

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/231525233>

Rapid Catalytic Oxygenation of Hydrocarbons by Ruthenium Pentafluorophenylporphyrin Complexes: Evidence for the Involvement of a Ru(III) Intermediate

ARTICLE in JOURNAL OF THE AMERICAN CHEMICAL SOCIETY · SEPTEMBER 1996

Impact Factor: 12.11 · DOI: 10.1021/ja9542092

CITATIONS

128

READS

22

4 AUTHORS, INCLUDING:



Tommaso Carofiglio

University of Padova

71 PUBLICATIONS 1,201 CITATIONS

SEE PROFILE

LIST OF PUBLICATIONS OF TOMMASO CAROFIGLIO

- 32 **Synthesis of 6I-amino-6I-deoxy-2I-VII,3I-VII-tetradeca-O-methyl-cyclomalto heptaose.**
Carofiglio T., M. Cordioli, Fornasier R., Jicsinszky L., Tonellato U.
Carbohydrate Research. **2004** in press.
- 31 **Synthesis and Physicochemical Characterization of Folate-Cyclodextrin Bioconjugate for Active Drug Delivery.**
Caliceti, P.; Salmaso, S.; Semenzato, A.; Carofiglio, T.; Fornasier, R.; Fermeglia, M.; Ferrone, M.; Pricl, S.
Bioconjugate Chem. **2003**; *14*, 899-908
- 30 **Capillary zone electrophoresis study of cyclodextrin - lipoic acid host-guest interaction.**
M. Trentin, T. Carofiglio, R. Fornasier, U. Tonellato
Electrophoresis **2002**, *23*, 4117-4122
- 29 **Efficient Sensitized Photooxygenation in Water by a Porphyrin-Cyclodextrin Supramolecular Complex.**
M. Bonchio, T. Carofiglio, M. Carraro, R. Fornasier, U. Tonellato
Org. Lett. **2002**, *26*, 4635-4637
- 28 **Capillary electrophoresis, ROESY NMR and molecular modelling study of the inclusion complex beta-cyclodextrin/lipoic acid**
T. Carofiglio, R. Fornasier, L. Jicsinszky, G. Saielli, U. Tonellato, R. Vetta
Eur. J. Org. Chem. **2002**, *7*, 1191-1196
- 27 **Synthesis, characterization and chemisorption on gold of a beta-cyclodextrin-lipoic acid conjugate**
T. Carofiglio, R. Fornasier, L. Jicsinszky, U. Tonellato, C. Turco
Tetrahedron Lett. **2001**, *42*, 5241-5244
- 26 **Synthesis, Characterization, and Supramolecular Properties of a Hydrophilic Porphyrin- β -Cyclodextrin Conjugate**
T. Carofiglio, R. Fornasier., V. Lucchini, L. Simonato, U. Tonellato
J. Org. Chem., **2000**, *65*, 9013-9021
- 25 **A highly Sensitive Method for the Analysis of Nitrite Ions by Capillary Zone Electrophoresis Using a Waters-Soluble Aminophenylporphyrin Derivative as Chromogenic Reagent**
P. Andrighetto, T. Carofiglio, R. Fornasier. U. Tonellato
Electrophoresis, **2000**, *21*, 2384-2389
- 24 **Capillary Electrophoresis Behavior of Water-Soluble Anionic Porphyrins in the Presence of β -Cyclodextrin and its O-Methylated Derivatives.**
P. Andrighetto, T. Carofiglio, R. Fornasier. U. Tonellato
Electrophoresis, **2000**, *21*, 619-626.
- 23 **Catalytic Oxygenation of Hydrocarbons by Metalloporphyrin and Metallosalen**

