

Gold

Elements and Compounds

Catalysts, MOCVD/ALD Precursors, Nanomaterials and more.



STREM

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As part of our ongoing commitment to quality, we have achieved ISO 9001 certification for the Quality Management System (QMS) at our corporate headquarters in Newburyport, Massachusetts.

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- | | |
|---|--|
| ▪ Biocatalysts | ▪ Metal Catalysts for Organic Synthesis |
| ▪ Buchwald Ligands and Precatalysts | ▪ Metal Organic Frameworks and Ligands for MOF Synthesis |
| ▪ Carbon-Based Nanomaterials & Elemental Forms | ▪ Metathesis Catalysts |
| ▪ Catalysts & Ligands - Sold in Collaboration with Takasago | ▪ MOCVD, CVD & ALD Precursors |
| ▪ Gold Elements & Compounds | ▪ Nanomaterials |
| ▪ Heterogeneous Catalysts | ▪ New Products |
| ▪ High Purity Chiral Reagents - Sold in Collaboration with Daicel | ▪ Other Ligands |
| ▪ Kits | ▪ Phosphorous Ligands and Compounds |
| ▪ Materials for Energy Applications | ▪ Photocatalysts |
| | ▪ PURATREM: High Purity Inorganics |



Gold 04/19

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Glossary of Terms

[α]_D		Specific rotation
AAS		Atomic Absorption Standard
ACS		Conforms to American Chemical Society specifications
air sensitive	.....	Product may chemically react with atmospheric oxygen or carbon dioxide at ambient conditions. Handle and store under an inert atmosphere of nitrogen or argon.
amp	.....	Ampouled
b.p.	.....	Boiling point in °C at 760mm, unless otherwise noted
d.	.....	Density
dec.	.....	Decomposes
elec. gr.	.....	Electronic Grade, suitable for electronic applications
f.p.	.....	Flash point in °F
gran.	.....	Granular
heat sensitive	.....	Product may chemically degrade if stored for prolonged periods of time at ambient temperatures or higher. Store at 5°C or lower.
hydrate	.....	Unspecified water content which may vary slightly from lot to lot
hygroscopic	.....	Product may absorb water if exposed to the atmosphere for prolonged periods of time (dependent on humidity and temperature). Handle and store under an inert atmosphere of nitrogen or argon.
light sensitive	.....	Product may chemically degrade if exposed to light
liq.	.....	Liquid
m.p.	.....	Melting point in °C
moisture sensitive	.....	Product may chemically react with water. Handle and store under an inert atmosphere of nitrogen or argon.
NMR grade	.....	Suitable as a Nuclear Magnetic Resonance reference standard
optical grade	.....	For optical applications
pwdr.	.....	Powder
primary standard	.....	Used to prepare reference standards and standardize volumetric solutions
PURATREM	.....	Product has a minimum purity of 99.99% (metals basis)
purified	.....	A grade higher than technical, often used where there are no official standards
P. Vol.	.....	Pore volume
pyrophoric	.....	Product may spontaneously ignite if exposed to air at ambient conditions
reagent	.....	High purity material, generally used in the laboratory for detecting, measuring, examining or analyzing other substances
REO	.....	Rare Earth Oxides. Purity of a specific rare-earth metal expressed as a percentage of total rare-earths oxides.
SA	.....	Surface area
store cold	.....	Product should be stored at -18°C or 4°C, unless otherwise noted (see product details)
subl.	.....	Sublimes
superconductor grade	.....	A high purity, analyzed grade, suitable for preparing superconductors
tech. gr.	.....	Technical grade for general industrial use
TLC	.....	Suitable for Thin Layer Chromatography
v.p.	.....	Vapor pressure mm of Hg
xtl.	.....	Crystalline

About Purity

Chemical purity	.....	is reported after the chemical name, e.g. Ruthenium carbonyl, 99%
Metals purity	.....	is reported in parentheses with the respective element, e.g. Gallium (III) bromide, anhydrous, granular (99.999%-Ga) PURATREM where 100% minus the metal purity is equal to the maximum allowable percentage of trace metal impurity

Index of Reaction Types for Gold Catalysts

Amination

79-0340	Chloro[2-(di- <i>t</i> -butylphosphino))-1,1'-biphenyl]gold(I), 99%.....	4
79-5000	Methyl(triphenylphosphine)gold(I), 99%.....	12

Carbon-carbon bond formation-General

79-0300	1,3-Bis(2,6-di- <i>i</i> -propylphenyl)imidazol-2-ylidene(acetonitrile)gold(I) tetrafluoroborate, 95%.....	17
79-0245	[1,3-Bis(2,6-di- <i>i</i> -propylphenyl)imidazol-2-ylidene][bis(trifluoromethanesulfonyl)imide]gold(I), min. 95%.....	17
79-0205	1,3-Bis(2,6-di- <i>i</i> -propylphenyl)imidazol-2-ylidenegold(I) hydroxide, min. 97%.....	18
79-1230	Chloro{1,3-bis[2,6-bis(1-methylethyl)phenyl]-1,3-dihydro-4,5-dimethyl-2H-imidazol-2-ylidene} gold(I), 98% IPrMeAuCl.....	19
79-0340	Chloro[2-(di- <i>t</i> -butylphosphino))-1,1'-biphenyl]gold(I), 99%.....	4
79-0343	Chloro[2-(dicyclohexylphosphino)-2'-(<i>N,N</i> -dimethylamino))-1,1'-biphenyl]gold(I), 98%.....	7
79-0740	Chlorotri- <i>t</i> -butylphosphinegold(I), 99%.....	9
79-0352	2-(Di- <i>t</i> -butylphosphino))-1,1'-biphenyl(acetonitrile)gold(I) hexafluoroantimonate, 99%.....	10
79-3615	Triphenylphosphinegold(I) bis(trifluoromethanesulfonyl)imide, min. 98%.....	14

Carbon-heteroatom bond formation

79-0200	1,3-Bis(2,6-di-isopropylphenyl)imidazol-2-ylidenegold(I) chloride, 95%.....	16
79-0115	[μ -Bis(diphenylphosphino) methane]dichlorodigold(I), 99%.....	3
79-0245	[1,3-Bis(2,6-di- <i>i</i> -propylphenyl)imidazol-2-ylidene][bis(trifluoromethanesulfonyl)imide]gold(I), min. 95%.....	17
79-0230	Bis(trifluoromethanesulfonyl)imide(2-dicyclohexylphosphino-2',6'-dimethoxy-1,1'-biphenyl)gold(I), 98%.....	3
79-1230	Chloro{1,3-bis[2,6-bis(1-methylethyl)phenyl]-1,3-dihydro-4,5-dimethyl-2H-imidazol-2-ylidene} gold(I), 98% IPrMeAuCl.....	19
79-0340	Chloro[2-(di- <i>t</i> -butylphosphino))-1,1'-biphenyl]gold(I), 99%.....	4
79-0225	Chloro(2-dicyclohexylphosphino-2',6'-dimethoxy-1,1'-biphenyl)gold(I), 98%.....	6
79-0343	Chloro[2-(dicyclohexylphosphino)-2'-(<i>N,N</i> -dimethylamino))-1,1'-biphenyl]gold(I), 98%.....	7
79-0740	Chlorotri- <i>t</i> -butylphosphinegold(I), 99%.....	9
79-0352	2-(Di- <i>t</i> -butylphosphino))-1,1'-biphenyl(acetonitrile)gold(I) hexafluoroantimonate, 99%.....	10
79-0348	[2-(Dicyclohexylphosphino)-2'-(<i>N,N</i> -dimethylamino))-1,1'-biphenyl][bis(trifluoromethyl) sulfonylimido]gold(I), 98%.....	11
79-5000	Methyl(triphenylphosphine)gold(I), 99%.....	12
79-0355	Tri- <i>t</i> -butylphosphine[bis(trifluoromethyl)sulfonylimido]gold(I), 98%.....	13
79-3615	Triphenylphosphinegold(I) bis(trifluoromethanesulfonyl)imide, min. 98%.....	14

Cyclization

79-0200	1,3-Bis(2,6-di-isopropylphenyl)imidazol-2-ylidenegold(I) chloride, 95%.....	16
79-0115	[μ -Bis(diphenylphosphino) methane]dichlorodigold(I), 99%.....	3
79-0300	1,3-Bis(2,6-di- <i>i</i> -propylphenyl)imidazol-2-ylidene(acetonitrile)gold(I) tetrafluoroborate, 95%.....	17
79-0340	Chloro[2-(di- <i>t</i> -butylphosphino))-1,1'-biphenyl]gold(I), 99%.....	4
79-0740	Chlorotri- <i>t</i> -butylphosphinegold(I), 99%.....	9
79-0352	2-(Di- <i>t</i> -butylphosphino))-1,1'-biphenyl(acetonitrile)gold(I) hexafluoroantimonate, 99%.....	10
79-3615	Triphenylphosphinegold(I) bis(trifluoromethanesulfonyl)imide, min. 98%.....	14
79-3600	Tris[triphenylphosphinegold(I)]oxonium tetrafluoroborate, 98%.....	15

Hydrolysis

79-5000	Methyl(triphenylphosphine)gold(I), 99%.....	12
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Isomerization

79-0125	Bis{1,3-bis[2,6-bis(1-methylethyl)phenyl]-1,3-dihydro-2H-imidazol-2-ylidene}- μ -hydroxydigold(I) tetrafluoroborate, 99%.....	2
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Oxidation

79-3600	Tris[triphenylphosphinegold(I)]oxonium tetrafluoroborate, 98%.....	15
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GOLD CATALYSTS (Elemental Forms)

79-0160	Gold 1% on aluminum oxide extrudates (AUROLite™ Au/Al₂O₃) (7440-57-5)	10g
	dark purple extrudates ~1.2mm dia. x 5mm (avg)	50g
	(store cold)	
	Note: Sold in collaboration with Project AuTEK for research purposes. Reverse engineering and product modification prohibited. Only open before use, store cold in dark. See web for more details.	
Analysis: Au 1 wt% ± 0.1%; Al ₂ O ₃ 98 wt%; Na+, Cl- <1500ppm		
Bulk density: 0.6–0.8 g/ml		
Technical Note:		
1. Useful product for the catalytic oxidation of a variety of substrates including carbon monoxide, aldehydes, alkenes, methane and ethanol. Average gold crystallite size is ~2-3nm.		
References:		
1. <i>J. Catal.</i> , 2007 , 252, 119		
2. <i>J. Catal.</i> , 2008 , 260, 86		
3. <i>Green Chem.</i> , 2008 , 10, 168		
4. <i>Gold Bulletin</i> , 2008 , 41, 296		
5. <i>Appl. Catal. B.</i> , 2013 , 132, 195		
6. <i>Chem. Rev.</i> , 2012 , 112, 4469		
79-0165	Gold 1% on titanium dioxide extrudates (AUROLite™ Au/TiO₂) (7440-57-5)	10g
	dark purple/gray extrudates 1.5mm dia. x 5mm (avg)	50g
	(store cold)	
	Note: Sold in collaboration with Project AuTEK for research purposes. Reverse engineering and product modification prohibited. Only open before use, store cold in dark. See web for more details.	
Analysis: Au 1 wt% ± 0.1%; TiO ₂ 98 wt%; Na+, Cl- <1500ppm		
Bulk density: 0.85–0.95 g/ml		
Technical Note:		
1. Useful product for the catalytic oxidation of a variety of substrates including carbon monoxide, aldehydes, alkenes, methane and ethanol. Average gold crystallite size is ~2-3nm.		
References:		
1. <i>J. Catal.</i> , 2007 , 252, 119		
2. <i>J. Catal.</i> , 2008 , 260, 86		
3. <i>Green Chem.</i> , 2008 , 10, 168		
4. <i>Gold Bulletin</i> , 2008 , 41, 296		
5. <i>Appl. Catal. B.</i> , 2013 , 132, 195		
6. <i>Chem. Rev.</i> , 2012 , 112, 4469		
79-0170	Gold 1% on zinc oxide granulate (AUROLite™ Au/ZnO) (7440-57-5)	10g
	dark purple granulate 1-2mm dia.	50g
	(store cold)	
	Note: Sold in collaboration with Project AuTEK for research purposes. Reverse engineering and product modification prohibited. Only open before use, store cold in dark. See web for more details. PCT WO2005115612.	
Analysis: Au 1 wt% ± 0.1%; ZnO 88 wt% (contains Al ₂ O ₃); Na+, Cl- <1500ppm		
Bulk density: 1-1.2 g/ml		
Technical Note:		
1. Useful product for the catalytic oxidation of a variety of substrates including carbon monoxide, aldehydes, alkenes, methane and ethanol. Average gold crystallite size is ~2-3nm.		
References:		
1. <i>J. Catal.</i> , 2007 , 252, 119		
2. <i>J. Catal.</i> , 2008 , 260, 86		
3. <i>Green Chem.</i> , 2008 , 10, 168		
4. <i>Gold Bulletin</i> , 2008 , 41, 296		
5. <i>Appl. Catal. B.</i> , 2013 , 132, 195		
6. <i>Chem. Rev.</i> , 2012 , 112, 4469		
79-0060	Gold foil (99.95%) (7440-57-5)	25 x 25mm
	Au; FW: 197.20; 0.1mm thick (~1.2g/25mm x 25mm); m.p. 1064°; b.p. 2067°;	50 x 50mm
	d. 19.3	
79-0050	Gold foil (99.9%) (7440-57-5)	25 x 25mm
	Au; FW: 197.20; 0.01mm thick (~0.12g/25mm x 25mm); m.p. 1064°; b.p. 2067°;	50 x 50mm
	d. 19.3	

GOLD CATALYSTS (Elemental Forms)

