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Bibliography of Studies in Electron Transmission Spectroscopy

Paul Burrow
University of Nebraska-Lincoln, pburrow1@unl.edu

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Bibliography of Studies in Electron Transmission Spectroscopy

A variety of techniques can be used to locate temporary negative ion states in atoms and molecules. One of the most efficient methods passes an electron beam through a gas cell and observes structure appearing in the attenuated "transmitted" electron current as a function of the electron energy. In 1971 L. Sanche and G.J. Schulz introduced a scheme whereby the derivative with respect to energy of the transmitted current was measured. Combining this with the trochoidal electron monochromator devised by A. Stamatovic and G.J. Schulz in 1968 produced a compact, sensitive and easily used apparatus for the detection of short-lived anion states that has given rise to the field of Electron Transmission Spectroscopy (ETS).

This bibliography contains all the references I am aware of that incorporate ETS or its components. Other early references that utilized similar modulation schemes are also given. For purposes of attribution, it is important to note that there are a number of studies of temporary negative ion states using other techniques, and in some cases the first observations of particular "resonances" were not made by ETS. An earlier version of the bibliography was included as an appendix in *Chem. Rev.* **87**, 557 (1987) by K.D. Jordan and P.D. Burrow. At the time it was compiled, an effort was made to include a number of papers that utilized other electron transmission methods to locate temporary negative ion states even though they did not incorporate the derivative scheme. With only a few exceptions, these have been removed from the current bibliography to retain its focus on the derivative scheme.

Readers are encouraged to let me know of any omissions or errors.

Paul D. Burrow
Department of Physics and Astronomy
University of Nebraska
Lincoln, NE 68588-0111
pburrow1@unl.edu

1968

(1) "Trochoidal Electron Monochromator", A. Stamatovic and G. J. Schulz, *Rev. Sci. Instrum.*, **39**, 1752 (1968).

1970

(1) "Characteristics of the Trochoidal Electron Monochromator", A. Stamatovic and G. J. Schulz, *Rev. Sci. Instrum.*, **41**, 423 (1970).

1971

(1) "Temporary Formation of H_2^- Above the H_2^+ Threshold by Electron Impact", D. E. Golden, *Phys. Rev. Lett.*, **27**, 227 (1971).

(2) "An Energy Modulated High Energy Resolution Electron Spectrometer", D. E. Golden and A. Zecca, *Rev. Sci. Instrum*., **42**, 210 (1971).
(3) "Vibrational Progressions and Rydberg Series of O_2^- and NO^-", L. Sanche and G. J. Schulz, *Phys. Rev. Lett*., **27**, 1333 (1971).
(4) "New Resonances in the Total Cross Section of Electrons on CO and O_2", L. Sanche and G. J. Schulz, *Phys. Rev. Lett*., **26**, 943 (1971).

1972

(1) "Comparison of Modulated Retarding Potential Difference and Retarded Energy Modulated Electron Spectrometers", D. E. Golden, N. C. Koepnick, and L. Fornari, *Rev. Sci. Instrum*., **43**, 1249 (1972).
(2)"Characteristics of the Trochoidal Monochromator by Calculation of Electron Energy Distributions", D. Roy, *Rev. Sci. Instrum*., **43**, 535 (1972).
(3) "Electron Transmission Spectroscopy in Atomic Hydrogen", L. Sanche and P. D. Burrow, *Phys. Rev. Lett*., **29**, 1639 (1972).
(4) "Electron Transmission Spectroscopy: Rare Cases", L. Sanche and G. J. Schulz, *Phys. Rev. A*, **5**, 1672 (1972).
(5) "Electron Transmission Spectroscopy Core-Excited Resonances in Diatomic Molecules", L. Sanche and G. J. Schulz, *Phys. Rev. A*, **6**, 69 (1972).
(6) "Electron Transmission Spectroscopy: Core-Excited Resonances in Diatomic Molecules", L. Sanche and G. J. Schulz, *Phys. Rev. A*, **6**, 2500 (1972).

1973

(1) "Electron Transmission Spectroscopy for Calibration of the Energy Scale In Optical Excitation Experiments", L. Kurzweg and D. J. Burns, *Rev. Sci. Instrum*., **44**, 1430 (1973).
(2) "Electron Transmission Spectroscopy: Resonances in Triatomic Molecules and Hydrocarbons", L. Sanche and G. J. Schulz, *J. Chem. Phys*., **58**, 479 (1973).
(3) "Resonances in Electron Impact on Atoms", G. J. Schulz, *Rev. Mod. Phys*., **45**, 378 (1973).
(4) "Resonances in Electron Impact on Diatomic Molecules", G. J. Schulz, *Rev. Mod. Phys*., **45**, 423 (1971).

1974

(1) "The Electron Impact Spectrum of He in the Vicinity of the n=2 Thresholds", D. E. Golden, F. D. Schowengerdt, and J. Macek, *J. Phys. B*, **7**, 478 (1974).
(2) "A Double-modulation Technique for Obtaining High-resolution Energy-differentiated Electron Transmission Spectra", F. D. Schowengerdt and D. E. Golden, *Rev. Sci. Instrum*., **45**, 391 (1974).
(3) "Core-Excited Resonances in Hydrogen", D. Spence, *J. Phys. B*, **7**, L87 (1974).
(4) "Systematics of Feshbach Resonances in the Molecular Halogens", David Spence, *Phys. Rev. A*, **10**, 1045 (1974).
(5) "Measurement of Resonances in Atomic Oxygen by Electron Transmission Spectroscopy", D. Spence and W. A. Chupka, *Phys. Rev. A*, **10**, 71 (1974).
(6) "Search for Low-Lying Resonances In Electron Scattering By Atomic Hydrogen", David Spence and Mitio Inokuti, *J. Quant. Spectrosc. Radiat. Transfer*, **14**, 953 (1974).

1975

(1) "Low Energy Resonant Scattering of Electrons From Magnesium", P. D. Burrow and J. Comer, *J. Phys. B*, **8**, L92 (1975).
(2) "On the Electron Affinities of Ethylene and 1,3-Butadiene", P. D. Burrow and K. D. Jordan, *Chem. Phys. Lett*., **36**, 594 (1975).
(3) "Temporary Negative Ions and Electron Affinities of Benzene and N-Heterocyclic Molecules: Pyridine, Pyridazine, Pyrimidine, Pyrazine, and s-Triazine", I. Nenner and G. J. Schulz, *J. Chem. Phys*., **62**, 1747 (1975).
(4) "Measurements of the $(3p^2)^1D$ State of H^- by Electron Transmission Spectroscopy", David Spence, *J. Phys. B*, **8**, L42 (1975).
(5) "Additional Resonances in Electron Scattering by Atomic Oxygen", David Spence, *Phys. Rev. A*, **12**, 721 (1975).
(6) "Feshbach Resonances Associated with Rydberg States of the Hydrogen Halides", David Spence and Teteushi Noguchi, *J. Chem. Phys*., **63**, 505 (1975).
(7) "Negative Ion Formation, Vibrational Excitation and Transmission Spectroscopy in Hydrogen Halides", J. P. Ziesel, I. Nenner, and G. J. Schulz, *J. Chem. Phys*., **63**, 1943 (1975).

