



NS-00002

Bis(trimethylaluminium) 1,4-diazabicyclo[2.2.2]octane adduct (DABAL-Me₃)

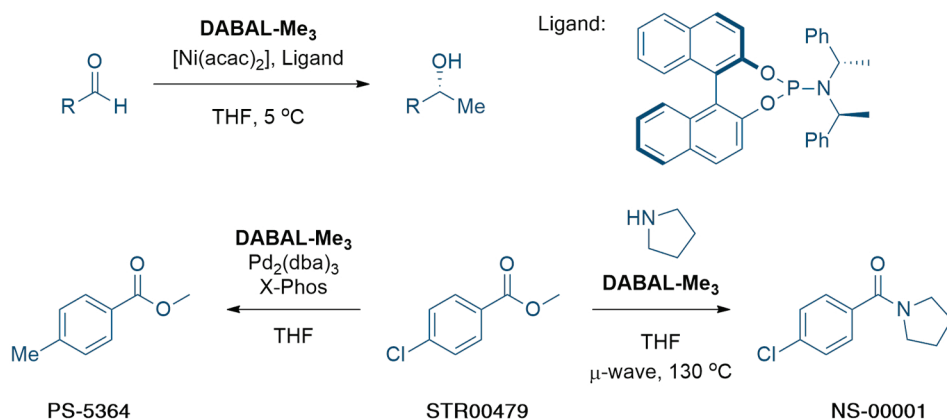
CAS Number 137203-34-0

Bis(trimethylaluminium) 1,4-diazabicyclo[2.2.2]octane adduct (DABAL-Me₃)

A Stable Alternative to Trimethylaluminium (AlMe₃)

Trimethylaluminium (AlMe₃) is used in synthetic organic chemistry as a Lewis acid or as a methylation agent. It is, however, air and moisture sensitive pyrophoric compound, which may be problematic to handle for research chemists without a glove-box or Schlenk line. Key Organics now stocks DABAL-Me₃ (NS-00002), a more stable alternative as a part of its BIONET range.

DABAL-Me₃ has been demonstrated as a AlMe₃ alternative in various applications, such as a Lewis acid as well as a source of methyl nucleophile required by methylation of aldehydes,¹ conjugate addition to enones,^{2,3} or methyl cross-coupling to aryl halides.⁴ Recently demonstrated synthesis of amides from coupling esters with a range of amines can be conveniently achieved in the presence of DABAL-Me₃.⁵



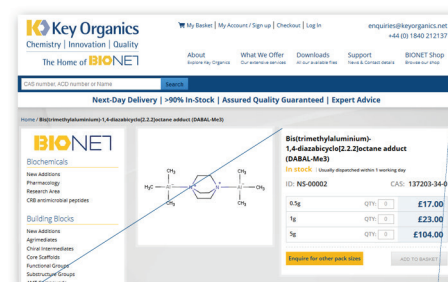
Scheme 1. Examples of synthetic utility of DABAL-Me₃

The research by S. Woodward and co-workers (Department of Chemistry at the University of Nottingham)⁶ led to development of a new process to ease the production of DABAL-Me₃ resulting in increased supply and reduced costs. Our new co-marketing collaboration with the University of Nottingham brings this compound to market in larger quantities at affordable prices.

1: Biswas, K.; Prieto, O.; Goldsmith, P. J.; Woodward, S. *Angewandte Chemie International Edition* 2005, 44, 2232.
 2: Alexakis, A.; Albrow, V.; Biswas, K.; d'Augustin, M.; Prieto, O.; Woodward, S. *Chemical Communications* 2005, 2843.
 3: Siewert, J.; Sandmann, R.; von Zeschwitz, P. *Angewandte Chemie International Edition* 2007, 46, 7122.
 4: Cooper, T.; Novak, A.; Humphreys, L. D.; Walker, M. D.; Woodward, S. *Advanced Synthesis & Catalysis* 2006, 348, 686.
 5: Dubois, N.; Glynn, D.; McInally, T.; Rhodes, B.; Woodward, S.; Irvine, D. J.; Dodds, C. *Tetrahedron* 2013, 69, 9890.
 6: Lee, D. S.; Amara, Z.; Poliakoff, M.; Harman, T.; Reid, G.; Rhodes, B.; Brough, S.; McInally, T.; Woodward, S. *Organic Process Research & Development* 2015

Key Benefits:

- Safer
- Affordable
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Bis(trimethylaluminium)-1,4-diazabicyclo[2.2.2]octane adduct (DABAL-Me₃)

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ID: NS-00002 CAS: 137203-34-0

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