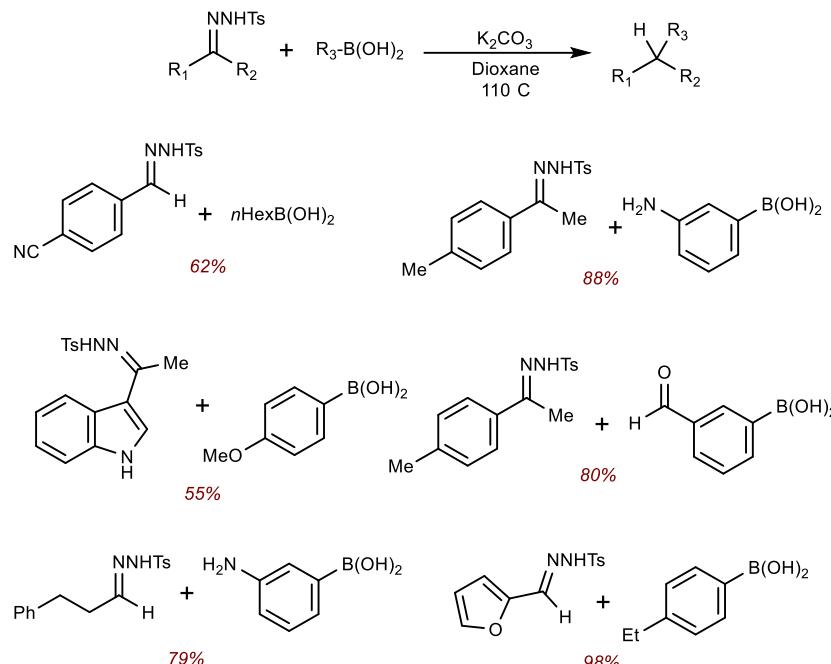
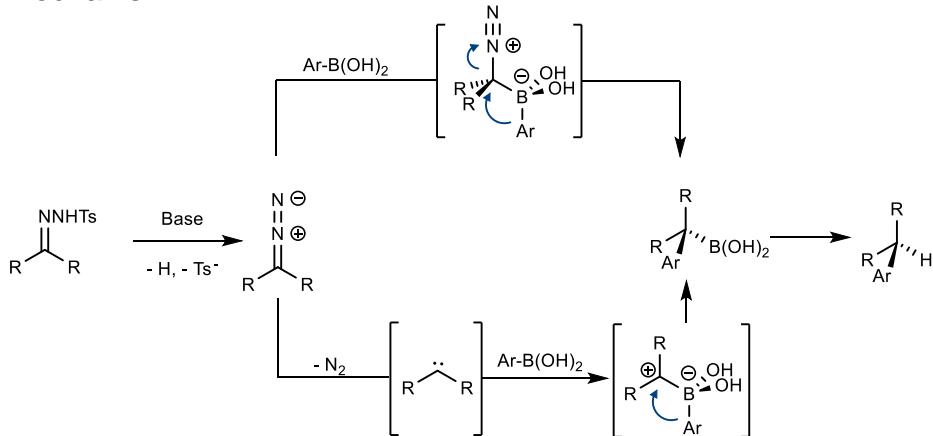


# Barluenga-Valdes Coupling

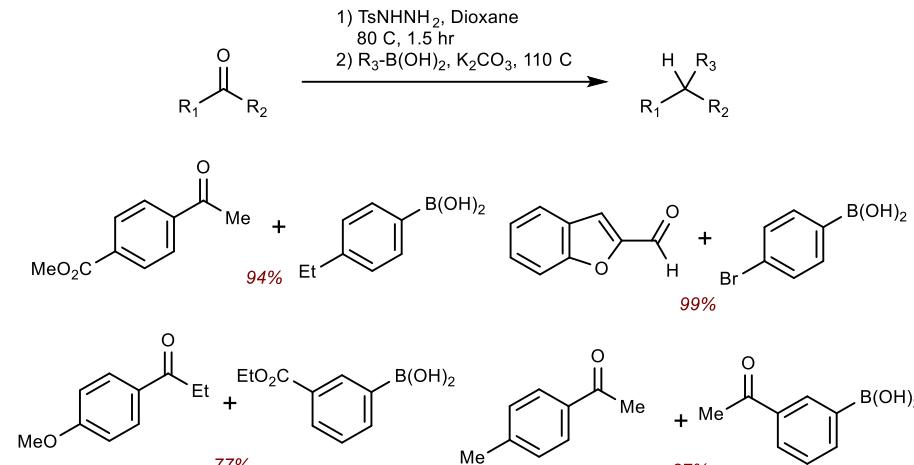
Initial Report (Barluenga/Valdes, 2009)