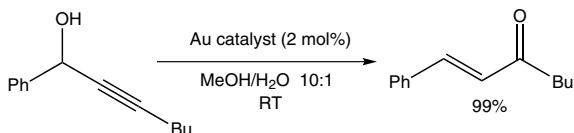
79-0921	Gold nanoparticles, 1% on carbon black (surfactant and reactant-free) (7440-57-5) See page 25	
79-0926	Gold nanoparticles, 5% on carbon black (surfactant and reactant-free) (7440-57-5) See page 25	
79-0916	Gold nanoparticles, 1% on Titania (anatase) (surfactant and reactant-free) (7440-57-5) See page 25	
79-0905	Gold nanoparticles, 1% on Titania (anatase/rutile) (surfactant and reactant-free) (7440-57-5) See page 25	
79-0930	Gold nanoparticles, 10% on Titania (anatase/rutile) (surfactant and reactant-free) (7440-57-5) See page 25	
79-0935	Gold nanoparticles, 10% on Titania (anatase) (surfactant and reactant-free) (7440-57-5) See page 25	
93-7912	Gold powder (99.9+%) (7440-57-5) Au; FW: 197.20; 1.5-3.0 micron spherical; m.p. 1064°; b.p. 2067°; d. 19.3	500mg 2g
93-7915	Gold powder (99.95%) (7440-57-5) Au; FW: 197.20; 2-5 micron; m.p. 1064°; b.p. 2067°; d. 19.3	500mg 2g
93-7902	Gold powder (99.999%) (7440-57-5) Au; FW: 197.20; -20 mesh; m.p. 1064°; b.p. 2067°; d. 19.3	500mg 2g
93-7913	Gold shot (99.95%) (7440-57-5) Au; FW: 197.20; 6.35 mm and down, semi-spherical; m.p. 1064°; b.p. 2067°; d. 19.3	500mg 2g
79-0075	Gold shot (99.999%) (7440-57-5) Au; FW: 197.20; 0.8-6 mm; m.p. 1064°; b.p. 2067°; d. 19.3	500mg 2.5g
79-0095	Gold wire (99.99%) (7440-57-5) Au; FW: 196.97; 1.4 mm dia.; b.p. 2067°; d. 19.3	2cm 10cm
79-0085	Gold wire (99.999%) (7440-57-5) Au; FW: 196.97; 1.4mm dia. (~0.6g/2cm); b.p. 2067°; d. 19.3	2cm 10cm

GOLD CATALYSTS (Compounds)

02-1000	Ammonium tetrachloroaurate(III) hydrate (99.9985%-Au) PURATREM (13874-04-9) NH ₄ AuCl ₄ ·XH ₂ O; FW: 356.82; yellow xtl.	1g 5g
79-0125	Bis{1,3-bis[2,6-bis(1-methylethyl)phenyl]-1,3-dihydro-2H-imidazol-2-ylidene}-μ-hydroxydigold(I) tetrafluoroborate, 99% (1262545-44-7) C ₅₄ H ₇₃ Au ₂ BF ₄ N ₄ O; FW: 1274.92; white solid	100mg 500mg

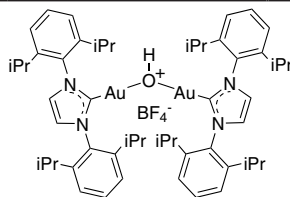
Technical Note:

- Catalyst used in a Meyer-Schuster rearrangement reaction.



References:

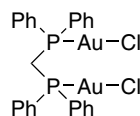
- Organometallics*, **2010**, 29, 3665



Tech. Note (1)
Ref. (1)

GOLD CATALYSTS (Compounds)

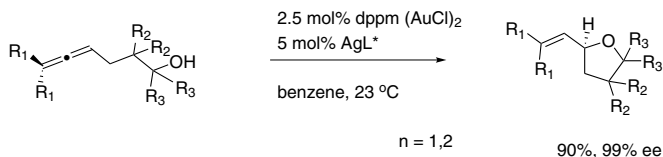
79-0115 [μ -Bis(diphenylphosphino) methane]dichlorodigold(I), 99%
(37095-27-5)
 $C_{25}H_{22}Au_2Cl_2P_2$; FW: 849.23; white powder.



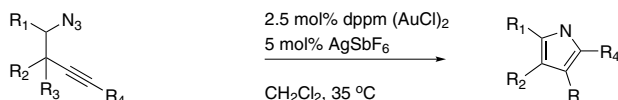
250mg
1g

Technical Notes:

1. Catalyst used with chiral counter-ion for asymmetric hydroalkoxylation.
2. Catalyst used for intramolecular acetylene Schmidt reaction.



Tech. Note (1)
Ref. (1)

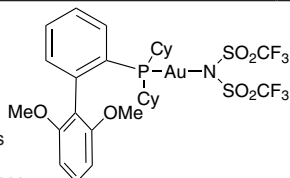


Tech. Note (2)
Ref. (2)

References:

1. *Science*, **2007**, 317, 496
2. *J. Am. Chem. Soc.*, **2005**, 127, 11260

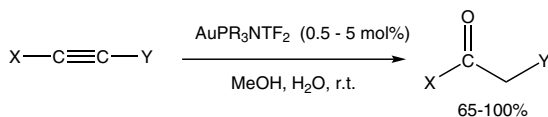
79-0230 Bis(trifluoromethanesulfonyl)imide(2-dicyclohexylphosphino-2',6'-dimethoxy-1,1'-biphenyl)gold(I), 98% (1121960-90-4)
 $C_{28}H_{135}AuF_6NO_6PS_2$; FW: 887.64;
white to off-white solid



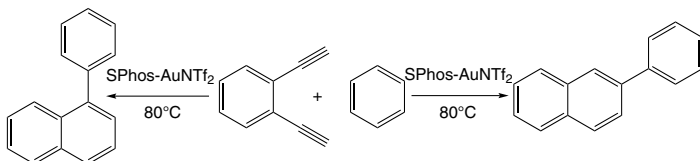
100mg
500mg

Technical Notes:

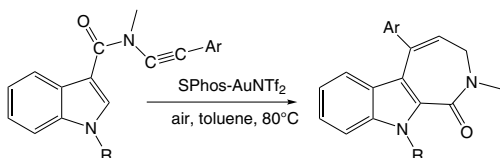
1. Catalyst used in the selective hydration of substituted alkynes at room temperatures.
2. Catalyst used in the hydroarylation/aromatization of arene-diyne.
3. Highly-efficient and regio-selective catalyst for the selective carbonyl migration in alkynyl-substituted indole-3-carboxamides.
4. Intermolecular gold(I) catalyzed alkyne carboalkoxylation reactions for the multicomponent assembly of β -alkoxy ketones.
5. Gold(I)-catalyzed hydration of alkynylphosphonates: Efficient access to β -ketophosphonates.
6. Gold-catalyzed intramolecular hydroamination reaction.



Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (2)

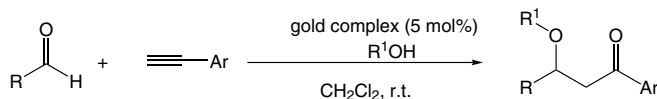


Tech. Note (3)
Ref. (3)

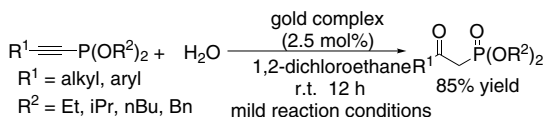
GOLD CATALYSTS (Compounds)

79-0230
(continued)

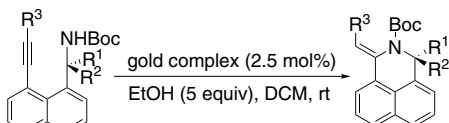
Bis(trifluoromethanesulfonyl)imide(2-dicyclohexylphosphino-2',6'-dimethoxy-1,1'-biphenyl)gold(I), 98% (1121960-90-4)



Tech. Note (4)
Ref. (4)



Tech. Note (5)
Ref. (5)



Tech. Note (6)
Ref. (6)

References:

1. *J. Org. Chem.*, **2009**, *74*, 2067
2. *Organometallics*, **2012**, *31*, 644
3. *Adv. Synth. Catal.*, **2012**, *354*, 1273
4. *Adv. Synth. Catal.*, **2012**, *354*, 3451.
5. *Eur. J. Org. Chem.*, **2014**, *2014*, 2668.
6. *Org. Lett.*, **2016**, *18*, 4722.

79-0350 Chlorocarbonylgold(I), min. 97% (50960-82-2)

Au(CO)Cl; FW: 260.43; off-white powdr.
air sensitive, moisture sensitive, (store cold)

250mg

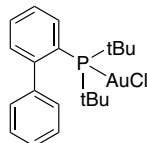
1g

79-0340 Chloro[2-(di-*t*-butylphosphino))-1,1'-biphenyl]gold(I), 99%

(854045-93-5)
 $C_{20}H_{27}AuClP$; FW: 530.82; white powdr.

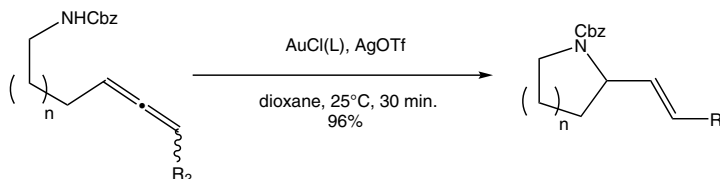
250mg

1g

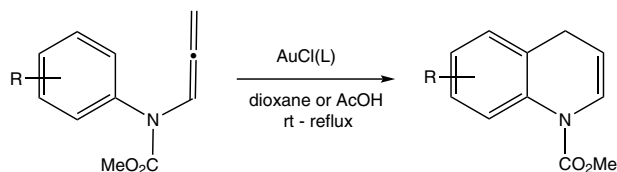


Technical Notes:

1. Highly active gold catalyst for the intramolecular exohydrofunctionalization of allenes.
2. Catalyst used for the hydroarylation of allenes.
3. Catalyst used for the intramolecular cyclization of monopropargyl triols.
4. Synthesis of pyrroles via a gold-catalyzed cascade reaction.
5. Gold-catalyzed carboalkoxylations of 2-ethynylbenzyl ethers.
6. Gold-catalyzed annulations of allenes with N-hydroxyanilines.
7. Gold-catalyzed 1,2-iminonitronation of electron-deficient alkynes with nitrosoarenes.
8. Gold-catalyzed used in the synthesis of dihydroisocoumarin.
9. Gold-catalyzed, dehydrative cyclizations in water at room temperature.
10. Tandem gold-catalyzed dehydrative cyclization/Diels-Alder reactions.



Tech. Note (1)
Ref. (1)

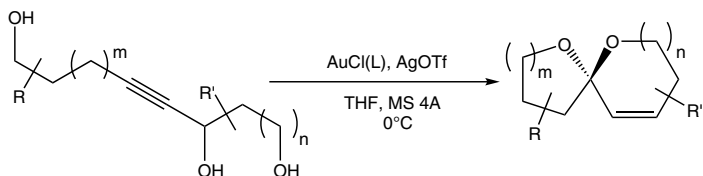


Tech. Note (2)
Ref. (2)

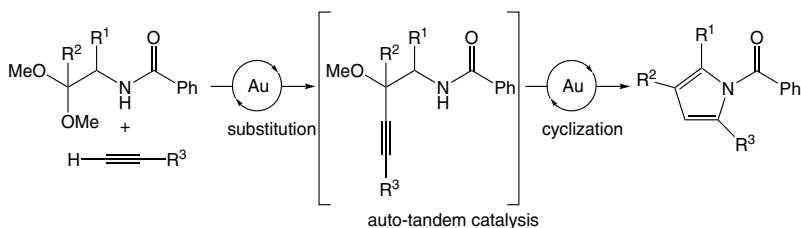
GOLD CATALYSTS (Compounds)

79-0340
(continued)

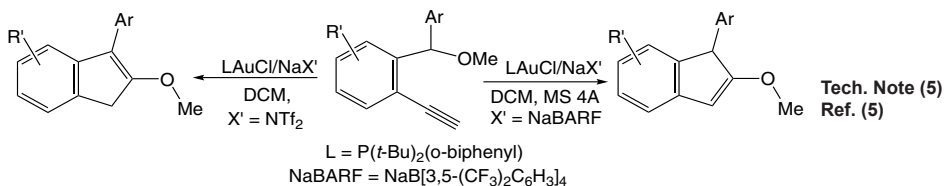
Chloro[2-(di-*t*-butylphosphino))-1,1'-biphenyl]gold(I), 99% (854045-93-5)



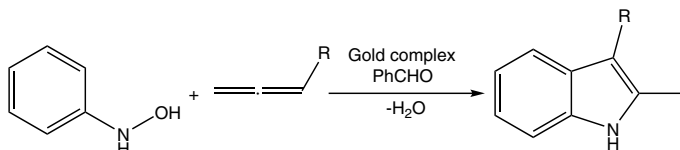
Tech. Note (3)
Ref. (3)



Tech. Note (4)
Ref. (4)



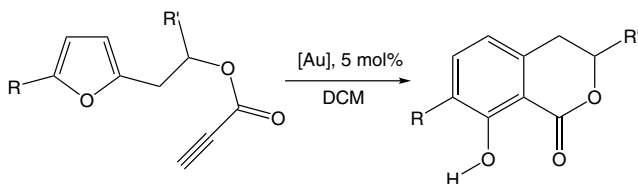
Tech. Note (5)
Ref. (5)



Tech. Note (6)
Ref. (6)



Tech. Note (7)
Ref. (7)

