

kann. Sehr schön wird am Beispiel des *cis*- und *trans*-Bis(dimethylsulfid)dichlorplatin(II) ein sterischer Einfluss auf die  $^{195}\text{Pt}-\text{H}$ -Kopplung erkennbar. So wie im "trans-Effekt" wird aus der grösseren  $^{195}\text{Pt}-\text{S}-\text{C}-\text{H}_3$ -Kopplungskonstante in der *trans*-Verbindung eine etwas stabilere Pt-S-Bindung deutlich.

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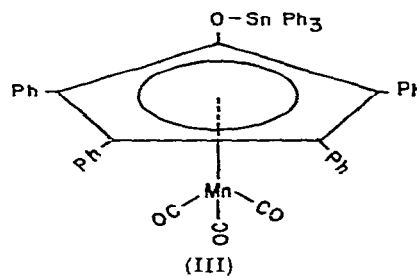
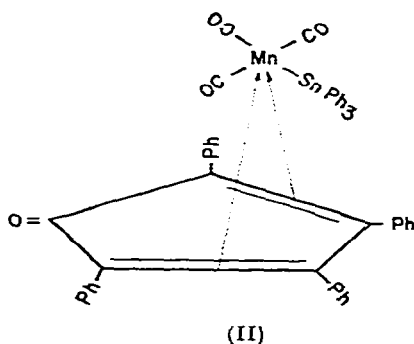
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## PRELIMINARY NOTES

### Reaction of pentacarbonyl(triphenylstannyl)manganese with tetraphenylcyclopentadienone

Additional work has been done to elucidate the structure of the product<sup>1</sup> obtained by heating pentacarbonyl(triphenylstannyl)manganese, (I), and tetraphenylcyclopentadienone at 196°. Previously<sup>2</sup> the product was suggested to be dienone complex (II) with a Sn-Mn bond.



Re-interpretation of the infrared spectrum of the complex disclosed no keto carbonyl, and indicated the reaction involved more than simple displacement of carbon monoxide from manganese. Now, by a chemical method, we have shown the compound formed in the thermal reaction actually is tricarbonyl[(triphenylstannoxy)-tetraphenylcyclopentadienyl] manganese, (III), an isomer of the previously reported compound(II). Moreover, structure (III) has been substantiated by an X-ray diffraction study<sup>3</sup>.

Independent synthesis of compound (III) was accomplished by first forming the lithium alkoxide of tricarbonyl(hydroxytetraphenylcyclopentadienyl) manganese, (IV), then allowing it to react with a stoichiometric amount of triphenyltin chloride. Both the product obtained by treating the lithium salt of (IV) with triphenyltin chloride and that obtained by heating a mixture of (I) and tetraphenylcyclopentadienone melted at 206–207° with decomposition. Both of the infrared spectra were identical between 2–15  $\mu$ . Investigation of the mechanism of this novel rearrangement is not planned.

### Experimental

Compound (IV) was prepared by a procedure described previously<sup>4</sup>. Ethyllithium in benzene was obtained from Lithium Corporation of America. Tetrahydrofuran (THF) was distilled from NaAlH<sub>4</sub> before use. Melting points are corrected. All glassware was dried at 125° and flushed with nitrogen while being assembled. Reactions were carried out under a nitrogen atmosphere.

*Tricarbonyl[(triphenylstannoxy)tetraphenylcyclopentadienyl]manganese, (III)*. A 50-ml 3-necked flask was charged with 1.0 g (1.91 mmoles) of (IV) in 30 ml of THF. To this stirred solution was added slowly 2.1 ml of 0.88 *N* ethyllithium in benzene by syringe over a 6-min period while cooling the reaction mixture at –10°. Subsequently, the mixture was warmed to 10° and 0.8 g (2.03 mmoles) of triphenyltin chloride was added. The mixture was warmed at 40° for 15 min and then the solvents were evaporated under reduced pressure (water aspirator). The residual oil was dissolved in dichloromethane and some solids were filtered off. The solvent was evaporated and the residue was fractionally crystallized from a mixture of dichloromethane and *n*-hexane to give 0.88 g (53%) of (III), m.p. 204–208° (decomp.). Recrystallization from the same solvent pair raised the melting point to 206–207° (decomp.). The melting point was not depressed when admixed with the product from the thermal reaction.

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### Bis-silyl and bis-germyl ketones

The structure and spectra of  $\alpha$ -silyl and  $\alpha$ -germyl ketones have been the subject of considerable study and comment<sup>1-5</sup>.