

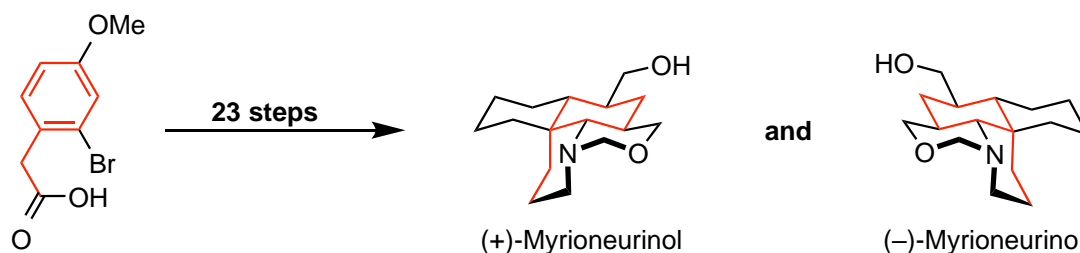
## TOTAL SYNTHESSES OF (+)- AND (-)- MYRIONEURINOL

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In 2007, Prof. Bernard Bodo's team at the Muséum National d'Histoire Naturelle (Paris - France) isolated a complex alkaloid from the North-Vietnamese shrub *Myrioneuron nutans*, and coined it (+)-*Myrioneurinol*. These researchers not only elucidated its novel tetracyclic structure, but also demonstrated its moderate antimalarial activity against artemisinin-resistant *Plasmodium falciparum* strains (IC<sub>50</sub> = 11 µg/mL). This discovery spurred the scientific community to engage several chemical campaigns towards a production of this molecule, resulting in three total syntheses: two racemic syntheses by the Weinreb<sup>1</sup> and Ma<sup>2</sup> groups in 2014 and 2022, respectively, and one formal asymmetric synthesis by the Smith<sup>3</sup> group in 2022.

Since 2020, our group has also been working around the total synthesis of (+)-*Myrioneurinol*, and these efforts recently culminated in the isolation of both the enantiomers of this natural substance (*Scheme 1*).<sup>4</sup> These results will be here presented, notably focusing on the key steps of our synthesis route, which include: 1- an hypervalent iodine-mediated phenol dearomatization, and 2- a novel approach allowing late-stage enantiomers resolutions, through a Barton-McCombie deoxygenation.



**Scheme 1: Syntheses of both enantiomers of *Myrioneurinol* from 2-bromo-4-methoxyphenylacetic acid**

### Reference(s)

- <sup>1</sup> a) Nocket, J. A.; Weinreb, S. M. *Angew. Chem. Int. Ed.* **2014**, *53*, 14162-14165.  
b) Nocket, J. A.; Feng, Y.; Weinreb, S. M. *J. Org. Chem.* **2015**, *80*, 1116-1129.
- <sup>2</sup> Zhang, N.; Jiang, H.; Ma, Z. *Angew. Chem. Int. Ed.* **2022**, *61*, e202200085.
- <sup>3</sup> Aquilina, J. M.; Smith, M. W. *J. Am. Chem. Soc.* **2022**, *144*, 11088-11093.
- <sup>4</sup> Denizet, A.; Nomula, R.; Edwards, R.; Toullec, P. Y.; Peixoto, P. A. *Chem.-Eur. J.* **2025**, e202500267.