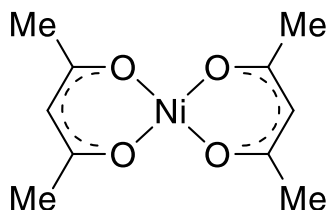


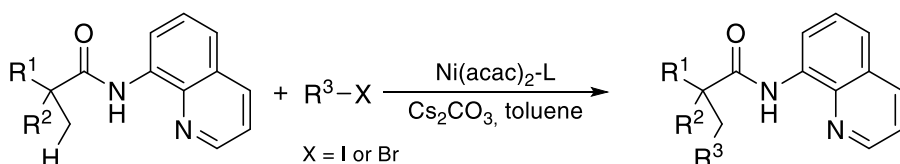
Catalog # 28-1130 Nickel(II) acetylacetonate, anhydrous, min. 95%



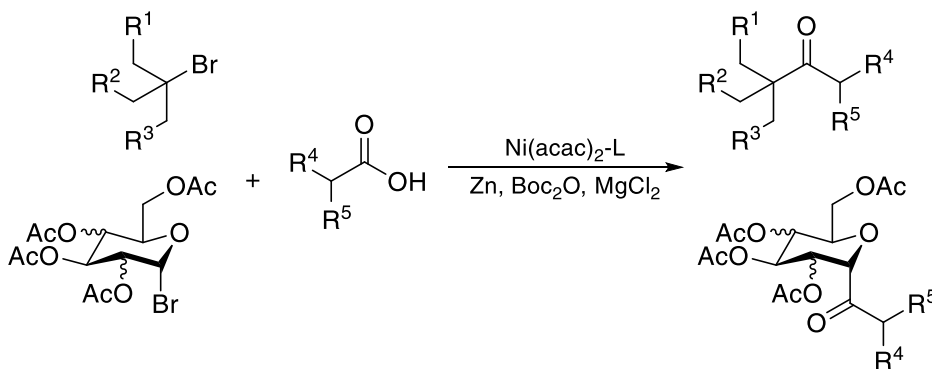
Catalysis Applications

Technical Notes:

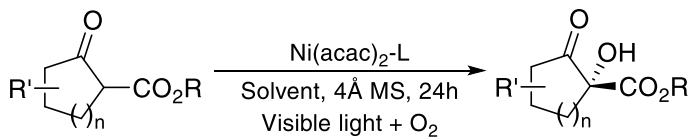
1. Catalyst for site-selective alkylation of unactivated C(sp³)-H bonds.
2. Catalyst used for reductive coupling of alkyl acids with unactivated tertiary alkyl and glycosyl halides.
3. Catalyst for visible-light-responsive chiral ligand initiated enantioselective aerobic oxidation of β -ketoesters.
4. Catalyst for cyanation of aryl chlorides and triflates using butyronitrile.
5. Catalyst for the photoinduced sp³ C-H arylation and alkylation of (hetero)aryl bromides and alkyl bromides.
6. Catalyst for the Negishi cross-coupling of alkylpyridinium salts with alkylzinc halides.
7. Catalyst for the hydroarylation of unactivated alkenes with arylboronic acids.
8. Catalyst for the electroreductive 4-pyridylation of electron-deficient alkenes.
9. Catalyst for electrochemical Minisci acylation of aromatic *N*-heterocycles with α -keto acids.
10. Catalyst for C-H cyanation of (hetero)arenes with 2-cyanoisothiazolidine 1,1-dioxide.
11. One of the major precursors for the preparation of nickel nanocomposites.



Tech Note (1)
Ref. (1)

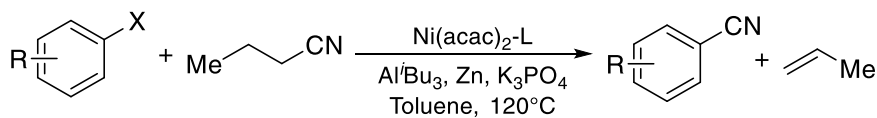


Tech Note (2)
Ref. (2)

