



>>Entry Name: Methyl(triphenylphosphine)gold, 9Cl

CAS Registry Number: 23108-72-7

MeAuPPh₃

Molecular Formula: C₁₉H₁₈AuP

Molecular Weight: 474.291

Accurate Mass: 474.081155

Percentage Composition: C 48.12%; H 3.83%; Au 41.53%; P 6.53%

Source/Synthesis: Synth. from ClAuPPh₃ and MeLi

Use/Importance: Intermed. in coupling of MeMgX or MeLi with alkyl halides, catalysed by AuX. Also catalyses the addition of alcohols to alkynes giving acetals or enol ethers

Physical Description: Soft colourless cryst. (C₆H₆/petrol)

Melting Point: Mp 175 dec.°

Solubility: Sol. Me₂CO, Et₂O, aromatic hydrocarbons, halocarbons

NMR Spectra: ³¹P nmr 47 ppm (rel. H₃PO₄)

References:

Calvin, G. *et al.*, *Chem. Ind. (London)*, 1959, 1628, (*synth, ir*)

Coates, G.E. *et al.*, *J.C.S.*, 1962, 3220, (*synth*)

Tamaki, A. *et al.*, *J.A.C.S.*, 1974, **96**, 6140, (*synth, use*)

Johnson, A. *et al.*, *J.C.S. Dalton*, 1975, 115, (*pmr, reactions*)

Gavens, P.D. *et al.*, *Acta Cryst. B*, 1977, **33**, 137, (*cryst struct*)

Jones, P.G. *et al.*, *J.C.S. Dalton*, 1977, 1434, (*Mössbauer*)

Jordan, R.F. *et al.*, *J.A.C.S.*, 1979, **101**, 4853, (*cmr*)

Moss, K. *et al.*, *J.C.S. Dalton*, 1983, 2701, (*Mössbauer*)

Barron, P.F. *et al.*, *Aust. J. Chem.*, 1987, **40**, 1545, (*P-31 nmr*)

Perevalova, E.G. *et al.*, *Koord. Khim.*, 1988, **14**, 1145, (*reactions*)

Komiya, S. *et al.*, *Organometallics*, 1988, **7**, 2238, (*synth*)

Butin, K.P. *et al.*, *Metalloorg. Khim.*, 1989, **2**, 1401, (*electrochem*)

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Teles, J.H. *et al.*, *Angew. Chem., Int. Ed.*, 1998, **37**, 1415-1418, (*use*)