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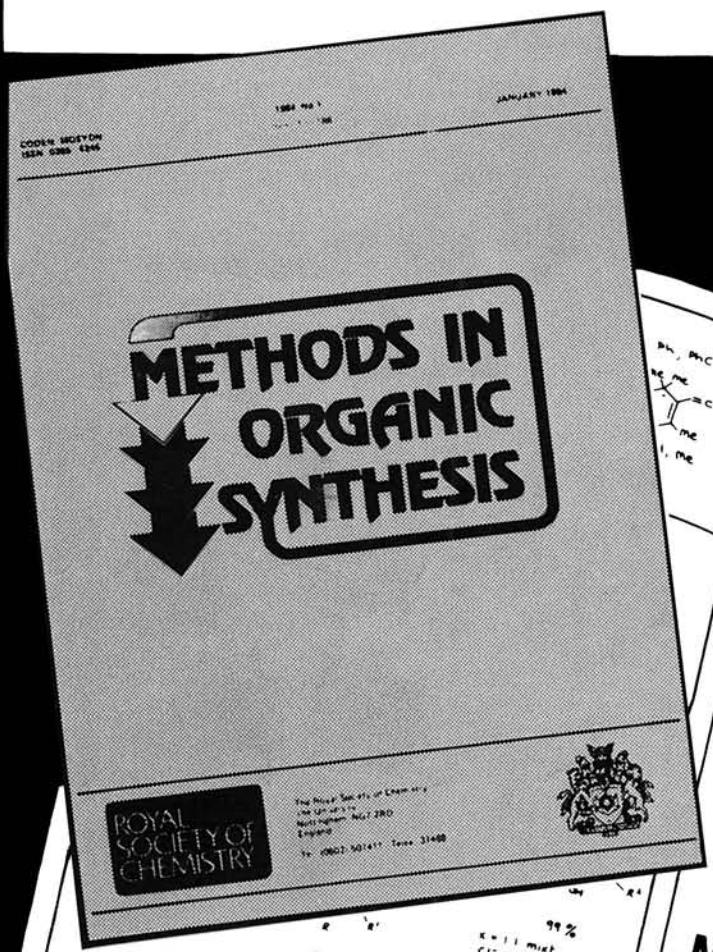

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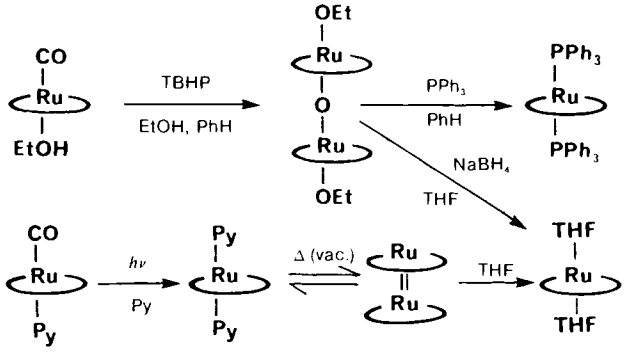
CARBONYL UPDATE

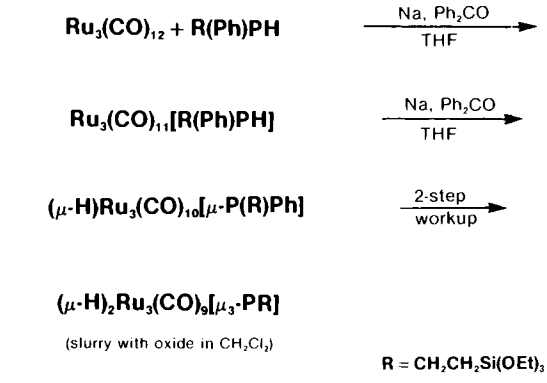
Clusters, Catalysts and Porphyrins

Carbonyl complexes of ruthenium(II) octaethylporphine (OEP) and tetraphenylporphine (TPP) are the latest additions to a growing family of Aldrich carbonyl compounds. The novel chemistry of Ru(II)(CO)OEP and Ru(II)(CO)TPP has only recently come under investigation. Their conversion to bis-ligand complexes or binuclear ruthenium(II) species is relatively straightforward.[1,2]



The reactivity of the complexes toward small gas molecules (especially oxygen) is well documented,[3,4] as is their catalytic activity in oxidation and decarbonylation reactions.[5,6] Further derivatization to tertiary phosphine species,[7] ruthenium(III) systems[8,9] and oxo-ruthenium(IV) cation radical intermediates[10] has been carried out. NMR studies of such π-cation radicals as peroxidase models have been reported.

The catalytic behavior of the ruthenium carbonyl cluster,[12] $Ru_3(CO)_{12}$, has been exploited in the reductive carbonylation of aromatic nitro compounds to carbamates.[13] In addition, a phosphine-stabilized ruthenium carbonyl cluster has been tethered to oxide supports, following the scheme below.[14]



Aldrich offers a variety of precious metal carbonyl derivatives, including $Os_3(CO)_{12}$, $Ir_4(CO)_{12}$, $Re_2(CO)_{10}$ and $Rh_6(CO)_{16}$, the last of which promotes the reduction (in aqueous alkaline solution) of nitric oxide to ammonia, N_2 and N_2O.[15] Other useful complexes include a variety of halogenated carbonyl derivatives: $(Ph_3P)_2Ru(CO)_2Cl_2$, $[Rh(CO)_2Cl]_2$, $(Ph_3P)_2Ir(CO)Cl$, $(Ph_3P)_2$-Rh(CO)Cl and $[Ru(CO)_3Cl_2]_2$.

See the Aldrich Catalog/Handbook for all your carbonyl complexes, and ask for a free computer printout of all our CO-containing precious-metal or transition-metal compounds.

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29,200-1	**Ru(II)(CO)TPP**	**100mg $37.00; 1g $220.00**
29,202-8	**Ru(II)(CO)OEP**	**100mg $45.00; 500mg $175.00**
24,501-1	**$Ru_3(CO)_{12}$**	**250mg $12.30; 1g $34.20; 5g $115.00**
24,974-2	**$Os_3(CO)_{12}$**	**250mg $45.00; 1g $137.50**
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24,765-0	**$Rh_6(CO)_{16}$**	**250mg $33.70; 1g $104.30**
28,813-6	**$(Ph_3P)_2Ru(CO)_2Cl_2$**	**1g $26.70**
28,814-4	**$[Ru(CO)_3Cl_2]_2$**	**500mg $24.50**
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20,348-3	**$(Ph_3P)_2Ir(CO)Cl$, 99.99%**	**1g $48.10**
20,424-2	**$(Ph_3P)_2Rh(CO)Cl$, 99.99%**	**1g $52.90**
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22,566-5	**$(Ph_3P)_3Rh(CO)H$**	**500mg $28.25; 5g $195.00**
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24,143-1	**$W(CO)_6$, 99%**	**10g $17.85; 50g $65.00**
24,145-8	**$Cr(CO)_6$, 99+%**	**10g $17.60; 50g $63.10**
24,526-7	**$Mn_2(CO)_{10}$**	**1g $13.30; 10g $73.80**
19,573-1	**$Fe(CO)_5$**	**50g $10.00; 250g $15.80; 1kg $45.05**
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