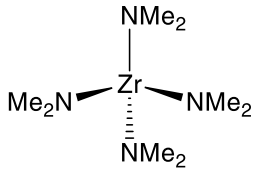
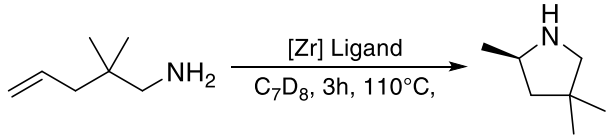
Catalog # 40-4100 Tetrakis(dimethylamino)zirconium(IV), 99% TDMAZ



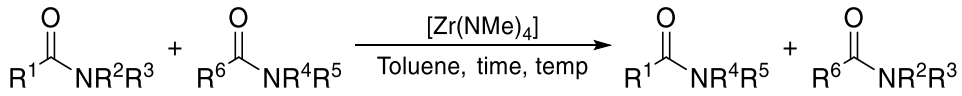
Catalysis Applications

Technical Notes:

1. Catalyst for asymmetric intramolecular alkene hydroamination
2. Catalyst used for secondary amine-tertiary amide transamidations
3. Catalyst for the intermolecular hydroamination of alkynes with primary amines
4. Catalyst for the hydroaminoalkylation of alkynes to generate the allylic amines



Tech Note (1)
Ref. (1)



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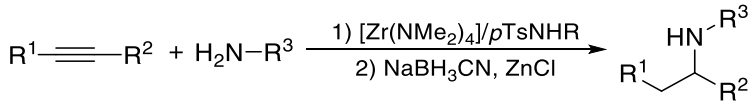
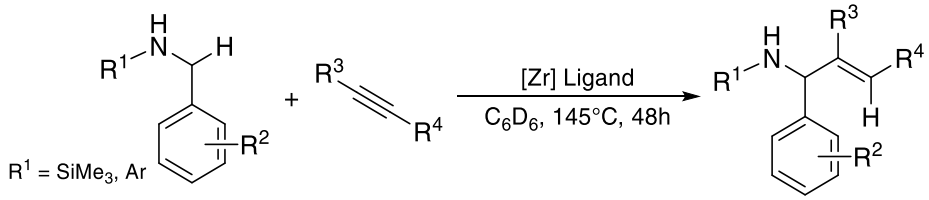


Tech Note (3)
Ref. (3)



Tech Note (4)
Ref. (4)

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CVD/ALD Applications

Thermal Behavior:

- Melting Point: 60°C [1,2], 58°C [3]
- Boiling Point: 80°C/0.05 Torr [1]
- Vapor pressure: 0.1 Torr/49°C, 1 Torr/77°C [2]
- Decomposition: >250°C [10]

Technical Notes:

1. ALD/CVD precursor for zirconium thin film deposition

Target Deposit	Deposition Technique	Delivery Temperature	Pressure	Co-reactants	Deposition Temperature	Ref.
ZrO_2	ALD PEALD	75°C	1 Torr	H_2O	50-500°C 170-180°C	2 3
ZrN_x	ALD	75°C	0.20-0.35 Torr	NH_3	150-250°C	4
$Hf_{0.5}Zr_{0.5}O_2$	ALD	-	-	$Hf(NMe_2)_4$, H_2O $^{PL}O_2$-H_2	175°C	5 6
$(ZnTiZr)_xO_y$	ALD	85ºC	0.5 Torr	$Ti(NMe_2)_4$, $ZnEt_2$, H_2O	200°C	7
$Zr_xAl_{1-x}O_y$	ALD	60°C	0.04 Torr	$AlMe_3$, H_2O	250°C	8
$SrZrO_3$	ALD	60°C	1 Torr	$Sr(^iPr_3Cp)_2$, H_2O	225°C	9
ZrO_2/Y_2O_3	ALD	100°C	0.2-0.3 Torr	$Y(MeCp)_3$, H_2O	250°C	10
$BaY_xZr_yO_z$	ALD	75°C	0.1 Torr	$Ba(PrMe_4Cp)_2$ $Y(MeCp)_3$, H_2O	250-270°C	11
$Li_7La_3Zr_2O_{12}$	ALD	80°C	-	$AlMe_3$, La-FMD, LiO^tBu, O_3	225°C	12

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