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**PROFESSIONAL EXPERIENCE**

2019-	Professor and Chancellor Emeritus
1995-2019	Chancellor and Professor of Chemistry, Washington University in St. Louis
1990-1995	Provost, Massachusetts Institute of Technology
1989-1995	Ciba-Geigy Professor of Chemistry, MIT
1987-1990	Head, Department of Chemistry, MIT
1981-1989	Frederick G. Keyes Professor of Chemistry, MIT
1977-1995	Professor of Chemistry, MIT
1976-1977	Associate Professor of Chemistry, MIT
1972-1976	Assistant Professor of Chemistry, MIT

**AWARDS**

Honorary Professor, Xidian University, Xi'an China, 2019  
Honorary Doctor of Philosophy Degree from The Interdisciplinary Center Herzliya, 2019  
Honorary Doctor Degree of Natural Science, Chinese Minister of Education and Fudan University, 2010  
Right Arm of St. Louis Award, Regional Chamber and Growth Association, 2010  
Honorary Doctorate of Humane Letters, Harris-Stowe State University, 2009  
St. Louis Citizen of the Year, St. Louis Post Dispatch, 2007  
Honorary Doctorate of Humane Letters, Florida State University, 2007  
Honorary Professor, Shandong University, Jinan, China, 2002  
Elected a Member of the American Philosophical Society, 2001  
Honorary Member, Association of Alumni and Alumnae of MIT, 1995  
Distinguished Alumni Award, California Institute of Technology, 1992  
American Chemical Society Award in Inorganic Chemistry, 1988  
Elected a Fellow of the American Academy of Arts and Sciences, 1988  
School of Science Teaching Prize, MIT, 1987  
Elected a Fellow of the American Association for the Advancement of Science, 1986  
Fresenius Award, Phi Lambda Upsilon, 1984  
E.O. Lawrence Memorial Award, Department of Energy, 1983  
New York Academy of Sciences Halpern Award in Photochemistry, 1983  
Honorary Doctor of Science, University of West Florida, 1983  
MacArthur Prize Fellow, 1983-1988  
Alumni Award, "Grad Made Good," Florida State University, 1982  
Chemistry Graduate Teaching Award, MIT, 1981  
American Chemical Society Award in Pure Chemistry, 1981  
Dreyfus Teacher-Scholar Grant Recipient, MIT, 1975-1980  
Alfred P. Sloan Research Fellowship, MIT, 1974-1976  
Herbert Newby McCoy Award, California Institute of Technology, 1972  
Monsanto Chemistry Award, Florida State University, 1969

**PRINCIPAL RESEARCH INTERESTS**

Inorganic photochemistry, catalysis, photoelectrochemistry, surface chemistry, molecular electronics

**PUBLICATIONS and PATENTS**

More than 300 research articles, one co-authored book, two edited symposium volumes, 16 patents, and consulting editor for four editions of a major freshman chemistry text

**EDUCATION**

Florida State University, Tallahassee, Florida, B.S. in Chemistry with Honors, 1969  
Undergraduate research thesis directed by Professor Jack Saltiel: *Mechanisms of Photosensitized Isomerization and the Nature of Energy Transfer from Photoexcited Molecules*  
Member of Phi Beta Kappa, Phi Eta Sigma, Phi Kappa Phi

California Institute of Technology, Pasadena, California, Ph.D. in Chemistry, 1972  
Graduate research under the direction of Professors George S. Hammond and Harry B. Gray:  
*Photoprocesses in Metal Containing Molecules*  
Member of Sigma Xi

## Mark S. Wrighton Patents

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### 1978

“Photoelectrochemical Energy Storage System.” Inventors: McKinzie, Howard; Wrighton, Mark S.; Lester, Joseph. U.S. Patent Number: 4,128,704. Date of Patent: Dec. 5, 1978.

### 1983

“Visible Light to Electrical Energy Conversion Using Photoelectrochemical Cells.” Inventors: Wrighton, Mark S.; Ellis, Arthur B.; Kaiser, Steven W. U.S. Patent Number: 4,414,300. Date of Patent: Nov. 8, 1983.

### 1984

“Redox Mediation and Hydrogen-Generation with Bipyridinium Reagents.” Inventors: Wrighton, Mark S.; Bookbinder, Dana C.; Bruce, James A.; Dominey, Raymond N.; Lewis, Nathan S. U.S. Patent Number: 4,439,302. Date of Patent: Mar. 27, 1984.

