

Teddy G. Traylor Papers

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Descriptive Summary

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Title: Teddy G. Traylor Papers

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Date (inclusive): 1955-1995

Abstract: Papers of Teddy G. Traylor, organic chemist and professor of chemistry at the University of California, San Diego.

Acquisition Information

Acquired 1994

Preferred Citation

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Biography

Teddy G. Traylor was born in Sulphur, Oklahoma, on May 21, 1925. He did his undergraduate and graduate work in chemistry at UCLA and received a B.A. in 1949 and Ph.D. in 1952, under the direction of Saul Winstein. Traylor worked at Dow Chemical Company for six years, then as a postdoctoral fellow at Harvard University for two years under Paul D. Bartlett. In 1961, Traylor joined the Chemistry Department at UCSD as an assistant professor and was promoted to the rank of professor in 1968. He served as department chairman (1973-1976) and actively participated in the long-range planning for and expansion of the department.

Traylor conducted research in the fields of bioinorganic, organometallic and physical organic chemistry. His areas of study included oxymercuration of olefins, electrophilic substitution at saturated carbon, autoxidation of hydrocarbons, radical carbonium ions (and metallocene chemistry), carbon-carbon bond lengths, and biological oxygen transport and activation. His pioneering research in the field of biomimetic chemistry developed new models for understanding biochemical reactions. He made significant contributions in understanding the mechanism of oxygen and carbon monoxide binding by heme proteins. In 1973, Traylor's group synthesized the active site of myoglobin, the oxygen-carrying component of muscle.

In 1973, Traylor combined instruction in organic and inorganic chemistry in a graduate class entitled "Chemistry 141 A-B-C: Organic Chemistry." In collaboration with Patricia Traylor, his wife and also a chemistry professor, Traylor wrote a textbook for this class entitled "Organic-Inorganic Chemistry: A Course in Chemical Principles and Reactions of the Light Elements." In addition, he devised a new symbology for molecular orbitals and integrated computer methods for making spectroscopic drawings.

Traylor received fellowships from the John Simon Guggenheim Memorial Foundation and the John E. Fogarty International Center twice during his career.

He retired from the UCSD Chemistry Department in July 1991 and remained active professionally until his death on June 14, 1993.

Scope and Content of Collection

Papers of Teddy G. Traylor, organic chemist and professor of chemistry at the University of California, San Diego. Traylor's research interests included organometallic chemistry, autoxidation, oxygen transport, and bioorganic chemistry. He made significant contributions to biomimetic chemistry through studies of the mechanisms of oxygen transport and activation in biological systems, especially those involving heme proteins. The papers contain biographical materials, correspondence, published and unpublished writings, professional meeting materials, grants, patents, teaching materials, and UC San Diego materials.

Arranged in six series: 1) BIOGRAPHICAL MATERIALS, 2) CORRESPONDENCE, 3) WRITINGS, 4) MEETINGS AND LECTURES, 5) GRANTS AND PATENTS, and 6) UCSD MATERIALS.

SERIES 1: BIOGRAPHICAL MATERIALS

The BIOGRAPHICAL MATERIALS series is arranged alphabetically and includes his curriculum vitae, biographies for UCSD brochures and articles pertaining to Traylor's research.

SERIES 2: CORRESPONDENCE

The CORRESPONDENCE series is arranged in two subseries: A) A-Z, General, and B) Heme Protein Collaborations. Both subseries are arranged in alphabetical order by name of correspondent. The Heme Protein Collaborations subseries pertains to Traylor's research on biological oxygen transport and other projects.

SERIES 3: WRITINGS

The WRITINGS series is arranged in two subseries: A) Research Publications and B) Unpublished Works.

A) The Research Publications (1955-1991) subseries contains published writings arranged chronologically and numbered according to a publications list that precedes the subseries. Unnumbered publications have been interfiled chronologically within the numbered order. Materials include drafts, correspondence, referee reports, and reprints.

B) The Unpublished Works (1974-1994) subseries is arranged in chronological order and consists of drafts, referee reports and correspondence. Included is Traylor's unpublished textbook for Chemistry 141 A-B-C entitled "Organic-Inorganic Chemistry: A Course in Chemical Principles and Reactions of the Light Elements" (see also TEACHING MATERIALS and GRANTS series). Undated publications are arranged alphabetically at the end of the subseries.

SERIES 4: MEETINGS AND LECTURES

The MEETINGS AND LECTURES series documents Traylor's attendance and participation at professional meetings and his delivery of papers. The series is arranged in two subseries: A) Meetings and B) Lectures.

A) The Meetings subseries is arranged chronologically by meeting date and includes correspondence, programs, lecture materials, scientific papers, and abstracts.

B) The Lectures subseries is arranged chronologically and consists of correspondence and event announcements.

SERIES 5: GRANTS AND PATENTS

The GRANTS AND PATENTS series is arranged in two subseries: A) Grants for Traylor's Research and C) Patents.

A) The Grants for Traylor's Research subseries is arranged chronologically by grant start date (inclusive folder dates are noted, if different) and includes proposals, referee reports and correspondence. A few of the grants included are not by Traylor but contain his research proposals.

B) The Patent subseries is arranged chronologically and is preceded by a numbered listing of Traylor's early patents. Materials include typescripts, reprints, legal documents, and correspondence.

SERIES 6: UCSD MATERIALS

The UCSD MATERIALS series is arranged alphabetically by subject and includes correspondence, committee files and Chemistry Department-related materials. The committee and department materials contain an early history of the Chemistry Department and discussions of departmental long-range planning. Also included in this series is a 1962 report pertaining to the UCSD-San Diego State College joint doctoral program in chemistry.

