S. O. DE SILVA, J. N. REED, V. SNIECKUS* (UNIVERSITY OF WATERLOO, CANADA)

 $\label{limited} \mbox{Directed Lithiation of N,N-Diethylbenzamides. Regiospecific Synthesis of Contiguously Tri- and Tetra-Substituted Alkoxybenzenes$

Tetrahedron Lett. 1978, 51, 5099-5102, DOI: 10.1016/S0040-4039(01)85822-6.

Directed ortho-Lithiation of Benzamides

Further transformations:

O NEt2

MeO CHO

1. NaBH4
EtOH, 25 °C, 24 h
2. TsOH
PhMe, reflux, 24 h

MeO Tolow aq HClO4
reflux, 48 h

Significance: Snieckus and co-workers reported a regiospecific *ortho*-lithiation of various *N*,*N*-diethylbenzamides using *sec*-BuLi and TMEDA in THF. The formed lithiated species were trapped with a range of electrophiles and the desired products were obtained in moderate to excellent yield.

Comment: The authors demonstrated the utility of this methodology for the synthesis of naturally occurring alkaloids. Thus, a formylated product was converted by successive reduction and cyclization into meconine in 90% yield. Subsequent hydrolysis furnished opianic acid in 50% yield.

Category

Metals in Synthesis

Key words

lithiation

orthofunctionalization

benzamides



SYNFACTS Contributors: Paul Knochel, Andreas Hess Synfacts 2021, 17(04), 0427 Published online: 18.03.2021 **DOI:** 10.1055/s-0040-1706718; **Reg-No.:** P01821SF