



Your partner in catalysis

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Innovative homogeneous & supported catalysts

NOVECAT catalysts

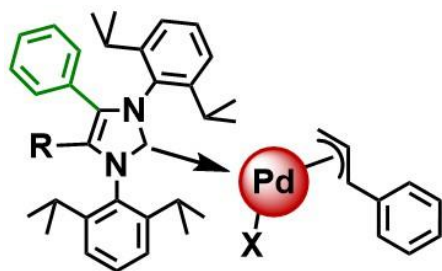
- ✓ High performance & low leaching
- ✓ Easy Pd recovery & recycling
- ✓ Air stable & easy to handle
- ✓ Wide solvent compatibility
- ✓ Aryl chlorides & bromides
- ✓ Economical & ecological benefits

106.42 Atomic mass	46 Atomic number
Pd Palladium	
804.4 First ionization energy	2.20 Electronegativity

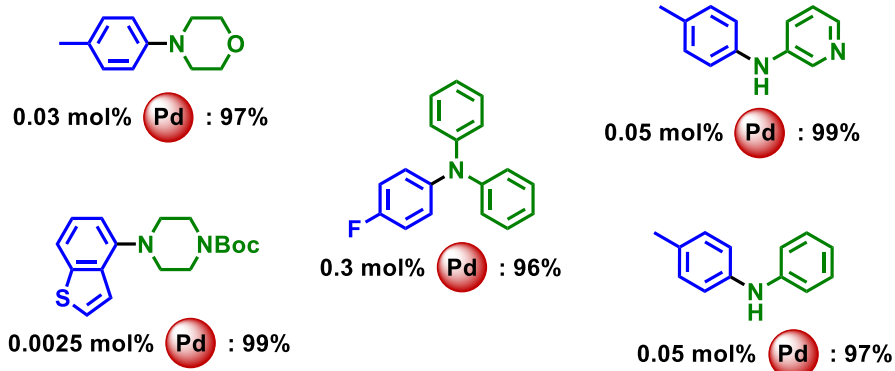
Excellent choice for industrial applications