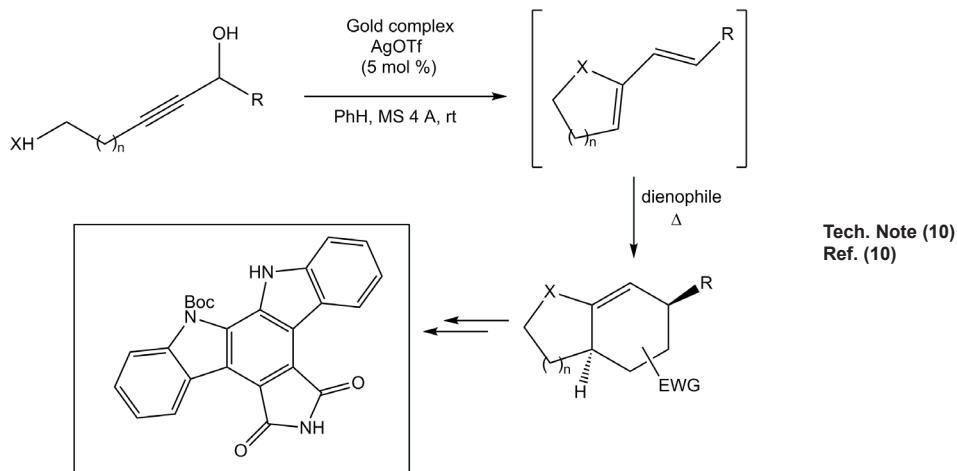
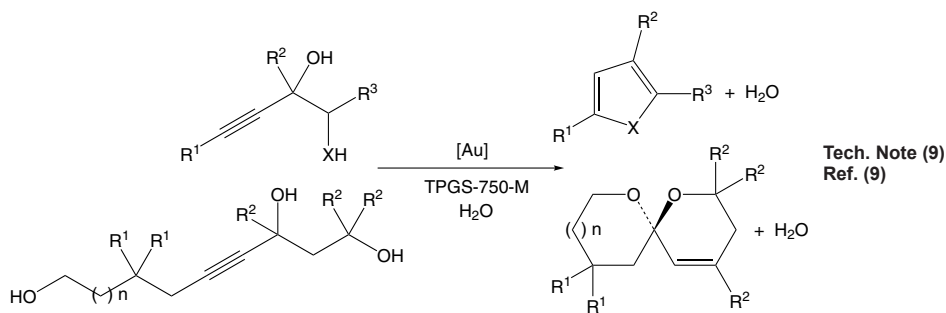


Tech. Note (8)
Ref. (8)

GOLD CATALYSTS (Compounds)

79-0340
(continued)

Chloro[2-(di-*t*-butylphosphino))-1,1'-biphenyl]gold(I), 99% (854045-93-5)



References:

1. *J. Am. Chem. Soc.*, **2006**, 128, 9066.
2. *Org. Lett.*, **2007**, 9, 4821.
3. *Org. Lett.*, **2009**, 11, 121.
4. *Org. Lett.*, **2014**, 16, 4948.
5. *Org. Biochem. Chem.*, **2014**, 12, 9831.
6. *Org. Biochem. Chem.*, **2014**, 12, 737.
7. *ChemCommun.*, **2014**, 50, 15864.
8. *Aust. J. Chem.*, **2014**, 67, 481.
9. *Org. Lett.*, **2014**, 16, 724.
10. *Org. Lett.*, **2015**, 17, 1754.

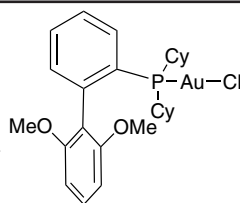
79-0225

Chloro(2-dicyclohexylphosphino-2',6'-dimethoxy-1,1'-biphenyl)gold(I), 98% (854045-95-7)
C₂₆H₃₅AuClO₂P; FW: 642.95; white powdr.

250mg
1g

Technical Notes:

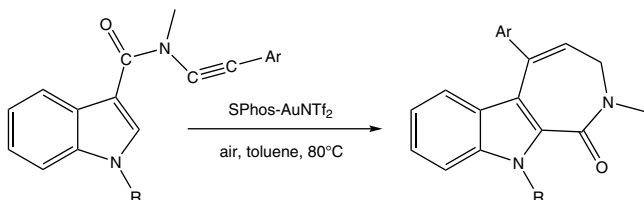
1. Highly-efficient and regio-selective catalyst for the selective carbonyl migration in alkynyl-substituted indole-3-carboxamides.
2. Catalyst used in the hydroarylation/aromatization of arene-diyne.
3. Catalyst used in the selective hydration of substituted alkynes at room temperatures.



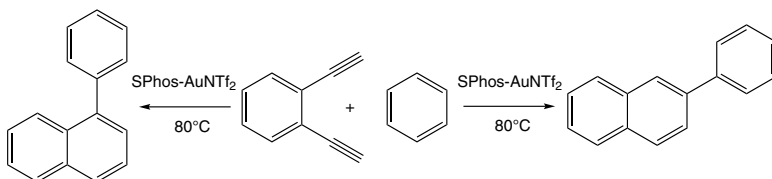
GOLD CATALYSTS (Compounds)

79-0225
(continued)

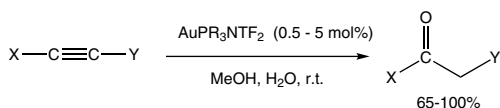
Chloro[2-(dicyclohexylphosphino)-2',6'-dimethoxy-1,1'-biphenyl]gold(I), 98% (854045-95-7)



Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (2)



Tech. Note (3)
Ref. (3)

References:

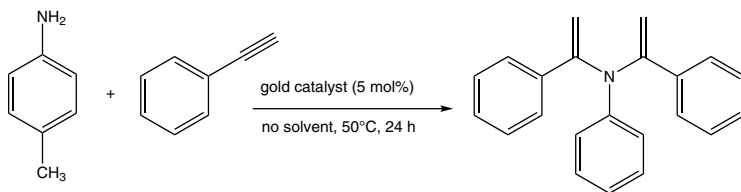
1. *Adv. Synth. Catal.*, **2012**, 354, 1273.
2. *Organometallics*, **2012**, 31, 644.
3. *J. Org. Chem.*, **2009**, 74, 2067.

79-0343 **Chloro[2-(dicyclohexylphosphino)-2'-(N,N-dimethylamino)-1,1'-biphenyl]gold(I), 98% (1196707-11-5)**
C₂₆H₃₆AuClNP; FW: 625.96; white pwdr.

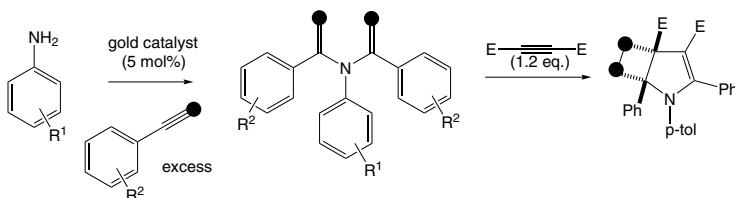
250mg
1g

Technical Notes:

1. Catalyst used in the formation of a bisenamines from toluidine and phenylacetylene.
2. Catalyst used for the intermolecular hydroamination of alkynes with amines.
3. Catalyst used in the synthesis of dihydroisocoumarins.



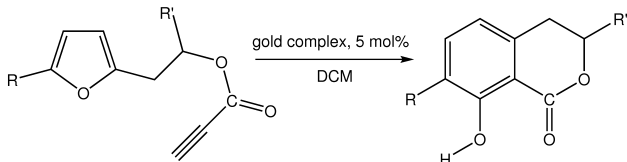
Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (1)

GOLD CATALYSTS (Compounds)

79-0343 **Chloro[2-(dicyclohexylphosphino)-2'-(N,N-dimethylamino))-1,1'-biphenyl]gold(I), 98%**
(continued) (1196707-11-5)



Tech. Note (3)
Ref. (2)

References:

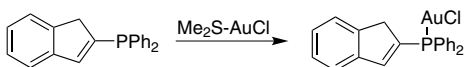
1. *J. Org. Chem.*, **2010**, 75, 7769.
2. *Aust. J. Chem.*, **2014**, 67, 481.

79-0345 **Chloro(dimethylsulfide)gold(I), min. 97% (29892-37-3)**
(CH₃)₂SAuCl; FW: 294.55; white to off-white solid
light sensitive, (store cold)

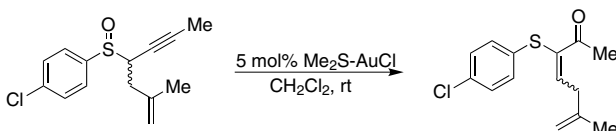
250mg
1g
5g

Technical Notes:

1. Gold(I) precursor to more advanced gold catalysts
2. Gold catalyst for the conversion of propargyl sulfoxides to α -thioenone



Tech. Note (1)
Ref. (1)

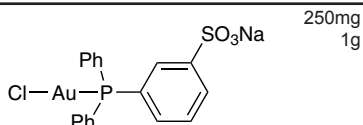


Tech. Note (2)
Ref. (2)

References:

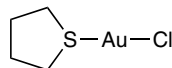
1. *Organometallics*, **2007**, 26, 1069
2. *J. Am. Chem. Soc.*, **2007**, 129, 4160

79-1100 **Chloro[diphenyl(3-sulfonatophenyl)phosphine] gold(I), sodium salt hydrate, min. 98%**
AuCl[(C₆H₅)₂P(C₆H₄SO₃Na)]·XH₂O; FW: 596.75;
white to off-white powdr.
light sensitive, (store cold)



250mg
1g

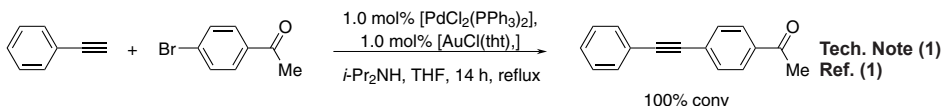
79-1122 **Chloro(tetrahydrothiophene)gold(I), min. 98%**
(39929-21-0)
(C₄H₈S)AuCl; FW: 320.59; white to off-white powdr.
air sensitive, heat sensitive, light sensitive, (store cold)



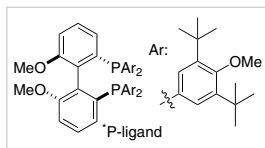
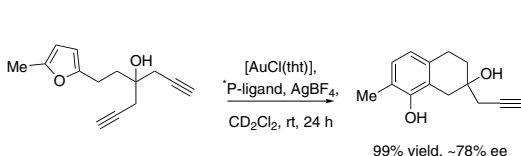
100mg
500mg

Technical Notes:

1. Employed as co-catalyst in Pd-catalyzed alkylation.
2. Au-catalyzed phenol synthesis.



Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (2)

References:

1. *Catalysis Today*, **2007**, 122, 403.
2. *Chem. Eur. J.*, **2009**, 15, 13318.

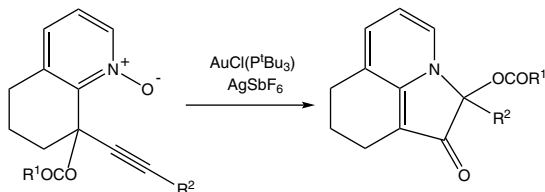
GOLD CATALYSTS (Compounds)

79-0740 Chlorotri-*t*-butylphosphinegold(I), 99% (69550-28-3)
 $\text{AuClP}(\text{C}_4\text{H}_9)_3$; FW: 434.74; white microxtl.

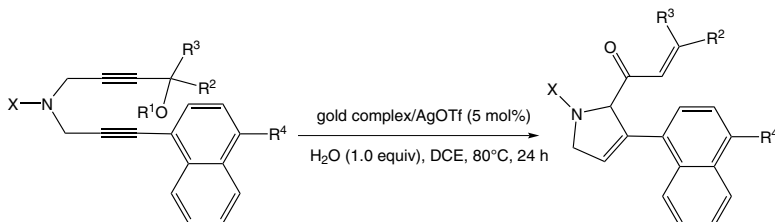
250mg
1g

Technical Notes:

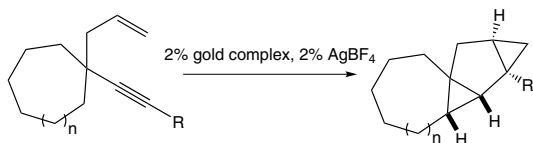
1. Catalyst used for cycloisomerization reactions of 2-(2-propynyl)pyridine N-oxides.
2. Catalyst used for the cycloisomerization of 1,6-diynes.
3. Catalyst used for cycloisomerizations terminated by sp^3 C-H bond insertion
4. Synthesis of aromatic ketones by a transition metal-catalyzed tandem sequence.



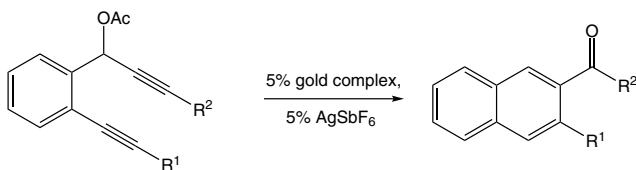
Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (2)



Tech. Note (3)
Ref. (3)



Tech. Note (4)
Ref. (4)

References:

1. *Chem. Commun.*, **2012**, 48, 7622.
2. *Angew. Chem., Int. Ed.*, **2011**, 50, 2583.
3. *J. Am. Chem. Soc.*, **2009**, 131, 2809.
4. *J. Am. Chem. Soc.*, **2006**, 128, 7436.