“Synthesis of N,N'-Dialkyl-4'Bipyridinium Reagents.” Inventors: Wrighton, Mark S.; Bookbinder, Dana C. U.S. Patent Number: 4,473,695. Date of Patent: Sep. 25, 1984.

### 1985

“Production of Hydrogen Peroxide.” Inventors: Wrighton, Mark S.; Buchanan, Robert M.; Calabrese, Gary S. U.S. Patent Number: 4,533,443. Date of Patent: Aug. 6, 1985.

### 1986

“Apparatus for Production of Hydrogen Peroxide.” Inventors: Wrighton, Mark S.; Buchanan, Robert M.; Calabrese, Gary S. U.S. Patent Number: 4,572,774. Date of Patent: Feb. 25, 1986.

“Production of Hydrogen Peroxide.” Inventors: Wrighton, Mark S.; Buchanan, Robert M.; Calabrese, Gary S. U.S. Patent Number: 4,576,756. Date of Patent: Mar. 18, 1986.

### 1988

“Microelectrochemical Devices.” Inventors: Wrighton, Mark S.; White, Jr., Henry S.; Thackeray, James W. U.S. Patent Number: 4,717,673. Date of Patent: Jan. 5, 1988.

“Molecule-Based Microelectronic Devices.” Inventors: Wrighton, Mark S.; White, Jr., Henry S.; Kittlesen, Gregg P. U.S. Patent Number: 4,721,601. Date of Patent: Jan 26, 1988.

## Mark S. Wrighton Patents

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### 1990

“Molecule-Based Microelectronic Devices.” Inventors: Wrighton, Mark S.; White, Jr., Henry S.; Kittlesen, Gregg P. U.S. Patent Number: 4,895,705. Date of Patent: Jan. 23, 1990.

“Amperometric Electrochemical Ion Sensors and Method for Determining Ion Concentration.” Inventor: Wrighton, Mark S. U.S. Patent Number: 4,929,313. Date of Patent: May 29, 1990.

“Microelectrochemical Devices Based on Inorganic Redox Active Material and Method for Sensing.” Inventor: Wrighton, Mark S. U.S. Patent Number: 4,936,956. Date of Patent: Jun. 26, 1990.

### 1991

“Molecule-Based Microelectronic Devices.” Inventors: Wrighton, Mark S.; White, Jr., Henry S.; Kittlesen, Gregg P. U.S. Patent Number: 5,034,192. Date of Patent: Jul. 23, 1991.

### 1993

“Electrochromic, Electroluminescent and Electrochemiluminescent Displays.” Inventors: Leventis, Nicholas; Wrighton, Mark S. U.S. Patent Number: 5,189,549. Date of Patent: Feb. 23, 1993.

“Two-Terminal Voltammetric Microsensors.” Inventors: Wrighton, Mark S.; Hickman, James J.; Laibinis, Paul E.; Ofer, David; Mirkin, Chad A.; Valentine, James R.; Whitesides, George M. U.S. Patent Number: 5,223,117. Date of Patent: Jun. 29, 1993.

### 1995

“Electrochromic, Electroluminescent and Electrochemiluminescent Displays.” Inventors: Leventis, Nicholas; Wrighton, Mark S. U.S. Patent Number: 5,444,330. Date of Patent: Aug. 22, 1995.

Mark S. Wrighton  
Publications

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1969

"The Nature of the Intermediates in the Sensitized *cis-trans* Photoisomerization of Alkenes", Saltiel, J.; Neuberger, K. R.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1969, 91, 3658.

"Benzophenone-Sensitized Photoisomerization of the 2,4-Hexadienes in Solution", Saltiel, J.; Metts, L.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1969, 91, 5684.

1970

"Delayed Fluorescence and Phosphorescence of Aromatic Ketones in Solution", Saltiel, J.; Curtis, H. C.; Metts, L.; Miley, J. W.; Winterle, J.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1970, 92, 410.

"The Direct *cis-trans* Photoisomerization of 1,3-Dienes in Solution", Saltiel, J.; Metts, L.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1970, 92, 3227.