Homogeneous catalysts for C-C and C-N couplings

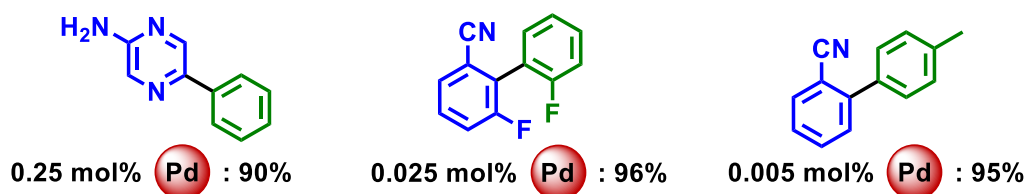
NOVECAT® G4 & G5 families



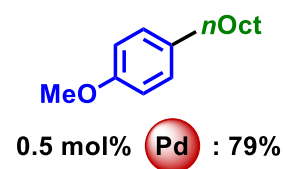
Buchwald C-N couplings



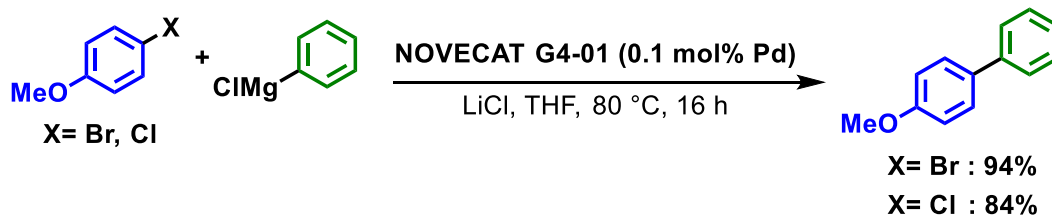
Suzuki coupling



Negishi coupling



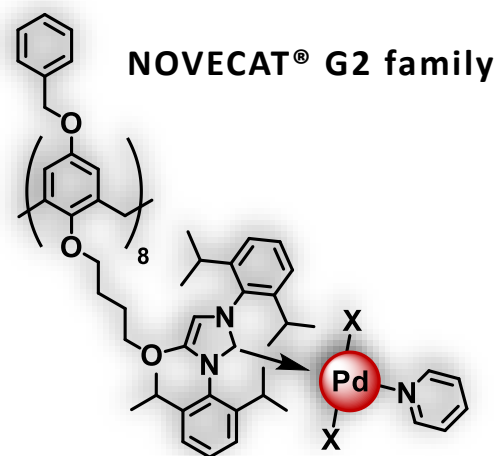
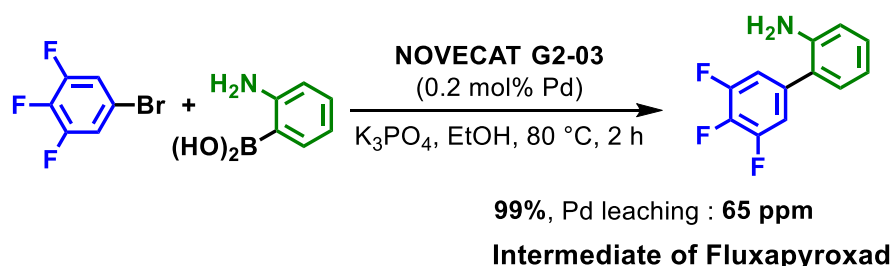
Kumada C-C couplings



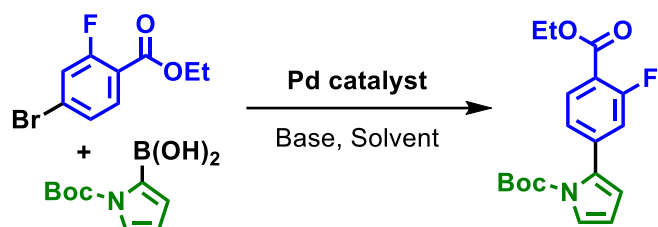
The most efficient supported catalysts on the market

Suzuki C-C coupling

Preparation of API's



Performance comparison with other Pd catalytic systems

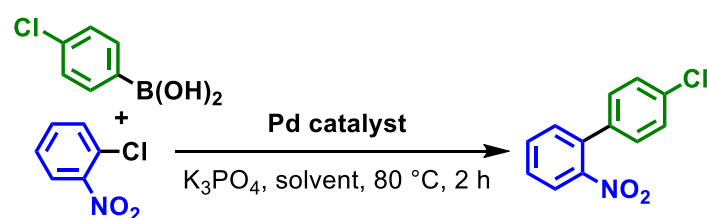


0.5 mol% NOVECAT G2 : 89% (Pd leaching : 14 ppm)

0.5 mol% $Pd(OAc)_2/XPhos$: 91% (Pd leaching : 476 ppm)

0.5 mol% $Pd(dtbpf)Cl_2$: 96% (Pd leaching : 459 ppm)

complex arylpyrrole core



0.5 mol% NOVECAT G2-01 : 88% (Pd leaching : 31 ppm)

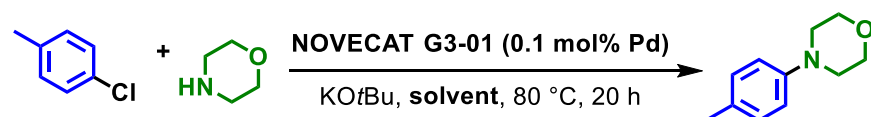
0.5 mol% $Pd(OAc)_2/XPhos$: 88% (Pd leaching : 1450 ppm)

1 mol% $Pd(PPh_3)_4$: 29%

Boscalid main intermediate

1) Dalton Trans. 2018, 47, 13843; 2) React. Chem. Eng. 2020, 5, 1509; 3) Adv. Synth. Catal. 2022, 364, 947.

Buchwald C-N coupling

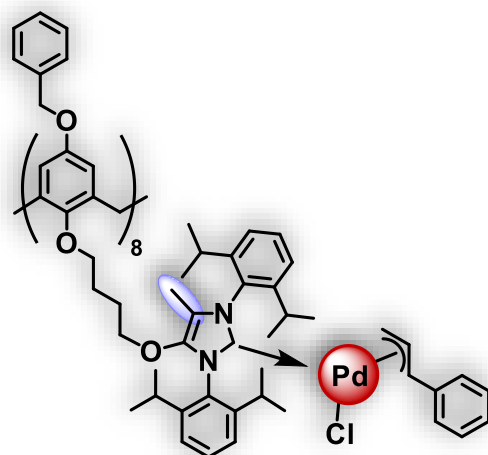


Wide solvent compatibility

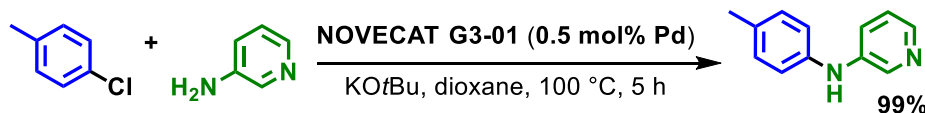
99% in MeTHF (Pd leaching : 24 ppm)
99% in dioxane (Pd leaching : 25 ppm)
93% in CPME (Pd leaching : 38 ppm)
99% in toluene* (Pd leaching : 43 ppm)
97% in MeCy* (Pd leaching : 9 ppm)