1976

(1) "Electron Transmission Study of the Formaldehyde Electron Affinity", P. D. Burrow and J. A. Michejda, *Chem. Phys. Lett*., **42**, 223 (1976).
(2) "Low-Energy Electron Scattering From Mg, Zn, Cd, and Hg: Shape Resonances and Electron Affinities", P. D. Burrow, J. A. Michejda, and J. Comer, *J. Phys. B*, **9**, 3225 (1976).
(3) "Experimental Study of the Negative Ion States of Styrene. A Test of the Pairing Theorem", P. D. Burrow, J. A. Michejda, and K. D. Jordan, *J. Am. Chem. Soc*., **98**, 6392 (1976).
(4) "The Relative Stability of Alkyl-Substituted Benzene Anions in the Gas Phase", K. D. Jordan, J. A. Michejda, and P. D. Burrow, *J. Am. Chem. Soc*., **98**, 1295 (1976).
(5) "A Study of the Negative Ion States of Selected Cyclodienes by Electron Transmission Spectroscopy", K. D. Jordan, J. A. Michejda, and P. D. Burrow, *Chem. Phys. Lett*., **42**, 227 (1976).
(6) "Electron Transmission Studies of the Negative Ion States of Substituted Benzenes in the Gas Phase", K. D. Jordan, J. A. Michejda, and P. D. Burrow, *J. Am. Chem*. Soc., **98**, 7189 (1976).
(7) "Observation of Vibrationally Excited Nitrogen with a Simplified Electron Transmission Apparatus", J. A. Michejda and P. D. Burrow, *J. Appl. Phys*., **47**, 2780 (1976).
(8) "Triplet $\pi \rightarrow \pi^*$ Transitions in Thiophene, Furan and Pyrrole by Low-Energy Electron-Impact Spectroscopy", E. H. van Veen, *Chem. Phys. Lett*., **41**, 535 (1976).
(9) "Low-Energy Electron-Impact Excitation Spectra of Acetylene", E. H. van Veen and F. L. Plantenga, *Chem. Phys. Lett*., **38**, 493 (1976).
(10) "Low-Energy Electron-Impact Excitation Spectra of Formaldehyde, Acetaldehyde and Acetone", E. H. van Veen, W. L. van Dijk, and H. H. Brongersma, *Chem. Phys*., **16**, 337 (1976).
(11) "Temporary Negative-ion States in Pyridine and Diazine Molecules", D. Mathur and J.B. Hasted, Chem. Phys. **16**, 347 (1976).

1977

(1) "Resonances at 1.1 and 1.7 eV in Scattering of Slow Electrons from Benzene Molecule", E. P. Fesenko and L V. logansen, *Chem. Phys. Lett*., **48**, 22 (1977).

(2) "Prediction of Low Energy Molecular Rydberg States from Feshbach Resonance Spectra", David Spence, *J. Chem. Phys*., **66**, 669 (1977).

1978

(1) "Low-Energy Electron Interactions with Organic Molecules: Negative Ion States of Fluorobenzenes", J. R. Frazier, L. C. Christophorou, J. C. Carter, and H. C. Schweinler, *J. Chem. Phys*., **69**, 3807 (1978).

(2) "Studies of the Temporary Anion States of Unsaturated Hydrocarbons by Electron Transmission Spectroscopy", K. D. Jordan and P. D. Burrow, *Acc. Chem. Phys.,* **11**, 341 (1978).

(3) "Low Energy Electron Impact on Chlorofluoromethanes and CF_4: Resonances, Dissociative Attachment and Excitation", C. J. Verhaart, W. J. Van Der Hart, and H. H. Brongersma, *Chem. Phys*., **34**, 161 (1978).

1979

(1) "Comment on the Negative Ion States of Fluorobenzenes", K. D. Jordan and P. D. Burrow, J. *Chem. Phys.,* **71**, 5384 (1979).

(2) "Comment in reply to K. D. Jordan and P. D. Burrow's 'Comment on the Negative Ion States of Fluorobenzenes"', L. G. Christophorou and H. C. Schweinler, J. *Chem. Phys.,* **71**, 5385 (1979).

(3) "Temporary Anions of the Fluoroethylenes", N. S. Chiu, P. D. Burrow, and K. D. Jordan, *Chem. Phys. Lett.,* **68**, 121 (1979).

(4) "The Total Absolute Electron Scattering Cross Sections for SF_6 for Incident Electron Energies Between 0.5 and 100 eV Including Resonance Structure", R.E. Kennerly, R. A. Bonham, and M. McMillan, *J. Chem. Phys.,* **70**, 2039 (1979).

1980

(1) "Predissociation of Feshbach Resonances in Hydrogen Fluoride", R. Abouaf and D. Teillet-Billy, *J. Phys. B*, **13**, L275 (1980).

(2) "Negative Ion States of 1,3-Cycloalkadienes", J. C. Giordan, M. R. McMillan, J. H. Moore, and S. W. Staley, *J. Am. Chem.* Soc., **102**, 4870 (1980).

(3) "On the Relationship Between the Gas Phase, Condensed Phase and Theoretical Spectra of Alternant Hydrocarbon Anions", K. D. Jordan and P. D. Burrow, *Chem. Phys.,* **45**, 171(1980).

(4) "Temporary Negative Ions of Methyl-Substituted Ethylenes: Trends in the Electron Affinities, Ionization Potentials, and Excitation Energies", K. D. Jordan and P. D. Burrow, *J. Am. Chem.* Soc., **102**, 6882 (1980).

(5) "Optimization of the Trochoidal Electron Monochromator", M. R. McMillan and J. H. Moore, *Rev. Sci. Intrum.,* **51**, 944 (1980).

(6) "Triplet $n \rightarrow \pi^*$ and $\pi \rightarrow \pi^*$ Transitions in Glyoxal and Biacetyl by Low-Energy Electron-impact Spectroscopy", C. J. Verhaart and H. H. Brongersma, *Chem. Phys. Lett.,* **72**, 176 (1980).

(7) "Electronic Excitation (5-9 eV) in Ethylene and Some Haloethylenes by Threshold Electron-impact Spectroscopy With an Improved Energy Resolution", C. J. Verhaart and H. H. Brongersma, *Chem. Phys.,* **52**, 431 (1980).

1981

(1) "Temporary Σ and Π Anions of the Chloroethylenes and Chlorofluoroethylenes", P. D. Burrow, A. Modelli, N. S. Chiu, and K. D. Jordan, *Chem. Phys. Lett.,* **82**, 270 (1981).
(2) "Negative Ion States of d^6 Transition Metal Hexacarbonyls", J. C. Giordan, J. H. Moore, and J. A. Tossell, *J. Am. Chem. Soc*., **103**, 6632 (1981).
(3) "Resonant Electron Scattering and Anion States in Polyatomic Molecules", K. D. Jordan and P. D. Burrow, *ACS Symp. Ser.,* **162**, 1 (1981).
(4) "Detection of Vibrationally Excited Nitrogen by Trapped Electron and Electron Transmission Methods", J. A. Michejda, L. J. Dubé, and P. D. Burrow, *J. Appl. Phys.,* **52**, 3121 (1981).
(5) "On Resonances in HF", D. Spence, *J. Phys. B,* **14**, L107 (1981).
(6) "Negative Ion States of Terminal Methyl-Substituted Butadienes. Evidence for Through-Space Interactions Involving Methyl Groups", S. W. Staley, J. C. Giordan, and J. H. Moore, *J. Am. Chem. Soc*., **103**, 3638 (1981).
(7) "Negative Ion States of Cyclopentadiene Derivatives", S. W. Staley, M.D. Bjorke, J. C. Giordan, M. R. McMillan, and J. H. Moore, *J. Am. Chem. Soc.,* **103**, 7057 (1981).