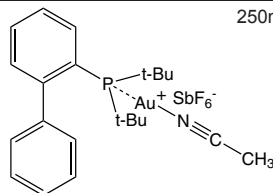
79-0750	Chlorotriethylphosphinegold(I), 99% (15529-90-5)	250mg
HAZ	$\text{AuClP}(\text{C}_2\text{H}_5)_3$; FW: 350.57; white to pink xtl.; m.p. 85-87°	1g
		5g
79-0850	Chlorotrimethylphosphinegold(I), min. 98% (15278-97-4)	100mg
	$\text{AuClP}(\text{CH}_3)_3$; FW: 308.49; white xtl.; m.p. 225-228°	500mg
		2g
79-1000	Chlorotriphenylphosphinegold(I), 98+% (99.9+%-Au) (14243-64-2)	250mg
	$\text{AuClP}(\text{C}_6\text{H}_5)_3$; FW: 494.71; white xtl.	1g
		5g

GOLD CATALYSTS (Compounds)

79-0352

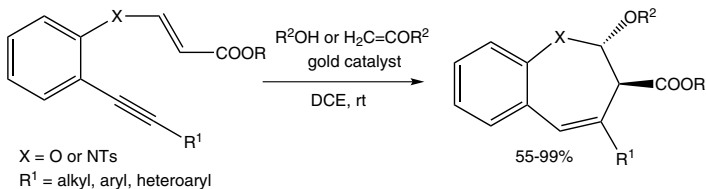
2-(Di-*t*-butylphosphino))-1,1'-biphenyl(acetonitrile) gold(I) hexafluoroantimonate, 99% (866641-66-9)
 $C_{22}H_{30}F_6AuNPSb$; FW: 772.17; white to off-white powdr.
air sensitive, moisture sensitive

250mg
1g

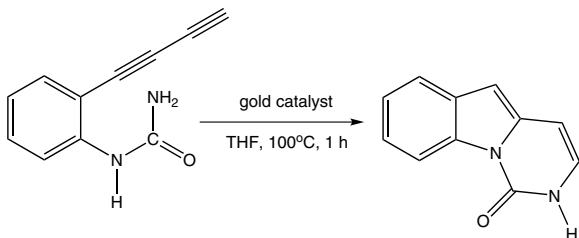


Technical Notes:

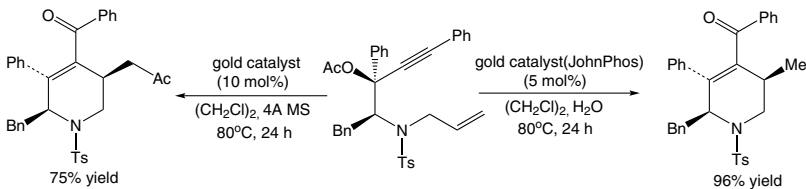
1. Gold catalyst used in the regio- and stereoselective synthesis of functionalized benzo[b]oxepines.
2. Gold catalyst used in the cyclization reactions of *o*-(buta-1,3-dien-1-yl)-substituted *N*-aryl ureas.
3. Gold catalyst used in the cycloisomerization of 1,7-enyne esters to structurally diverse cis-tetrahydropyridin-4-yl ketones.
4. Catalyst used in the synthesis of coumarin-containing natural products.
5. Catalyst used in the synthesis of benzo[4,5]imidazo[1,2-*a*]quinazolinones.



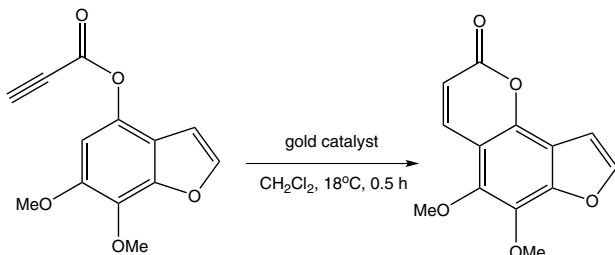
Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (2)



Tech. Note (3)
Ref. (3)



Tech. Note (4)
Ref. (4)

GOLD CATALYSTS (Compounds)

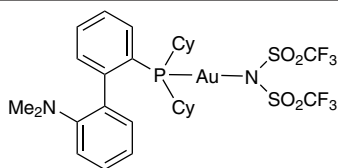
79-0352 **2-(Di-*t*-butylphosphino))-1,1'-biphenyl(acetonitrile)gold(I) hexafluoroantimonate, 99%**
(continued) (866641-66-9)



References:

1. *Org. Lett.*, **2012**, 14, 4742
2. *Org. Lett.*, **2013**, 15, 2616
3. *J. Org. Chem.*, **2013**, 78, 3183
4. *J. Org. Chem.*, **2013**, 78, 9876
5. *J. Org. Chem.*, **2013**, 78, 4312

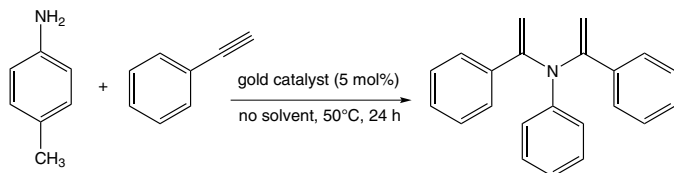
79-0348 **[2-(Dicyclohexylphosphino)-2'-(*N,N*-dimethylamino))-1,1'-biphenyl] [bis(trifluoromethyl) sulfonylimido] gold(I), 98%** (1188507-66-5)
 $C_{28}H_{36}AuF_6N_2O_4PS_2$; FW: 870.66; yellow powdr.



250mg
1g

Technical Note:

1. Catalyst used in the formation of a bisenamine from toluidine and phenylacetylene.



Tech. Note (1)
Ref. (1)

References:

1. *J. Org. Chem.*, **2010**, 75, 7769

93-7905 HAZ	Gold(III) bromide, anhydrous, 99% (99.9%-Au) (10294-28-7) AuBr ₃ ; FW: 436.69; orange to brown powdr. <i>moisture sensitive</i>	1g 5g
79-1900	Gold(I) chloride, 97% (99.99%-Au) PURATREM (10294-29-8) AuCl; FW: 232.42; yellow powdr.; m.p. 289° dec.; d. 7.4	250mg 1g 5g
93-7907	Gold(III) chloride, 99% (99.9%-Au) (13453-07-1) AuCl ₃ ; FW: 303.33; red-brown solid; m.p. 254° dec. <i>light sensitive, moisture sensitive</i>	250mg 1g 5g
79-2000	Gold(I) iodide, 99% (99.9%-Au) (10294-31-2) AuI; FW: 323.87; yellowish-green powdr.; m.p. 120° dec.; d. 8.25 (store cold)	1g 5g
93-7903	Gold(III) oxide, 99% (1303-58-8) Au ₂ O ₃ ; FW: 441.93; orange to brown powdr.; m.p. 150° (dec.)	1g 5g
79-2150 HAZ	Hydrogen tetrabromoauroate(III) hydrate (99.9%-Au) (17083-68-0) HAuBr ₄ ·XH ₂ O; FW: 517.61; black xtl. <i>moisture sensitive</i>	1g 5g
79-0500 HAZ	Hydrogen tetrachloroaurate (III) hydrate (99.8%-Au) (min. 49% Au) (Chloroauric acid) (27988-77-8) HAuCl ₄ ·XH ₂ O; FW: 339.79; yellow to orange xtl. <i>light sensitive, hygroscopic, (store cold)</i>	1g 5g 25g
79-2200 HAZ	Hydrogen tetrachloroaurate(III) hydrate (99.9985%-Au) (49% Au) PURATREM (27988-77-8) HAuCl ₄ ·XH ₂ O; FW: 339.79; yellow to orange xtl. <i>light sensitive, hygroscopic, (store cold)</i>	1g 5g

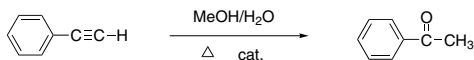
GOLD CATALYSTS (Compounds)

79-5000 **Methyl(triphenylphosphine)gold(I), 99% (23108-72-7)**
 $\text{Au}(\text{CH}_3)_2\text{P}(\text{C}_6\text{H}_5)_3$; FW: 474.29; white xtl.; m.p. ~150° (dec.)

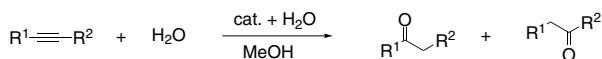
250mg
1g

Technical Notes:

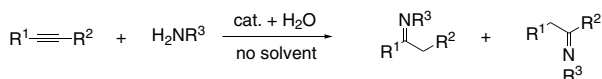
1. Catalyst used for the addition of water to alkynes.
2. Highly efficient catalyst for the intermolecular hydroamination of alkynes.
3. Relay catalysis using a gold(I) complex/ Bronsted acid binary system for the synthesis of benzoxasiloles.
4. Gold(I) catalyzed intermolecular hydroarylation of alkenes with indoles.



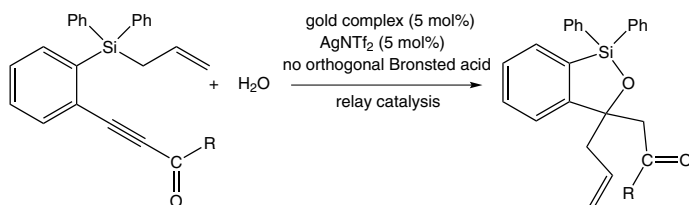
Tech. Note (1)
Ref. (1)



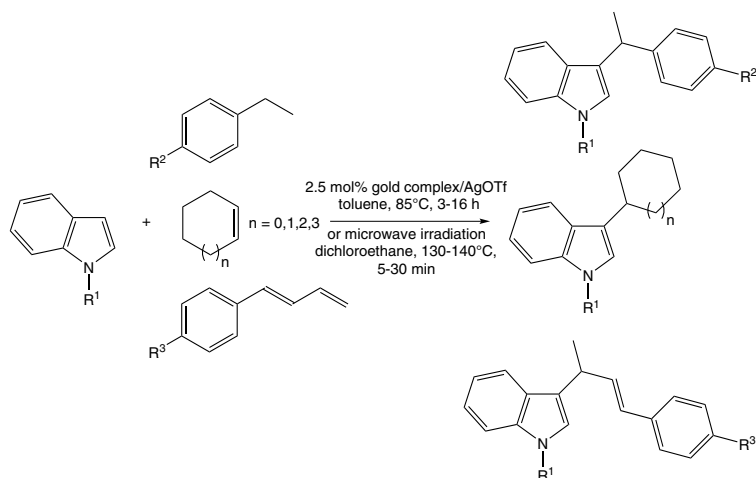
Tech. Note (1)
Ref. (2)



Tech. Note (2)
Ref. (3)



Tech. Note (3)
Ref. (4)



Tech. Note (4)
Ref. (5)

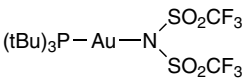
References:

1. *J. Am. Chem. Soc.*, **2003**, 125, 11925.
2. *Angew. Chem. Int. Ed.*, **2002**, 41, 4563.
3. *Org. Lett.*, **2003**, 5, 3349.
4. *RCS Adv.*, **2014**, 4, 6215.
5. *Chem. Eur. J.*, **2008**, 14, 8353.

79-3000 **Potassium dicyanoaurate(I), 99% (13967-50-5)**
HAZ $\text{KAu}(\text{CN})_2$; FW: 288.10; white powdr.

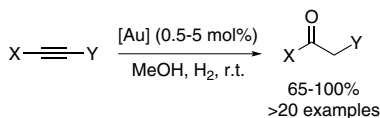
250mg
1g
5g

GOLD CATALYSTS (Compounds)

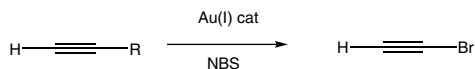
79-3250	Potassium tetrabromoaurate(III) dihydrate, 99% (14323-32-1) KAuBr ₄ ·2H ₂ O; FW: 555.71 (591.74); reddish-brown xtl.	1g 5g
93-7906	Potassium tetrachloroaurate(III) hydrate (99.99%-Au) (51%-Au) PURATREM (13682-61-6) KAuCl ₄ ·XH ₂ O; FW: 377.88; yellow to orange xtl.	1g 5g
79-3505	Sodium tetrabromoaurate(III) hydrate (99.9+%-Au) (52495-41-7) NaAuBr ₄ ·XH ₂ O; FW: 539.59; red to black xtl.	1g 5g
79-0355	Tri-<i>t</i>-butylphosphine[bis(trifluoromethyl)sulfonylimido]gold(I), 98% (1121960-93-7) C ₁₄ H ₂₇ AuF ₆ NO ₄ PS ₂ ; FW: 679.43; white solid	 100mg 500mg

Technical Notes:

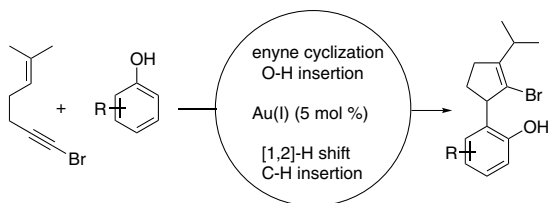
1. Catalyst used for the selective hydration of substituted alkynes at room temperature without acidic promoters.
2. Gold(I) catalyzes bromination of terminal alkynes.
3. Sequential O-H/C-H bond insertion of phenols initiated by the gold(I)-catalyzed cyclization of 1-bromo-1,5-enynes.
4. Ligand-controlled gold-catalyzed cycloisomerization of 1, *n*-enynne esters toward synthesis of dihydronaphthalene.



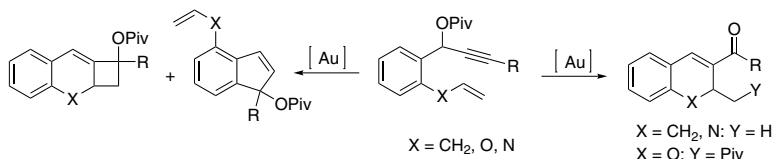
Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (2)



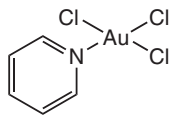
Tech. Note (3)
Ref. (3)



Tech. Note (4)
Ref. (4)

References:

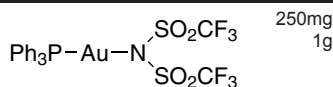
1. *J. Org. Chem.*, **2009**, 74, 2067
2. *ACS Catalysis*, **2011**, 1, 601.
3. *Org. Letts.*, **2015**, 17, 1982.
4. *Chem. Commun.*, **2016**, 52, 7687.

