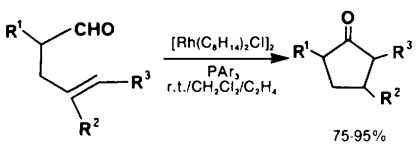
MORE INORGANICS and ORGANOMETALLICS for the synthetic chemist

Aldrich's *Inorganic* Production Division is always working on reagents which are of use to synthetic chemists. Below is but a sampling of their work. Check the Aldrich Catalog/Handbook for our full line of fine inorganics and organometallics. If you don't find what you need, send your requests and suggestions to our Technical Services Department for prompt consideration.

Prostaglandin Synthons



75-95%

Cyclopentanones, important starting materials for the formation of prostaglandins, are prepared from 4-pentenals in high yields using a catalyst generated *in situ* from chlorobis(cyclooctene)rhodium(I) dimer and triarylphosphines such as tri-*p*-tolylphosphine.

Larock, R.C. U.S. Patent 4 288 613, 1981; *Chem. Abstr.* **1982**, *96*, 6262r.

NEW **30,247-3 Chlorobis(cyclooctene)-rhodium(I) dimer,** 98%
100mg $15.50; 500mg $52.00

28,783-0 Tri-*p*-tolylphosphine, 98%
1g $10.00; 5g $30.00

PPN Salts

$(Ph_3P{=})_2N^+\ X^-$

Bis(triphenylphosphoranylidene)ammonium acetate (PPN acetate) catalyzes the monosubstitution of triruthenium dodecacarbonyl with triphenylphosphine.[1] It also reacts with triruthenium dodecacarbonyl to form a trinuclear cluster.[2]

Bis(triphenylphosphoranylidene)ammonium nitrite (PPN nitrite) converts metal carbonyls to nitrosyl carbonyl complexes typically in high yields with no side products.[3]

(1) Lavigne, G.; Kaesz, H.D. *J. Am. Chem. Soc.* **1984**, *106*, 4647. (2) Darensbourg, D.J.; Pala, M.; Waller, J. *Organometallics* **1983**, *2*, 1285. (3) Stevens, R.E.; Gladfelter, W.L. *Inorg. Chem.* **1983**, *22*, 2034.

29,967-7 Bis(triphenylphosphoranylidene)ammonium acetate (X = OAc)
1g $9.00; 5g $35.00

26,505-5 Bis(triphenylphosphoranylidene)ammonium nitrite ($X = NO_2$)
1g $7.00; 5g $21.50

24,501-1 Triruthenium dodecacarbonyl
250mg $12.30; 1g $34.20; 5g $115.00

Versatile Silver Salts

$CF_3CF_2CF_2CO_2Ag$ (1) CF_3CO_2Ag (2)

$AgBF_4$ (3)

Silver heptafluorobutyrate (**1**) and silver trifluoroacetate (**2**) are each used for the preparation of heptafluoro- and 1-chlorohexafluoro-2-nitrosopropane, avoiding the use of nitrosyl fluoride. They also react with halobis(trifluoromethyl)phosphine to give the corresponding carboxylatobis(trifluoromethyl)-phosphines.[2]

Silver heptafluorobutyrate (**1**) and silver tetrafluoroborate (**3**) catalyze the formation of tricyclanone from 3-diazocamphor.[3]

Mixtures of **1** and lanthanide $(fod)_3$'s act as binuclear shift reagents for alkenes.[4]

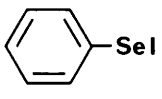
(1) Banks, R.E.; Dickinson, N.; Morrissey, A.P.; Richards, A. *J. Fluorine Chem.* **1984**, *26*, 87. (2) McKennon, D.W.; Lustig, M. *ibid.* **1976**, *7*, 321. (3) Brown, F.C.; Morris, D.G.; Murray, A.M. *Synth. Commun.* **1975**, *5*, 477. (4) Evans, D.F.; Tucker, J.N.; deVillardi, G.C. *Chem. Commun.* **1975**, 205.

NEW **30,742-4 Silver heptafluorobutyrate,** 97% **(1)**
5g $10.50; 25g $32.00

T6,240-5 Silver trifluoroacetate, 98% **(2)**
5g $16.50; 25g $61.70

20,836-1 Silver tetrafluoroborate (3)
10g $39.70; 50g $132.30

Phenylselenenyl Iodide



Useful reagent for the selective formation of carbocyclic compounds from diolefins in good to excellent yields.

Toshimitsu, A.; Uemura, S.; Okano, M. *Chem. Commun.* **1982**, 87.

NEW **30,259-7 Phenylselenenyl iodide,** 98%
5g $11.50; 25g $39.00

Palladium(II) Trifluoroacetate

$(CF_3CO_2)_2Pd$

Catalyzes the selective allylic oxidation of geranylacetone and other olefins to their allyl acetates, which can then be converted to keto alcohols.

McMurry, J.E.; Kocovsky, P. *Tetrahedron Lett.* **1984**, *25*, 4187.

29,968-5 Palladium(II) trifluoroacetate
1g $32.50; 5g $123.00

Zinc Triflate

$Zn(OSO_2CF_3)_2$

Catalyst for the synthesis of dithioketals; especially useful for hindered or sensitive ketone substrates.

Corey, E.J.; Shimoji, K. *Tetrahedron Lett.* **1983**, *24*, 169.

29,006-8 Zinc triflate, 98%
10g $17.00; 50g $59.00

Imides, Amides and Anhydrides

Sodium carboxylates and arenediazonium tetrafluoroborates react with acetonitrile to form the corresponding N-aryl imides in moderate to good yields.[1] When catalyzed by palladium acetate in the presence of carbon monoxide, these two components produce the corresponding mixed acid anhydrides (ArCOOCOR) in good yields.[2] When R is *tert*-butyl, the resulting anhydride reacts with amines to produce the corresponding carboxamides.[2]

(1) Kikukawa, K. *et al. Bull. Chem. Soc. Jpn.* **1982**, *55*, 3671. (2) Kikukawa, K. *et al. J. Org. Chem.* **1981**, *46*, 4413.

NEW **30,959-1 Trimethylacetic acid, sodium salt hydrate,** 99%
10g $13.50; 50g $45.00

28,089-5 4-Bromobenzenediazonium tetrafluoroborate
25g $19.00; 100g $68.75

29,443-8 4-Nitrobenzenediazonium tetrafluoroborate, 97%
10g $14.70; 25g $33.35

20,586-9 Palladium(II) acetate
2g $31.00; 10g $121.00

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