"Isomerization of Conjugated Dienes *via* Photolysis of Metal Carbonyl-Diene Complexes", Wrighton, M. S.; Hammond, G. S.; Gray, H. B. *J. Am. Chem. Soc.*, 1970, 92, 6068.

1971

"Metal Carbonyl Photoassisted *cis-trans* Isomerization of Stilbene", Wrighton, M. S.; Hammond, G. S.; Gray, H. B. *J. Am. Chem. Soc.*, 1971, 93, 3285.

"Emission from Tungsten Carbonyl Complexes", Wrighton, M. S.; Hammond, G. S.; Gray, H. B. *J. Am. Chem. Soc.*, 1971, 93, 4336.

"The Mechanism of Photoaquation of Hexacyanocobaltate(III)", Wrighton, M. S.; Hammond, G. S.; Gray, H. B. *J. Am. Chem. Soc.*, 1971, 93, 5254.

"The Role of *s-cis*-1,3-Diene Triplets in Sensitized *cis-trans* Photoisomerization", Saltiel, J.; Metts, L.; Sykes, A.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1971, 93, 5302.

"Mechanism of Substitution of Acetone by Alkenes in Acetonepentacarbonyltungsten(0)", Wrighton, M. S.; Hammond, G. S.; Gray, H. B. *J. Am. Chem. Soc.*, 1971, 93, 6068.

1972

"Stability of Fe(II) in Ferrioxalate Solutions", Wrighton, M. S.; Witz, S. *Mol. Photochem.*, 1972, 3, 387.

"Acetone-Sensitized *cis-trans* Photoisomerization of Octa-2,6-dienes", Saltiel, J.; Wrighton, M. S. *J. C. S. Chem. Comm.*, 1972, 129.

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"Emission Lifetimes of Tungsten Carbonyl Complexes", Wrighton, M. S.; Gray, H. B.; Hammond, G. S. *Inorg. Chem.*, 1972, 11, 3122.

"Deactivation of Biacetyl Triplets by Cyanocobaltate(III) Complexes", Wrighton, M. S.; Bredesen, D.; Hammond, G. S.; Gray, H. B. *J. C. S. Chem. Comm.*, 1972, 1018.

"Molecular and Electronic Structure of Bis(Tetraphenyldithioimidodiphosphinato)-Manganese(II)", Siiman, O.; Wrighton, M. S.; Gray, H. B. *J. Coord. Chem.*, 1972, 2, 159

1973

"The *cis-trans* Photoisomerization of Olefins", Saltiel, J.; D'Agostino, J.; Megarity, E. D.; Metts, L.; Neuberger, K. R.; Wrighton, M. S.; Zafiriou, O. C. *Org. Photochem.*, 1973, 3, 1.

"Photochemical Reactivity of *trans*-Diacidotetracyanocobaltate(III) Complexes", Wrighton, M. S.; Gray, H. B.; Hammond, G. S.; Miskowski, V. M. *Inorg. Chem.*, 1973, 12, 740.

"A Model for the Substitutional Reactivity of Ligand Field Excited States", Wrighton, M. S.; Gray, H. B.; Hammond, G. S. *Mol. Photochem.*, 1973, 5, 165.

"Photoprocesses in Substituted Tungsten Carbonyl Complexes", Wrighton, M. S.; Hammond, G. S.; Gray, H. B. *Mol. Photochem.*, 1973, 5, 179.

"Symmetrical Cleavage of the Metal-Metal Bond in Decacarbonyldirhenium(0) by Ultraviolet Irradiation", Wrighton, M. S.; Bredesen, D. J. *Organometal. Chem.*, 1973, 50, C35.

"Photochemistry of Aquo- and Hydroxopentacyanocobaltate(III)", Wrighton, M. S.; Bredesen, D. *Inorg. Chem.*, 1973, 12, 1707.

"Quenching of the Luminescent State of Tris(2,2'-bipyridine)ruthenium(II) by Electronic Energy Transfer", Wrighton, M. S.; Markham, J. J. *Phys. Chem.*, 1973, 77, 3042.

"Structure and Reactivity Relationships in Chromium Carbonyl Photoassisted Hydrogenation of 1,3-Dienes", Wrighton, M. S.; Schroeder, M. A. *J. Am. Chem. Soc.*, 1973, 95, 5764.

1974

"The Photochemistry of Metal Carbonyls", Wrighton, M. S. *Chem. Rev.*, 1974, 74, 401.

