



Pyrrole derivatives R 0120

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Tandem Aza-Michael/Spiro-Ring Closure Sequence: Access to a Versatile Scaffold and Total Synthesis of (±)-Coerulescine. — A simple protocol is presented for the tandem reaction between Michael acceptors (I) and carbamate (II) to yield pyrrolidine derivatives. The method is applied to the synthesis of spiro compound (V), a key precursor of racemic coerulescine (VI). — (GOERMEN, M.; LE GOFF, R.; LAWSON, A. M.; DAICH, A.; COMESSE*, S.; Tetrahedron Lett. 54 (2013) 17, 2174-2176, http://dx.doi.org/10.1016/j.tetlet.2013.02.047; UFR Sci. & Tech., Univ. Le Havre, F-76058 Le Havre, Fr.; Eng.) — Mais

$$\begin{array}{c} \text{Et} & \begin{array}{c} \text{Cbz} & \text{Br} & \text{(II)} \\ \text{R}^2 & \end{array} \\ & \begin{array}{c} \text{A)} \end{array} \end{array} \begin{array}{c} \text{R}^1 & \begin{array}{c} \text{R}^2 & \text{a R}^1, R^2 : -\text{CO} - \text{O} - \text{Et} \\ \text{b R}^1, R^2 : -\text{CN} & 81\% \\ \text{c R}^1, R^2 : -\text{CO} - \text{Ph} & 57\% \\ \text{c B}^1 : -\text{CO} - \text{O} - \text{Et} ; R^2 : -\text{CN} & 64\% \ (>95:5 \text{ m.d.}) \\ \end{array} \\ & \text{III} \end{array}$$

A): NaH, THF, 25°C

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