- Complexes.**
J.T. Groves, T. Carofiglio, M. Bonchio, A. Sauve
Patent Number 6.002.026, December 14, **1999**
- 22 **Synthesis and Spectroscopic Properties of a Water-Soluble Porphyrin-Modified β -Cyclodextrin Compound**
T. Carofiglio, R. Fornasier, G. Gennari, V. Lucchini, L. Simonato, U. Tonellato
Tetrahedron Lett., **1997**, 38, 7919-7922
- 21 **Rapid Catalytic Oxygenation of Hydrocarbons with Perhalogenated Ruthenium Porphyrin Complexes**
J. T. Groves, K. V. Shalyaev, M. Bonchio, T. Carofiglio
Stud. Surf. Sci. Catal. vol.110, R.K. Grasselli, S.T.Oyama, A.M. Gaffney, J.E. Lions
Editors, Elsevier: Amsterdam, **1997**, pag 865-872.
- 20 **Very Strong Binding and Mode of Complexation of Water Soluble Porphyrins with a Permethylated β -Cyclodextrin**
T. Carofiglio, R. Fornasier, V. Lucchini, C. Rosso, U. Tonellato
Tetrahedron Lett., **1996**, 37, 8019-8022
- 19 **Rapid Catalytic Oxygenation of Hydrocarbons by Ruthenium Pentafluorophenyl Porphyrin Complexes: Evidence for the Involvement of a Ru(III) Intermediate**
T. Carofiglio, J.T. Groves, M. Bonchio, K. Shaylaiev
J. Am. Chem. Soc., **1996**, 118, 8961-8962
- 18 **UV Stabilizers Bonded to Transition Metals: Synthesis and X-Ray Structure of 2-(2'-hydroxyphenyl)benzotriazole-oxovanadium(IV) and -dioxomolybdenum(VI) Complexes**
T. Carofiglio, E. Solari, C. Floriani, A. Chiesi-Villa, Corrado, R.
Polyhedron, **1996**, 15, 4435-4440.
- 17 **Flavins Inhibit Human Cytomegalovirus UL80 Protease Via Disulfide Bond Formation**
T. Carofiglio, E. Z. Baum, W.-D. Ding, M. M. Siegel, J. Hulmes, G. A. Bebernitz, L. Sridharan, K. Tabei, G. Krishnamurthy, J. T. Groves, J. D. Bloom, M. Di Grandi, M. Bradley, G. Ellestad, A. P. Seddon, Y. Gluzman
Biochemistry, **1996**, 35, 5847-5855.
- 16 **Supramolecular Catalysis: Enantioselective Oxidation of Thioanisole in Water by Hydrogen Peroxide Catalyzed by Mo(VI) in the Presence of β -Cyclodextrin-based Ligand**
T. Carofiglio, M. Bonchio, F. Di Furia, R. Fornasier
J. Org. Chem., **1995**, 60, 5986-5988.
- 15 **A Novel Class of Hexanuclear Titanoxanes: Synthesis, Structure and Electronic Configuration**
T. Carofiglio, C. Floriani, A. Roth, A. Sgamellotti, M. Rosi, A. Chiesi-Villa, C. Rizzoli
J. Organomet. Chem. **1995**, 488, 141-154.
- 14 **Ultramicroelectrode Voltammetry for Studying Host-Guest Complexation Equilibria: an Analysis of the Possibilities of the Method**