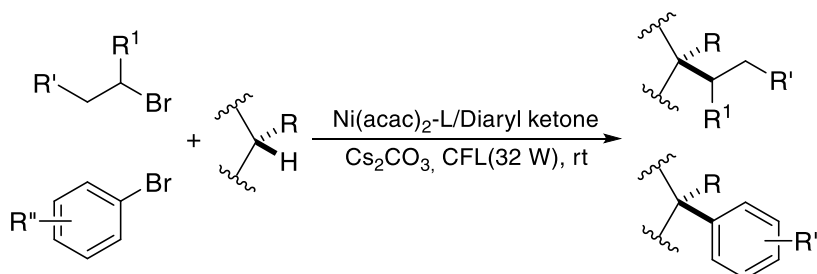
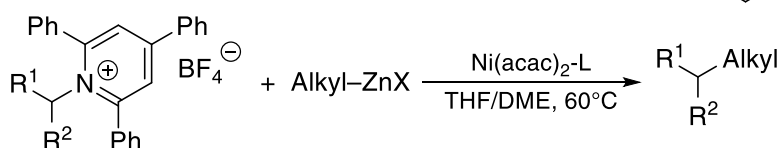
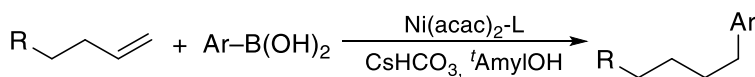
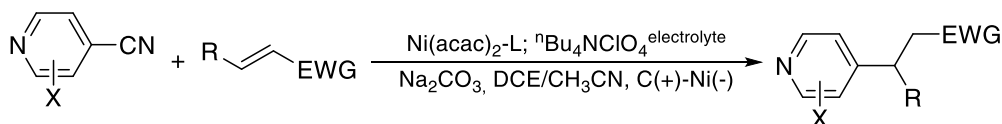
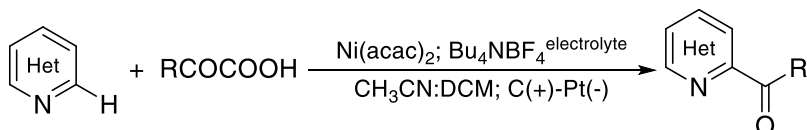
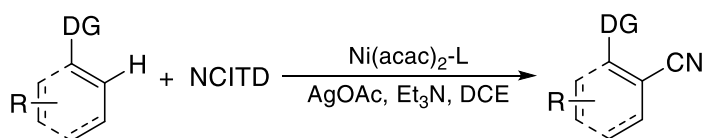


Tech Note (3)
Ref. (3)

n = 1, 2, 3



X = OTf or Cl

Tech Note (4)
Ref. (4)Tech Note (5)
Ref. (5)Tech Note (6)
Ref. (6)Tech Note (7)
Ref. (7)Tech Note (8)
Ref. (8)Tech Note (9)
Ref. (9)Tech Note (10)
Ref. (10)

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CVD/ALD Applications

Thermal Behavior:

- Melting point: 238°C, decomposes
- Vapor pressure: ~2 Torr/110°C
- TGA data and diagram is available in [1, 3]

Technical Notes:

1. ALD/CVD precursor for nickel containing film deposition.

Target Deposit	Deposition Technique	Delivery Temperature	Pressure	Co-reactants	Deposition Temperature	Ref.
Ni	ALD	155°C	0.75 Torr	H ₂	250°C	1
	ALD	180-200°C	-	ROH	250-300°C	2
	ALD	150°C	0.38-0.45 Torr	N ₂ H ₄	220-300°C	3
	CVD	200°C	AP	Decompos. H ₂	450°C	4
NiO _x	ALD	155°C	0.75 Torr	O ₃	250°C	1
	PE-ALD	-	-	^{PL} O ₂	200°C	5
	AA-CVD	Tol. Solution	-	DMEA, O ₂	450°C	6
	PE-CVD	200-220°C	-	O ₂ , ^{PL} O ₂	260°C	7
NiS _x	ALD	160°C	0.75-2.25 Torr	H ₂ S	200-240°C	8
NiC _x	ALD	180-200°C	-	EtOH or ⁱ PrOH	250-300°C	2
LaNiO ₃	ALD	185°C	~2 Torr	La(thd) ₃ , O ₃	225°C	9
Ni _x Fe _{3-x} O ₄	ALD	-	~2 Torr	Fe(Cp) ₂ , O ₃	250°C	10
Ni _x Ti _{1-x} O _y	ALD	175°C	2.25 Torr	O ₃ ; TiO ₂ (TiOiPr) ₄ /H ₂ O	175-275°C	11
Ni _{1-x} Mg _x O	CVD	H ₂ O Solution	AP	Mg(acac) ₂ , H ₂ O EDA,	700°C	12

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