Subjects and Indexing Terms

Chemistry -- Study and teaching

Bioorganic chemistry

Organometallic chemistry

Traylor, Teddy G. -- Archives

University of California, San Diego. Department of Chemistry

University of California, San Diego -- Faculty

BIOGRAPHICAL MATERIALS

Box 1, Folder 1

Professional dossier and biographical sketches 1970 - 1991

Box 1, Folder 2

Articles about Traylor's research - Includes articles about Traylor's research from *Chemical and Engineering News and Science* ca. 1979 - 1980

General

See also CORRESPONDENCE from the National Science Foundation which discusses Traylor research in a *Mosaic* article on bioinorganic chemistry.

Box 1, Folder 3

UCSD biographical material - Includes annual supplements to the University's biographical form, course load information and descriptions of Traylor's research 1971 - 1988

CORRESPONDENCE

General

Box 1, Folder 4-5	A-B - Miscellaneous
Box 1, Folder 6	Basolo, Fred 1979 - 1983
Box 1, Folder 7	Bend Research, Inc. 1987 - 1992
Box 1, Folder 8	Bonaventura, Joseph 1974 - 1982
Box 1, Folder 9	Brauman, John I. 1979 - 1981
Box 1, Folder 10	Collman, James P. 1979 - 1985
Box 1, Folder 11	D - Miscellaneous
Box 1, Folder 12	Elf Atochem North America, Inc. 1993
Box 1, Folder 13	EPSCoR (Experimental Program to Stimulate Competitive Research) 1992
Box 1,	G-H - Miscellaneous
Folder 14-15	
Box 1, Folder 16	Ibers, James A. 1973 - 1974
Box 1, Folder 17	James, Brian 1978 - 1982
Box 1, Folder 18	<i>Journal of the American Chemical Society</i> 1969
Box 1, Folder 19	Kassner, Richard J. 1975 - 1981
Box 1, Folder 20	Kovaly, K. A. 1967
Box 1,	L-M - Miscellaneous
Folder 21-22	
Box 1, Folder 23	Miwa, Gerald 1978 - 1983
Box 1, Folder 24	National Science Foundation - Includes typescript of an article on bioinorganic chemistry discussing Traylor's research on oxygen binding 1979
Box 1, Folder 25	Olson, John 1980 - 1982
Box 1, Folder 26	Peisach, Jack 1985 - 1987
Box 1,	R-S - Miscellaneous
Folder 27-28	
Box 1, Folder 29	Sanderson, William R. 1991
Box 1, Folder 30	Starks C. P. 1993
Box 1, Folder 31	Suslick, Kenneth S. 1982 - 1985
Box 1, Folder 32	Tabushi, Iwao 1981
Box 1, Folder 33	Vogel, Emanuel 1987

Heme Protein Collaborations

Box 1, Folder 34	Albright, Thomas A. 1984
Box 1, Folder 35	Babcock, Christopher ca. 1985
Box 1, Folder 36	Battersby, Alan R. 1980 - 1983
Box 1, Folder 37	Birge, Robert R. 1981
Box 1, Folder 38	Bristol-Myers Company 1985
Box 1, Folder 39	Bruice, Thomas C. 1978 - 1984
Box 1, Folder 40	Brunori, Maurizio 1983
	General note
	Includes typescript entitled "Iron Atom Displacement and Ligand Reactivity in Ferrous Heme Proteins: Effects of Proximal Bond," co-authored by Traylor for the Symposium on Dynamics, April 1984.
Box 1, Folder 41	Busch, Daryle H. 1983 - 1988
Box 1, Folder 42	Caldwell, KarenAnn 1982 - 1983
	General note
	See also correspondence with Lewis J. Noe in this subseries.
Box 1, Folder 43	Cerdonio, Massimo 1980
Box 2, Folder 1	Dolphin, David 1984 - 1988

Box 2, Folder 2	Dunford, H. Brian 1978 - 1979
Box 2, Folder 3	Giacometti, Giorgio 1977
Box 2, Folder 4	Gibson, Quentin 1977 - 1984
Box 2, Folder 5	Groves, John T. 1984
Box 2, Folder 6	Gunsalus, I.C. 1977 - 1979
Box 2, Folder 7	Ibers, James A. 1981 - 1992
Box 2, Folder 8	Janata, J. 1978
Box 2, Folder 9	Jones, Peter 1979
Box 2, Folder 10	Krasney, Stuart
Box 2, Folder 11	La Mar, Gerd 1977 - 1979
Box 2, Folder 12	Maier, John P. 1977
Box 2, Folder 13	Mason, Howard S. 1978
Box 2, Folder 14	Moffat, Keith 1983
Box 2, Folder 15	Nastainczyk, Wolfgang 1979
Box 2, Folder 16	Noe, Lewis J. 1981 - 1986

General note

See also correspondence with KarenAnn Caldwell in this subseries.