"Preparation and Spectral Studies of Some Acidopentacyanorhodate(III) and -iridate(III) Complexes", Geoffroy, G. L.; Wrighton, M. S.; Hammond, G. S.; Gray, H. B. *Inorg. Chem.*, 1974, 13, 430.

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"Excited State Decay of Tetrahalomanganese(II) Complexes", Wrighton, M. S.; Ginley, D. *Chem. Phys.*, 1974, 4, 295.

"The Nature of the Lowest Excited State in Tricarbonylchloro-1,10-phenanthroline-rhenium(I) and Related Complexes", Wrighton, M. S.; Morse, D. L. *J. Am. Chem. Soc.*, 1974, 96, 998.

"Group VI Metal Carbonyl Photoassisted Isomerization of Olefins" Wrighton, M. S.; Hammond, G. S.; Gray, H. B. *J. Organometal. Chem.*, 1974, 70, 283.

"Electronic Absorption and Emission Spectral Studies of Square-Planar Rh(I) and Ir(I) Complexes. Evidence for a Charge-Transfer Emitting State", Geoffroy, G. L.; Wrighton, M. S.; Hammond, G. S.; Gray, H. B. *J. Am. Chem. Soc.*, 1974, 96, 3105.

"Chromium Carbonyl Photocatalyzed 1,4-Hydrosilation of 1,3-Dienes. A Synthesis of Allylsilanes", Wrighton, M. S.; Schroeder, M. A. *J. Am. Chem. Soc.*, 1974, 96, 6235.

"Photoreactions of Aminepentacarbonylmolybdenum(0) and -tungsten(0) Complexes", Wrighton, M. S. *Inorg. Chem.*, 1974, 13, 905.

"A Technique for the Determination of Absolute Emission Quantum Yields of Powdered Samples", Wrighton, M. S.; Ginley, D. S.; Morse, D. L. *J. Phys. Chem.*, 1974, 78, 2229.

"Tris(Acetonitrile)tricarbonylchromium(0) Catalyzed 1,4-Addition of Hydrogen to 1,3-Dienes", Schroeder, M. A.; Wrighton, M. S. *J. Organometal. Chem.*, 1974, 74, C29.

1975

"The Nature of the Lowest Excited State and Photosubstitution Reactivity of Tetracarbonyl-1,10-phenanthroline-tungsten(0) and Related Complexes", Wrighton, M. S.; Morse, D. L. *J. Organometal. Chem.*, 1975, 97, 405.

"Generation of Catalysts by Photolysis of Transition Metal Complexes", Wrighton, M. S.; Ginley, D. S.; Schroeder, M. A.; Morse, D. L. *Pure Appl. Chem.*, 1975, 41, 671.  
"Efficiency of Photosubstitution of Arenetricarbonylchromium(0) Complexes", Wrighton, M. S.; Haverty, J. L. *Z. Naturforsch. B*, 1975, 30, 254.

"Excited State Quenching Activity of  $d^6$  Metallocenes and a Detailed Study of Ruthenocene Luminescence", Wrighton, M. S.; Pdungsap, L.; Morse, D. L. *J. Phys. Chem.*, 1975, 79, 66.

"Photochemistry of Metal-Metal Bonded Complexes. II. The Photochemistry of Rhenium and Manganese Carbonyl Complexes Containing a Metal-Metal Bond", Wrighton, M. S.; Ginley, D. S. *J. Am. Chem. Soc.*, 1975, 97, 2065.

"Intraligand Lowest Excited States in Tricarbonylhalobis(styrylpyridine)rhenium(I) Complexes", Wrighton, M. S.; Morse, D. L.; Pdungsap, L. *J. Am. Chem. Soc.*, 1975, 97, 2073.

Mark S. Wrighton  
Publications

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"Reversible Addition of Carbon Monoxide to Tetracarbonylbis( $\eta^5$ -pentamethylcyclopentadienyl)dimolybdenum(I)", Ginley, D. S.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1975, 97, 3533.

"Photochemistry of Metal-Metal bonded Complexes. III. Photoreactivity of Hexacarbonylbis( $\eta^5$ -cyclopentadienyl)dimolybdenum(I) and -ditungsten(I)", Wrighton, M. S.; Ginley, D. S. *J. Am. Chem. Soc.*, 1975, 97, 4246.

