

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