1982

(1) "Forward Electron Scattering in Benzene; Forbidden Transitions and Excitation Functions", M. Allan, *Helv. Chim. Acta,* **65**, 2008 (1982).
(2) "The Electron Affinities of (E)- and (Z)-Cyclooctene", M. Allan, E Haselbach, M. von Buren, and H.-J. Hansen, *Helv. Chim. Acta,* **65**, 2133 (1982).
(3) "Experimental Observations of Large Interactions of π* Orbitals through Four Bonds", V. Balaji, K. D. Jordan, P. D. Burrow, M. N. Paddon-Row, and H. K. Patney, *J. Am. Chem. Soc.,* **104**, 6849 (1982).
(4) "Temporary Anion States of Phosphabenzene, Arsabenzene, and Stibabenzene. Trends in the π and π* Orbital Energies", P. D. Burrow, A. J. Ashe III, D. J. Bellville, and K. D. Jordan, J. *Am. Chem. Soc.,* **104**, 425 (1982).
(5) "Electron Transmission Spectroscopy of 1,3,5-Hexatriene: Isomeric Differences in π* Orbital Energies", P. D. Burrow and K. D. Jordan, J. *Am. Chem. Soc*., **104**, 5247 (1982).
(6) "Temporary Negative Ions in the Chloromethanes, $CHCl_2F$ and CCl_2F_2: Characterization of the σ* Orbitals", P. D. Burrow, A. Modelli, N. S. Chiu, and K. D. Jordan, *J. Chem. Phys.,* **77**, 2699 (1982).
(7) "Scattered Electron Rejection in Electron Transmission Spectroscopy", A. R. Johnston and P. D. Burrow, *J. Electron Spectrosc. Relat. Phenom.,* **25**, 119 (1982).
(8) "Shape Resonances in Electron Scattering from Metal Atoms", A. R. Johnston and P. D. Burrow, *J. Phys. B,* **15**, L745 (1982).
(9) "ETS Study of the Negative Ion States of tert-Butyl and Trimethylsilyl Derivatives of Ethylene and Benzene", A. Modelli, D. Jones, and G. Distefano, *Chem. Phys. Lett.,* **86**, 434 (1982).

(10) "Influence of the Oxy, Aza, and Thio Groups on the Electron Affinities of Carbonyl Compounds Studied by Means of ETS", A. Modelli, G. Distefano, and D. Jones, *Chem. Phys.,* **73**, 395 (1982).
(11) "Electron Transmission Study of the Splitting of the π* Molecular Orbitals of Angle-Strained Cyclic Acetylenes: Implications for the Electrophilicity of Alkynes", L. Ng, K. D. Jordan, A. Krebs, and W. Roger, *J. Am. Chem. Soc.,* **104**, 7414 (1982).

1983

(1) "Time Resolved Electron Energy Loss Spectroscopy Study of the Long Lifetime p-Benzoquinone Negative Ion", M. Allan, *Chem. Phys.,* **81**, 235 (1983).
(2) "Theoretical Study of Electron Transmission Through N_2" H Estrada, M. Berman, L. S. Cederbaum, and W. Domcke, *Chem. Phys. Lett.,* **97**, 352 (1983).
(3) "Negative Ions: Effect of α- vs. β-Silyl Substitution on the Negative Ion States of π Systems", J. C. Giordan, *J. Am. Chem.* Soc., **105**, 6544 (1983).
(4) "Anion States of Para-disubstituted Benzenes: *p*-di-*tert*-Butylbenzene and Related Group 4 Molecules: *p*-bis(trimethyl(silyl, germyl, and stannyl)) Benzene", J. C. Giordan and J. H. Moore, *J. Am. Chem. Soc.,* **105**, 6541 (1983).
(5) "Negative Ion States of 3d Metallocenes", J. C. Giordan, J. H. Moore, J. A. Tossell, and J. Weber, *J. Am. Chem.* Soc., **105**, 3431 (1983).
(6) "Ionization Potentials, Electron Affinities, and Molecular Orbitals of 2-substituted Norbornadienes. Theory of 1,2 and Homo-1,4 Carbene Cycloaddition Selectivities", K. N. Houk, N. G. Rondan, M. N. Paddon-Row, C. W. Jefford, P. T. Huy, P. D. Burrow, and K. D. Jordan, *J. Am. Chem. Soc.,* **105**, 5563 (1983).
(7) "Electron Transmission Study of the Temporary Anion States of Substituted Pyridines", A. Modelli and P. D. Burrow, *J. Electron Spectrosc. Relat. Phenom.,* **32**, 263 (1983).
(8) "Effect of the Group IV Elements on the Π Anion and Cation States of Thiophene and Furan Determined by Means of ETS and UPS", A. Modelli, G. Distefano, D. Jones, and G. Seconi, *J. Electron Spectrosc. and Relat. Phenom.,* **31***,* 63 (1983).
(9) "Application of Electron Transmission Spectroscopy to Conformational Studies: Electron Affinities of Methyl-Substituted Biphenyls", A. Modelli, G. Distefano, and D. Jones, *Chem. Phys.,* **82**, 489 (1983).
(10) "The Nature of the Stabilizing Effect of Thio-groups on the ∏ Anion States of Benzene Studied by Means of Electron Transmission Spectroscopy", A. Modelli, D. Jones, F. P. Colonna, and G. Distefano, *Chem. Phys.,* **77**, 153 (1983).
(11) "Electron Transmission Spectroscopy and MSXα Study of Closed-shell and Open-shell Metallocenes", A. Modelli, A. Foffani, M. Guerra, D. Jones, and G. Distefano, *Chem. Phys. Lett.,* **99**, 58 (1983).
(12) "Elektron-Transzmissziós Spektroszkópia: Elméleti Alapok, Kísérleti Berendezés és Néhány Eredmény", A. Modelli, *Kemiai Kozlemenyek,* **59**, 95 (1983).
(13) "Measurement of the Vertical Electron Affinities of Cyanogen and 2,4-Hexadiyne", L. Ng, V. Balaji, and K. D. Jordan, *Chem. Phys. Lett.,* **101**, 171 (1983).

1984

(1) "(*All-E)-1,3,5,7*-Octatetraene*:* Electron-Energy-Loss and Electron-Transmission Spectra", M. Allan, L. Neuhaus, and E. Haselbach, *Helv. Chim. Acta,* **67**, 1776 (1984).

(2) "Electronic Structure of the Butadiyne Anion Studied by Electron Transmission and Vibrational Excitation Spectra in the Gas Phase", M. Allan, *Chem. Phys.,* **86**, 303 (1984).
(3) "Vibrational and Electronic Excitation in p-benzoquinone by Electron Impact", M. Allan, *Chem. Phys.,* **84**, 311(1984).
(4) "Low Energy Electron Scattering in Organic Molecules", M. Allan, *Lecture Notes Chem.,* **35**, 14 (1984).
(5) "Theoretical and Experimental Investigation of the Electron Affinities of Allene and Propyne", B. Ciommer, K. M. Nguyen, H. Schwarz, G. Frenking, G. Kwiatkowski, and E. Illenberger, *Chem. Phys. Lett., **104**, 216 (1984).*
(6) "Anion Resonance States of Organometallic Molecules", J. C. Giordan, J. H. Moore, and J. A. Tossell, *ACS Symp. Ser.,* **263**, 193 (1984).
(7) "Anion States of Para-Disubstituted Benzenes: 1,4-Dihalo-benzenes", J. C. Giordan, J. H. Moore, and J. A. Tossell, *J. Am. Chem. Soc.,* **106**, 7397 (1984).
(8) "An MS $X\alpha$ and ETS Study of the Influence of "d" Orbitals on the Electron Affinities of Thio-Substituted Benzenes", M. Guerra, G. Distefano, D. Jones, F. P. Colonna, and A. Modelli, *Chem. Phys.,* **91**, 383 (1984).
(9) "Negative Ion States of Three- and Four-membered Ring Hydrocarbons Studied by Electron Transmission Spectroscopy", A. E. Howard and S. W. Staley, *ACS Symp. Ser.,* **263**, 183 (1984).
(10) "Temporary Negative Ion States in Hydrocarbons and Their Derivatives", K. D. Jordan and P. D. Burrow, *ACS Symp. Ser.,* **263**, 165 (1984).
(11) "Electron Transmission Study of the Negative Ion States of p-Benzoquinone, Benzaldehyde, and Related Molecules", A. Modelli and P. D. Burrow, *J. Phys. Chem.,* **88**, 3550 (1984).
(12) "Electron Affinities of Organic and Organometallic Compounds Determined by Means of Electron Transmission Spectroscopy", A. Modelli, G. Distefano, M. Guerra, and D. Jones, *Lecture Notes Chem.,* **35***,* 19 (1984).
(13) "Electron Transmission Spectra of Selenophene and Tellurophene and $X\alpha$ Computations of Electron Affinities for Chalcophenes", A. Modelli, M. Guerra, D. Jones, G. Distefano, K. J. Irgolic, K. French, and G. C. Pappalardo, *Chem. Phys.,* **88**, 455 (1984).
(14) "Electron Affinities of Double Bond π* Orbitals Determined by Means of Electron Transmission Spectroscopy", A. Modelli, D. Jones, S. Rossini, and G. Distefano, *Tetrahedron,* **40**, 3257 (1984).
(15) "Electronic Interaction in Heterosubstituted Acetones Studied by Means of UV Photoelectron and Electron Transmission Spectroscopies", P. R. Olivato, S. A. Guerrero, A. Modelli, G. Granozzi, D. Jones, and G. Distefano, *J. Chem. Soc. Perkin Trans.* **2**, 1505 (1984).
(16) "MS-Xα Calculation of the Elastic Electron Scattering Cross Sections and X-ray Absorption Spectra of CX_4 and SiX_4(X=H, F, Cl)", J. A. Tossell and J. W. Davenport, *J. Chem. Phys.,* **80**, 813 (1984).

