

CURRICULUM VITAE

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Department of Chemistry
University of Pittsburgh
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Personal

Birthdate: September 5, 1956 *Citizenship:* U.S.A.
Birthplace: Cincinnati, OH *Family Status:* Married, 2 children

Education

Ph.D. in Chemistry, University of Chicago, 1983
B.S. in Chemistry, University of Cincinnati, 1978

Professional Experience

2024 – present Distinguished Professor in Chemistry; University of Pittsburgh
2015 – present Academic Director, Petersen Institute of NanoScience & Engineering
1997 – 2024 Professor in Chemistry; University of Pittsburgh
2005-2014 Chair of Chemistry, University of Pittsburgh
1991-1997 Associate Professor in Chemistry; University of Pittsburgh
1985-1991 Assistant Professor in Chemistry; University of Pittsburgh
1983-1985 Postdoctoral Fellow in Chemistry; University of California, Berkeley

Research Interests

Condensed phase dynamics; unimolecular reactions, electron transfer (heterogeneous and homogeneous); chiral-induced spin selectivity; nanotechnology; electron tunneling; solvation; binding and cooperativity; molecular information transfer, fluorescent sensors

Awards and Recognitions

Morley Medal, ACS Cleveland Section, 2024
Chair 2023 Gordon Research Conf. *Electron Spin Interactions with Chiral Molecules & Materials*
US-Israel Binational Science Foundation, Science Advisor (2020-2021)
Fellow of the American Chemical Society 2020
Advisory Board of European Consortium HEL4CHIROLED (2020 – present)
Editorial Advisory Board of the journal PCCP (2020 - present)
Editorial Advisory Board of the journal Symmetry (2020 - present)
International Society of Electrochemistry's Bioelectrochemistry Prize, 2018
Fellow of the American Association for the Advancement of Science, 2017
American Chemical Society -Women's Chemistry Committee Award for Encouraging Women in Chemistry (Pittsburgh section), 2016
Chair of 2014 Gordon Research Conference on '*Donor-Acceptor Interactions*'
American Chemical Society, Pittsburgh Award, 2014
Lecturer on Bioelectronics at Summer School on Solid State Physics (Sicily, IT) 2014
Fellow of the American Physical Society, 2005
Belkin Visiting Professor, Weizmann Institute, 1998
Chancellors Distinguished Research Award (Junior Level), 1994
International Business Machines, Postdoctoral Fellowship 1983 - 1985

Affiliations

American Chemical Society; American Physical Society; Spectroscopy Society of Pittsburgh
American Association for the Advancement of Science; Society for Analytical Chemists of Pittsburgh; International Society of Electrochemistry

Publication Record

Books

H. Kuhn, D. H Waldeck, and H.-D. Försterling, *Solutions Manual for Principles of Physical Chemistry* 3rd edition (Wiley, New York, 2024).

H. Kuhn, D. H Waldeck, and H.-D. Försterling *Principles of Physical Chemistry* 3rd edition (Wiley, New York, 2024).

Topics in Current Chemistry, Vol. 298: *Electronic and Magnetic Properties of Chiral Molecules and Supramolecular Architectures*; R. Naaman, D. N. Beratan, and D. H. Waldeck, eds. (2011) Springer-Verlag, ISBN 0340-1022.

D. H. Waldeck and J. Madura, *Solutions Manual for Principles of Physical Chemistry* (Wiley, New York, 2010) ISBN: 978-0-470-56197-3

H. Kuhn, H.-D. Foersterling, and D. H. Waldeck *Principles of Physical Chemistry* (Wiley, New York, 2009) ISBN: 978-0-470-08964-4.

Journal Articles (h-index = 77 on Google Scholar)

274. N. Tabassum, B. Bloom, G.H. Debnath, and D.H. Waldeck *Factors influencing the chiral imprinting in perovskite nanoparticles* *Nanoscale* **16** (2024) 22120 – 22127.

273. A. Vadakkayil, W. A. Dunlap-Shohl, M. Joy, B. P. Bloom, and D. H. Waldeck *Improved Catalyst Performance for the Oxygen Evolution Reaction Under a Chiral Bias* *ACS Catalysis* **14** (2024) ACS Catal. 17303–17309.

272. R. Naaman and D. H. Waldeck *What Can CISS Teach Us about Electron Transfer?* *J. Phys. Chem. Lett.* **15** (2024) 11002–11006.

271. J.J. Philip, G.H. Debnath, D.H. Waldeck, and R.G. Balakrishna *Halide exchange mediated cation exchange facilitates room temperature co-doping of d-and f-block elements in cesium lead halide perovskite nanoparticles* *Nanoscale* **16** (2024) 9558-9569.

