

Dinuclear Gold Complexes of Two Simple but Underutilized Dicarbanionic Ligand Types

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Dedicated to Professor Hubert Schmidbaur on the occasion of his 75th birthday in recognition of his numerous contributions to inorganic and organometallic chemistry

Both *mono*- and *bisylide* zwitterionic complexes of gold(I), $[(C_6F_5)\{PhCH(PPh_3)\}Au]$ (**4**), $[(C_6F_5)_2(C_6H_4-p)\{CH(PPh_3)\}_2Au_2]$ (**5**) and $[(C_6F_5)_2(C_6H_4-m)\{CH(PPh_3)\}_2Au_2]$ (**6**) were prepared by THT substitution in $[C_6F_5(THT)Au]$ (THT = tetrahydrothiophene) using deprotonated *mono*- and *bis*-phosphonium salts. Lithiation of 4,4'-dibromo-2,3,5,6,2',3',5',6'-octafluoro-1,1'-biphenyl and transmetallation with $[Cl(Ph_3P)Au]$ produced a dinuclear gold complex of octafluoro-substituted biphenyl $[(PPh_3)_2(C_6F_4-C_6F_4)_2Au_2]$ (**8**).

Key words: Gold(I), *Bisylide* Complexes, Octafluorobiphenyl, Ylide Structures, Dinuclear Gold(I) Complexes