79-3590	Trichloropyridinegold(III), min. 97% (14911-01-4) (C ₅ H ₅ N)AuCl ₃ ; FW: 382.43; pale yellow powdr. <i>light sensitive</i>	 250mg 1g
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GOLD CATALYSTS (Compounds)

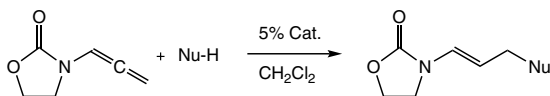
79-3615

**Triphenylphosphinegold(I)
bis(trifluoromethanesulfonyl)imidate, min. 98%**
(866395-16-6)
[(C₆H₅)₃PAu]⁺[N(CF₃SO₂)₂]⁻; FW: 739.4;
white to off-white powdr.
air sensitive, light sensitive, (store cold)

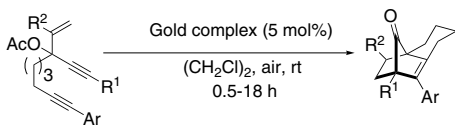


Technical Notes:

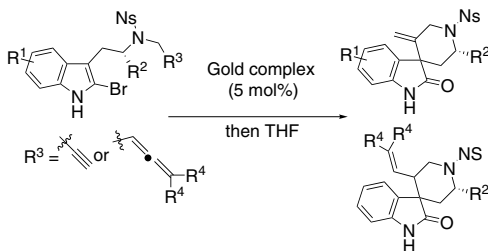
1. Catalyst promoting the addition of nucleophiles to alleneamides.
2. Gold- and Bronsted acid-catalyzed cycloisomerization of 1,8-diynyl vinyl acetates to bicycle[2.2.1]hept-2-en-7-ones.
3. Catalyst used for the synthesis of spiro[piperidine-3,3'-oxindoles].
4. Catalyst used in the gold(I)-catalyzed Rautenstrauch rearrangement.
5. Gold-catalyzed π -directed regioselective cyclization of bis(o-alkynyl benzyl alcohols): rapid excess to dihydroisobenzofuran derivatives.
6. Gold compound used in acid-catalyzed cycloisomerization – synthesis of diverse nitrogen-containing spiro heterocycles.
7. Gold catalyst used in the domino synthesis of functionalized benzofurans and tetracyclic isochromans via formal carboalkoxylation.



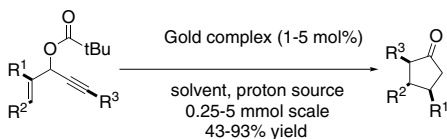
Tech. Note (1)
Ref. (1)



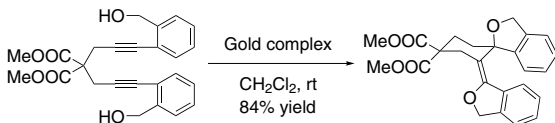
Tech. Note (2)
Ref. (2)



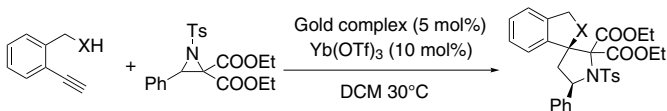
Tech. Note (3)
Ref. (3)



Tech. Note (4)
Ref. (4)



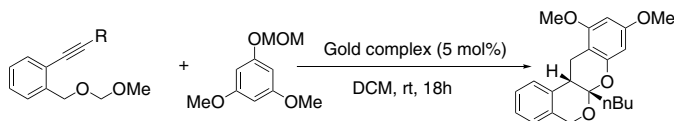
Tech. Note (5)
Ref. (5)



Tech. Note (6)
Ref. (6)

GOLD CATALYSTS (Compounds)

79-3615 Triphenylphosphinegold(I) bis(trifluoromethanesulfonyl)imidate, min. 98% (866395-16-6)
(continued)



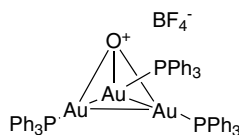
Tech. Note (7)
Ref. (7)

References:

1. *J. Org. Chem.*, **2010**, 75, 5406.
2. *Org. Lett.*, **2016**, 18, 5936.
3. *Adv. Synth. Catal.*, **2016**, 358, 3355.
4. *Org. Lett.*, **2016**, 18, 5058.
5. *New J. Chem.*, **2016**, 40, 8211.
6. *Org. Lett.*, **2016**, 18, 4614.
7. *Org. Lett.*, **2016**, 18, 4136.

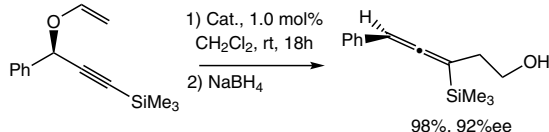
79-3600 Tris[triphenylphosphinegold(I)]oxonium tetrafluoroborate, 98% (53317-87-6)
[(C₆H₅)₃PAu]₃O⁺BF₄⁻; FW: 1480.56; off-white powdr.;
m.p. 207° dec.
air sensitive

250mg
1g

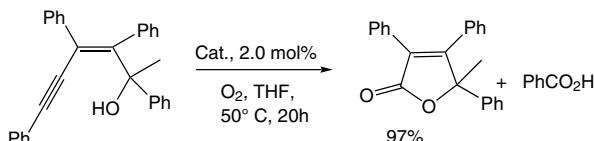


Technical Notes:

1. Catalyst for the Claisen Rearrangement of propargyl vinyl ethers.
2. Catalyst for the oxidative cleavage of a Carbon-Carbon triple bond in (Z)-Enynols and cyclization.



Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (2)

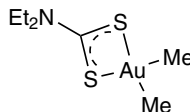
References:

1. *J. Am. Chem. Soc.*, **2004**, 126, 15978.
2. *J. Am. Chem. Soc.*, **2006**, 128, 11332.

GOLD MOCVD/ALD PRECURSORS (Compounds)

79-1700 (N,N-Diethyldithiocarbamate)dimethylgold(III), 97%
NEW (99.999%-Au) PURATREM (93166-53-1)
(CH₃)₂Au(S₂CN(C₂H₅)₂); FW: 375.30; yellow xtl.;
m.p. 40-44

250mg
1g



Technical Note:

1. Volatile, air, light and thermally stable precursor used in the atomic layer deposition and chemical vapor deposition of Gold thin films.

References:

1. *Chem. Mater.*, **2017**, 29 (14), 6130
2. *Journal of Crystal Growth* **2015**, 414, 143
3. *Physics Procedia* **2013**, 46, 167
4. *Gold Bulletin (Berlin, Germany)* **2011**, 44(3), 177

GOLD MOCVD/ALD PRECURSORS (Compounds)

79-1500	Dimethyl(acetylacetonate)gold(III), 98% (99.9%-Au) (14951-50-9)	500mg
	(CH ₃) ₂ (C ₅ H ₇ O ₂)Au; FW: 326.60; white to off-white xtl.; m.p. 81-82°; b.p. subl. ~25°/0.01mm (store cold)79-0300	2g

Technical Notes:

1. Highly volatile gold source for MOCVD applications. Must ship overnight in dry ice.
2. Precursor for synthesis of gold nanoparticles. Au/ZrO₂ and Au/Al₂O₃ prepared in this way were extremely efficient catalysts for the aerobic oxidation of glucose.¹

References:

1. *Angew. Chem. Int. Ed.*, **2008**, 47, 9265

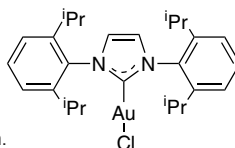
79-1600	Dimethyl(trifluoroacetylacetonate)gold(III), 98% (99.9%-Au) (63470-53-1)	500mg
HAZ	(CH ₃) ₂ Au(CF ₃ COCHCOCH ₃); FW: 380.12; white to off-white xtl. <i>air sensitive, heat sensitive, light sensitive, (store cold)</i>	2g

Technical Note:

1. Highly volatile gold source for MOCVD applications. Must ship overnight in dry ice.

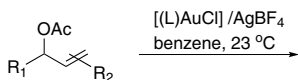
GOLD NHC CATALYSTS (Compounds)

79-0200	1,3-Bis(2,6-di-isopropylphenyl)imidazol-2-ylidenegold(I) chloride, 95% (852445-83-1)	250mg
	C ₂₇ H ₃₈ AuClN ₂ ; FW: 621.01; white powdr. (store cold)	1g

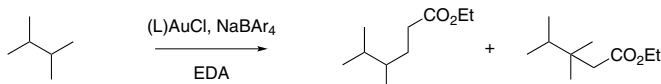


Technical Notes:

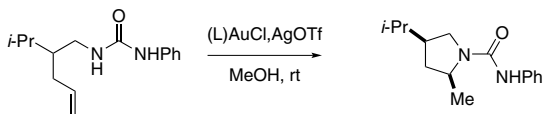
1. Catalyst used for rearrangement of allylic acetates.
2. Catalyst used for alkane carbon-hydrogen bond functionalization.
3. Catalyst used for room temperature hydroamination of N-alkenyl ureas.
4. Catalyst used for hydration of alkynes.



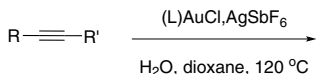
Tech. Note (1)
Ref. (1,2)



Tech. Note (2)
Ref. (3)



Tech. Note (3)
Ref. (4)



Tech. Note (4)
Ref. (5)

References:

1. *Org. Lett.*, **2007**, 9, 2653
2. *Org. Lett.*, **2008**, 10, 1037
3. *Organometallics*, **2006**, 25, 2237
4. *Org. Lett.*, **2006**, 8, 5303
5. *J. Am. Chem. Soc.*, **2009**, 131, 448

GOLD NHC CATALYSTS (Compounds)

79-0300

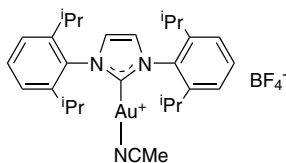
1,3-Bis(2,6-di-*i*-propylphenyl)imidazol-2-ylidene(acetonitrile)gold(I) tetrafluoroborate, 95%
(896733-61-2)

$C_{29}H_{39}AuBF_4N_3$; FW: 713.41; white solid

air sensitive

Note: US Patent 7,767,841.

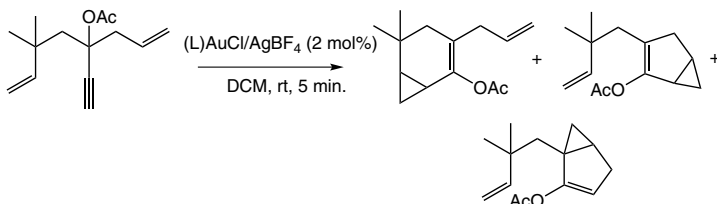
Limited quantities available



100mg
500mg

Technical Note:

1. Gold(I) catalyst for the cycloisomerization of 1,5-enynes bearing a propargylic acetate.



Tech. Note (1)
Ref. (1)

References:

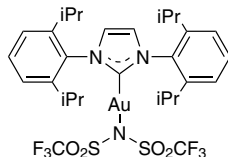
1. *Chem. Commun.*, **2006**, 2048
2. *US Patent 7,767,841*

79-0245

[1,3-Bis(2,6-di-*i*-propylphenyl)imidazol-2-ylidene] [bis(trifluoromethanesulfonyl)imide]gold(I), min. 95%
(951776-24-2)

$C_{29}H_{39}AuF_6N_3O_4S_2$; FW: 865.7; white to pale yellow solid

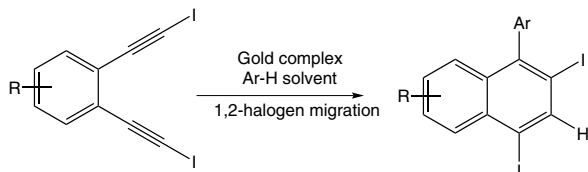
air sensitive



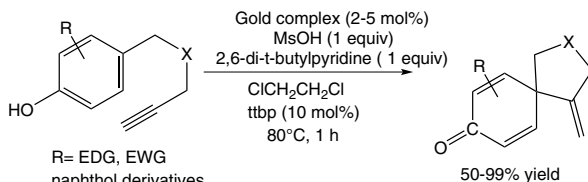
100mg
500mg

Technical Notes:

1. Gold catalyst used for the hydroarylation cyclization of 1,2-bis(2-iodoethynyl)benzenes.
2. Gold catalyst used for the carbocyclization of phenols with a terminal alkyne.
3. Intermolecular C-H activation through the gold(I)-catalyzed reaction of iodoalkynes.
4. Reaction of ynamide with benzyl azides.

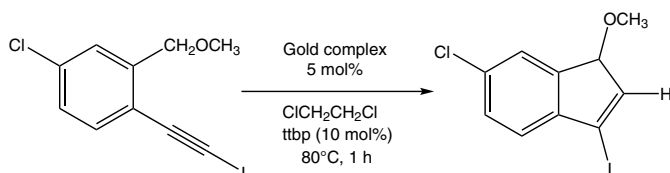


Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (2)

R = EDG, EWG
naphthol derivatives
X = C(COOMe)₂, NTs,
biphenyl derivatives

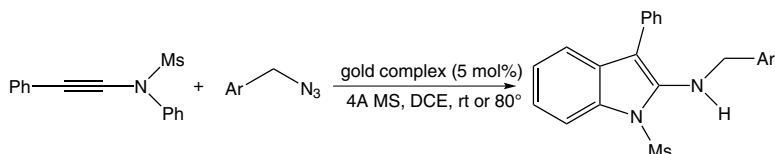


Tech. Note (3)
Ref. (3)

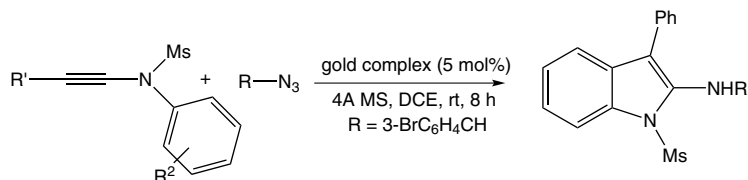
GOLD NHC CATALYSTS (Compounds)

79-0245
(continued)

[1,3-Bis(2,6-di-*i*-propylphenyl)imidazol-2-ylidene][bis(trifluoromethanesulfonyl)imide]
gold(I), min. 95% (951776-24-2)



Tech. Note (4)
Ref. (4)



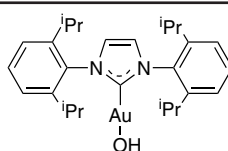
Tech. Note (4)
Ref. (4)

References:

1. *Adv. Synth. Catal.*, **2015**, 357, 500.
2. *Adv. Synth. Catal.*, **2014**, 356, 2417.
3. *Angew. Chem. Int. Ed.*, **2015**, 54, 3052.
4. *J. Am. Chem. Soc.*, **2015**, 137, 9567.

