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ONE-POT Rh(III)-CATALYZED DOUBLE ANNULATION OF *N*-ARYLPYRROLES WITH ALKYNES: A SUSTAINABLE ROUTE TO PHOTO- AND ELECTROACTIVE ULLAZINES

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N-doped cyclopenta[*c,d*]phenalene derivatives, ullazines, planar 16e⁻π structures isoelectronic of pyrene, are relevant scaffolds used for making efficient dye-sensitized solar cells (DSSC) and perovskite solar cells (PSC) (Figure 1).¹ Herein, we report our efforts to an expeditious and versatile access to functionalized ullazines by means of the one-pot Rh(III)-catalyzed double annulation of *N*-arylpyrroles with alkynes (Scheme 1).² Effects caused by the electronic and steric features of both reaction partners in the reaction course as well as the influence of aryl substituents in the electronic properties of ullazines will be discussed.

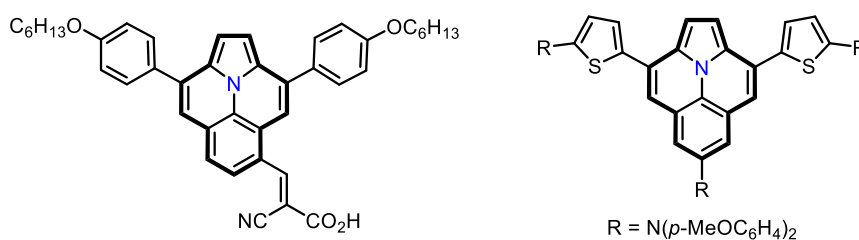
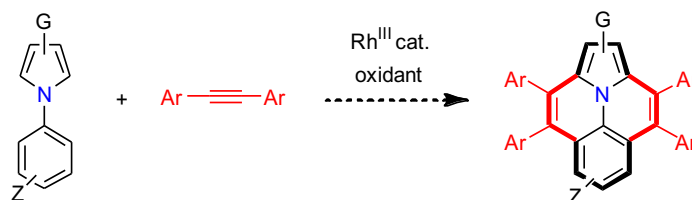


Figure 1. Ullazines in DSSCs (left) and PSCs (right).



Scheme 1. One-pot Rh(III)-catalyzed double annulation of *N*-arylpyrroles with alkynes to ullazines.

References

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[2] Submitted manuscript.

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