

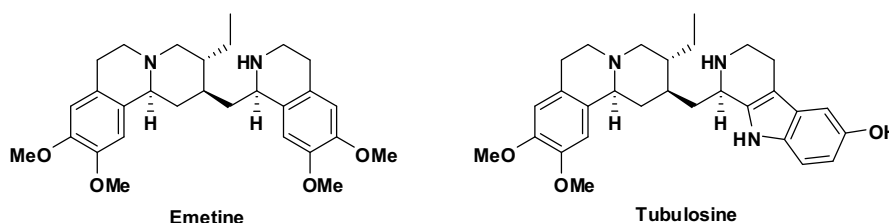
LITHIUM-HALOGEN EXCHANGE INITIATED INTRAMOLECULAR ARYL LITHIUM ADDITIONS TO DIHYDROPYRIDONES. STEREOSELECTIVE SYNTHESIS OF BENZOQUINOLIZIDINES AND RELATED HOMOLOGUES

Grzegorz Lipner, Bartłomiej Furman

Institute of Organic Chemistry PAS, ul. Kasprzaka 44/52, 01-224 Warsaw, Poland

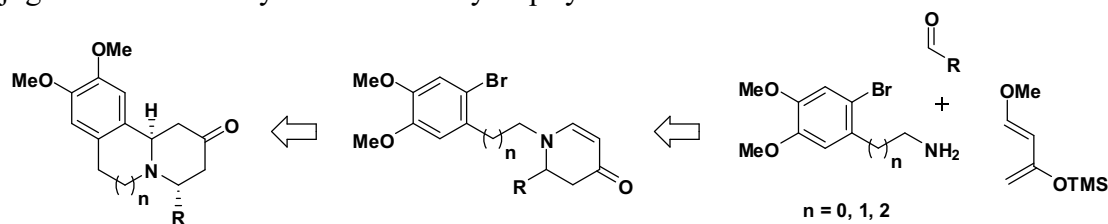
E-mail: glipner@gmail.com

Benzoquinolizidine alkaloids,[1] formed in nature from dopamine and monoterpene secologanin, represent a small class of natural products and have attracted considerable attention because of their interesting biological activity.[2]



Emetine[3] was isolated from the roots of *Cephalis acuminata* and possesses antiprotozoic properties and activity in the treatment of lymphatic leukemia, whereas isolated from fruits of *Alangium lamarckii* Tubulosine[4] shows activity against several cancer lines.

Now we report a new method of stereoselective synthesis of benzoquinolizidines alkaloids and related homologues based on the lithium-halogen exchange initiated intramolecular conjugate addition of aryllithiums to dihydropyridones.



REFERENCES

- [1] a) J. P. Michael, In *Alkaloids*; Cordell, G. A., Ed.; Academic Press: London, 2001; Vol. 55, pp. 92-258. b) A. Itoh, Y. Ikuta, Y. Baba, T. Tanahashi, N. Nagakura, *Phytochemistry* **1999**, *52*, 1169-1176
- [2] a) *The Alkaloids: Chemistry and Biology*, Vol. 50 (Ed.: G. A. Cordell), Academic Press, New York, 1998.
- [3] W. Wiegrebbe, W. J. Kramer, M. Shamma, *Journal of Natural Products* **1984**, *47*, 397-408.
- [4] W.-W. Ma, J. E. Anderson, A. T. McKenzie, S. R. Byrn, J. L. McLaughlin, M. S. Hudson, *J. Nat. Prod.*, **1990**, *53*, 1009-1014.