1985

(1) "Electron Transmission Spectroscopy of Triptycene: An Investigation of the Intramolecular Orbital Interactions", V. Balaji and K. D. Jordan, *Chem. Phys. Lett.,* **119**, 294 (1985).
(2) "Through-Bond Interactions in Nonconjugated Dienes and Diones", V. Balaji, K. D. Jordan, R. Gleiter, G. Jaehne, and G. Mueller, *J. Am. Chem. Soc.,* **107**, 7321(1985).

(3) "Electron Transmission Spectroscopy of Dibenzene Chromium: Characterization of the Unfilled Molecular Orbitals", P. D. Burrow, A. Modelli, M. Guerra, and K. D. Jordan, *Chem. Phys. Lett.,* **118**, 328 (1985).
(4) "Reinvestigation of Formaldehyde-Aniline Condensation. IV. UV Photoelectron and Electron Transmission Spectra of *N*-Methyleneaniline and Its Symmetric Dimethyl Ring-Substituted Homologues and Semiempirical Theoretical Evaluations", G. Distefano, A. G. Giumanini, A. Modelli, and G. Poggi, *J. Chem. Soc., Perkin Trans.* **2**, 1623 (1985).
(5) "Interaction of Frontier Orbitals of Group 15 and Group 16 Methides with the Frontier Orbitals of Benzene", J. C. Giordan, J. H. Moore, J. A. Tossell, and W. Kaim, *J. Am. Chem.* Soc., **107**, 5600 (1985).
(6) "Pericyclynes: 'Exploded Cycloalkanes' with Unusual Orbital Interactions and Conformational Properties. MM2 and STO-3G Calculations, X-ray Crystal Structures, Photoelectron Spectra, and Electron Transmission Spectra", K. N. Houk, L. T. Scott, N. G. Rondan, D. C. Spellmeyer, G. Reinhardt, J. L. Hyrin, G. J. DeCicco, R. Weiss, M. H. M. Chen, L. S. Bass, J. Clardy, F. S. Jorgensen, T. A. Eaton, V. Sarkozi, C. M. Petit, L. Ng, and K. D. Jordan*, J. Am. Chem. Soc.,* **107**, 6556 (1985).
(7) "Electron Attachment by Haloalkenes and Halobenzenes", J. K. Olthoff, J. A. Tossell, and J. H. Moore, *J. Chem. Phys.,* **83**, 5627 (1985).
(8) "Detection of Resonances in Electron-Molecule Scattering Using a Modulated Supersonic Molecular Beam", J. P. Polley and T. L. Bailey, *J. Chem. Phys.,* **83**, 4276 (1985).
(9) "Energies of π-acceptor orbitals in SiH_4, PH_3, H_2S, and HCl and Their Permethylated Derivatives", J. A. Tossell, J. H. Moore, and J. C. Giordan*, Inorg. Chem.,* **24**, 1100 (1985*)*.
(10) "Multiple-Scattering Xα Calculations of Spectral Energies Involving the π and π* Orbitals of C_2H_2", J. A. Tossell, *J. Phys. B,* **18**, 387 (1985).

1986

(1) "Temporary Anion States of the Chlorobenzenes", P. D. Burrow, A. Modelli, and K. D. Jordan, *Chem. Phys. Lett.,* **132**, 441 (1986).
(2) "Electronic Excitation and π-Electron Interaction in Borazine", J. P. Doering, A. Gedanken, A. P. Hitchcock, P. Fischer, J. Moore, J. K. Olthoff, J. Tossell, K. Reghavachari, and M. B. Robin, *J. Am. Chem. Soc.,* **108**, 3602 (1986).
(3) "Energies and Decay Channels of Negative Ion Resonances in Acetaldehyde", R. Dressler and M. Allan, *J. Electron Spectrosc. Relat. Phenom.,* **41**, 275 (1986).
(4) "Anion States of Organometallic Molecules and Their Ligands", J. C. Giordan, J. H. Moore, and J. A. Tossell, *Acc. Chem. Res.,* **19**, 281(1986).
(5) "Photoelectron and Electron Transmission Spectra of Thiete 1,1-Dioxide, Thietane 1,1-Dioxide and Related Compounds. The Sulfone Effect on a Highly Reactive Cyclobutene Double Bond", H. D. Martin, R. Iden, H. Landen, B. Mayer, G. Distefano, A. Modelli, and R. Gleiter, *J. Electron Spectrosc. Relat. Phenom.,* **41**, 385 (1986).
(6) "Intramolecular Interactions and Hindered Rotation in Tropinone Urethanes; A Combined PE-, ET- and DNMR-Spectroscopic Study", H. D. Martin, M. Muller, B. Mayer, H. Haddad, A. Steigel, G. Distefano, and A. Modelli, *Chem. Ber.,* **119**, 1613 (1986).
(7) "Symmetry Dependence of the Stabilising Effect of Thio Groups: Electron Transmission Spectrum of p-Dimethylthiobenzene", A. Modelli, G. Distefano, M. Guerra, D. Jones, and S. Ressini, *Chem. Phys. Lett.,* **132**, 448 (1986).