## Mechanism

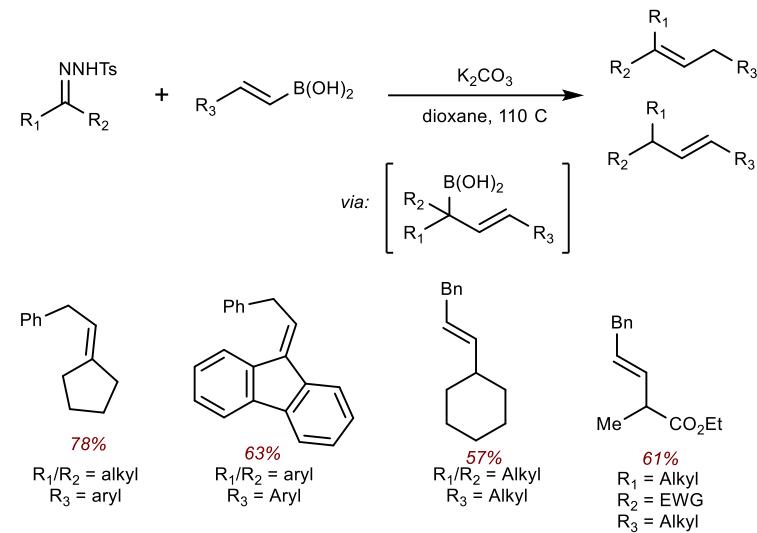


## One-Pot Transformation



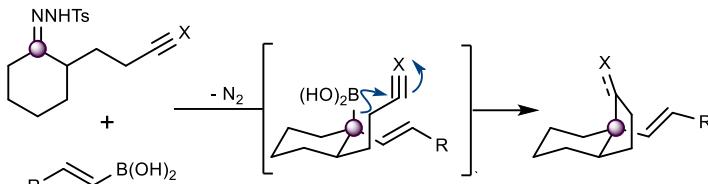
Nature Chem 1, 494–499 (2009) <https://doi.org/10.1038/nchem.328>

## Extension to Vinyl Boronic Acids (Valdes, 2012)

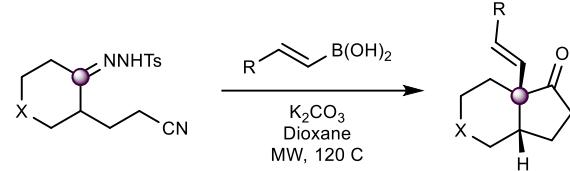


Angew. Chem. 2012, 124, 6055 –6059 <http://dx.doi.org/10.1002/anie.201200683>

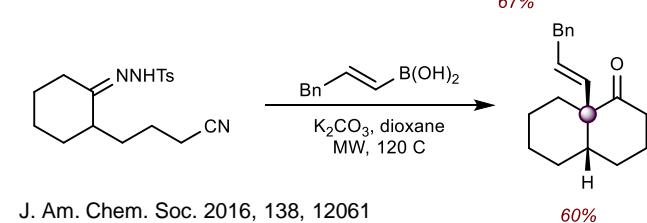
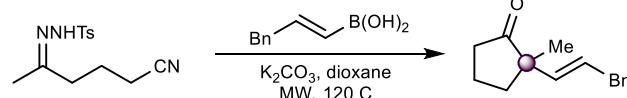
## Domino Carbocyclization (Valdes, 2016)



- Formation of all carbon quaternary center
- Two C-C bonds formed at one carbon center
- Stereospecific formation of cis-fused bicycles

