

RADICAL CYCLOADDITION REACTIONS OF VINYLINDOLES UNDER VISIBLE LIGHT PHOTOREDOX CATALYSIS

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Transformation of simple indoles into (polycyclic) complex scaffolds has become the object of intensive studies in synthetic organic chemistry due to ubiquitous occurrence of indole core in the structure of relevant molecules.[1] In particular, catalytic-promoted manipulation of indoles have become an incomparable tool to increase indole structural complexity working under exceedingly mild conditions and in a regio- and stereo-controlled fashion.[2] In this context we reported in the last years the synthesis of complex carbazole and cyclohepta[b]indole derivatives through (4+2) and (4+3) cycloaddition reactions of vinylindoles under gold catalysis or metal-free conditions.[3] Taking into account these premises, this oral communication will deal with our recent achievements in the field of cycloaddition reactions involving vinylindoles as 4 π systems. In particular, we have investigated a radical cation Diels-Alder reaction between vinylindoles and neutral alkenes that proceeds under visible light photoredox catalysis. The results obtained in this work will be discussed in the context of our investigations on catalytic manipulation of indole-based systems.

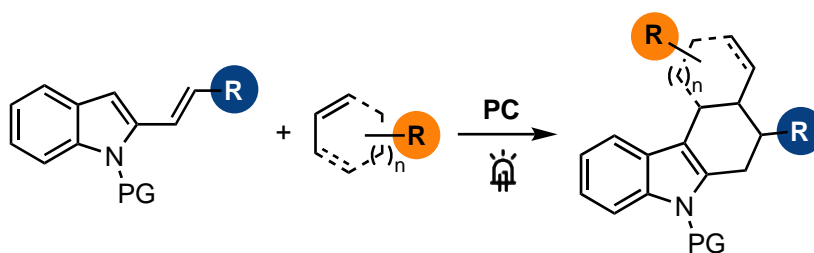


Figure 1.

References

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