



Konstantinos Mertis

Professor

Education

B.Sc. in Chemistry, University of Athens (1968)

Ph.D. in Chemistry, University of Warwick, England (1972)

Research Fields of Interest

- Synthetic Inorganic and Organometallic Chemistry
 - di- and trinuclear transition metal complexes featuring multiple metal-metal bonds
- Homogeneous Catalysis
 - activation of small molecules
 - selective oxidation of organic substrates
 - polymerization of olefins
 - metathetical polymerization of alkynes
 - ring opening metathesis polymerization (ROMP) of cycloolefins

Teaching

Graduate:

Catalysis with Transition Metal Clusters

Homogeneous Catalysis

Catalysis

Selected Papers

1. "Incipient Chirality in Organometallic Triphenylphosphine derivatives" Brown, J. M.; **Mertis, K. J.** *Organometallic Chem.* **1973**, *47*, C5.
[doi:10.1016/S0022-328X\(00\)92825-0](https://doi.org/10.1016/S0022-328X(00)92825-0)
2. "Tetramethyloxorhenium(I), a paramagnetic d¹ alkyl" **Mertis, K.**; Gibson, J. F.; Wilkinson, G. J. *Chem. Soc., Chem. Commun.* **1974**, 93.
<http://www.rsc.org/Publishing/Journals/C3/article.asp?doi=C3974000093a>
3. "New synthesis of hexamethyltungsten(VI) and dioxomethylrhenium(VII)" Calyer, L.; **Mertis, K.**; Wilkinson, G. J. *Organometallic Chem.* **1975**, *85*, C37.
[doi:10.1016/S0022-328X\(00\)80315-0](https://doi.org/10.1016/S0022-328X(00)80315-0)
4. "The Chemistry of Rhenium alkyls. Part III. The synthesis and reactions of hexamethylrhenium(VI), cis-dioxotrimethylrhenium(VII) and octamethylrhenate(VI) ion" **Mertis, K.**; Wilkinson, G. *J Chem. Soc., Dalton Trans.* **1976**, 1488.

