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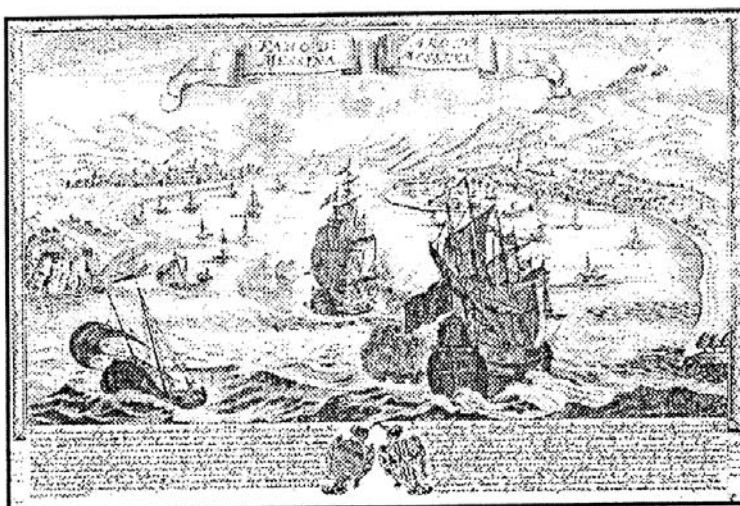
Società Chimica Italiana
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Atti Accademia Peloritana dei Pericolanti
Classe I di Scienze Fisiche
Matematiche e Naturali

WORKSHOP ON PLATINUM CHEMISTRY

ABSTRACTS

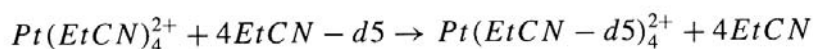


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**STUDIES OF THE SOLVENT-EXCHANGE RATE
OF $[Pt(CH_3CH_2CN)_4] (CF_3SO_3)_2$**

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Solvent-exchange of complexes of the type PtS_4^{2+} has been studied for S being e.g. H_2O^1 , Me_2S^2 , $DMSO^3$ and $MeNC^4$. However, no N -bonded Pt -complex has so far been investigated, due to *inter alia* the instability of $Pt(MeCN)_4^{2+}$. Recently, the corresponding propionitrile complex has been synthesized⁵ and we here present rate constants and activation parameters for the reaction



studied by $^1H - NMR$ and isotopic labeling. Unlike other solvent-exchange reactions of platinum(II) complexes studied so far there is a propionitrile independent contribution to the rate of the above reaction, corresponding to a solvent path. The k_1 - and k_2 -values at $30^\circ C$ are $0.43 \cdot 10^{-4} s^{-1}$ and $2.4 \cdot 10^{-4} m^{-1} s^{-1}$. The activation entropies are -21 and $-70 J \cdot K^{-1} \cdot mol^{-1}$, respectively, indicating an associative mode of activation.

REFERENCES

- [1] a) Groning O., Drakenberg T., Elding, L.I. *Inorg. Chem.* 21 (1982), 1820
b) Helm L., Elding L.I., Merbach A.E., *Inorg. Chem.* 24 (1985), 1719
- [2] Frey U., Elmroth S., Moullet B., Elding L.I., Merbach A.E., *Inorg. Chem.* 30 (1991), 5033
- [3] Ducommon Y., Helm L., Merbach A.E., Hellquist B., Elding L.I., *Inorg. Chem.* 28 (1989), 377
- [4] Hallinan N., Besançon, V., Forster M., Elbaze G., Ducommon Y., Merbach A. E., *Inorg. Chem.* 30 (1991), 1112
- [5] Kukuskin V.Y., Oskarsson A., Elding L.I., *Inorg. Synth.* accepted for publication, 31 (1993).

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TRIARYLPHOSPHINE Pt(II) COMPLEXES WITH AMINO ACIDS AND PEPTIDES

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In recent years renewed attention has been addressed to the synthesis and physico-characterization of amino acids and peptides metal complexes.

Complexes of Pt(II), Co(III) and Cu(II) have been used in peptide synthesis and they can provide a significant contribution to peptide chemistry: N-terminal or C-terminal end protection during peptide synthesis.[1]

Platinum has been proven to be an effective amino protecting group of α -amino acids and its electron with-drawing properties seem to increase the reactivity of N-coordinated amino acid in the formation of peptide bond.[2]

Beside the studies of platinum(II) complexes containing two metal ion N-coordinated amino acid residues, in order to better evaluate the usefulness of these compounds in peptide synthesis, we undertook the synthesis and structural characterization of Pt(II) complexes containing a single N-coordinated α -mino acid.[3]

In this work we report the synthesis and solution characterization by NMR spectroscopy, of triarylphosphine Pt(II)

complexes with only one amino acidic residue. A detailed X-ray analysis is also reported.

REFERENCES

- [1] W. Beck, *Pure and Appl. Chem.*, **60**, (1988), 1357.
- [2] A. Lombardi, V. Pavone, C. Pedone, B. Di Blasio, E. Benedetti, *John Libbery Eurotext Ltd., Second Forum on Peptides*, **174**, (1989), 207.
- [3] A. Lombardi, O. Maglio, V. Pavone, B. Di Blasio, M. Saviano, F. Nastri, C. Pedone and E. Benedetti, *Inorg. Chim. Acta*, **204**, (1993), 87.

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