(8) “Characterization of the Temporary π Anion States of 1,4-Cyclohexadiene, γ-Pyran, 1,4-Dioxin and γ-Pyrone by Means of Electron Transmission Spectroscopy”, A. Modelli, D. Jones, S. Rossini, and G. Distefano*, Chem. Phys. Lett.,* **123**, 375 (1986).
(9) “Temporary Anion States of Sulphur Derivative of γ-Pyrone”, A. Modelli, D. Jones, F. P. Colonna, and G. Distefano, *Chem. Phys. Lett.,* **123**, 379 (1986).
(10) “(π* and σ*) Molecular Orbital Mixing in β-Chloro Ketones and β-Chloro Olefins”, H. Morrison, T. V.Singh, L. de Cardenas, D. Severance, K. D. Jordan, and W. Schaefer, *J. Am. Chem. Soc*., **108**, 3862 (1986).
(11) “Electron Attachment by Chloro- and Bromomethanes”, J. K. Olthoff, J. H. Moore, and J. A. Tossell, *J. Chem. Phys.,* **85**, 249 (1986).
(12) “Influence of Alkyl Substituents on the π* Negative Ion States of Benzene and Its Derivatives”, S. W. Staley and A. E. Howard, *Tetrahedron,* **42**, 6269 (1986).
(13) “Electron Transmission Studies in a Free Jet: Molecular Oxygen”, T. M. Stephen and P. D. Burrow, *J. Phys. B,* **19**, 3167 (1986).
(14) “Dissociative Attachment and Predissociation in Ammonia”, K. L. Stricklett and P. D. Burrow, *J. Phys. B,* **19**, 4241 (1986).
(15) “Dissociative Attachment in Vinyl and Allyl Chloride, Chlorobenzene and Benzyl Chloride”, K. L. Stricklett, S. C. Chu, and P. D. Burrow, *Chem. Phys. Lett.,* **131**, 279 (1986).
(16) “Studies of Unoccupied Orbitals of BF_3 and BCl_3 by Electron Transmission Spectroscopy and Multiple Scattering Xα Calculations”, J. A. Tossell, J. H. Moore, and J. K. Olthoff, *Int. J. Quantum Chem.,* **29**, 1117 (1986).

1987

(1) “Electron Transmission Study of the Temporary Negative Ion States of Selected Benzenoid and Conjugated Aromatic Hydrocarbons”, P. D. Burrow, J. A. Michejda, and K. D. Jordan, *J. Chem. Phys.,* **86**, 9 (1987).
(2) "Temporary Anion States of π-Ligand Transition-Metal Carbonyls Studied by means of Electron Transmission Spectroscopy and Xα Calculations”, A. Modelli, G. Distefano, M. Guerra and D. Jones, *J. Am. Chem. Soc.,* **109,** 4440 (1987).
(3) "Electron Spectroscopic Methods in Teaching", M. Allan, *J. of Chem. Ed.,* **64,** 418 (1987).
(4) "Anion States of η^4-polyene Iron Tricarbonyl Complexes", J. K. Olthoff, J. H. Moore, J. A. Tossell, J. C. Giordan and E. J. Baerends, *J. Chem. Phys.,* **87**, 7001 (1987).
(5) "Temporary Anion States of Polyatomic Hydrocarbons", K. D. Jordan and P. D. Burrow, *Chem. Rev.,* **87,** 557 (1987).
(6) "A Study of Long-Range π*, π* Interactions in Rigid Molecules Using Electron Transmission Spectroscopy", V. Balaji, L. Ng, K. D. Jordan, M. N. Paddon-Row and H. K. Patney, *J. Am. Chem. Soc.,* **109,** 6957 (1987).

1988

(1) "Comparison of the Electron-Acceptor Properties of Nitrogen and Phosphorous Benzene Derivatives by Means of Electron Transmission Spectroscopy and MS Xα Calculations”, A. Modelli, G. Distefano, M. Guerra, D. Jones and S. Rossini, *Chem. Phys.,* **125,** 389 (1988).

(2) "Hyperconjugative Interactions in Benzyls Studied by Means of Ionization Energy and Electron Affinity Measurements", G. Distefano, A. Modelli, M. Guerra, D. Jones and S. Rossini, *J. Molec. Structure,* **174,** 177 (1988).
(3) "Characterization of the Temporary Anion States of Metal Carbonyl Complexes: An MS-Xα and ETS Study of $Cr(CO)_6$ and $Fe(CO)_5$", M. Guerra, D. Jones, G. Distefano, A. Foffani and A. Modelli, *J. Am. Chem. Soc.,* **110,** 375 (1988).
(4) "Temporary Negative-Ion States of Chiral Molecules: Camphor and 3-methylcyclopentanone", T. M. Stephen, X. Shi, and P. D. Burrow, *J. Phys. B: At. Mol. Opt. Phys.,* **21,** L169 (1988).
(5) "The Correlation Between Electron Transmission and Inner Shell Electron Excitation Spectra", A. Benitez, J. H. Moore and J. A. Tossell, *J. Chem. Phys.,* **88,** 6691 (1988).
(6) "The σ* Molecular Orbitals of Perfluoroalkanes as Studies by Inner-shell Electron Energy Loss and Electron Transmission Spectroscopies", I. Ishii, R. McLaren, A.P. Hitchcock, K.D. Jordan, Y. Choi and M.B. Robin, Can. J. Chem. **66**, 2104 (1988).
(7) "Syn-anti selectivity of cis-3,4 disubstituted cyclobutenes. Oxygen-substituted cyclobutenes. Experimental frontier orbital energies", H. Hake, H. Landen, H.D. Martin, B. Mayer, A. Steigel, G. Distefano and A. Modelli, Tetrahedron Letters **29**, 6601 (1988).
(8) "UV-photoelectron, electron transmission and dissociative attachment spectroscopies of acetone oximes", M. Dal Colle, G. Distefano, A. Modelli, D. Jones, M. Guerra, P.R. Olivato and D. da Silva Ribeiro, J. Phys. Chem. A **102**, 8037 (1988).

1989

(1) "Temporary Anion States in Nitrosyl Transition-Metal Complexes Studied by Electron Transmission Spectroscopy and Multiple Scattering Xα Calculations", A. Modelli, A. Foffani, F. Scagnolari, S. Torroni, M. Guerra and D. Jones, *J. Am. Chem. Soc.,* **111,** 6040 (1989).
(2) "Electron Transmission Spectra of Carbonyl Fluoride: Determination of the Vertical Electron Affinity", Y. Choi and K. D. Jordan, *Chem. Phys. Letters,* **156,** 450 (1989).
(3) "Low-lying Negative-ion States of Calcium", A. R. Johnston, G. A. Gallup and P. D. Burrow, *Phys. Review A,* **40,** 4770 (1989).
(4) " Effect of Halo-Substitution on the Lowest-lying Empty π* Orbitals in Benzene Derivatives: Electron Transmission and Dissociative Attachment Spectra", A. Modelli, A. Foffani, F. Scagnolari and D. Jones, *Chem. Phys. Letters,* **163,** 269 (1989).
(5) "Electron transmission and inner shell electron energy loss spectra of CH_3CN, CH_3NC, CH_3SCN and CH_3NCS", A.P. Hitchcock, M. Tronc and A. Modelli, J. Phys. Chem. **93**, 3068 (1989).
(6) "Photoelectron and electron transmission spectroscopy and ab initio study of the interaction between the RS- and the $–CH_2CN$ and the $–CH_2COR$ groups", G. Distefano, M. Guerra, D. Jones, A. Modelli, P.R. Olivato and S.A. Guerrero, J. Electron Spectrosc. Relat. Phenom. **49**, 281 (1989).

1990

(1) "Determination of the Electronic Structure of Thiophene Oligomers and Extrapolation to Polythiophene", D. Jones, M. Guerra, L. Favaretto, A. Modelli, M. Fabrizio and G. Distefano, *J. Phys. Chem.,* **94,** 5761 (1990).

(2) "Electronic Structure of Tert-butyl Halides and Group 14 Derivatives: Electron Affinities and Dissociative Electron Attachment", A. Modelli, F. Scagnolari, G. Distefano, M. Guerra, D. Jones, *Chem. Phys.,* **145,** 89 (1990).
(3) "Through-Bond and Through-Space Interactions in a Series of Cyclic Polyenes", M. F. Falcetta, K. D. Jordan, J. E. McMurry and M. N. Paddon-Row, *J. Am. Chem. Soc.,* **112,** 579 (1990).