"Photochemistry of Metal-Metal Bonded Complexes. IV. Generation of  $d^5$  and  $d^7$  Mononuclear Fragments via Homolytic Cleavage in Heterodinuclear Metal Carbonyls", Ginley, D. S.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1975, 97, 4908.

"Photoassisted Electrolysis of Water by Irradiation of a Titanium Dioxide Electrode", Wrighton, M. S.; Ginley, D. S.; Wolczanski, P. T.; Ellis, A. B.; Morse, D. L.; Linz, A. *Proc. Nat. Acad. Sci. U.S.*, 1975, 72, 1518.

1976

"Mechanistic Aspects of the Photochemical Reactions of Coordination Compounds", Wrighton, M. S. *Topics in Current Chemistry*, 1976, 65, 37.

"Photoassisted Electrolysis of Water by Ultraviolet Irradiation of an Antimony Doped Stannic Oxide Electrode", Wrighton, M. S.; Morse, D. L.; Ellis, A. B.; Ginley, D. S.; Abrahamson, H. B. *J. Am. Chem. Soc.*, 1976, 98, 44.

"Pentacarbonyliron(0) Photocatalyzed Hydrogenation and Isomerization of Olefins", Schroeder, M. A.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1976, 98, 551.

"Interpretation of the Electronic Spectra of Low-Spin  $d^6$   $M(CO)_5X$  Complexes. Primary Excited State Decay Paths in  $Re(CO)_5X$  Complexes", Wrighton, M. S.; Morse, D. L.; Gray, H. B.; Ottesen, D. K. *J. Am. Chem. Soc.*, 1976, 98, 1111.

"Semiconducting Potassium Tantalate Electrodes. Photoassistance Agents for the Efficient Electrolysis of Water", Ellis, A. B.; Kaiser, S. W.; Wrighton, M. S. *J. Phys. Chem.*, 1976, 80, 1325.

"Electronic Absorption and Emission Spectral and Photochemical Studies of Low-Spin  $d^6$  Metal Hexacarbonyl Anions", Wrighton, M. S.; Handeli, D. I.; Morse, D. L. *Inorg. Chem.*, 1976, 15, 434.

"Highlights in the Literature: Inorganic and Organometallic Photochemistry, 1973-1975", Abrahamson, H. B.; Ellis, A. B.; Ginley, D. S.; Morse, D. L.; Schroeder, M. A.; Wrighton, M. S. *Mol. Photochem.*, 1976, 7, 263.

Mark S. Wrighton  
Publications

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"Visible Light to Electrical Energy Conversion. Stable Cadmium Sulfide and Cadmium Selenide Photoelectrodes in Aqueous Electrolytes", Ellis, A. B.; Kaiser, S. W.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1976, 98, 1635.

"Strontium Titanate Photoelectrodes. Efficient Photoassisted Electrolysis of Water at Zero Applied Potential", Wrighton, M. S.; Ellis, A. B.; Wolczanski, P. T.; Morse, D. L.; Abrahamson, H. B.; Ginley, D. S. *J. Am. Chem. Soc.*, 1976, 98, 2774.

"Photochemistry of Metal-Metal Bonded Complexes. 5. Cleavage of the M-M Bond in  $(OC)_5M-M(CO)_3L$  by Irradiation into a Low Lying  $M \rightarrow L$  Charge-Transfer Band", Morse, D. L.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1976, 98, 3931.

"Photosubstitution Reactivity of a Series of Pentacarbonylpyridinetungsten(0) Complexes Having Ligand Field or Charge-Transfer Lowest Excited States", Wrighton, M. S.; Abrahamson, H. B.; Morse, D. L. *J. Am. Chem. Soc.*, 1976, 98, 4105.

"Optical to Electrical Energy Conversion: Cadmium Telluride-Based Photoelectrochemical Cells Empolying Telluride/Ditelluride Electrolytes", Ellis, A. B.; Kaiser, S. W.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1976, 98, 6418.

"Photoelectrochemical Cells: Conversion of Intense Optical Energy", Wrighton, M. S.; Ellis, A. B.; Kaiser, S. W. Proceedings of International Symposium on Solar Energy, Electrochemical Society, Inc., Princeton, New Jersey, 1976, p. 66.