- T. Carofiglio, F. Magno, I. Lavagnini
J. Electroanal. Chem., **1994**, 373, 11-17.
- 13 **The Correlation Between One Electron Reduction and Oxygen-Oxygen Bond Strength in d^0 Transition Metal Peroxocomplexes**
T. Carofiglio, M. Bonchio, V. Conte, F. Di Furia, G. Modena, S. Moro, F. Magno, P. Pastore
Inorg. Chem., **1993**, 32, 5797-5799.
- 12 **Co(II) Induced Radical Oxidation by Peroxomolybdenum Complexes**
T. Carofiglio, M. Bonchio, V. Conte, F. Di Furia, F. Magno, P. Pastore
J. Chem. Soc., Perkin II, **1993**, 1923.
- 11 **Determination of the Composition of Isomeric Mixtures of Allylstannanes by Means of ^{119}Sn and ^{13}C NMR Measurements**
T. Carofiglio, D. Marton, F. Lenzmann
Anal. Chim. Acta, **1993**, 281, 119-127.
- 10 **Titanium Ester Homoenoates: A Structural and Synthetic Study**
T. Carofiglio, P. G. Cozzi, C. Floriani, A. Chiesi-Villa, C. Rizzoli
Organometallics, **1993**, 12, 2845-2848.
- 9 **Nonorganometallic Pathway of the Passerini Reaction Assisted by Titanium Tetrachloride**
T. Carofiglio, P. G. Cozzi, C. Floriani, A. Chiesi-Villa, C. Rizzoli
Organometallics, **1993**, 12, 2726-2736.
- 8 **New Simple Route to Allylstannanes by Zinc-Mediated Coupling of Allyl Bromides with Bu_3SnCl and Bu_2SnCl_2 in an $\text{H}_2\text{O}(\text{NH}_4\text{Cl})$ Medium**
T. Carofiglio, D. Marton, G. Tagliavini
Organometallics, **1992**, 11, 2961-2963.
- 7 **BuSnCl_3 -mediated Transketalizations and Acetonations of 1,n-Diols ($n=2,3$) and 1,2,n-Triols ($n=3,4$) using 2,2-Dimethoxypropane and 2-Methoxypropene**
T. Carofiglio, D. Marton, D. Stivanello, G. Tagliavini
Main Group Met. Chem., **1992**, 15, 247-254.
- 6 **Monocyclopentadienylchlorooxotitanium(IV) Dimers, Trimers and Tetramers**
T. Carofiglio, C. Floriani, A. Sgamellotti, M. Rosi, A. Chiesi-Villa, C. Rizzoli
J. Chem. Soc. Dalton Trans., **1992**, 1081-1087.
- 5 **The Bis(methylcyclopentadienyl)titanium(IV) Molybdate Dimer: A Titanium(IV)-Molybdenum(VI) Eight Membered Metal-Oxo Ring**
T. Carofiglio, M. Rosi, C. Floriani, A. Chiesi-Villa, C. Rizzoli
Inorg. Chem., **1991**, 30, 3245-3246.
- 4 **Nonorganometallic Pathway of the Passerini Reaction Assisted by TiCl_4**
T. Carofiglio, C. Floriani, A. Chiesi-Villa, C. Rizzoli
Organometallics, **1991**, 10, 1659-1660.

- 3 **Isocyanide Complexes of Titanium(IV) and Vanadium(V): Concerning the Nonexistent Insertion of Isocyanides Into a Metal-Chloride Bond**
T. Carofiglio, C. Floriani, A. Chiesi-Villa, C. Guastini
Inorg .Chem., **1989**, 28, 4417-4419.
- 2 **Rearrangements of $>\text{C}=\text{N}$ - Functionalities Promoted by Cobalt(I): Azine, Benzophenone Oxime, Benzylidene(phenyl)amine and Crystal Structure Determinations of the Products**
T. Carofiglio, S. Stella, C. Floriani, A. Chiesi-Villa, C. Guastini
J. Chem. Soc. Dalton Trans., **1989**, 1957-1962.
- 1 **Carbon Suboxide Polymers**
T. Carofiglio, L. Pandolfo, G. Paiaro
Eur. Polym. J., **1986**, 22, 491-497