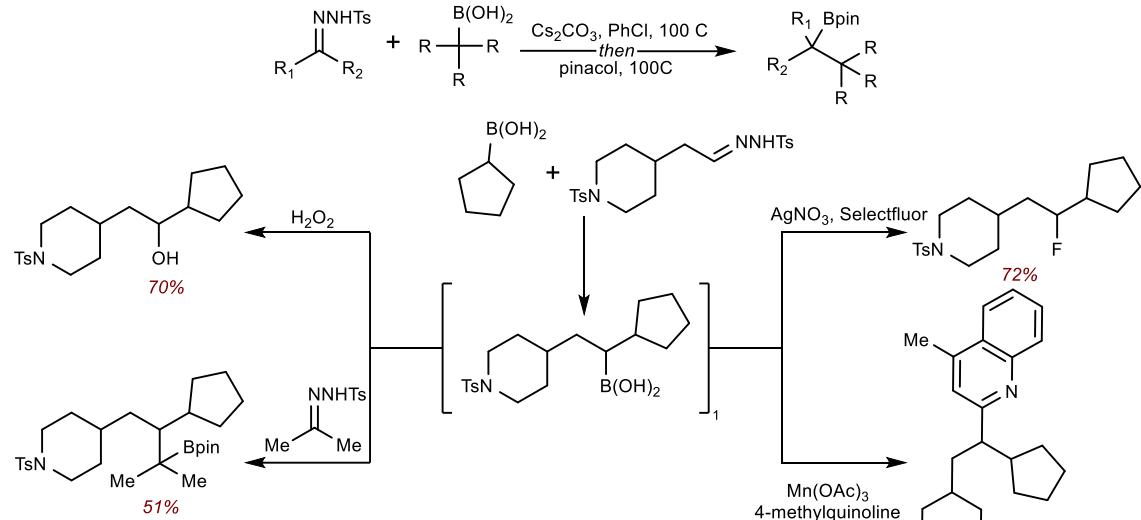


$R = \text{Bn} \text{ -- } 65\%$	$R = \text{Bn} \text{ -- } 50\%$	$R = \text{Bn} \text{ -- } 67\%$
$R = \text{Cy} \text{ -- } 51\%$	$R = -\text{CH}_2\text{OTBDMS} \text{ -- } 50\%$	$R = -\text{CH}_2\text{OTBDMS} \text{ -- } 50\%$
$R = n\text{Hex} \text{ -- } 75\%$		
$R = -(\text{CH}_2)_3\text{CH}_2\text{Cl} \text{ -- } 90\%$		

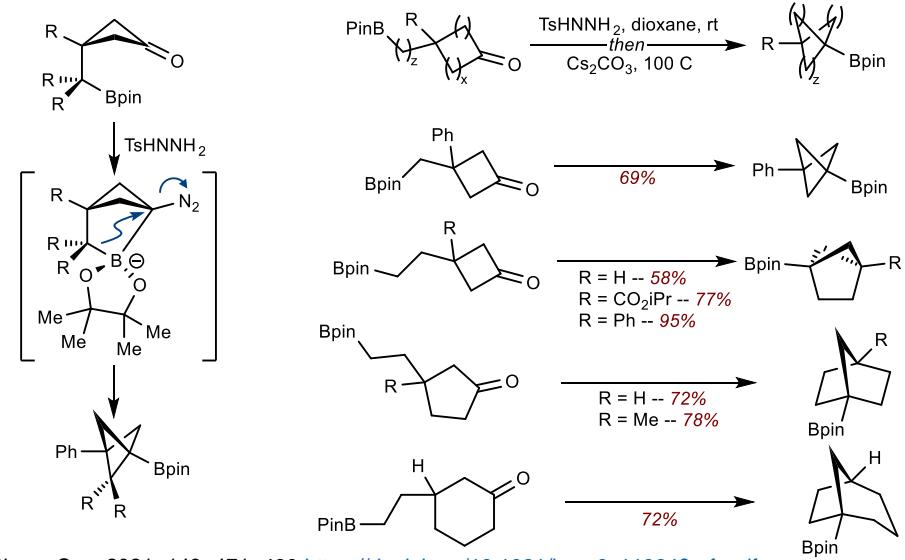


J. Am. Chem. Soc. 2016, 138, 12061  
[http://dx.doi.org/10.1021/jacs.6b08116](https://dx.doi.org/10.1021/jacs.6b08116)

## Synthesis of Alkyl Boronic Esters and Derivatization (Qin/Merchant, 2021)



## Ring Closing Reactions (Qin/Merchant, 2021)



J. Am. Chem. Soc. 2021, 143, 471–480 <https://dx.doi.org/10.1021/jacs.0c11964?ref=pdf>  
Nat. Chem. 13, 950–955 (2021) <https://doi.org/10.1038/s41557-021-00786-z>