

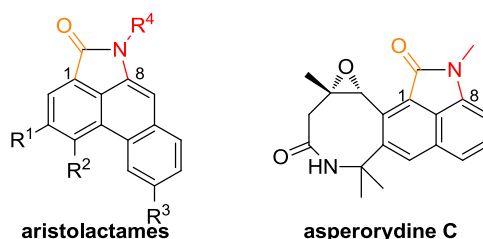
## C8- amination of naphthalenes *via* C-H activation: application to natural product synthesis

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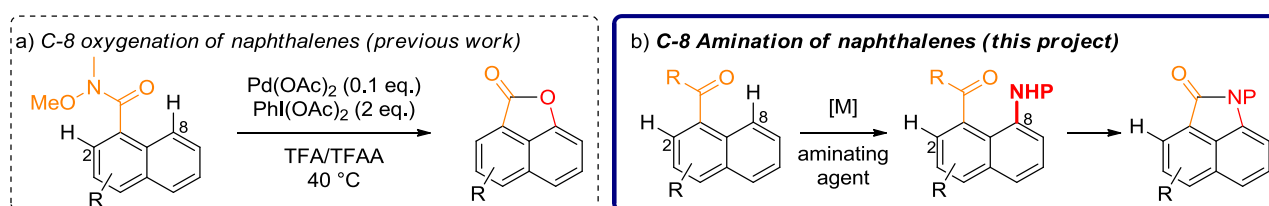
### Subject:

Naphtholactam are aromatic skeletons present in a lot of natural products exhibiting interesting biological properties (Scheme 1).<sup>1</sup> In the literature, syntheses of these compounds have been scarcely reported and the employed strategies required a large number of steps. Our strategy would be a late stage functionalization of the C8 position *via* C–H activation thanks to a carbonyl derivative as directing group which would also be the precursor for the lactam ring.



**Scheme 1.** Natural products bearing a naphtholactam skeleton

In this context, we recently disclosed palladium catalyzed C8-functionalizations of naphthalenes (Scheme 2.a).<sup>2</sup> Based on this work, we are aiming at finding conditions to introduce a nitrogen in C8 position (Scheme 2.b). This strategy would allow a very fast access to natural products such as aristolactames which could be then biologically tested.



**Scheme 2.** Objective of the internship: C8-amination of naphthalenes

The applicant must have a strong background in organic chemistry and good laboratory practice. This project is funded by the ANR.



<sup>1</sup> a) Y. L. Choi, J. K. Kim, S.-U. Choi, Y.-K. Min, M.-A. Bae, B. T. Kim, J.-N. Heo, *Bioorg. Med. Chem. Lett.* **2009**, *19*, 3036. b) L. Liu, L. Bao, L. Wang, K. Ma, J. Han, Y. Yang, R. Liu, J. Ren, W. Yin, W. Wang, H. Liu, *J. Org. Chem.* **2018**, *83*, 812.

<sup>2</sup> a) J. Garrec, M. Cordier, G. Frison, S. Prévost, *Chem. Eur. J.* **2019**, *25*, 14441. b) C. Berrou, S. Prévost, *Adv. Synth. Catal.* **2021**, *363*, 4091.