Box 2, Folder 17	Ortiz de Montellano, Paul R. 1986
Box 2, Folder 18	Perutz, Max 1975 - 1982
Box 2, Folder 19	Powers, Linda 1984
Box 2, Folder 20	Ruf, Hans H. 1977
Box 2, Folder 21	Satterlee, Jim 1977
Box 2, Folder 22	Smith, Kevin ca. 1977 - 1984
Box 2, Folder 23	Spiro, Thomas G. 1974 - 1983
Box 2, Folder 24	Suslick, Kenneth S. 1985
Box 2, Folder 25	Ullrich, Volker 1977 - 1980
Box 2, Folder 26	Walker, F. Ann 1978 - 1979
Box 2, Folder 27	Ward, William J. III 1973
Box 2, Folder 28	Williams, R. J. 1977
Box 2, Folder 29	Woody, Robert W. 1986
Box 2, Folder 30	Yu, Nai-Teng 1982 - 1984

WRITINGS

Research Publications

Box 2, Folder 31	List of publications
Box 2, Folder 32	Numbers 1-12 1955 - 1962
Box 2, Folder 33	13. Planar Sulphur d-Orbital Overlap with Unshared Electron Pairs 1963
Box 2, Folder 34	Numbers 14-18 1963
Box 2, Folder 35	19. Oxymercuration of Olefins. II. cis- and trans-Oxymercuration of Bicyclo-[2.2.2.]oct-2-ene 1964
Box 2, Folder 36	20. Resonance Stabilization of [alpha]-Ferrocenyl Carbonium Ions 1965
Box 2, Folder 37	21. Bimolecular Combination Reactions of Oxy Radicals 1965
Box 2, Folder 38	22. Mechanisms of Autoxidation. Terminating Radicals in Cumene Autoxidation 1965
Box 2, Folder 39	23. Cage Recombination of t-Butoxy Radicals 1965
Box 2, Folder 40	24. Nucleophilic Substitution on Ferrocenylmethyl Chloride 1966
Box 2, Folder 41	25. Di-t-Butyl Hyponitrite. A Convenient Source of t-Butoxy Radicals 1966
Box 2, Folder 42	26. The Rates of Methoxyl Exchange of Camphor and Norcamphor Dimethyl Ketals in Methanol 1966
Box 2, Folder 43	27. Radical-Ionic Reaction Mechanisms. Homolysis of the Carbonium Ion t-Butyl Tropeniumperacetate 1966
Box 2, Folder 44	28. The Chemistry of Metallocenes. I. Carbonium Ion Stabilization by the Ferrocenyl Group 1967
Box 2, Folder 45	29. Hybridization, Conjugation, and Bond Lengths. An Experimental Test 1967

Box 3, Folder 1	30. Carbon-Metal Hyperconjugation. The Extraordinary Electron Donation by alpha-Metalloalkyl Groups 1967
Box 3, Folder 2	31. Carbon-Metal Hyperconjugation in Metallocenes. Hydrogen Exchange in Phenylferrocene 1967
Box 3, Folder 3	32. Mechanisms of Electrophilic Substitution in Metallocenes: the Inside-Outside Relationship 1967
Box 3, Folder 4	33. Heme Protein-Diimide Complexes: Possible Intermediates in Biological Nitrogen Fixation
Box 3, Folder 5	34. Cage Reactions of t-Butoxy Radicals. Effects of Viscosity and of Intervening Molecules 1967
Box 3, Folder 6	35. Concerning the Mechanism of Single-Bond Shortening. Evidence from the Crystal Structures... 1968
Box 3, Folder 7	36. Oxymercuration of Strained Olefins. The Effect of Neighboring Groups 1968
Box 3, Folder 8	37. Oxymercuration of Strained Olefins. The Effect of syn-7 Substituents 1968
Box 3, Folder 9	38. Electrophilic Additions to Strained Olefins 1969
Box 3, Folder 10	39. Factors Influencing Decarboxylation of Acyloxy Radicals 1969
Box 3, Folder 11	40. Modes of Carbonium Ion Stabilization. Evidence from Charge-Transfer Spectra 1970
Box 3, Folder 12	41. The Question of the Intermediacy of Carbanions in Base-Catalyzed Cleavage of Benzyl-silicon, Benzyl-tin... 1970
Box 3, Folder 13	42. Vertical Stabilization of Cations by Delocalization of Strained [Delta] Bonds 1970
Box 3, Folder 14	43. A Vanadium Containing Nitrogenase Preparation: Implications for the Role of Molybdenum... 1970
Box 3, Folder 15	44. [Delta-pi] Conjugation of Carbon-Metal Bonds. Stereoelectronic and Inductive Effects 1970
Box 3, Folder 16	45. Direct Observation of Diazene Intermediates in Borohydride Reduction of Diazonium Salts. A New Route... 1971
Box 3, Folder 17	46. Cyclophane Porphyrin 1971
Box 3, Folder 18	47. Vertical Stabilization of Cations by Neighboring [Sigma] Bonds. General Considerations 1971
Box 3, Folder 19	48. [Sigma-pi] Conjugation of Carbon-Metal Bonds. Dehydrometalation of Alkylmetal Compounds 1971
Box 3, Folder 20	Numbers 49-53 1972 - 1973
Box 3, Folder 21	54. Synthesis of the Myoglobin Active Site 1973
Box 3, Folder 22	Numbers 55-57 1973
Box 3, Folder 23	Numbers 59-61 1974
Box 3, Folder 24	62. Distortional Stabilization in Phenyl Participations 1974
Box 3, Folder 25	Simple Dioxygen Heme Complexes Formed in N,N-Dimethylformamide 1974
Box 3, Folder 26	63. Reversible Oxygenation of Protoheme-Imidazole Complex in Aqueous Solution 1975
Box 3, Folder 27	64. [Sigma-pi] Conjugation in Two-Step Cycloadditions 1975
Box 3, Folder 28	65. Kinetics of Oxygen and Carbon Monoxide Binding to Synthetic Analogs of the Myoglobin and Hemoglobin... 1975
Box 3, Folder 29	66. Studies of Interactions of Adjacent Carbon-Metal [Sigma] Bonds by Photoelectron Spectroscopy 1975
Box 3, Folder 30	67. Acetaldehyde Autoxidation. I. Products of Termination 1975
Box 3, Folder 31	68. Aldehyde Autoxidation. II. Carbon Dioxide Evolution 1975
Box 3, Folder 32	69. Autoxidation of Acetaldehyde. III. Oxygen-Labeling Studies 1975
Box 3, Folder 33	70. Radical-Induced Decomposition of Peracetic Acid 1975
Box 3, Folder 34	71. Trimethylstannyliethylidetriphenylphosphorane. A New Reagent for Organic Synthesis 1975
Box 3, Folder 35	72. Coordination of Myoglobin Active Site Models in Aqueous Solution as Studied by Kinetic Methods 1975
Box 3, Folder 36	73. A New Method for the Determination of Ligand Dissociation Rate Constant of Carboxyhemoglobin 1975
Box 3, Folder 37	74. Isoinductive Resonance Substituents for Mechanism Studies. I. Application to the Norbornyl Tosylate... 1975

