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N–H

Cooperative Catalysis with Transition Metal and Organic Molecule: Highly Enantioselective Carbene Insertion into N–H Bond of Aliphatic Amines

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X–H (X = C, Si, N, O, S) ... [1]. N–H ... C–N ... N–H ... H ... α- ... [2]. ... Lewis ... N–H ... N–H ... α- ... [3]. ... (homoscorpionate) ... Tp*Cu [Tp* (3,5- ...)] ... (CAT) ...

(Scheme 1). ... N–H ... N–H ... α- ... α- ... N–H ... CAT ... Tp*Cu ... Tp*Cu ... Brønsted ... Tp*Cu•CAT ... Tp*Cu, ... CAT ... Tp*Cu ... Tp*Cu•CAT ...

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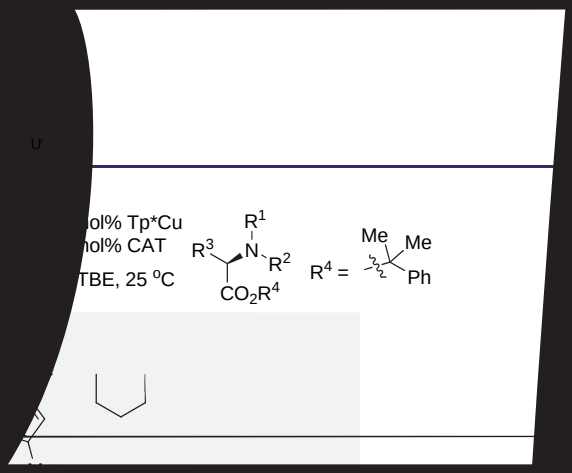
ol% Tp*Cu
hol% CAT
TBE, 25 °C
R1
R3
N
R2
CO2R4
R4 =
Me
Me
Ph