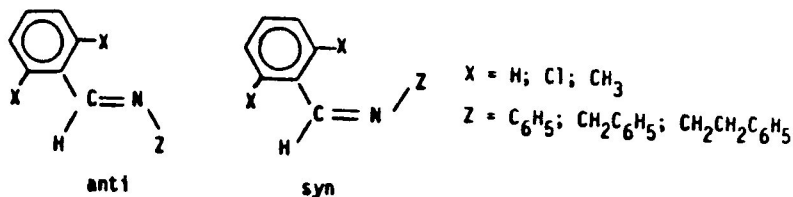


METALLATION REACTIONS OF N-DONOR LIGANDS WITH AZOMETHINE GROUPS: FIVE- VERSUS SIX-MEMBERED RINGS.

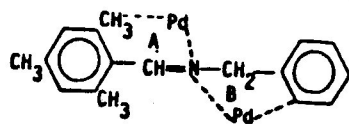
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Cyclometallation reactions of *N*-donor ligands have been widely studied, and the following empirical rules have been proposed: i) a strong tendency exists to form five-membered rings, and ii) the aromatic carbons are activated more easily than the aliphatic carbons. However, several six membered metallocycles containing an aliphatic carbon-metal bond have been reported, which do not agree with the above mentioned rules.

In order to throw more light on the metallation processes, the action of Palladium salts on *N*-donor ligands containing the azomethine moiety >C=N- , has been studied. The groups attached to the C and N atoms, can give rise to five- or six-membered metallocycles through the metallation of aromatic or aliphatic carbon atoms.



The results obtained indicate that depending on the experimental conditions (reaction times and temperatures) different cyclometallated compound can be obtained. For example, from $2,4,6\text{-}(\text{CH}_3)_3\text{C}_6\text{H}_2\text{CH=NCH}_2\text{C}_6\text{H}_5$, either the compound with ring A (refluxing AcOH, 1 h) or ring B (AcOH, 70°C, 3 h) can be obtained.



The NMR spectrum of A shows that the *N*-donor ligand adopts the anti form while in compound B, adopts the syn form, indicating that an isomerization is occurring together with the metallation.