Box 3, Folder 38	Numbers 75-77 1976 - 1977
Box 3, Folder 39	78. Haemoglobin Model Compound Having Conformationally Linked Haems 1977
Box 3, Folder 40	79. Reactivity of Ferrous Myoglobin at Low pH 1977
Box 3, Folder 41	Numbers 80-82 1978
Box 3, Folder 42	83. Anion Complexes of Ferrous Porphyrins 1979
Box 3, Folder 43	84. NMR Studies of P-450 Model Systems: New Structural Probes for Sulfur-Containing Hemoproteins 1979
Box 3, Folder 44	85. A Kinetic Model for R- and T-State Hemoglobin. Flash Photolysis of Heme-Imidazole-Carbon Monoxide Mixtures 1979
Box 3, Folder 45	86. Cyclophane Porphyrin. II. Models for Steric Hindrance to CO Ligation in Hemoproteins 1979
Box 3, Folder 46	87. Mercaptide Chelated Protoheme: A Model Compound for Cytochrome P-450 1979
Box 3, Folder 47	88. Kinetics and Mechanisms of Carbon Monoxide Dissociation from Chelated Heme-CO Complexes... 1979
Box 3, Folder 48	89. Syntheses and NMR Characterization of Chelated Heme Models of Hemoproteins 1979
Box 3, Folder 49	Numbers 90-91 1979
Box 3, Folder 50	Review of <i>Structure and Bonding</i>, Vol. 40, Biochemistry by I. A. Cohen 1980
Box 3, Folder 51	92. Hemoprotein Models: NMR of Imidazole Chelated Protohemin Cyanide Complexes 1980
Box 3, Folder 52	93. Binding of O₂ and CO to Hemes and Hemoproteins 1980
Box 3, Folder 53	94. Isocyanide Binding to Chelated Protoheme. Kinetic Criteria for Distal Steric Effects in Hemoproteins 1980
Box 3, Folder 54	95. Cyclophane Hemes. 3. Magnitudes of Distal Side Steric Effects in Hemes and Hemoproteins 1980
Box 3, Folder 55	96. The Chemical Basis of Variations in Hemoglobin Reactivity 1980
Box 4, Folder 1	97. Synthetic Model Compounds for Hemoproteins 1981
Box 4, Folder 2	98. Stereochemistry and Mechanism of Hydride Abstraction from Organostannanes 1981
Box 4, Folder 3	99. Mechanisms of Hydride Abstraction from Organometallic Compounds. Effects of... 1981
Box 4, Folder 4	100. Hemoproteins, in <i>McGraw-Hill Yearbook of Science and Technology</i> 1981
Box 4, Folder 5	101. Electronic Effects on the Binding of Dioxygen and Carbon Monoxide to Hemes 1981
Box 4, Folder 6	102. Cyclophane Hemes. 4. Steric Effects on Dioxygen and Carbon Monoxide Binding to Hemes and Heme Proteins 1981
Box 4, Folder 7	103. Mercaptide-Chelated Protoheme. A Synthetic Model Compound for Cytochrome P-450 1981
Box 4, Folder 8	104. Picosecond Study of the Photodissociation of a Model Hemoprotein Compared to Hemoglobin 1982
Box 4, Folder 9	105. Considerations for the Design of Useful Synthetic Oxygen Carriers 1982
Box 4, Folder 10	106. Cooperativity in Chemical Model Systems: Ligand-Induced Subunit Dimerization 1982
Box 4, Folder 11	107. Steric Effects in Hemoprotein Reactivities 1982
	General note
	Includes a 1980 paper entitled, "Interaction between Iron and Proteins in Oxygen and Electron Transport."
Box 4, Folder 12	108. Allosteric and Cooperative Effects in Hemoglobin Model Compounds 1983
	General note
	Presented at the Second International Kyoto Conference on New Aspects of Organic Chemistry (see MEETINGS, 1982).
Box 4, Folder 13	109. Polyvalent Porphyrins. Properties of Tetrakis (e,5-di-tert-butyl-4-hydroxyphenyl)porphyrin (1-P)... 1983
Box 4, Folder 14	Numbers 110-111 1983