79-0205

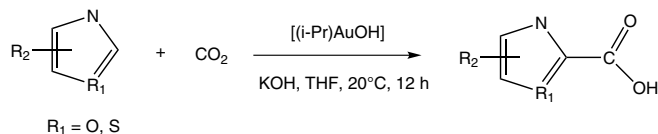
1,3-Bis(2,6-di-*i*-propylphenyl)imidazol-2-ylidene-gold(I) hydroxide, min. 97% (1240328-73-7)
C₂₇H₃₇AuN₂O; FW: 602.56; white microxtl.



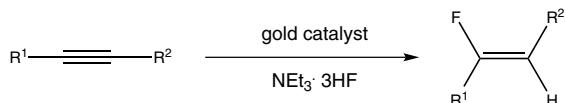
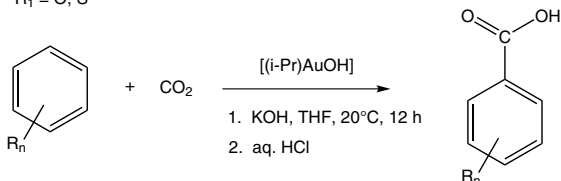
100mg
500mg

Technical Notes:

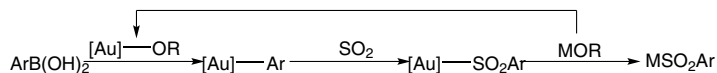
1. Catalyst used for the carboxylation of C-H bonds.
2. Catalyst used for the hydrofluorination of alkynes.
3. Gold-catalyzed synthesis of sulfinate derivatives.
4. Effective catalyst for the carboxylation/cyclization of propargylamines with carbon dioxide.
5. Catalyst used for the polymerization of racemic β -butyrolactones.
6. Catalyst used for the intermolecular mono and dihydroamination of activated alkenes.



Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (2)



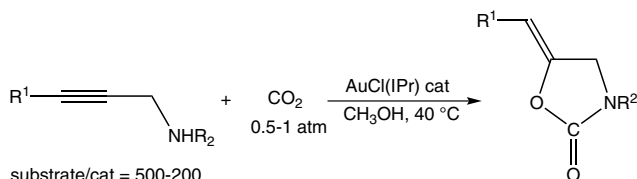
Tech. Note (3)
Ref. (3)

GOLD NHC CATALYSTS (Compounds)

79-0205

1,3-Bis(2,6-di-*i*-propylphenyl)imidazol-2-ylidenegold(I) hydroxide, min. 97% (1240328-73-7)

(continued)



16-91% yield

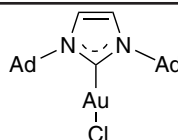
Tech. Note (4)
Ref. (4)

References:

1. *J. Am. Chem. Soc.*, **2010**, 132, 8858
2. *ChemCatChem.*, **2015**, 7, 240
3. *Angew. Chem. Int. Ed.*, **2014**, 53, 4404
4. *Organometallics*, **2013**, 32, 5285
5. *Organometallics*, **2011**, 30, 2650
6. *Eur. J. Org. Chem.*, **2012**, 2012, 6218

79-1225

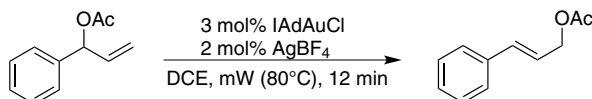
Chloro[1,3-bis(adamantyl)2H-imidazol-2-ylidene]gold(I), 98% (852445-88-6)
C₂₃H₃₂AuClN₂; FW: 568.93; white to light-gray powdr.
air sensitive



100mg
500mg

Technical Note:

1. Catalyst for the rearrangement of allylic acetates



Tech. Note (1)
Ref. (1)

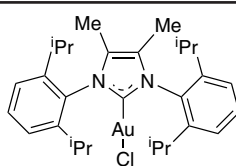
References:

1. *Org. Lett.*, **2007**, 9, 2653

79-1230

NEW

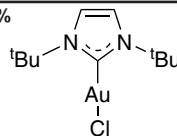
Chloro{1,3-bis[2,6-bis(1-methylethyl)phenyl]-1,3-dihydro-4,5-dimethyl-2H-imidazol-2-ylidene}gold(I), 98% IPrMeAuCl (1192141-66-4)
C₂₉H₄₀AuClN₂; FW: 649.0; white powdr.
air sensitive



100mg
500mg

79-1215

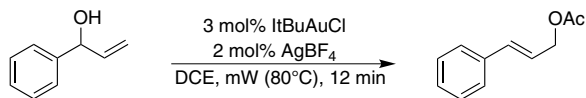
Chloro[1,3-bis(*t*-butyl)-2H-imidazol-2-ylidene]gold(I), 98% (839722-07-5)
C₁₁H₂₀AuClN₂; FW: 412.71; white powdr.
air sensitive



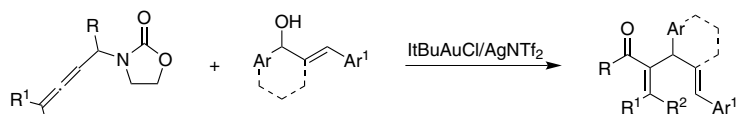
100mg
500mg

Technical Notes:

1. Catalyst for the rearrangement of allylic acetates
2. Catalyst for the α -allylation of enals and enones with alcohols



Tech. Note (1)
Ref. (1)



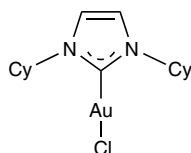
Tech. Note (2)
Ref. (2)

References:

1. *Org. Lett.*, **2007**, 9, 2653
2. *Angew. Chem. Int. Ed.*, **2015**, 54, 14885

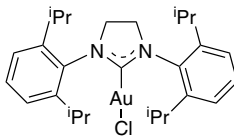
GOLD NHC CATALYSTS (Compounds)

79-1220 Chloro[1,3-bis(cyclohexyl)2H-imidazol-2-ylidene]gold(I), 98% (852445-87-5)
 $C_{15}H_{24}AuClN_2$; FW: 464.78; white to light-gray powdr.
air sensitive



100mg
500mg

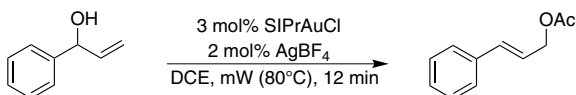
79-1210 Chloro{1,3-bis[2,6-di-*i*-propylphenyl]-4,5-dihydroimidazol-2-ylidene}gold(I), 98% SiPrAuCl (852445-84-2)
 $C_{27}H_{38}AuClN_2$; FW: 623.02; white powdr.
air sensitive



100mg
500mg

Technical Note:

1. Catalyst for the rearrangement of allylic acetates

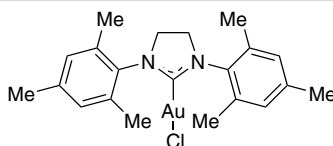


Tech. Note (1)
Ref. (1)

References:

1. *Org. Lett.*, **2007**, 9, 2653

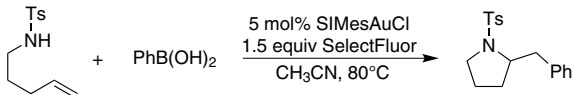
79-1205 Chloro[1,3-bis(2,4,6-trimethylphenyl)-4,5-dihydroimidazol-2-ylidene]gold(I), 98% (852445-82-0)
 $C_{21}H_{26}AuClN_2$; FW: 538.86; white powdr.
air sensitive



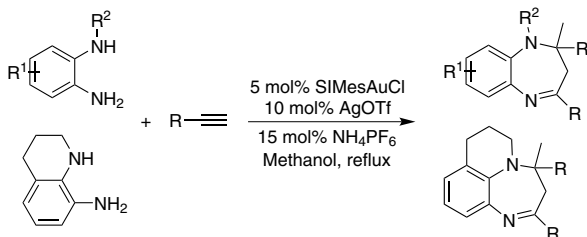
100mg
500mg

Technical Notes:

1. Catalyst for the carboheterofunctionalization of alkenes with arylboronic acids
2. Catalyst for the synthesis of 1-substituted benzo[b][1,4]diazepines



Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (2)

References:

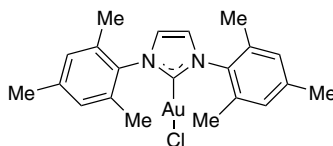
1. *Tetrahedron*, **2013**, 69, 10375
2. *J. Organomet. Chem.*, **2014**, 751, 438

GOLD NHC CATALYSTS (Compounds)

79-1200

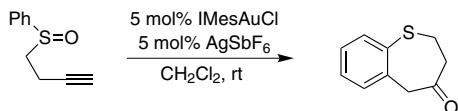
Chloro[1,3-bis(2,4,6-trimethylphenyl)2H-imidazol-2-ylidene]gold(I), 98% (852445-81-9)
 $C_{21}H_{24}AuClN_2$; FW: 536.85; white powdr.
air sensitive

100mg
500mg

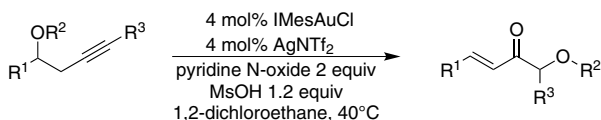


Technical Notes:

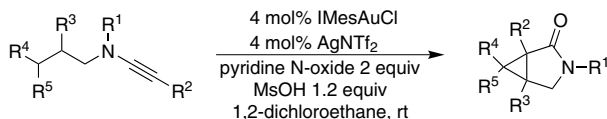
1. Catalyst for the rearrangement of alkynyl sulfoxides to benzothiepinones
2. Catalyst for the rearrangement of homopropargylic ethers to α,β -unsaturated carbonyl compounds.
3. Catalyst for oxidative cyclopropanation of N-Allylynamides to 3-aza-bicyclo[3.1.0]-hexan-2-one derivatives
4. Catalyst for oxidative rearrangement of homopropargylic ethers to cyclobutanones



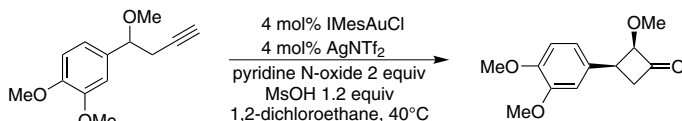
Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (2)



Tech. Note (3)
Ref. (3)



Tech. Note (4)
Ref. (4)

References:

1. *J. Am. Chem. Soc.*, **2007**, 129, 4160
2. *Org. Lett.*, **2012**, 14, 4902
3. *Org. Lett.*, **2013**, 15, 2374
4. *Adv. Synth. Catal.*, **2013**, 355, 2488

GOLD NANOMATERIALS (Elemental Forms)

Gold AUROLite™ - Heterogeneous Catalysts

Note: Sold in collaboration with Project AuTEK for research purposes. Reverse engineering and product modification prohibited. Only open before use, store cold in dark. See web for more details.

79-0160	Gold 1% on aluminum oxide extrudates (AUROLite™ Au/Al₂O₃) (7440-57-5)	10g
	dark purple extrudates ~1.2mm dia. x 5mm (avg)	50g
	(store cold)	

Analysis: Au 1 wt% ± 0.1%; Al₂O₃ 98 wt%; Na+, Cl- <1500ppm

Bulk density: 0.6–0.8 g/ml

Technical Note:

1. Useful product for the catalytic oxidation of a variety of substrates including carbon monoxide, aldehydes, alkenes, methane and ethanol. Average gold crystallite size is ~2-3nm.

References:

1. *J. Catal.*, **2007**, 252, 119
2. *J. Catal.*, **2008**, 260, 86
3. *Green Chem.*, **2008**, 10, 168
4. *Gold Bulletin*, **2008**, 41, 296
5. *Appl. Catal. B.*, **2013**, 132, 195
6. *Chem. Rev.*, **2012**, 112, 4469

79-0165	Gold 1% on titanium dioxide extrudates (AUROLite™ Au/TiO₂) (7440-57-5)	10g
	dark purple/gray extrudates 1.5mm dia. x 5mm (avg)	50g
	(store cold)	

Analysis: Au 1 wt% ± 0.1%; TiO₂ 98 wt%; Na+, Cl- <1500ppm

Bulk density: 0.85–0.95 g/ml

Technical Note:

1. Useful product for the catalytic oxidation of a variety of substrates including carbon monoxide, aldehydes, alkenes, methane and ethanol. Average gold crystallite size is ~2-3nm.

References:

1. *J. Catal.*, **2007**, 252, 119
2. *J. Catal.*, **2008**, 260, 86
3. *Green Chem.*, **2008**, 10, 168
4. *Gold Bulletin*, **2008**, 41, 296
5. *Appl. Catal. B.*, **2013**, 132, 195
6. *Chem. Rev.*, **2012**, 112, 4469

79-0170	Gold 1% on zinc oxide granulate (AUROLite™ Au/ZnO) (7440-57-5)	10g
	dark purple granulate 1-2mm dia.	50g
	(store cold)	
	Note: PCT WO2005115612.	

Analysis: Au 1 wt% ± 0.1%; ZnO 88 wt% (contains Al₂O₃); Na+, Cl- <1500ppm

Bulk density: 1-1.2 g/ml

Technical Note:

1. Useful product for the catalytic oxidation of a variety of substrates including carbon monoxide, aldehydes, alkenes, methane and ethanol. Average gold crystallite size is ~2-3nm.

References:

1. *J. Catal.*, **2007**, 252, 119
2. *J. Catal.*, **2008**, 260, 86
3. *Green Chem.*, **2008**, 10, 168
4. *Gold Bulletin*, **2008**, 41, 296
5. *Appl. Catal. B.*, **2013**, 132, 195
6. *Chem. Rev.*, **2012**, 112, 4469

GOLD NANOMATERIALS (Elemental Forms)

Gold Colloid

79-0080	Gold/tetra-n-octylammonium chloride colloid (7440-57-5) Au/(C ₈ H ₁₇) ₄ NCl; 2.6 nm ±1.1 nm; brown-orange soli (store cold) Note: Made to order. Long term shelf life not established.	250mg 1g
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Technical Note:

1. Soluble in toluene. Precursor for CO-oxidation catalysts.

Gold Nanochain

79-0134	Gold Nanochain [AuNP-Chain: 1-2 µm (Gum Arabic)] (7440-57-5) maroon-red liq. (store cold)	25ml
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Properties: Water soluble, stable at pH 7.0; **Chain length:**1-2 µm; **Shape:** Chain; **UV-Vis (nm):**760 nm;

Stability: Stable for 90 days; Size: 7 ±3nm

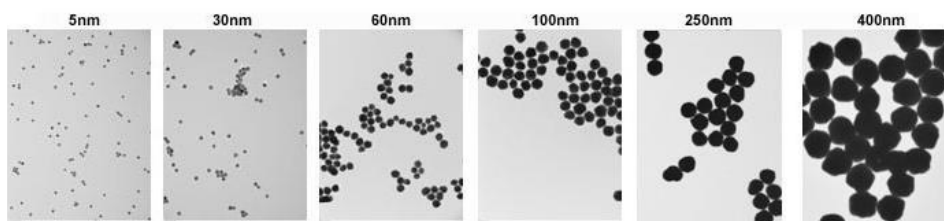
Ordering Specifications: Minimum 2 weeks required to process the order.