POSTERS AND ORAL COMMUNICATIONS

- 15 **Synthesis of Mono-6-Amino-2,3-O-Permethyl-beta-Cyclodextrin: a key intermediate for the synthesis of cyclodextrin-based molecular receptors.** (Poster)
T. Carofiglio, M. Cordioli, R. Fornasier, L. Jicsinszky, U. Tonellato.
First World Congress on Synthetic Receptors, 15-17 Ottobre, Lisbona (Portogallo)
- 14 **Porphyrin-cyclodextrin supramolecular complexes at work.** (Poster)
T. Carofiglio, R. Fornasier, U. Tonellato.
VI° Congresso Nazionale di Chimica Supramolecolare, 7-10 Settembre 2003, Urbino (Italia)
- 13 **New Cyclodextrin Bioconjugates for Active Drug Targeting.** (Comunicazione orale)
Paolo Caliceti, Stefano Salmaso, Tommaso Carofiglio, Roberto Fornasier, Fabio Sonvico, Patrick Couvreur, Johan Hoebeke.
30th Annual Meeting and Exposition of the Controlled Release Society, 19-23 Luglio 2003, Glasgow (UK), (Communication 416)
- 12 **Cyclodextrin bioconjugates for site specific drug delivery.** (Poster)
S. Salmaso, T. Carofiglio, R. Fornasier., F. Sonvico, P. Couvreur., P. Caliceti.
II° Workshop of CRS (Controlled Released Society) Sezione Italiana: "Ciclodestrine: proprietà e applicazioni", 29-30 Novembre 2002, Padova (Italia).
- 11 **Synthesis and Supramolecular Properties of a Porphyrin-Appended β -Cyclodextrin Compound**
T. Carofiglio, R. Fornasier, G. Gennari, V. Lucchini, L. Simonato, U. Tonellato
9th International Symposium on Cyclodextrins
Santiago de Campostela, Spain, 31 August-3 June 1998.
- 10 **Rapid Catalytic Oxidation of Hydrocarbons by Perhalogenated Ruthenium Porphyrin Complexes**
T. Carofiglio, J. T. Groves, M. Bonchio, K. V. Shalyaev
10th International Symposium of Homogeneous Catalysis
Princeton, New Jersey (USA), 11-16 August 1996.
- 9 **Supramolecular Catalysis: Enantioselective Oxidation of Aryl Sulfides by Aqueous Hydrogen Peroxide and a Mo(VI) Complex of a β -Cyclodextrin Derivative Bearing a Schiff-Base Moiety**
M. Bonchio, T. Carofiglio, F. Di Furia, R. Fornasier
IUPAC 12th Conference of Physical Organic Chemistry, Padova (Italy), 28/8-2/9 1994
- 8 **La Voltammetria ad un Ultramicroelettrodo nello Studio dei Complessi di Inclusione. Un'analisi delle possibilita' del metodo**
T. Carofiglio, F. Magno, I. Lavagnini
Giornate dell'Elettrochimica Italiana, Trieste (Italy), 25-28 October 1993 (oral communication).
- 7 **Bu₃SnCl-mediated Transketalization and Acetonation of 1, n-diols (n=2,3) and 1, 2, n-triols (n=3,4) Using 2,2-Dimethoxypropane and 2-Methoxypropene**

- T. Carofiglio, D. Marton, G. Tagliavini
VII-th International Conference on the Organometallic and Coordination Chemistry of Germanium, Tin and Lead. Riga (Latvia), 20-25 September 1992
- 6 **New Simple Route to Allyl Stannanes by Zinc-mediated Coupling of Allyl Bromides with Bu₃SnCl or Bu₂SnCl₂ in an H₂O (NH₄Cl)/THF medium**
T. Carofiglio, D. Marton, G. Tagliavini
VII-th International Conference on the Organometallic and Coordination Chemistry of Germanium, Tin and Lead. Riga (Latvia), 20-25 September 1992.
- 5 **Use of Organotin Halides as Catalytic Precursors in Dehydration Processes**
T. Carofiglio, D. Marton, G. Tagliavini
The Third International Conference of Heteroatom Chemistry, Riccione (Italy), 7-12 June 1992
- 4 **The M-O Functionality and its Versatility in Organometallic Chemistry**
T. Carofiglio, C. Floriani
Journées de Chimie "Alsace-Suisse", Strasbourg (France), 22-23 March 1990.
- 3 **The Role of TiCl₄ in the Passerini Reaction**
T. Carofiglio, C. Floriani
OMCOS V, Fifth IUPAC Symposium on Organometallic Chemistry directed towards Organic Synthesis, Firenze (Italy), 1-6 October 1989.
- 2 **Azallyl Ligands and their Use in Organotransition Metal Chemistry**
T. Carofiglio, P. Veya, C. Floriani
Assemblée d'Automne de la Société Suisse de Chimie, Berne (Switzerland), 21 October 1988.
- 1 **A Variation of the Passerini Reaction: the Role of the Lewis acid TiCl₄**
T. Carofiglio, C. Floriani
Assemblée d'Automne de la Société Suisse de Chimie, Berne (Switzerland), 21 October 1988.