Box 4, Folder 15	112. Model Compound Studies Related to Peroxidases. Mechanisms of Reactions of Hemins with Peracids 1984
Box 4, Folder 16	113. Model Compound Studies Related to Peroxidases-II. The Chemical Reactivity... 1984
Box 4, Folder 17	Numbers 114-115 1984
Box 4, Folder 18	116. Sterically Protected Hemins with Electronegative Substituents: Efficient Catalysts for Hydroxylation... 1984
Box 4, Folder 19	117. Arene Exchange Reactions of (Arene)tricarbonylchromium Complexes 1984
Box 4, Folder 20	118. 1,3-Adamantane-3,13-Porphyrin-6,6-Cyclophane: Crystal Structure of the Free Base and Steric Effects... 1984
Box 4, Folder 21	119. Ultraviolet, Charge-Transfer, and Photoelectron Spectra of Phenyl-Substituted Group 4B Catenates... 1984
Box 4, Folder 22	120. Anthracene Heme Cyclophanes. Steric Effects in CO, O₂, and RNC Binding 1985
Box 4, Folder 23	Numbers 121-122 1985
Box 4, Folder 24	123. Kinetics of Iron(III) Porphyrin Catalyzed Epoxidations 1985
Box 4, Folder 25	124. Geminate Recombination in the Photolytic Dissociation of NO and CO from Hemes and Heme Proteins 1985
Box 4, Folder 26	125. Structural Differentiation of CO and O₂ Binding to Iron Porphyrins: Polar Pocket Effects 1985
Box 4, Folder 27	Numbers 126-127 1985
Box 4, Folder 28	128. Kinetics of Carbon Monoxide Binding to Monomeric Hemoproteins 1985
Box 4, Folder 29	129. Mechanisms of Hemin-Catalyzed Alkene Epoxidation. The Effect of Catalyst on the Regiochemistry... 1986
Box 4, Folder 30	130. Mechanisms of Hemin-Catalyzed Oxidations: Rearrangements during the Epoxidation of trans-Cyclooctene 1986
Box 4, Folder 31	131. Thermal Carbon Monoxide Exchange Reactions of (Arene)tricarbonylchromium Complexes 1986
Box 5, Folder 1	Numbers 132-134 1986
Box 5, Folder 2	135. pH Dependence of Carbon Monoxide Binding to Ferrous Horseradish Peroxidase 1986
Box 5, Folder 3	136. Perhalogenated Tetraphenylhemins: Stable Catalysts of High Turnover Catalytic Hydroxylations 1987
Box 5, Folder 4	137. Mechanisms of Hemin-Catalyzed Epoxidations: Electron Transfer from Alkenes 1987
Box 5, Folder 5	138. Reaction of Nitric Oxide with Heme Proteins and Model Compounds of Hemoglobin 1987
Box 5, Folder 6	139. Transient Formation of N-Alkylhemins during Hemin-Catalyzed Epoxidation of Norbornene. Evidence ... 1987
Box 5, Folder 7	140. Neighboring Group Participation in Organometallic Chemistry: Internal Exchange... 1987
Box 5, Folder 8	141. Geminate Recombination of Iron(II) Porphyrin with Methyl, tert-Butyl, and Tosylmethyl Isocyanide... 1987
Box 5, Folder 9	142. A Biomimetic Model for Catalase: the Mechanisms of Reaction of Hydrogen Peroxide and Hydroperoxides... 1987
Box 5, Folder 10	143. Stereoelectronic Effects in Arene Exchange of (Arene)tricarbonylchromium Complexes... 1987
Box 5, Folder 11	144. Neighboring Group Participation in Organometallic Chemistry: Anchimeric Assistance... 1987
Box 5, Folder 12	145. Hydrogen Bonding to the Proximal Imidazole in Heme Protein Model Compounds: Effects upon Oxygen Binding.. 1988
Box 5, Folder 13	146. Picosecond and Nanosecond Geminate Recombination of Myoglobin with CO, O₂, NO, and Isocyanides 1988
Box 5, Folder 14	147. Model Reactions Related to Cytochrome P-450. Effects of Alkene Structure on the Rates of... 1988
Box 5, Folder 15	148. Picosecond Kinetics of Cytochromes b₅ and c 1988
Box 5, Folder 16	149. Ene Diimidazoles: Ligands for Biomimetic Chemistry 1988