Supplied in aqueous solutions. Contains gum arabic stabilizer. Suitable for spin coating, self-assembly and monolayer formation. Sensor design, nanoelectronics and MEMS applications.

Gold Nanoparticles - Stabilizing Surfactant (1 OD, supplied in 0.1mM stabilizing surfactant)

Store away from direct sunlight at 4°C. Do not freeze. Shelf life 6 months.

light sensitive, (store cold)



Gold Nanoparticles (1 OD, supplied in 0.1mM stabilizing surfactant) (7440-57-5)

25ml
100ml

Catalog #	Diameter	Color and form	Absorption max.
79-0182*	5nm	red liq.	515-520nm
79-0210*	10nm	red liq.	515-520nm
79-0212*	15nm	red liq.	520nm
79-0214*	20nm	red liq.	524nm
79-0216*	30nm	red liq.	526nm
79-0218*	40nm	red liq.	530nm
79-0260	50nm	pink to bright-red liq.	535nm
79-0262	60nm	pink to bright-red liq.	540nm
79-0264	70nm	pink to bright-red liq.	548nm
79-0266	80nm	pink to bright-red liq.	553nm
79-0268	90nm	pink to bright-red liq.	564nm
79-0270	100nm	pink to bright-red liq.	572nm
79-0272	150nm	pink to bright-red liq.	
79-0274	200nm	pink to bright-red liq.	
79-0276	250nm	pink to bright-red liq.	
79-0278	300nm	pink to bright-red liq.	
79-0280	400nm	pink to bright-red liq.	

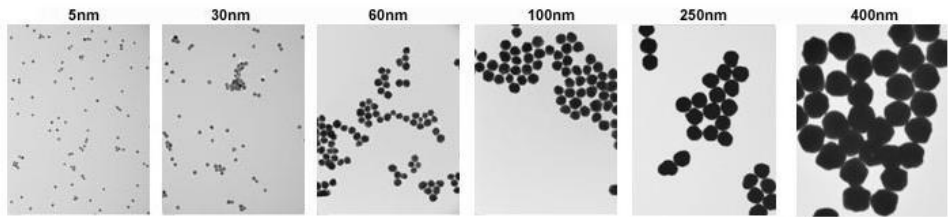
*Gold Nanoparticles Kit, stabilized suspension citrate buffer component. See page 30

96-1547	Gold Nanoparticles Kit (5nm-40nm diameter, OD 1, stabilized suspension citrate buffer) (7440-57-5) See page 30
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GOLD NANOMATERIALS (Elemental Forms)

Gold Nanoparticles - Reactant Free

>99% free of residual reactant in 0.1mM phosphate buffer.
Store away from direct sunlight at 4°C. Do not freeze. Shelf life 6 months.
light sensitive; (store cold)



Gold Nanoparticles (1 OD, stabilized suspension in phosphate-buffered saline) reactant free
(7440-57-5)

25ml
100ml

Catalog #	Diameter	Color and form	Absorption max.
79-0180*	5nm	red liq.	515-520nm
79-0184*	10nm	red liq.	520nm
79-0186*	15nm	red liq.	520nm
79-0188*	20nm	red liq.	524nm
79-0190*	30nm	red liq.	526nm
79-0192*	40nm	red liq.	530nm
79-0194	50nm	red liq.	535nm
79-0196	60nm	pink to bright-red liq.	539nm
79-0198	80nm	pink to bright-red liq.	
79-0202	80nm	pink to bright-red liq.	
79-0204	90nm	pink to bright-red liq.	
79-0206	100nm	pink to bright-red liq.	
79-0208	150nm	pink to bright-red liq.	
79-0220	200nm	pink to bright-red liq.	
79-0222	250nm	pink to bright-red liq.	
79-0224	300nm	pink to bright-red liq.	
79-0228	400nm	pink to bright-red liq.	

*Gold Nanoparticles Kit, Reactant Free component. See page 31

96-1545	Gold Nanoparticles Kit, Reactant-Free (5nm-40nm diameter, OD 1, suspension in phosphate-buffered saline, 515-530nm abs. max.) (7440-57-5) See page 31
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GOLD NANOMATERIALS (Elemental Forms)

Gold Nanoparticles - Surfactant and Reactant Free

Note: Made to order. Manufactured by laser ablation. Store at room temperature (up to 25°C). Do not freeze.
Shelf life 12 months. Sold in collaboration with Particular® for research purposes only.

79-0412 HAZ	Gold nanoparticles, pure, (<20nm) in acetone at 100mg/L (surfactant and reactant-free) (7440-57-5) red liq.	25ml 100ml
79-0416 HAZ	Gold nanoparticles, pure, (<20nm) in isopropanol at 100mg/L (surfactant and reactant-free) (7440-57-5) red liq.	25ml 100ml
79-0410	Gold nanoparticles, pure, (<20nm) in water at 100mg/L (surfactant and reactant-free, OD>1, stabilized with < 0.01 mmol/l of citrate) (7440-57-5) red. liq.	25ml 100ml
79-0418	Gold nanoparticles, pure, (<20nm) in water at 500mg/L (surfactant and reactant-free, OD>5, stabilized with < 0.01 mmol/l of citrate) (7440-57-5) dark red liq.	25ml 100ml

Gold Nanoparticles on carbon black - Surfactant and Reactant Free

(store cold)

Note: Manufactured by laser ablation. Sold in collaboration with Particular® for research purposes only.

79-0921	Gold nanoparticles, 1% on carbon black (surfactant and reactant-free) (7440-57-5) Au; FW: 196.70; black solid	5g 25g
79-0926	Gold nanoparticles, 5% on carbon black (surfactant and reactant-free) (7440-57-5) Au; FW: 196.70; black solid	5g 25g

Gold Nanoparticles on Titania - Surfactant and Reactant Free

(store cold)

Note: Manufactured by laser ablation. Sold in collaboration with Particular® for research purposes only.

79-0916	Gold nanoparticles, 1% on Titania (anatase) (surfactant and reactant-free) (7440-57-5) Au; FW: 196.70; dark purple pwdr.	5g 25g
79-0905	Gold nanoparticles, 1% on Titania (anatase/rutile) (surfactant and reactant-free) (7440-57-5) Au; FW: 196.70; purple solid	5g 25g
79-0930	Gold nanoparticles, 10% on Titania (anatase/rutile) (surfactant and reactant-free) (7440-57-5) Au; FW: 196.70; dark purple solid	1g 5g
79-0935	Gold nanoparticles, 10% on Titania (anatase) (surfactant and reactant-free) (7440-57-5) Au; FW: 196.70; purple solid	1g 5g

Gold Nanoparticles - Solid and functionalized

79-0235	Gold nanoparticles powder, 6nm, organic solvent-dispersible (7440-57-5) black pwdr. Note: 79-0235 is an organic soluble solid. The surface ligand is dodecanethiol. The hydrodynamic size of the nanoparticles is about 8-10nm larger than their inorganic core size measured by TEM.	5mg 25mg
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GOLD NANOMATERIALS (Elemental Forms)

Gold Nanoparticles - Solid and functionalized

79-0238	Gold nanoparticles with amine surface functional group, 6nm, in water (7440-57-5)	5mg 25mg
	dark red liq. Note: 79-0238 is a group of water-soluble gold nanoparticles with amphiphilic polymer and PEG coating. The reactive group is an amine.	

Technical Notes:

1. Zeta potential of 79-0238 is from -10mV to 0 mV.
2. Total thickness of organic layers is ~6 nm.
3. The organic layers consist of a monolayer of dodecanethiol, a monolayer of amphiphilic polymer and a monolayer of PEG.
4. The hydrodynamic size of the nanocrystals is about 12-14 nm larger than their inorganic core size as measured by TEM.
5. 79-0238 is very stable in buffer solutions in the pH range of 4-10 and can survive the autoclaving (121°C for 30 mins.).
6. The long term stability is not as good as that of 79-0240.
7. Check expiration date before conjugating.
8. 79-0238 can be conjugated to carbonyl or thiol-containing molecules.

79-0240	Gold nanoparticles with carboxylic acid surface functional group, 6nm, in water (7440-57-5)	10mg 50mg
	dark red liq. Note: 79-0240 is a group of water-soluble gold nanoparticles with amphiphilic polymer. The reactive group is a carboxylic acid.	

Technical Notes:

1. Zeta potential is from -30mV to -50 mV.
2. Total thickness of organic layers is ~4 nm.
3. The organic layers consist of a monolayer of dodecanethiol and a monolayer of amphiphilic polymer.
4. The hydrodynamic size of the nanoparticles is about 8-10 nm larger than their inorganic core size as measured by TEM.
5. 79-0240 is very stable in buffer solutions in the pH range of 4-10 and can survive the autoclaving (121°C for 30 min.)
6. 79-0240 can be conjugated to protein, peptide, and other amine-containing molecules.

Gold Nanoparticles - Spherical

79-6040	Spherical Gold Nanoparticles (30 nm) (7440-57-5)	5ml 25ml
	orange pink liq. (store cold) Note: Spherical Gold Nanoparticles Kit component.	

Concentration: 0.03mg/ml (±10%)

Storage Conditions: store at ~4°C (do not freeze)

Shelf Life: 6 months

79-6045	Spherical Gold Nanoparticles (50 nm) (7440-57-5)	5ml 25ml
	pink liq. (store cold) Note: Spherical Gold Nanoparticles Kit component.	

Concentration: 0.03mg/ml (±10%)

Storage Conditions: store at ~4°C (do not freeze)

Shelf Life: 6 months

79-6050	Spherical Gold Nanoparticles (70 nm) (7440-57-5)	5ml 25ml
	pink liq. (store cold) Note: Spherical Gold Nanoparticles Kit component.	

Concentration: 0.03mg/ml (±10%)

Storage Conditions: store at ~4°C (do not freeze)

Shelf Life: 6 months

79-6055	Spherical Gold Nanoparticles (90 nm) (7440-57-5)	5ml 25ml
	violet liq. (store cold) Note: Spherical Gold Nanoparticles Kit component.	

Concentration: 0.03mg/ml (±10%)

Storage Conditions: store at ~4°C (do not freeze)

Shelf Life: 6 months

96-1540	Gold Nanospheres Kit (30-90 nm) (7440-57-5)	
	See page 31	

GOLD NANOMATERIALS (Elemental Forms)

Gold Nanoparticles - Sugar Coated

79-0124	Sugar Coated Gold Nanoparticles [AuNP: 1-2 nm (Lactose)] (7440-57-5)	5ml
	maroon-red liq. (store cold)	

Properties: Water soluble; **Size:** 22-38, 4-16, 6-10 or 1-2 nm; **Shape:** Sphere; **UV-Vis (nm):** 535, 535, 540 or 540 nm;
Stability: After generation from kit components - Stable for 1 day.

Supplied as kit. Suitable for in vitro use and sensor design applications.

79-0122	Sugar Coated Gold Nanoparticles [AuNP: 6-10 nm (Maltose)] (7440-57-5)	5ml
	maroon-red liq. (store cold)	

Properties: Water soluble; **Size:** 22-38, 4-16, 6-10 or 1-2 nm; **Shape:** Sphere; **UV-Vis (nm):** 535, 535, 540 or 540 nm;
Stability: After generation from kit components - Stable for 1 day.

Supplied as kit. Suitable for in vitro use and sensor design applications.

Gold Nanoparticles - Water Soluble

79-0110	Water Soluble Gold Nanoparticles [AuNP: 3nm (Citrate)] (7440-57-5)	25ml 100ml
	wine-red liq. (store cold)	

Properties: Water soluble; **Size:** 3 nm, 5 nm, 10 or 15 nm; **Shape:** Sphere; **UV-Vis (nm):** 520, 525, 520 or 525 nm;
Stability: Stable for 90 days in aqueous media.

Supplied in aqueous solutions. Contains citrate stabilizer. Suitable for spin coating, self-assembly and monolayer formation.

79-0112	Water Soluble Gold Nanoparticles [AuNP: 5nm (Citrate)] (7440-57-5)	25ml 100ml
	wine-red liq. (store cold)	

Properties: Water soluble; **Size:** 3 nm, 5 nm, 10 or 15 nm; **Shape:** Sphere; **UV-Vis (nm):** 520, 525, 520 or 525 nm;
Stability: Stable for 90 days in aqueous media.

Supplied in aqueous solutions. Contains citrate stabilizer. Suitable for spin coating, self-assembly and monolayer formation.

79-0114	Water Soluble Gold Nanoparticles [AuNP: 10 nm (Citrate)] (7440-57-5)	25ml 100ml
	wine-red liq. (store cold)	

Technical Note:

1. See 79-0110 (page 27)

79-0116	Water soluble Gold Nanoparticles [AuNP: 15 nm (Citrate)] (7440-57-5)	25ml 100ml
	wine-red liq. (store cold)	

Technical Note:

1. See 79-0110 (page 27)

79-0126	Water Soluble Gold Nanoparticles [AuNP: 11-20 nm (Gelatin)] (7440-57-5)	25ml 100ml
	wine-red liq. (store cold)	

Properties: Water soluble; **Size:** 11-20 nm; **Shape:** Sphere; **UV-Vis (nm):** 540 nm; **Stability:** Stable for 90 days in aqueous media.