1991

(1) "4-Azatetracyclo[3.3.0.0^{2,8} .0^{3,6}]octanes: New Hetereocycles by Addition of Sulfonyl Azides to 7-Substituted Norbornadienes - Experimental Verification of σ* Interactions in the Norbornane Skeleton", E. Huda, Hans-Dieter Martin, B. Mayer, Karl-Heinz Somnitz, A. Steigel, H. Haddad, G. Distefano and A. Modelli, *Chem. Ber.,* **124,** 2879 (1991).
(2) "Determination of the Electronic Structure of Oligofurans and Extrapolation to Polyfuran", G. Distefano, D. Jones, M. Guerra, L. Favaretto, A. Modelli and G. Mengoli, *J. Phys. Chem.,* **95,** 9746 (1991)
(3) "Electron Affinity and Dissociative Electron Attachment in Saturated Dialkyl Group-16 Derivatives", A. Modelli, D. Jones, G. Distefano and M. Tronc, *Chem. Phys. Letters,* **181,** 361 (1991).
(4) "Electron Scattering From Laser-excited SF_6", K. L. Stricklett and P. D. Burrow, *J. Phys. B. At. Mol. Opt. Phys.,* **24,** L149 (1991).
(5) "Shape Resonances in Low-energy Electron Transmission and Sulfur K-shell Photoabsorption Spectroscopies: CH_3SH, C_2H_5SH, $(CH_3)_2S$, $(C_2H_5)_2S$, C_6H_5SH, $C_6H_5SCH_3$, CH_3SCN, CH_3NCS, SCl_2", C. Dezarnaud, M. Tronc, and A. Modelli, *Chem. Phys.,* **156,** 129 (1991).
(6) "The π* Negative Ion State of (E)-Cyclooctene", S. W. Staley, A. E. Howard and J. T. Strnad, *J. Phys. Chem.,* **95,** 9753 (1991).
(7) "Temporary Anion States in the Chloromethanes and in Monochloroalkanes", M. Guerra, D. Jones, G. Distefano, F. Scagnolari and A. Modelli, *J. Chem. Phys.,* **94,** 484 (1991).

1992

(1) "π* Negative Ion Resonance States of (E)- and (Z)-1, 3, 5-hexatriene. Prediction of Electron Affinities Near Threshold", S. W. Staley and J. T. Strnad, *Chem. Phys. Letters,* **200,** 527 (1992).
(2) "Hyperconjugative Effects on π* Negative Ion States. Electron Transmission Spectroscopy of Cycloalkenes", S. W. Staley, A. E. Howard and J. T. Strnad, *J. Organic Chem.,* **57,** 895 (1992).
(3) "Measurement of Electron Affinities of Substituted Cyclopropenes by Electron Transmission Spectroscopy", O. Schafer, M. Allan, I. A. Boyarskaya and I. N. Domnin, *Chem. Phys.,* **167,** 241 (1992).
(4) "ETS Study of the Negative Ion States of Bicyclo[1.1.1]pentane, and its Mono- and Di-ethynyl Derivatives: Through-bond Coupling of π* Orbitals Mediated by the Staffane Bridge", O. Schafer, M. Allan, G. Szeimies and M. Sanktjohanser, *Chem. Phys. Letters,* **195,** 293 (1992).

(5) Temporary Anion States of HCN, CH_3CN, $CH_2(CN)_2$, Selected Cyanoethylenes, Benzonitrile, and Tetracyanoquinodimethane", P. D. Burrow, A. E. Howard, A. R. Johnson and K. D. Jordan, *J. Phys. Chem.,* **96,** 7570 (1992).
(6) "Electron Attachment to the Fluoro-, Bromo-, and Iodomethanes Studied by Means of Electron Transmission Spectroscopy and Xα Calculations", A. Modelli, F. Scagnolari, G. Distefano, D. Jones and M. Guerra, *J. Chem. Phys.,* **96,** 2061 (1992).
(7) "Low-Energy Electron Impact Spectroscopy of [1.1.1]Propellane: Electron Attachment Energies and Singlet and Triplet Excited States", O. Schafer, M. Allan, G. Szeimies and M. Sanktjohanser, *J. Am. Chem. Soc.,* **114,** 8180 (1992).

1993

(1) "Electronic and Geometrical Structure of Methylthiophenes and Selected Dimethyl-2,2'-bithiophenes", G. Distefano, M. D. Colle, D. Jones, M. Zambianchi, L. Favaretto and A. Modelli, *J. Phys. Chem.,* **97,** 3504 (1993).
(2) "Electron Affinities in Bis(η^3-allyl)nickel, -palladium, and -platinum: Electron Transmission Spectra and MS-Xα Calculations", M. Guerra, D. Jones, G. Distefano, S. Torroni, A. Foffani and A. Modelli, *Organometallics,* **12,** 2203 (1993).

1994

(1) "Electron-Impact Spectroscopy: A Versatile Tool for Chemistry", M. Allan, *Chimia,* **48,** 372 (1994).
(2) "*Ab Initio* and Electron Spectroscopy Study of Carbonyl Derivatives", D. Jones, A. Modelli, P. R. Olivato, M. D. Colle, M. de Palo and G. Distefano, *J. Chem. Soc. Perkin Trans. 2,* 1651 (1994).
(3) "Ultraviolet Photoelectron, Electron Transmission and *Ab Initio* Study of the Factors Determining the Stability of Imines", M. D. Colle, G. Distefano, D. Jones, A. Guerrino, G. Seconi and A. Modelli, *J. Chem. Soc. Perkin Trans. 2,* 789 (1994).
(4) "Evidence for the $(6p^2)\,^3P_2^e$ Resonance in Electron Scattering From Caesium Atoms", K. Bartschat, A. R. Johnston and P. D. Burrow, *J. Phys. B.: At. Mol. Opt. Phys.,* **27,** L231 (1994).
(5) "Dissociative Attachment in Selected Monochloroalkanes", D. M. Pearl and P. D. Burrow, *J. Chem. Phys.,* **101,** 2940 (1994).

1995

(1) "What Can Electron Impact Spectroscopy Offer to Photochemistry? Triplet States, Negative Ions and Intramolecular Electron Transfer", M. Allan., *Pure and Appl. Chem.,* **67,** 1 (1995).
(2) "X-ray Diffraction, UV Photoelectron, and *ab Initio* Study of Intramolecular Interactions in β-Carbonyl Sulfones", M. D. Colle, V. Bertolasi, M. de Palo, G. Distefano, D. Jones, A. Modelli and P. R. Olivato, *J. Phys. Chem.,* **99,** 15011 (1995).
(3) "Photochemical Activation of Distal Functional Groups in Polyfunctional Molecules. Photochemistry and Photophysics of the *syn*-7- and *anti*-7-Chlorobenzonorbornenes", A. J. Post, J. J. Nash, D. E. Love, K. D. Jordan and H. Morrison, *J. Am. Chem. Soc.,* **117,** 4930 (1995).

1996

(1) "Electron Attachment to the Lowest Unoccupied Orbitals in Linear and Branched Permethylated Polysilanes and Hexamethyldigermane and -distannane", A. Modelli, D. Jones, L. Favaretto and G. Distefano, *Organometallics,* **15,** 380 (1996).

(2) "Frontier electronic structure in gas-phase epoxy and hydroxy cyclohexenes by means of photoelectron and electron transmission spectroscopies", F. Scagnolari, A. Modelli, A. Bottoni, D. Jones and D. Lazzari, Faraday Transactions **92**, 1447 (1996).

(3) "Empty levels in germanium compounds studied by XAS, ISEELS, ETS, DEAS and *ab initio* calculations: GeH_4, $GeCl_4$ and $Ge(CH_3)_3Cl$", G. Guillot, C. Dézarnaud-Dandine, M. Tronc, A. Modelli, A. Lisini, P. Decleva and G. Fronzoni, Chem. Phys. **205**, 359 (1996).

1997

(1) "Gas-phase Empty Level Structure in Heterosubstituted Hydrocarbons and Organometallic Compounds by Means of Electron Transmission Spectroscopy," A. Modelli, *Trends in Chem. Phys.,* **6**, 57 (1997).