"Photoassisted Electrolysis of Water: Conversion of Optical to Chemical Energy", Eleventh Intersociety Energy Conversion Engineering Conference, Sept., 1976, p. 33.

"Optical to Electrical Energy Conversion: Characterization of Cadmium Sulfide and Cadmium Selenide Based Photoelectrochemical Cells", Ellis, A. B.; Kaiser, S. W.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1976, 98, 6855.

"Correlation of Photocurrent-Voltage Curves with Flat-Band Potential for Stable Photoelectrodes for the Photoelectrolysis of Water", Bolts, J. M.; Wrighton, M. S. *J. Phys. Chem.*, 1976, 80, 2641.

1977

"Photogeneration of Dinuclear Metal Carbonyls Containing a Metal-Metal Triple Bond", Ginley, D. S.; Bock, C. R.; Wrighton, M. S. *Inorg. Chim. Acta*, 1977, 23, 85.

Photosubstitution Behavior of Dicarbonyl( $\eta^5$ -cyclopentadienyl)pyridinemanganese and -rhenium and Related Complexes", Giordano, P.; Wrighton, M. S. *Inorg. Chem.*, 1977, 16, 160.



Mark S. Wrighton  
Publications

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- "Visible Light to Electrical Energy Conversion: Stable Cadmium Selenide Photoelectrodes in Aqueous Electrolytes", Ellis, A. B.; Kaiser, S. W.; Wrighton, M. S. *Adv. Chem. Ser.*, 1977, 163, 71.
- "Reaction of Pentacarbonylmanganese(-I) and -rhenium(-I) with Metal Carbonyl Halide Derivatives", Morse, D. L.; Wrighton, M. S. *J. Organometal. Chem.*, 1977, 125, 71.
- "Photooxidation of a Tetranuclear Cluster Complex in the Presence of Halocarbons: Photochemistry of the Carbonyl( $\eta^5$ -cyclopentadienyl)iron(I) Tetramer" Bock, C. R.; Wrighton, M. S. *Inorg. Chem.*, 1977, 16, 1309.
- "Photochemistry of *cis*-Tetracarbonylbis(trans-4-styrylpyridine)tungsten(0): Intraligand Photoisomerization from Upper Excited States", Pdungsap, L.; Wrighton, M. S. *J. Organometal. Chem.*, 1977, 127, 337.
- "Pentacarbonyliron(0) Photocatalyzed Reactions of Trialkylsilanes with Alkenes", Schroeder, M. A.; Wrighton, M. S. *J. Organometal. Chem.*, 1977, 128, 345.
- "Electronic Spectra of Dinuclear Cobalt Carbonyl Complexes", Abrahamson, H. B.; Frazier, C. C.; Girley, D. S.; Gray, H. B.; Lilienthal, J.; Tyler, D.; Wrighton, M. S. *Inorg. Chem.*, 1977, 16, 1554.
- "Study of n-Type Semiconducting Cadmium Chalcogenide-Based Photoelectrochemical Cells Employing Polychalcogenide Electrolytes", Ellis, A. B.; Kaiser, S. W.; Bolts, J. M.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1977, 99, 2839.
- "Photoelectrolysis of Water by Irradiation of Platinized n-Type Semiconducting Metal Oxides", Wrighton, M. S.; Wolczanski, P. T.; Ellis, A. B. *J. Solid State Chem.*, 1977, 22, 17.
- "Excited State Proton Transfer of a Metal Complex: Determination of the Acid Dissociation Constant for a Metal-to-Ligand Charge Transfer State of a Ruthenium(II) Complex", Giordano, P. J.; Bock, C. R.; Wrighton, M. S.; Interrante, L. V.; Williams, R. F. *X. J. Am. Chem. Soc.*, 1977, 99, 3187.
- "A Double Photoelectrode-Based Cell for the Conversion of Light to Electricity: p-Type CdTe and n-Type CdSe Photoelectrodes in a Polysulfide Electrolyte", Bolts, J. M.; Ellis, A. B.; Legg, K. D.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1977, 4826.
- "Ordering the Reactivity of Photogenerated, Seventeen Valence Electron Metal Carbonyl Radicals", Abrahamson, H. B.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1977, 99, 5510.
- "The Chemical Conversion of Sunlight", Wrighton, M. S. *Technology Review*, 1977, 79, 30.
- "Characterization of n-Type Semiconducting Indium Phosphide Photoelectrodes: Stabilization to Photoanodic Dissolution in Aqueous Solutions of Telluride and Ditelluride Ions", Ellis, A. B.; Bolts, J. M.; Wrighton, M. S. *J. Electrochem. Soc.*, 1977, 124, 1603.

