

# Clusters



18 Catalysts  
10 Bases  
8 Solvents



16 electrophiles

33 nucleophiles

PROD/IS

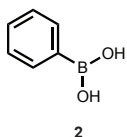
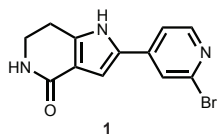
Electrophile

Nucleophile

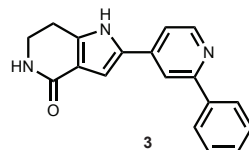
Reactivity Cliff

1

2



8 Catalysts  
6 Bases  
4 Solvents



PROD/IS

Solvent

Base

Catalyst

Reactivity Cliff

Reactivity Cliff

High  
Medium  
Low  
Zero

1:3 H<sub>2</sub>O:NMP  
1:3 H<sub>2</sub>O:DMSO  
NMP  
1:9 'AmOH:NMP

K<sub>3</sub>PO<sub>4</sub>  
MTBD  
BTMG  
P2Et  
BTTP  
Cs<sub>2</sub>CO<sub>3</sub>

XPhos Pd G3  
'Bu<sub>3</sub>P Pd G2  
'BuXPhos Pd G3  
DTBPF Pd G3  
SPhos Pd G2  
RuPhos Pd G3  
BrettPhos Pd G3  
APhos Pd G3