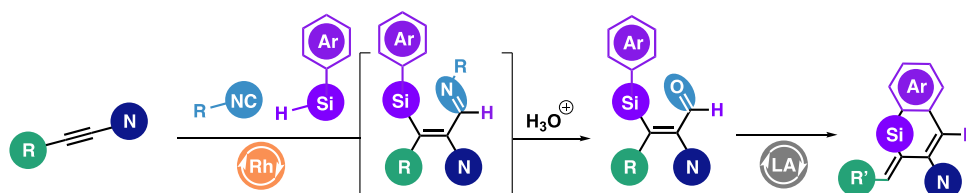


Carbosilylations Applied to the Synthesis of Original Fluorescent Benzosilines

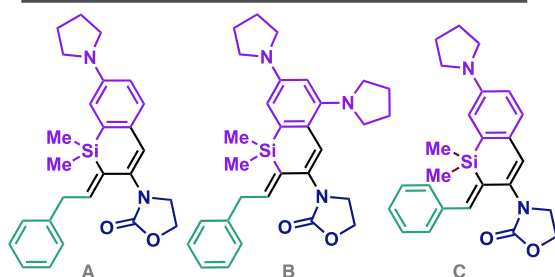
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We recently developed the first silylformylation applied to ynamides for the synthesis of unprecedented tetra-substituted 2-amidoacroleins.^[1] This reaction is fully regioselective and highly stereoselective for the *syn*-addition product (isomer *E*). Different functional groups on the ynamide, the silane and the isocyanide are tolerated leading to a high degree of diversity on the final compound. In the context of our interest in the synthesis of silaheterocycles,^[2] we submitted these 2-amidoacroleins to a subsequent intramolecular Friedel-Crafts reaction leading to the formation of poly-functionalized amido-benzosilines. These molecules show some structural similarities with sila-rhodamines/fluoresceines and they exhibit interesting fluorescence properties that can be easily tuned by changing the electronic nature of the different substituents of the starting 2-amido-acroleins.^[3]



Representative Examples



| A | B | C |
|---|---|---|
| $\lambda_{\max \text{ abs}} = 391 \text{ nm}$ | $\lambda_{\max \text{ abs}} = 414 \text{ nm}$ | $\lambda_{\max \text{ abs}} = 413 \text{ nm}$ |
| $\lambda_{\max \text{ em}} = 462 \text{ nm}$ | $\lambda_{\max \text{ em}} = 499 \text{ nm}$ | $\lambda_{\max \text{ em}} = 565 \text{ nm}$ |
| $\Phi_F = 72\%$ | $\Phi_F = 63\%$ | $\Phi_F = 26\%$ |

References :

- [1] S. Golling, F. R. Leroux, M. Donnard, *Org. Lett.* **2021**, *23*, 8093–8097 [DOI: 10.1021/acs.orglett.1c03141]; [2] P. Wagner, M. Gulea, J. Suffert, M. Donnard, *Chem. Eur. J.* **2017**, *23*, 7458–7462 [DOI: 10.1021/acs.orglett.9b03566]; [3] S. Golling, V. Mazan, F. R. Leroux, M. Donnard, *manuscript under preparation*