* 0.2 mol% Pd was used

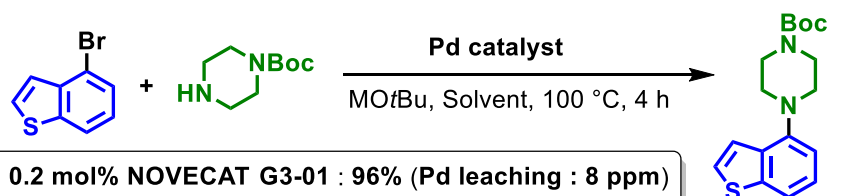
NOVECAT® G3 family



Performant with strong chelating amines



Preparation of API's



0.2 mol% NOVECAT G3-01 : 96% (Pd leaching : 8 ppm)

0.5 mol% $Pd_2(dba)_3 \cdot CHCl_3/BINAP$: 99% (Pd leaching : 520 ppm)

Intermediate of Brexpiprazole

NOVECAT Pd-NHC catalysts for Buchwald: Catal. Sci. Technol. 2021, 11, 5223.

Catalysis expertise and services

Reactions setup and optimization

- Wide range of catalytic reactions: cross-couplings, hydrogenation, C-H activation, asymmetric catalysis...
- Parameters optimization (catalyst, base, solvent, temperature...)
- HTE fast screening
- Flow chemistry (process design & optimization)

Metal removal

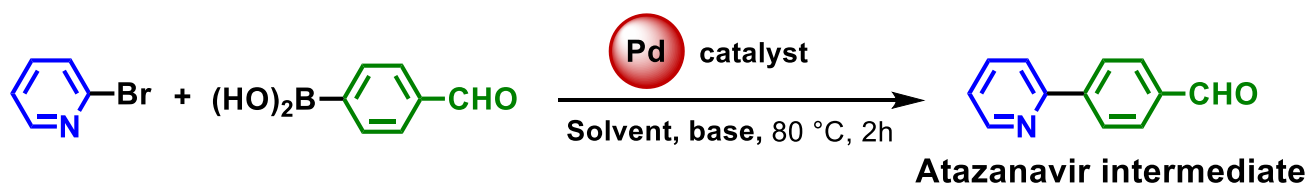
- Metal leaching analysis
- Decontamination solutions

Development and batches production

- From 100 mg to 1 kg
- Product purification & analysis
- Cost optimization (in compliance with regulations)

We optimize your catalysis operations, you save time and money

High Throughput Experimentation

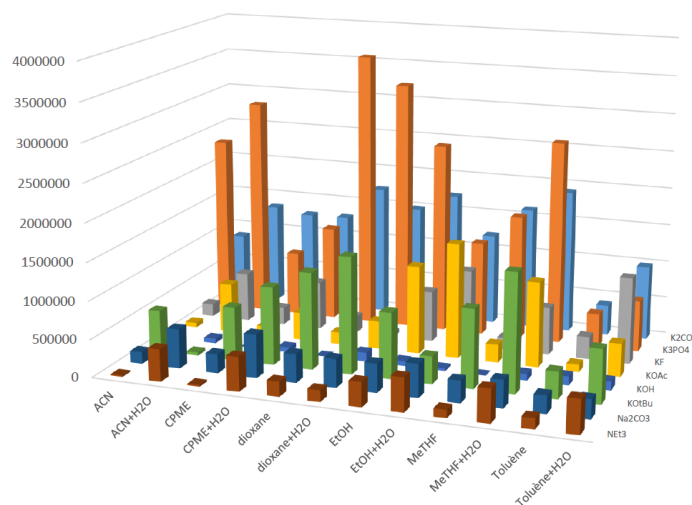


Various reactions

- Catalysis, organocatalysis, organic synthesis

Fast screening

- Catalysts, reagents, solvents, bases...



HTE: the perfect tool for fine optimization