- Box 5, Folder 17 **150. Metal Complexes of Sterically Hindered Porphyrins. Crystal and Molecular Structure of meso-Tetrakis... 1988**
- Box 5, Folder 18 **151. Cytochrome P-450 Model Systems: Alkene Oxidation**
- Box 5, Folder 19 **152. Synthesis, Structure, and Reactivity of the endo- and exo-Tricarbonylchromium Isomers of... 1989**
- Box 5, Folder 20 **153. Alkene Epoxidations Catalyzed by Iron(III), Manganese(III), and Chromium(III) Porphyrins. Effects of... 1989**
- Box 5, Folder 21 **154. A Common Heterolytic Mechanism for Reactions of Iodosobenzenes, Peracids, Hydroperoxides... 1989**
- Box 5, Folder 22 **155. Mechanism of Reactions of Hydrogen Peroxide and Hydroperoxides with Iron(III) Porphyrins... 1989**
- Box 5, Folder 23 **Syntheses of Biological Active Sites 1989**
- Box 5, Folder 24 **156. Mechanisms of Reactions of Iron(III) Porphyrins with Hydrogen Peroxide and Hydroperoxides... 1990**
- Box 5, Folder 25 **157. Steric Effects on Geminate Recombinations 1990**
- Box 6, Folder 1 **CO Dissociation in Cytochrome c Peroxidase: Site-Directed Mutagenesis Shows that Distal Arg 48 Influences... 1990**
- Box 6, Folder 2 **Mechanism of Ligand Binding to Hemes and Hemoproteins. A High-Pressure Study 1990**
- Box 6, Folder 3 **Quaternary Structure and the Geminate Recombination of Carp Hemoglobin with Methylisocyanide 1990**
- Box 6, Folder 4 **CO Recombination in Cytochrome c Peroxidase: Effect of the Local Heme Environment on CO Binding... 1990**
- Box 6, Folder 5 **Nuclear Magnetic Resonance Studies of the Formation of Tertiary Alkyl Complexes of Iron(III) Porphyrins... 1990**
- Box 6, Folder 6 **Kinetics and Mechanism Studies in Biomimetic Chemistry: Metalloenzyme Model Systems 1991**
- Box 6, Folder 7 **Polymeric Polyhalogenated Metalloporphyrin Catalysts for Hydroxylation of Alkanes and Epoxidation of Alkenes 1991**
- Box 6, Folder 8 **Preparation of Functionalized Polyhalogenated Tetraaryl-porphyrins by Selective Substitution... 1991**
- Box 6, Folder 9 **New Class of Tetrapodal Ligands 1991**
- Box 6, Folder 10 **Pressure-Induced Change from Activation to Diffusion Control in Fast Reactions of Carbon Monoxide with Hemes 1992**
- Box 6, Folder 11 **Mechanisms of Cage Reactions: Kinetics of Combination and Diffusion after Picosecond Photolysis of Iron(II)... 1992**
- Box 6, Folder 12 **Picosecond Photolyses of Six-Coordinated Iron(II) Porphyrins: Formation and Decay of an Excited-State... 1992**
- Box 6, Folder 13 **Why NO? 1992**
- Box 6, Folder 14 **Aliphatic Hydroxylation Catalyzed by Iron(III) Porphyrins 1992**
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- Box 6, Folder 16 **Reaction of Ferrous Cytochrome c Peroxidase with Dioxygen: Site-Directed Mutagenesis Provides Evidence... 1992**
- Box 6, Folder 17 **An Easy Access to Polyhalogenated Metalloporphyrins Covalently Bound to Polymeric Supports... 1992**
- Box 6, Folder 18 **Geminate Recombination of Carbon Monoxide Complexes of Hemes and Heme Products**
- Box 6, Folder 19 **High-Yield Epoxidations with Hydrogen Peroxide and tert-Butyl Hydroperoxide Catalyzed by Iron(III) Porphyrins 1993**
- Box 6, Folder 20 **Nitric Oxide-Triggered Heme-Mediated Hydrolysis: A Possible Model for Biological Reactions of NO 1993**
- Box 6, Folder 21 **The Ortho Effect in Ligation of Iron Tetraphenylporphyrins 1993**
- Box 6, Folder 22 **Geminate Processes in the Reaction of Nitric Oxide with 1-Methylimidazole-Iron(II) Porphyrin Complexes... 1993**
- Box 6, Folder 23 **Dioxygen and Carbon Monoxide Binding to Apolar Cyclophane Hemes: Durene-Capped Hemes 1994**
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Box 7, Folder 1	Picosecond Reaction of Picket Fence Heme with O₂ and CO: Geminate Recombination in the Solvent Cage 1994
Box 7, Folder 2	Formation of Both Primary and Secondary N-Alkylhemins During Hemin-Catalyzed Epoxidation of Terminal Alkenes 1995
Box 7, Folder 3	Reactions of Iron(III) Porphyrins with Oxidants. Structure-Reactivity Studies 1995
Box 7, Folder 4	Myoglobin-NO at Low pH: Free Four Coordinate Heme in the Protein Pocket 1995

Unpublished Works

Box 7, Folder 5	On Bridged Carbonium Ions 1963
Box 7, Folder 6	Lengths of Carbon-Carbon Single Bonds. I. Preliminary Report on the Crystal Structure of 1,1'-Bis-apocamphane 1965
Box 7, Folder 7	On the Nucleophilic Character of Metal Atoms in Metallocenes 1965
Box 7, Folder 8	Electrophilic Additions to Strained Olefins. The Effect of Neighboring Groups; and Electrophilic Additions to Strained Olefins, Steric Effects 1966 - 1967
Box 7, Folder 9	The Role of Hybridization in Single-Bond... 1967
Box 7, Folder 10	The Effects of syn-7-methyl Groups Upon... 1967
Box 7, Folder 11	A Vanadium Nitrogenase: Implications for Substrate Binding by Molybdenum 1970
Box 7, Folder 12	[Sigma-pi] Conjugation 1971
Box 7, Folder 13	Kinetics of Reversible Oxygenation of Pyrroheme-N-[3-(1-imidazolyl)propyl]amide ca. 1970s
Box 7, Folder 14-16	Organic-Inorganic Chemistry: A Course in Chemical Principles and Reactions of the Light Elements. Part I. Ca. 1979. Chapters 1-9 ca. 1979
Box 8, Folder 1-3	Organic-Inorganic Chemistry: A Course in Chemical Principles and Reactions of the Light Elements. Part I. Later version of Chapters 1-9 (incomplete)
Box 8, Folder 4	Improved Synthesis of Porphyrins 1987
Box 8, Folder 5	Picosecond Geminate Rebinding in Sterically Hindered Adamantane-Heme Cyclophane Complexes 1989
Box 8, Folder 6	Geminate Contact Pair Return After Photolysis of (1-Methylimidazole)Protoporphyrin(IX)-CO 1988 - 1989
Box 8, Folder 7	Isotope Effects on Reactions of Hydroperoxides with Iron Porphyrins. Heterolysis of the Oxygen-Oxygen Bond 1989
Box 8, Folder 8	Untitled outline on activation of oxygen 1990
	General note
	Pertains to a planned chapter for <i>Annual Review of Biochemistry</i> , Vol. 60.
Box 8, Folder 9	The Spectacular Effect of Molecular Size on Picosecond Photolyses and Geminate Behavior of Heme-Isocyanide ... 1991
Box 8, Folder 10	Reactions of Hydroperoxides with Iron(III) Porphyrins: Heterolytic Cleavage Followed by Hydroperoxide... 1992 - 1994
Box 8, Folder 11	Dissociation of Carbon Monoxide from Active Site Models of Carboxy-Myoglobin and Carboxy-Hemoglobin
Box 8, Folder 12	Mechanisms of Hemin-Catalyzed Oxidations
Box 8, Folder 13	Picosecond and Nanosecond Geminate Recombination of Myoglobin with CO, O₂, NO, and Isonitriles
Box 8, Folder 14	Products of Autoxidation of Di-t-Butylperoxyoxalate
Box 8, Folder 15	Miscellaneous data - Spectra
Box 8, Folder 16	Miscellaneous figures
Box 8, Folder 17-18	Miscellaneous fragments

