



UNIVERSITA' DI MESSINA
FACOLTA' DI SCIENZE

Dipartimento di Chimica Inorganica, Analitica
e Struttura Molecolare



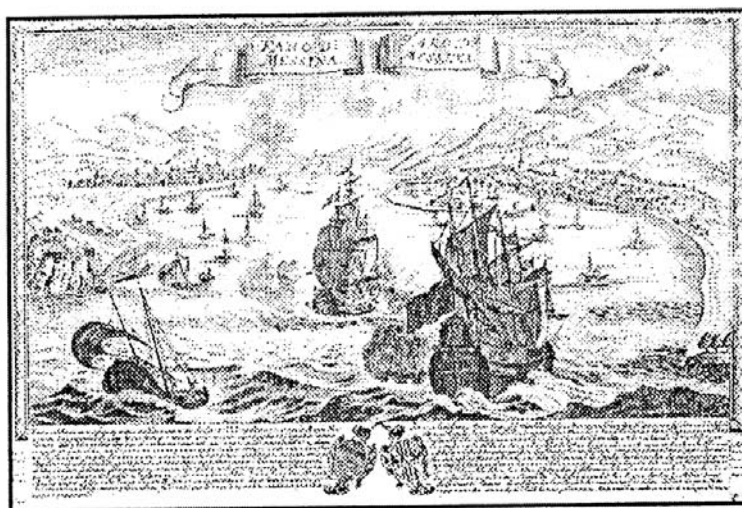
Società Chimica Italiana
visione di Chimica Inorganica



Atti Accademia Peloritana dei Pericolanti
Classe I di Scienze Fisiche
Matematiche e Naturali

WORKSHOP ON PLATINUM CHEMISTRY

ABSTRACTS

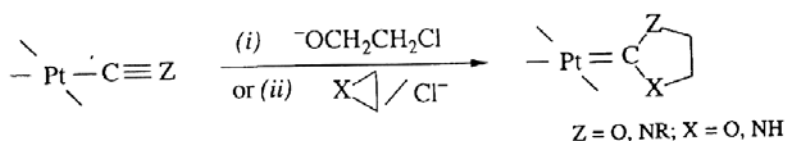


MESSINA 30-31 MAGGIO 1994
Aula dell'Accademia

**CYCLOADDITION AND COUPLING REACTIONS
 OF PLATINUM-COORDINATED LIGANDS.
 STOICHIOMETRIC AND CATALYTIC SYNTHESSES
 OF HETEROCYCLES AND CYCLOPROPANES**

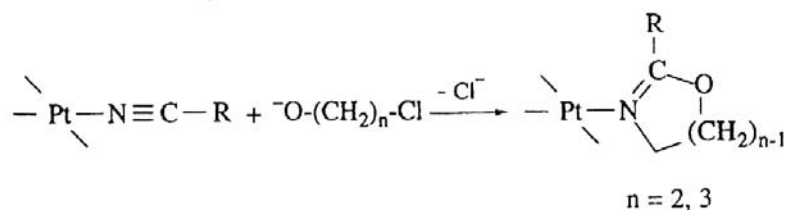
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Pt(II)-coordinated isocyanide and carbonyl ligands can be converted to 5- or 6-membered heterocyclic carbenes by reactions with a new class of organic nucleophiles such as haloalcohols, haloamines and the three-membered heterocycles $\overline{XCH_2C}H_2$ ($X = NH, O, :$



Electrophilic cleavage of $C - F$ bonds in *Pt(II) - CF₃* complexes in the presence of diprotic O- and S-nucleophiles gives a series of dioxy- and dithio-carbenes.

Pt(II)-nitrile ligands give cycloaddition reactions with $^-O(CH_2)_nCl$ ($n = 2, 3$) or $\overline{OCH_2C}H_2/Cl^-$ to yield 2-oxazolines and 1,3-oxazines:



A series of free oxazolines is obtained stoichiometrically using cationic *Pt(II)* nitrile compounds; attempts to carry out these reactions under catalytic conditions are reported.

Highly reactive *Pt(0)* carbene intermediates are involved in the reaction of $[(PPh_3)_2Pt(C_2H_4)]$ with $N_2CHCOOEt$, which affords, as the only isolated product, $[(PPh_3)_2Pt(trans - EtOOCCH = CHCOOEt)]$. By performing this reaction in the presence of styrene, the catalytic cyclopropanation of the olefin occurs. A mechanism based on the intermediacy of a *Pt(0)*-carbene is proposed on the basis of a *FAB - MS* study.

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