Suitable for spin coating, self-assembly and monolayer formation. Suitable for in vitro use and sensor design applications.

79-0108	Water Soluble Gold Nanoparticles [AuNP: 12-16 nm (Starch)] (7440-57-5)	25ml 100ml
	maroon-red liq. (store cold)	

Properties: Water soluble, stable at pH 7.0; **Size:** 30-40 nm; **Shape:** Sphere; **UV-Vis (nm):** 535 nm;
Stability: Stable for 30 days in aqueous media.

Supplied in aqueous solutions. Contains starch stabilizer. Suitable for spin coating, self-assembly and monolayer formation.

References:

1. *Appl. Phys. Lett.*, **2006**, 88, 153114
2. *J. Am. Chem. Soc.*, **2006**, 128, 11342

GOLD NANOMATERIALS (Elemental Forms)

Gold Gemini Nanorods, CTAB Free

light sensitive, (store cold)

Note: Rods are synthesized without CTAB. Store at 4°C - 8°C. Do not freeze. At storage temperature the product may appear opaque. Shelf Life: 12 months. Follow the procedure for re-dispersing surfactants as described in the technical note. Complete this process before use to dissolve precipitated stabilizer. Sold in Collaboration with SONA Nanotech for research purposes only. Gold Gemini Nanorods Kit component.

79-7010	Gold Gemini Nanorods, CTAB Free (Wavelength 650 nm) (7440-57-5) Au; violet liq.	5ml 25ml
79-7015	Gold Gemini Nanorods, CTAB Free (Wavelength 700 nm) (7440-57-5) Au; blue liq.	5ml 25ml
79-7020	Gold Gemini Nanorods, CTAB Free (Wavelength 750 nm) (7440-57-5) Au; red-purple liq.	5ml 25ml
79-7025	Gold Gemini Nanorods, CTAB Free (Wavelength 800 nm) (7440-57-5) Au; red-orange liq.	5ml 25ml
79-7030	Gold Gemini Nanorods, CTAB Free (Wavelength 850 nm) (7440-57-5) Au; maroon-purple liq.	5ml 25ml
96-1549	Gold Gemini Nanorods Kit, CTAB Free (Wavelength 650-850 nm) See page 30	

Gold Nanorods (Axial Diameter - 25nm) (7440-57-5)

Storage Conditions: *(store cold)* Store at 4°C. Do not freeze. Shelf Life: 6 months

Technical Note:

Catalog #	79-6000	79-6005	79-6010	79-6015
Concentration	171 ug/ml (±10%)	235 ug/ml (±10%)	150 ug/ml (±10%)	91 ug/ml (±10%)
Axial diameter (nm)	25 (±10%)	25 (±10%)	25 (±10%)	25 (±10%)
Longitudinal Size (nm)	34 (±10%)	47 (±10%)	60 (±10%)	73 (±10%)
Peak Longitudinal Surface Plasmon Resonance Wavelength (nm)	550	600	650	700
Peak Axial Surface Plasmon Resonance Wavelength (nm)	530	530	530	530
Color and Form	red liq.	blue liq.	blue liq.	gray liq.

*Gold Nanorods Kit (Axial Diameter - 25nm) component. See page 31

79-6000	Gold Nanorods (Axial Diameter - 25 nm) (Wavelength 550 nm) (7440-57-5)
79-6005	Gold Nanorods (Axial Diameter - 25 nm) (Wavelength 600 nm) (7440-57-5)
79-6010	Gold Nanorods (Axial Diameter - 25 nm) (Wavelength 650 nm) (7440-57-5)
79-6015	Gold Nanorods (Axial Diameter - 25 nm) (Wavelength 700 nm) (7440-57-5)
96-1530	Gold Nanorods Kit (Axial Diameter - 25 nm, wavelength 550-700 nm) (7440-57-5) See page 31

GOLD NANOMATERIALS (Elemental Forms)

Gold Nanorods (Axial Diameter - 10nm) (7440-57-5)

5ml

Storage Conditions: (store cold) Store at 4°C. Do not freeze. Shelf Life: 6 months

25ml

Technical Note:

Catalog #	79-6020	79-6025	79-6030	79-6035
Concentration	30 ug/ml (±10%)	34 ug/ml (±10%)	35 ug/ml (±10%)	36 ug/ml (±10%)
Axial diameter (nm)	10 (±10%)	10 (±10%)	10 (±10%)	10 (±10%)
Longitudinal Size (nm)	29 (±10%)	35 (±10%)	38 (±10%)	41 (±10%)
Peak Longitudinal Surface Plasmon Resonance Wavelength (nm)	700	750	780	808
Peak Axial Surface Plasmon Resonance Wavelength (nm)	512	512	512	512
Color and Form	pale red-brown liq.	pale red liq.	pale red solution	pale red liq.

*Gold Nanorods Kit (Axial Diameter - 10nm) component. See page 31

79-6020	Gold Nanorods (Axial Diameter - 10 nm) (Wavelength 700 nm) (7440-57-5)
79-6025	Gold Nanorods (Axial Diameter - 10 nm) (Wavelength 750 nm) (7440-57-5)
79-6030	Gold Nanorods (Axial Diameter - 10 nm) (Wavelength 780 nm) (7440-57-5)
79-6035	Gold Nanorods (Axial Diameter - 10 nm) (Wavelength 808 nm) (7440-57-5)
96-1535	Gold Nanorods Kit (Axial Diameter - 10 nm, wavelength 700-808 nm) (7440-57-5)
	See page 31

Gold NanoUrchins (1 OD, 0.1 mM in phosphate-buffered saline) >95.0% reactant free blue liq.

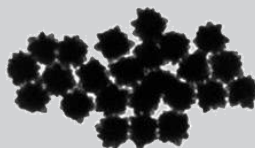
20ml

light sensitive, (store cold)

Note: Store away from direct sunlight at 4°C. Do not freeze.

Shelf life 6 months.

100ml



Technical Note:

Product #	Diameter	Color and form	Absorption max
79-0310	50nm	blue liq.	585nm
79-0313	60nm	blue liq.	585nm
79-0315	70nm	blue liq.	600nm
79-0318	80nm	blue liq.	620nm
79-0320	90nm	blue liq.	630nm
79-0323	100nm	blue liq.	680nm

GOLD NANOMATERIALS (Compounds)

79-2015	Diphenyl(m-sulfonatophenyl)phosphine-gold nanocluster (water soluble) (1-3 nm) dark red solid; particle size: 1-3 nm Note: Made to order. Long term shelf life not established.	100mg 500mg
02-1000	Ammonium tetrachloroaurate(III) hydrate (99.9985%-Au) PURATREM (13874-04-9) See page 2	
79-2015	Diphenyl(m-sulfonatophenyl)phosphine-gold nanocluster (water soluble) (1-3 nm) See page 29	

GOLD NANOMATERIAL KITS - Gold Gemini Nanorods Kit, CTAB Free

96-1549 Gold Gemini Nanorods Kit, CTAB Free (Wavelength 650-850 nm)

Rods are synthesized without CTAB. Store at 4°C - 8°C. Do not freeze. At storage temperature the product may appear opaque. Follow the procedure for re-dispersing surfactants as described in the technical note. Complete this process before use to dissolve precipitated stabilizer. Sold in collaboration with SONA Nanotech for research purposes only.

Components also available for individual sale. Contains the following:

79-7010	Gold Gemini Nanorods, CTAB Free (Wavelength 650 nm) (7440-57-5)	5ml	See page 28
79-7015	Gold Gemini Nanorods, CTAB Free (Wavelength 700 nm) (7440-57-5)	5ml	See page 28
79-7020	Gold Gemini Nanorods, CTAB Free (Wavelength 750 nm) (7440-57-5)	5ml	See page 28
79-7025	Gold Gemini Nanorods, CTAB Free (Wavelength 800 nm) (7440-57-5)	5ml	See page 28
79-7030	Gold Gemini Nanorods, CTAB Free (Wavelength 850 nm) (7440-57-5)	5ml	See page 28

Item #	LPSR Maximum (nm)	Length (nm)	Width (nm)	Aspect Ratio	Color & Form
79-7010	640 - 670	25 - 31	13 - 18	1.7 - 1.9	violet liq.
79-7015	685 - 715	37 - 43	13 - 18	2.4 - 2.8	blue liq.
79-7020	735 - 765	37 - 44	10 - 13	3.4 - 3.7	red-purple liq.
79-7025	785 - 815	40 - 50	10 - 13	3.8 - 4.1	red-orange liq.
79-7030	835 - 865	48 - 55	9 - 12	4.6 - 5.3	maroon-purple liq.

Concentration: >30 µg/ml

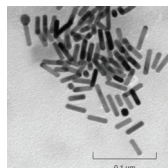
pH: 5.5 - 7.5

Stabilizer: Amphiphilic Agents

Solvent: Stabilized with amphiphilic agents in conductivity grade water (18.0 MΩ cm⁻¹)

Optical Density: 1.0 - 1.2

Shelf Life: 12 months



GOLD NANOMATERIAL KITS - Gold Nanoparticles Kit (5nm-40nm diameter)

96-1547 Gold Nanoparticles Kit (5nm-40nm diameter, OD 1, stabilized suspension citrate buffer)

Components also available for individual sale. Contains the following:

79-0182	Gold Nanoparticles (5nm, 1 OD, supplied in 0.1mM stabilizing surfactant, 515-520nm abs. max.) (7440-57-5)	25ml	See page 23
79-0210	Gold Nanoparticles (10nm, 1 OD, supplied in 0.1mM stabilizing surfactant, 515-520nm abs. max.) (7440-57-5)	25ml	See page 23
79-0212	Gold Nanoparticles (15nm, 1 OD, supplied in 0.1mM stabilizing surfactant, 520nm abs. max.) (7440-57-5)	25ml	See page 23
79-0214	Gold Nanoparticles (20nm, 1 OD, supplied in 0.1mM stabilizing surfactant, 524nm abs. max.) (7440-57-5)	25ml	See page 23
79-0216	Gold Nanoparticles (30nm, 1 OD, supplied in 0.1mM stabilizing surfactant, 526nm abs. max.) (7440-57-5)	25ml	See page 23
79-0218	Gold Nanoparticles (40nm, 1 OD, supplied in 0.1mM stabilizing surfactant, 530nm abs. max.) (7440-57-5)	25ml	See page 23

GOLD NANOMATERIAL KITS - Gold Nanoparticles Kit, Reactant-Free

96-1545 Gold Nanoparticles Kit, Reactant-Free (5nm-40nm diameter, OD 1, suspension in phosphate-buffered saline, 515-530nm abs. max.)
Components also available for individual sale. Contains the following:

79-0180	Gold Nanoparticles (5 nm diameter, 1 OD, stabilized suspension in phosphate-buffered saline, 515-520 nm abs. max.) reactant free (7440-57-5)	25ml	See page 24
79-0184	Gold Nanoparticles (10nm diameter, 1 OD, stabilized suspension in phosphate-buffered saline, 520nm abs. max.) reactant free (7440-57-5)	25ml	See page 24
79-0186	Gold Nanoparticles (15nm diameter, 1 OD, stabilized suspension in phosphate-buffered saline, 520nm abs. max.) reactant free (7440-57-5)	25ml	See page 24
79-0188	Gold Nanoparticles (20nm diameter, 1 OD, stabilized suspension in phosphate-buffered saline, 524nm abs. max.) reactant free (7440-57-5)	25ml	See page 24
79-0190	Gold Nanoparticles (30nm diameter, 1 OD, stabilized suspension in phosphate-buffered saline, 526nm abs. max.) reactant free (7440-57-5)	25ml	See page 24
79-0192	Gold Nanoparticles (40nm diameter, 1 OD, stabilized suspension in phosphate-buffered saline, 530nm abs. max.) reactant free (7440-57-5)	25ml	See page 24

GOLD NANOMATERIAL KITS - Gold Nanospheres Kit

96-1540 Gold Nanospheres Kit (30-90 nm)
Components also available for individual sale. Contains the following:

79-6040	Spherical Gold Nanoparticles (30 nm) (7440-57-5)	25ml	See page 26
79-6045	Spherical Gold Nanoparticles (50 nm) (7440-57-5)	25ml	See page 26
79-6050	Spherical Gold Nanoparticles (70 nm) (7440-57-5)	25ml	See page 26
79-6055	Spherical Gold Nanoparticles (90 nm) (7440-57-5)	25ml	See page 26

GOLD NANOMATERIAL KITS - Gold Nanorods Kit (Axial Diameter-25nm)

96-1530 Gold Nanorods Kit (Axial Diameter - 25 nm, wavelength 550-700 nm)
Components also available for individual sale. Contains the following:

79-6000	Gold Nanorods (Axial Diameter - 25 nm) (Wavelength 550 nm) (7440-57-5)	25ml	See page 28
79-6005	Gold Nanorods (Axial Diameter - 25 nm) (Wavelength 600 nm) (7440-57-5)	25ml	See page 28
79-6010	Gold Nanorods (Axial Diameter - 25 nm) (Wavelength 650 nm) (7440-57-5)	25ml	See page 28
79-6015	Gold Nanorods (Axial Diameter - 25 nm) (Wavelength 700 nm) (7440-57-5)	25ml	See page 28

GOLD NANOMATERIAL KITS - Gold Nanorods Kit (Axial Diameter-10nm)

96-1535 Gold Nanorods Kit (Axial Diameter - 10 nm, wavelength 700-808 nm)
Components also available for individual sale. Contains the following:

79-6020	Gold Nanorods (Axial Diameter - 10 nm) (Wavelength 700 nm) (7440-57-5)	25ml	See page 29
79-6025	Gold Nanorods (Axial Diameter - 10 nm) (Wavelength 750 nm) (7440-57-5)	25ml	See page 29
79-6030	Gold Nanorods (Axial Diameter - 10 nm) (Wavelength 780 nm) (7440-57-5)	25ml	See page 29
79-6035	Gold Nanorods (Axial Diameter - 10 nm) (Wavelength 808 nm) (7440-57-5)	25ml	See page 29

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