MEETINGS AND LECTURES**Meetings**

Box 9, Folder 1-10	1964 - 1979
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Meetings

Box 10, **1980 - 1993**
Folder 1-11

Lectures

Box 10, Folder 12 **1969, 1973-1975**
Box 11, Folder 1 **1983-1984, 1986-1989**
Box 11, Folder 2 **1990 - 1992. Includes photocopies of transparencies for lecture and Traylor biography as Gensia Lecturer at Scripps Research Institute on November 20, 1992**

GRANTS AND PATENTS**Grants for Traylor's Research**

Box 11, Folder 3 **1962: Mechanisms of Electrophilic Substitution. Petroleum Research Fund**
Box 11, Folder 4 **1963: Radical Carbonium Ions. Air Force Office of Scientific Research (AFOSR) 1962 - 1964**

Box 11, Folder 5 **1963: Individual research grants. UCSD**
Box 11, Folder 6 **1964: Correlation of Bond-Length, Bond-Angle and Orbital Hybridization in C-C Single-Bonds. AFOSR**

Box 11, Folder 7 **1964: Oxymercuration of Olefins. Petroleum Research Fund. Correspondence only**
Box 11, Folder 8 **1964: Oxymercuration of Olefins. Atomic Energy Commission**
Box 11, Folder 9 **1966: Autoxidation of Hydrocarbons. UCSD Academic Senate**
Box 11, Folder 10 **1968: Metallocene Chemistry. Petroleum Research Foundation 1967 - 1968**
Box 11, Folder 11 **1968: Chemistry of Oxy Radicals. Petroleum Research Foundation**
Box 11, Folder 12 **1970: Delocalization of Weakened [Sigma]-Bonds. National Science Foundation 1970 - 1975**

Box 11, Folder 13 **1971: Photoelectron Spectroscopy. UCSD Academic Senate 1972**
Box 11, Folder 14 **1971: Stabilization of Carbonium Ions by Delocalization of Weakened [Sigma]-Bonds. Petroleum Research Fund. Research proposal only 1970**

Box 11, Folder 15 **1971: Light Element Chemistry: A New Way to Teach Organic-Inorganic Chemistry. UCSD Academic Affairs Office 1970**

General note

This grant produced a new class, Chemistry 141 (see TEACHING MATERIALS), and a textbook, "Organic-Inorganic Chemistry" (see WRITINGS, Unpublished Works), co-authored with his wife Patricia S. Traylor. Traylor also proposed to submit a related paper at the American Chemical Society meeting in August 1973 (see MEETINGS)

Box 11, Folder 16 **1971: Light Element Chemistry...Doolittle**
Box 11, Folder 17 **Ca. 1971: Light Element Chemistry...Heme Orbitals. Computer drawings only**
Box 11, Folder 18-19 **1971: Light Element Chemistry Molecular Orbital Drawing and Mapping Project ca. 1972**
Box 11, Folder 20 **1972: Mechanisms of Biological Nitrogen Fixation. National Science Foundation 1971 - 1972**

Box 11, Folder 21 **1972: Chemical Mechanisms. National Science Foundation. Summary of completed project only 1977**

Box 11, Folder 22 **1973: Chemical and Spectroscopic Effects of Carbon-Metal [Sigma-pi] Conjugation. Army Research Office-Durham (ARO-D) 1972 - 1973**

Box 11, Folder 23 **1973-1975: Reactions of Fourth-Row Organometallic Compounds: Synthetic Applications. ARO-D**

Box 11, Folder 24 **1973: Reactions of Fourth-Row Organometallic Compounds: Synthetic Applications. National Science Foundation**

Box 11, Folder 25 **1973: Synthetic and Mechanistic Application of Delocalization of Carbon Bonds. National Science Foundation 1976 - 1977**

Box 12, Folder 1 **1975?: Heme Catalyzed Oxidations. National Science Foundation 1975 - 1979**
Box 12, Folder 2-4 **1976: Hemoglobin and Blood Protein Chemistry. Public Health Service (PHS) Grant proposals 1976 - 1991**