(2) "Conformation and electronic structure of 3-methylchalcogenothiophenes", G. Distefano, M. de Palo, M. Dal Colle, A. Modelli, D. Jones and L. Favaretto, J. Molec. Struct. Theochem. **418**, 99 (1997).

(3) "Vertical electron affinities in substituted trimethylsilanes", A. Modelli, F. Scagnolari, G. Distefano and M. Dal Colle, J. Organometal. Chem. **549,** 149 (1997).

(4) "Structural, spectroscopic and theoretical study of the highly reactive and selective captodative olefin 1-acetylvinyl-p-nitrobenzoate in cycloaddition reactions", H.A. Jiménez, M.E. Ochoa, J.A. Mendoza, G. Zepeda, A. Modelli, D. Jones and J. Tamariz, J. Phys. Chem. **101**, 10082 (1997).

1998

(1) "σ* Resonances in Electron Transmission (ETS) and x-ray Absorption (XAS) Spectroscopies of Dimethyl(poly)sulphides $(CH_3)_2S_x$ (x = 1, 2, 3)", C. Dezarnaud-Dandine, F. Bournel, M. Tronc, D. Jones and A. Modelli, *J. Phys. B.: At. Mol. Opt. Phys.,* **31,** L497 (1998).

(2) "Dissociative Electron Attachment in Chloroalkanes and the Correlation with Vertical Attachment Energies", K. Aflatooni, G. A. Gallup and P. D. Burrow, *Chem. Phys. Letters,* **282,** 398 (1998).

(3) "Effect of silyl substitution on the frontier orbitals of diimines", A. Modelli, F. Scagnolari, D. Jones and G. Distefano, J. Phys. Chem. A **102**, 9675 (1998).

(4) "Electron Attachment Energies of the DNA Bases", K. Aflatooni, G. A. Gallup and P. D. Burrow, *J. Phys. Chem. A,***102,** 6205 (1998).

(5) "Low-energy Electron Capture in Group 14 Methyl Chlorides and Tetrachlorides: Electron Transmission and Dissociative Electron Attachment Spectra and MS-Xα Calculations", A. Modelli, M. Guerra, D. Jones, G. Distefano and M. Tronc, *J. Chem. Phys.,* **108,** 9004 (1998).

(6) "UV-Photoelectron, Electron Transmission, and Dissociative Electron Attachment Spectroscopies of Acetone Oximes", M. Dal Colle, G. Distefano, A. Modelli, D. Jones, M. Guerra, P. R. Olivato and D. da Silva Ribeiro, J. Phys. Chem. A **102**, 8037 (1998).

(7) "The '5.2 eV resonance' in electron scattering from Hg", P.D. Burrow, J.A. Michejda, D.R. Lun, J.P. Sullivan, R.P. McEachran, D.S. Newman and S.J. Buckman, J. Phys. B: At. Mol. Opt. Phys. **31**, L1009 (1998).

1999

(1) "A study of the molecular structure and spectroscopic properties of tetrahydro[4]beltene and related compounds", V. Galasso, W. Grimme, J. Lex, D. Jones and A. Modelli, Chem. Phys. **242**, 203 (1999).

(2) "Determination of the Electronic Structure of Oligo(2-Thienyl ketones) and Extrapolation to Poly(thienylene ketone)", M. Dal Colle, C. Cova, G. Distefano, D. Jones, A. Modelli and N. Comisso, J. Phys. Chem. A **103**, 2828 (1999).

(3) "Effect of intramolecular hydrogen bonding on the empty level structure of gas-phase salicylaldehyde: electron affinities and anion yield upon electron impact", A. Modelli, F. Scagnolari and G. Distefano, Chem. Phys. **250**, 311 (1999).

(4) "Role of Negative Ion Resonances in Electron Scattering from Atoms and Molecules", S.J. Buckman, D.T. Alle, M.J. Brennan, P.D. Burrow, J.C. Gibson, R.J. Gulley, M. Jacka, D.S. Newman, A.R.P. Rau, J. P. Sullivan and K.W. Trantham, Aust. J. Phys. **52**, 473 (1999).

(5) "Dissociative electron attachment in cyclopentanone, γ-butyrolactone, ethylene carbonate, and ethylene carbonate-d_4: Role of dipole-bound resonances", M. Stepanovic, Y. Pariat and M. Allan, J. Chem. Phys. **110**, 11376 (1999).

2000

(1) "Low-energy electron attachment to fused 1,4-cyclohexadiene rings by means of electron transmission spectroscopy and exponent stabilization calculations", M. Venuti and A. Modelli, J. Chem. Phys. **113**, 2159 (2000).

(2) "Temporary Anion States of Dichloroalkanes and Selected Polychloroalkanes", K. Aflatooni, G.A. Gallup and P.D. Burrow, J. Phys. Chem. A **104**, 7359 (2000).

(3) "Dechlorination Rate Constants on Iron and the Correlation with Electron Attachment Energies, P.D. Burrow, K. Aflatooni and G.A. Gallup, Environ. Sci. Technol. **34**, 3368 (2000).

(4) "Total cross sections for dissociative electron attachment in dichloroalkanes and selected polychloroalkanes: The correlation with vertical attachment energies", K. Aflatooni and P.D. Burrow, J. Chem. Phys. **113**, 1455 (2000).

(5) "A study of the molecular structure and spectroscopic properties of benzo- and pyrido-tetraazapentalenes", V. Galasso, D. Jones, A. Modelli and M.L. Trudell, Chem. Phys. **254**, 375, (2000).

(6) "Spectroscopic and theoretical determination of the electronic structure of anisole, thioanisole and methoxy- and methylthio-benzonitriles: a contribution to the study of organic conducting polymers", M. Dal Colle, G. Distefano, D. Jones and A. Modelli, J. Phys. Chem. A **104**, 8227 (2000).

2001

(1) "Dissociative electron attachment in chlorofluoromethanes and the correlation with vertical attachment energies", K. Aflatooni and P.D. Burrow, Int. J. Mass Spectrom. **205**, 149 (2001).

(2) "Temporary anion states of selected amino acids", K. Aflatooni, B. Hitt, G.A. Gallup, and P.D. Burrow, J. Chem. Phys. **115**, 6489 (2001).

(3) "Spectroscopic and theoretical determination of the electronic structure of thiazyl chains and extrapolation to poly(sulfur nitride), $(SN)_x$: a contribution to the study of conducting

polymers", A. Modelli, M. Venuti, F. Scagnolari, M. Contento and D. Jones, J. Phys. Chem. A **105**, 219 (2001).

(4) "Temporary π* and σ* anions and dissociative electron attachment in chlorobenzene and related molecules", A. Modelli and M. Venuti, J. Phys. Chem. A, **105**, 5836 (2001).

(5) "A study of the molecular structure and spectroscopic properties of polycyclic polyaza-compounds with diamond-lattice conformation", V. Galasso, F. Benedetti, D. Jones and A. Modelli, Int. J. Quantum Chem. **84**, 630 (2001).

(6) "Empty level structure and dissociative electron attachment in gas-phase nitro derivatives", A. Modelli and M. Venuti, Int. J. Mass Spectrom. **205**, 7 (2001).

(7) "Empty levels probed by XAS and ETS in cyclic polymethylene sulfides $(CH_2)_nS$, n=2,3,4,5", C. Dezarnaud-Dandine, F. Bournel, C. Mangeney, M. Tronc, A. Modelli and D. Jones, Chem. Phys. **265**, 105 (2001).

(8) "Dissociative electron attachment in the $(CH_3)_3Si$-NSN-$Si(CH_3)_3$ thiazyl chain", A. Modelli, M. Venuti, F. Scagnolari and D. Jones, Chem. Phys. Letters **346**, 492 (2001).