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"Aperiodic and Periodic Oscillations in Fluorescence Intensity from Irradiated Chlorocarbon Solutions of Anthracene and 9,10-Dimethylantracene", Bose, R. L.; Ross, J.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1977, 99, 6119.

"Thermodynamic Potential for the Anodic Dissolution of n-Type Semiconductors: A Crucial Factor Controlling Durability and Efficiency in Photoelectrochemical Cells and an Important Criterion in the Selection of New Electrode/Electrolyte Systems", Bard, A. J.; Wrighton, M. S. *J. Electrochem. Soc.*, 1977, 124, 1706.

"An n-Type Si-Based Photoelectrochemical Cell: A New Liquid Junction Photocell Employing a Non-Aqueous Ferricenium/Ferrocene Electrolyte", Legg, K. D.; Ellis, A. B.; Bolts, J. M.; Wrighton, M. S. *Proc. Nat. Acad. Sci., U.S.A.*, 1977, 74, 4116.

"Photoelectrolysis of Water at High Current Density: Use of Ultraviolet Laser Excitation", Bocarsly, A. B.; Bolts, J. M.; Cummins, P. G.; Wrighton, M. S. *Appl. Phys. Lett.*, 1977, 31, 568.

1978

"Design and Study of a Photosensitive Interface: Chemically Derivatized Silicon Photoelectrodes", Wrighton, M. S.; Austin, R. G.; Bocarsly, A. B.; Bolts, J. M.; Haas, O.; Legg, K. D.; Nadjo, L.; Palazzotto, M. C. *J. Am. Chem. Soc.*, 1978, 100, 1602.

"Photoelectrolysis of Water: Conversion of Sunlight to Chemical Fuel", Wrighton, M. S., 1978, *McGraw-Hill Encyclopedia of Science and Technology*, p.11.

"Simultaneous Multiple Emissions from *fac*-XRe(CO)<sub>3</sub>(3-benzoylpyridine)<sub>2</sub>: n-π\* Intraligand and Charge-Transfer Emission at Low Temperature", Giordano, P. J.; Fredericks, S. M.; Wrighton, M. S.; Morse, D. L. *J. Am. Chem. Soc.*, 1978, 100, 2257.

"Photoinduced Substitution and Oxidative Addition Reactions of Pentacarbonylmanganese(-1) and Tetracarbonyl(triphenylphosphine)manganese (-1)", Faltynek, R. A.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1978, 100, 2701.

"Preparation of Chemically Derivatized Platinum and Gold Electrode Surfaces. Synthesis, Characterization, and Surface Attachment of Trichlorosilylferrocene, (1,1'-Ferrocenediyl)dichlorosilane, and 1,1'-Bis(triethoxysilyl)ferrocene", Wrighton, M.S., Palazzotto, M. C., Bocarsly, A. B., Bolts, J. M., Fischer, A. B., Nadjo, L. *J. Am. Chem. Soc.*, 1978, 100, 7264.

"Photocatalyzed Reactions of Alkenes with Silanes Using Trinuclear Metal Carbonyl Catalyst Precursors", Austin, R. G.; Paonessa, R. S.; Giordano, P. J.; Wrighton, M. S. *Adv. Chem. Ser.*, 1978, 168, 189.

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"Chemically Derivatized n-Type Semiconducting Germanium Photoelectrodes: Persistent Attachment and Photoelectrochemical Activity of Ferrocene Derivatives", Bolts, J. M.; Wrighton, M. S. *J. Am. Chem. Soc.*, 1978, 100, 5257.

Preparation and Photochemistry of Metal-Metal Bonded Heterodinuclear Precursors to Tetracarbonylcobalt(0), Tricarbonyl( $\eta^5$ -cyclopentadienyl)molybdenum(I), Tricarbonyl( $\eta^5$ -cyclopentadienyl)tungsten(I), and Dicarbonyl( $\eta^5$ -cyclopentadienyl)iron(I) Abrahamson, H.B.; Wrighton, M.S. *Inorg. Chem.*, 1978, 17, 1003.

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