Box 12, Folder 5	Correspondence 1977 - 1988
Box 12, Folder 6	Seminars 1974 - 1989
Box 12, Folder 7	Steering Committee meeting minutes, notes, and correspondence 1976 - 1977
Box 12, Folder 8	Symposium on Sickle Cell Anemia, sponsored by the UCSD Chemistry Department and Third College on March 3-4, 1978
Box 12, Folder 9	1976: Mechanisms of Reactions of Oxygen with Heme Proteins. National Institutes of Health 1975 - 1977
Box 12, Folder 10	1976-1979: Mechanisms of Reactions of Oxygen with Heme Proteins. National Institutes of Health 1978 - 1980
Box 13, Folder 1	1976: Mechanisms of Reactions of Oxygen with Heme Proteins. National Institutes of Health 1981 - 1987
Box 13, Folder 2	1978: Mechanisms of Heme Catalyzed Oxidations. National Science Foundation
Box 13, Folder 3	1978: Studies of Electron Transfer in Metalloproteins. National Science Foundation
Box 13, Folder 4	1978: Mechanisms of Electron Transfer in Metalloproteins. National Institutes of Health
Box 13, Folder 5	1979: Mechanisms of Heme Catalyzed Oxidations and Arene Metal Exchange Reactions. National Science Foundation
Box 13, Folder 6	1979: Purchase of Picosecond Spectrometer. National Science Foundation
Box 13, Folder 7	1980-1983: Mechanisms of Arene Exchange Reactions in Arene Metal Carbonyl Compounds. Petroleum Research Fund
Box 13, Folder 8	1980: Mechanisms of Arene Exchange Reactions in Arene Metal Carbonyl Compounds. National Science Foundation 1979
Box 13, Folder 9	1982: Mechanisms of Heme Catalyzed Oxidations and Arene Metal Exchange Reactions. National Science Foundation 1981 - 1989
Box 13, Folder 10	1983: Variable Temperature SQUID Susceptometer System. National Science Foundation 1982
Box 13, Folder 11	1984: Upgrade of Laser Facility for the Study of Fast Kinetics. National Institutes of Health 1982 - 1987
Box 13, Folder 12	Ca. 1984: Tilley Proposal
Box 14, Folder 1	1985: X-Ray Diffraction Facility. National Institutes of Health 1985
Box 14, Folder 2	1985: Synthetic Metalloporphyrin Polymers for Dioxide and Carbon Monoxide Transport... AFOSR and the UCSD Regents 1985 - 1986
Box 14, Folder 3	1985: Synthetic Metalloporphyrin Polymers for Dioxide and Carbon Monoxide Transport... Office of Naval Research 1985 - 1986
Box 14, Folder 4	1985: Synthetic Metalloporphyrin Polymers for Dioxide and Carbon Monoxide Transport... U.S. Army Research Office 1985 - 1986
Box 14, Folder 5	1985: Purchase of Apparatus for Raman Spectroscopy. National Science Foundation 1984
Box 14, Folder 6	1986: Mechanism of Reactions of Bleomycin-Iron and Related Iron Complexes. National Cancer Institute 1985 - 1989
Box 14, Folder 7	1986: Kinetics and Mechanisms of Fast Reactions. National Institutes of Health 1985
Box 14, Folder 8	1987: Hewlett-Packard 5988A Mass Spectrometer and 9000 Data System. National Institutes of Health 1987 - 1989
Box 14, Folder 9	1988: Purchase of a 500 MHz NMR Spectrometer. National Institutes of Health 1988 - 1990
Box 14, Folder 10	1988: Purchase of a 500 MHz NMR Spectrometer. National Science Foundation 1988 - 1990
Box 14, Folder 11	1988: Metalloenzyme Sites: Syntheses and Biomimetic Chemistry. National Institutes of Health 1987 - 1990
Box 15, Folder 1	1990: Center on Biocatalysis. National Science Foundation 1989
Box 15, Folder 2	1991: Computational Graphics for Biochemistry. National Institutes of Health 1991
Box 15, Folder 3	Data Accumulation and Processing for Fast Kinetic Processes undated

Patents

Box 15, Folder 4

1958-1964. Patents #1-21**General note**

A numbered list of these patents is found at the front of the folder.

Box 15, Folder 5

1962 - "Conducting Metallocene Polymers"

Box 15, Folder 6-8

1990 - 1993**UCSD MATERIALS**

Box 15, Folder 9

Academic Senate 1961 - 1962

Box 15, Folder 10

Chemistry Department Faculty Seminars 1962 - 1970

Box 15, Folder 11

Chemistry Department Meeting Minutes 1962**Committees**

Box 15, Folder 12

Biochemistry Search Committee 1989

Box 15, Folder 13

Committee on Undergraduate Scholarships and Honors 1962 - 1965

Box 15, Folder 14

Graduate Council Committee 1966 - 1967

Box 16, Folder 1

Instrument Committee (Chemistry Department) 1987 - 1988

Box 16, Folder 2

Long Range Planning Committee (Chemistry Dept.) 1986 - 1990s

Box 16, Folder 3

Physical Science Committee (Revelle College) 1968 - 1970

Box 16, Folder 4

Correspondence-University of California 1960 - 1982**General note**

Correspondents include James R. Arnold and Stanley Miller. Much of this file pertains to Traylor's move to UCSD and includes drawings for the setup of his laboratory

Box 16, Folder 5

San Diego State University/UCSD Joint Doctoral Program - Correspondence and the "Request for Permission to Negotiate Joint Doctoral Program in Chemistry..." 1962 - 1967

Box 16, Folder 6

Miscellaneous ca. 1972 - 1988