This Special Topic, edited by Erick Carreira, highlights recent advances in organonickel chemistry. Nickel catalysts have been applied in a wide range of organic transformations, for example, in nickel-catalyzed C–C bond-forming reactions. Various research groups greatly expand the use of nickel catalysts and present their latest results herein.

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Advanced Strategies in Synthesis with Nickel

Ni catalyst

[N–C activation]

N-acylsuccinimide = half-twisted amide

Ar

O

N

O

O

Ar

NiBr₂·glyme

LiBr, Mn⁰

DMF, 40 °C

27 examples

12–94%

alkyl