(9) "Synthesis of new captodative olefins alkyl 2-aroyloxy acrylates. Structure and reactivity in Diels-Alder cycloadditions", R. Herrera, H.A. Jimenez-Vazquez, A. Modelli, D. Jones, B.C. Sőderberg and J. Tamariz, Eur. J. Org. Chem. 4657 (2001).

2002

(1) "Temporary Anion States of closo-Carboranes and Diethyl Carborane", K. Aflatooni, G.A. Gallup, and P.D. Burrow, J. Phys. Chem. A **106**, 4703 (2002).

(2) "Temporary Anions and Empty Level Structure in Cyclobutanediones: Through-Space and Through-Bond Interactions", A. Modelli and H.-D. Martin, J. Phys. Chem. A **106**, 7271 (2002).

(3) "Intramolecular electron transfer in heterosubstituted benzene derivatives as probed by dissociative electron attachment", A. Modelli, M. Venuti and L. Szepes, J. Am. Chem. Soc. **124**, 8498 (2002).

(4) "Electron-acceptor properties of phospha-alkynes as probed by electron transmission and dissociative electron attachment spectroscopies", A. Modelli, J.F. Nixon and G.K.B. Clentsmith, Chem. Phys. Letters **366**, 122 (2002).

(5) "On the molecular and electronic structure of spiro-ketones and half-molecule models", V. Galasso, J. Bogdanov, P. Maslak, D. Jones and A. Modelli, J. Phys. Chem. A **106**, 10622-29 (2002).

2003

(1) "Electron attachment to the mixed dimers $(CH_3)_3M$-M'$(CH_3)_3$, with M, M'=Si, Ge, Sn, and correlation with the calculated σ* virtual orbital energies", A. Modelli and L. Szepes, Chem. Phys. **286**, 165-172 (2003).

(2) "Electron attachment and intramolecular electron transfer in unsaturated chloroderivatives", A. Modelli, Phys. Chem. Chem. Phys. **5**, 2923 (2003).

(3) "Molecular and electronic structure of Troeger's bases", V. Galasso, D. Jones and A. Modelli, Chem. Phys. **288**, 33-42 (2003).

(4) "An experimental and theoretical study of transient negative ions in Mg, Zn, Cd and Hg", J.P. Sullivan, P.D. Burrow, D.S. Newman, K. Bartschat, J.A. Michejda, R. Panajotovic, M.

Moghbelalhossein, R.P. McEachran and S.J. Buckman, New Journal of Physics **5**, 159 (2003).

2004

(1) "Bond breaking and temporary anion states in uracil and haloouracils: Implications for the DNA bases", A.M. Scheer, K. Aflatooni, G.A. Gallup and P.D. Burrow, Phys. Rev. Letters **92**, 068102 (2004).
(2) "Electron attachment to gas-phase cubane (C_8H_8)", A. Modelli and H-D. Martin, Journal Electron Spectrosc. Relat. Phenom. **134**, 191 (2004).
(3) "Empty level structure and dissociative electron attachment cross sections in saturated and unsaturated bromohydrocarbons", A. Modelli and D. Jones, J. Phys. Chem. A **108**, 417-424 (2004).
(4) "Electron Attachment to the Aza-Derivatives of Furan, Pyrrole, and Thiophene", A. Modelli and P.D. Burrow, J. Phys. Chem. A **108**, 5721 (2004).
(5) "Anionic states of six-membered aromatic phosphorus heterocycles as studied by electron transmission spectroscopy and ab initio methods", A. Modelli, B. Hajgató, J.F. Nixon and L. Nyulászi, J. Phys. Chem. A, **108**, 7440 (2004).
(6) "Donor-acceptor properties of isonitriles studied by photoelectron spectroscopy and electron transmission spectroscopy", I.P. Csonka, L. Szepes and A. Modelli, J. Mass Spectrom. **39**, 1456 (2004).

2005

(1) "Empty level structure and dissociative electron attachment cross sections in (bromoalkyl)benzenes", A. Modelli, J. Phys. Chem. A **109**, 6193 (2005).
(2) "Empty level structure in phenyl and benzyl isocyanates", A. Modelli and D. Jones, J. Phys. Chem A **109**, 11802 (2005).
(3) "Electron attachment to strongly polar cluster: formamide molecule and cluster", M. Seydou, A. Modelli, B. Lucas, K. Konate, C. Desfrancois and J.P. Schermann, Eur. Phys. J. D-Atom.,Molec. Opt. Phys. **135**, 199 (2005).

2006

(1) "Vibrational Feshbach Resonances in Uracil and Thymine", P.D. Burrow, G.A. Gallup, A.M. Scheer, S. Denifl, S. Ptasinska, T. Maerk and P. Scheier, J. Chem. Phys. **124**, 124310 (2006).
(2) "π* Orbital System of Alternating Phenyl and Ethynyl Groups: Measurements and Calculations", A.M. Scheer and P.D. Burrow, J. Phys. Chem. B **110**, 17751 (2006).
(3) "An investigation of electron helicity density in bromocamphor and dibromocamphor as a source of electron circular dichroism", A.M. Scheer, G.A. Gallup and T.J. Gay, J. Phys. B: At. Mol. Opt. Phys. **39**, 2169 (2006).
(4) "Electron affinities of polycyclic aromatic hydrocarbons by means of B3LYP/6-31+G* calculations", A. Modelli, L. Mussoni and D. Fabbri, J. Phys. Chem. A, **110**, 6482 (2006).

(5) "Temporary Anion States and Dissociative Electron Attachment in Diphenyl Disulfide", A. Modelli and D. Jones, J. Phys. Chem. A **110**, 10219 (2006).
(6) "Temporary Anion States and Dissociative Electron Attachment to Isothiocyanates", A. Modelli and D. Jones, J. Phys. Chem. A **110**, 13195 (2006).
(7) "Electronic structure of the 6+6 dimer of tropone", I.D. Reingold, J.A. Kowalski, G.C. Cummings, R. Gleiter, H. Lange, S. Lovell, B. Kahr, K. Aflatooni, P.D. Burrow and G.A. Gallup, J. Phys. Org. Chem. **19**, 642 (2006).

2007

(1) "Rapid Quantitative Prediction of Ionization Energies and Electron Affinities of Polycyclic Aromatic Hydrocarbons", A. Modelli and L. Mussoni, Chem. Phys. **332**, 367 (2007).
(2) "Temporary anion states and dissociative electron attachment to nitrobenzene derivatives", N.L. Asfandiarov, S.A. Pshenichnyuk, V.G. Lukin, I.A. Pshenichnyuk, A. Modelli and S. Matejcik, Internat. J. Mass Spectrom. **264**, 22 (2007).
(3) "A theoretical and experimental study on the molecular and electronic structures of artemisinin and related drug molecules", V. Galasso, B. Kovac and A. Modelli, Chem. Phys. **335**, 141 (2007).
(4) "A relation between energies of the short-lived negative ion states and energies of unfilled molecular orbitals for a series of bromoalkanes", S.A. Pshenichnyuk, N.L. Asfandiarov, and P.D. Burrow, Russian Chemical Bulletin, Int. Ed. 56, **1** (2007).
(5) "Low-energy electron capture by 6-aza-2-thiothymine: Investigations by electron attachment and electron transmission spectroscopies", S.A. Pshenichnyuk, G.A. Gallup and P.D. Burrow, J. Phys. Chem. A **111**, 11837 (2007).
(6) "Dissociative Electron Attachment to Di-*tert*-butylperoxide, Artemisinin, and β-Artemether", A. Modelli and V. Galasso, J. Phys. Chem. A **xxx**, yyyy (2007).

Last updated Dec 2007.