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OXIDATIVE ADDITION OF TRIFLUOROMETHYL HALIDES TO Rh(I) AND Ir(I) COMPLEXES

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Ir(I)- and Rh(I)-complexes react with CF_3-halides to give oxidative addition products. In the reaction of $IrX(CO)(PEt_3)_2$ with CF_3I, X = Cl, Br, I, and with CF_3Br, X = Cl, Br, only the *trans* addition products are formed. In the reaction of $RhX(CO)(PEt_3)_2$ with CF_3I, X = Cl, Br, both *cis* and *trans* isomers are produced in a ratio which depends on the solvent. For example, in n-hexane, only the *trans* isomer is formed whereas, in toluene, the ratio of *trans* to *cis* is *ca.* 1:1. No product was found with the CF_3-group *trans* to the carbonyl group. The X-ray structures of $(CF_3)IrClBr(CO)(PEt_3)_2$ and *trans*-$(CF_3)RhClI(CO)(PEt_3)_2$ are presented. All compounds are characterised by ^{19}F-, ^{31}P- and ^{13}C-nmr spectroscopy.