- <http://www.rsc.org/Publishing/Journals/DT/article.asp?doi=DT9760001488>
5. "The Chemistry of Rhenium alkyls. Part IV. Electron spin resonance spectra of hexamethylrhenium(VI) and the octamethylrhenate(VI) ion" Gibson, J. F.; Luck, G.; **Mertis, K.**; Wilkinson, G. *J. Chem. Soc., Dalton Trans.* **1976**, 1492.
<http://www.rsc.org/Publishing/Journals/DT/article.asp?doi=DT9760001492>
 6. "Rhenium Cluster Alkyls" **Mertis, K.**; Masters, A. F.; Wilkinson, G. *J. Chem. Soc., Chem. Commun.* **1976**, 858.
<http://www.rsc.org/Publishing/Journals/C3/article.asp?doi=C39760000858>
 7. "Synthesis and Structure of Dilithium Octamethylrhenate(III)" Cotton, F. A.; Cage, L. D.; **Mertis, K.**; Slive, L.; Wilkinson, G. *J. Am. Chem. Soc.* **1976**, 98, 6922.
<http://pubs.acs.org/doi/abs/10.1021/ja00457a016?prevSearch=%255Bauthor%253A%2Bmertis%255D&searchHistoryKey=>
 8. "Preparation and Characterization of Compounds Containing the Octamethylditungsten(II) Anion and partially chlorinated analogues" Cotton, F. A.; Koch, S.; **Mertis, K.**; Millar, M.; Wilkinson, G. *J. Am. Chem. Soc.* **1977**, 99, 4989.
<http://pubs.acs.org/doi/abs/10.1021/ja00457a016?prevSearch=%255Bauthor%253A%2Bmertis%255D&searchHistoryKey=>
 9. "Redox chemistry of the $[\text{Re}_3(\mu\text{-Cl})_3\text{X}_9]^{3-}$ halides (X = Cl or Br); isolation and structural characterization of the $[\{\text{Re}_3(\mu\text{-Cl})_3\text{Br}_6(\text{H}_2\text{O})(\mu\text{-O})\}]^{2-}$ cluster anion" Psaroudakis, N.; Terzis, A.; Raptopoulou, C.; **Mertis, K.** *J. Chem. Soc., Dalton Trans.* **1997**, 3299.
<http://www.rsc.org/Publishing/Journals/DT/article.asp?doi=a702938a>
 10. "Structural and Functional Characteristics of Rhenium Clusters Derived from Redox Chemistry of the $[\text{Re}_3^{\text{III}}(\mu\text{-Cl})_3]$ core unit" Neuman, D.; Paraskevopoulou, P.; Psaroudakis, N.; **Mertis, K.**; Staples, R., J.; Stavropoulos, P. *Inorg. Chem.* **2000**, 39, 5530.
<http://pubs.acs.org/doi/abs/10.1021/ic000449t>
 11. "Catalytic Selective Oxidation of Benzyl Alcohols to Aldehydes with Rhenium Complexes" Paraskevopoulou, P.; Psaroudakis, N.; Koinis, S.; Stavropoulos, P.; **Mertis, K.** *J. Mol. Catal. A: Chem.* **2005**, 240, 27.
[doi:10.1016/j.molcata.2005.06.035](https://doi.org/10.1016/j.molcata.2005.06.035)
 12. "Efficient Chemoselective Oxidation of Phenylmethanols to Aldehydes with Iodosobenzene" Paraskevopoulou, P.; Petalidou, E.; Psaroudakis, N.; Stavropoulos, P.; **Mertis, K.** *Monatsh. Chem.* **2005**, 136, 2035.
<http://www.springerlink.com/content/u18801168732841t/>
 13. "Catalytic Polymerization of Alkynes with the Quadruply Bonded Octachloroditungsten Anion" Floros, G.; Saragas, N.; Paraskevopoulou, P.; Choinopoulos, I.; Koinis, S.; Psaroudakis, N.; Pitsikalis, M.; **Mertis, K.** *J. Mol. Catal. A: Chem.* **2008**, 289, 76.
[doi:10.1016/j.molcata.2008.04.012](https://doi.org/10.1016/j.molcata.2008.04.012)
 14. "Redox Reactivity and Comprehensive Synthetic Chemistry of the Perchloroditungstate $[\text{W}_2(\mu\text{-Cl})_3\text{Cl}_6]^{n-}$ (n = 3, 2, 1) Anions in Organic Media" Paraskevopoulou, P.; Petalidou, E.; Panas, A.; Ioannou, M.; Koinis, S.; Psaroudakis, N.; Leventis, N.; Stavropoulos, P.; **Mertis, K.** *Polyhedron* **2008**, 27, 2859.
[doi:10.1016/j.poly.2008.06.032](https://doi.org/10.1016/j.poly.2008.06.032)
 15. "Polymerization of Terminal Alkynes with a Triply Bonded Ditungsten Halo-Complex" Saragas, N.; Floros, G.; Paraskevopoulou, P.; Psaroudakis, N.; Koinis, S.; Pitsikalis, M.; **Mertis, K.** *J. Mol. Catal. A: Chem.* **2009**, 303, 124.
[doi:10.1016/j.molcata.2009.01.013](https://doi.org/10.1016/j.molcata.2009.01.013)
 16. "Isolation, Characterization and Computational Studies of the Novel $[\text{Mo}_3(\mu_3\text{-Br})_2(\mu\text{-Br})_3\text{Br}_6]^{2-}$ Cluster Anion" Paraskevopoulou, P.; Makedonas, C.; Psaroudakis, N.; Mitsopoulou, C. A.; Floros,

G.; Seressioti, A.; Ioannou, M.; Sanakis, Y.; Rath, N.; Gómez García, C. J.; Stavropoulos, P.; **Mertis, K.** *Inorg. Chem.* **2010**, 49, 2068.

<http://pubs.acs.org/doi/abs/10.1021/ic901432j>

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