270. B.P. Bloom, Z. Chen, H. Lu, and D.H. Waldeck *A chemical perspective on the chiral induced spin selectivity effect* *National Science Review* **11** (2024) nwae212.

269. R. Sun, Z. Wang, B. P. Bloom, A. H. Comstock, C. Yang, A. McConnell, C. Clever, M. Molitoris, D. Lamont, Z.-H. Cheng, Z Yuan, W. Zhang, A. Hoffmann, J. Liu, D. H. Waldeck, and D. Sun *Colossal Anisotropic Absorption of Spin Currents Induced by Chirality* *Science Advances* **10** (2024) eadn3240.

268. F. Mastrocinque, G. Bullard, J. A. Alatis, J. A. Albro, A. Nayak, N. X. Williams, A. Kumbhar, H. Meikle, Z. X. W. Widel, Y. Bai, A. K. Harvey, J. M. Atkin, D. H. Waldeck, A. D. Franklin, and M. J. Therien, *Band gap opening of metallic single-walled carbon nanotubes via noncovalent symmetry breaking* *PNAS* **121** (2024) e2317078121.

267. B. P. Bloom, Y. Paltiel, R. Naaman, and D. H. Waldeck *Chiral Induced Spin Selectivity* *Chem. Rev.* **124** (2024) 1950–1991.

266. R. Naaman, J. E. Subotnik, and D. H. Waldeck *Foreword to the Special Issue Chiral Induced Spin Selectivity* J. Chem. Phys. **160** (2024) 096101.
265. M. Bhar, N. Bhunia, G. H. Debnath, D.H. Waldeck, and P. Mukherjee *Optical properties of semiconductor nanoparticles doped with 3d and 4f block elements* Chem. Phys. Rev. **5** (2024) 011306.
264. H. Gajapathy, S. Bandaranayake, E. Hruska, A. Vadakkayil, B. P. Bloom, S. Londo, J. McClellan, J. Guo, D. Russell, F.M. F. de Groot, F. Yang, D. H. Waldeck, M. Schultze and L. R. Baker *Spin polarized electron dynamics enhance water splitting efficiency by yttrium iron garnet photoanodes: a new platform for spin selective photocatalysis* Chemical Science **15** (2024) 3300-3310.
263. W. A. Dunlap-Shohl, N. Tabassum, P. Zhang, E. Shiby, D. N. Beratan, and D. H. Waldeck *Electron-donating functional groups strengthen ligand-induced chiral imprinting on CsPbBr₃ quantum dots* Scientific Reports **14** (2024) 336.
262. R. Naaman and D. H. Waldeck *Spin Dependent Electrochemistry* **Encyclopedia of Solid-Liquid Interfaces** (Elsevier, 2023). <https://doi.org/10.1016/B978-0-323-85669-0.00010-6> 1.
261. C. Climent, E. J. Schelter, D.H. Waldeck, S.A. Vinogradov, and J.E. Subotnik *On the circularly polarized luminescence of individual triplet sublevels* J. Chem. Phys. **159**, (2023) 134304.
260. T. Liu, R. Parekh, P. Mocny, B. P. Bloom, Y. Zhao, S. Y. An, B. Pan, R. Yin, D. H. Waldeck, J. F. Whitacre, and K. Matyjaszewski *Tailored PVDF Graft Copolymers via ATRP as High-Performance NCM811 Cathode Binders* ACS Materials Lett. **5** (2023) 2594–2603.
259. Y. Lu, M. Joy, B. P. Bloom, and D. H. Waldeck, *Beyond Stereoisomeric Effects: Exploring the Importance of Intermolecular Electron Spin Interactions in Biorecognition* J. Phys. Chem. Lett. **14** (2023) 7032–7037.
258. J. Wei, B. P. Bloom, W. A. Dunlap-Shohl, C. B. Clever, J. E. Rivas, and D. H. Waldeck *Examining the Effects of Homochirality for Electron Transfer in Protein Assemblies* J. Phys. Chem. B **127** (2023) 6462–6469.
257. Y. Lu, T. Qiu, B. P. Bloom, J. Subotnik, D. H. Waldeck, *Spin-based Chiral Separations and the Importance of Molecule-Solvent Interactions* J. Phys. Chem. C **127** (2023) 14155–14162.
256. K. Santra, Y. Lu, D. H. Waldeck, and R. Naaman *Spin Selectivity Damage Dependence of Adsorption of dsDNA on Ferromagnets* J. Phys. Chem. C **127** (2023) 2344–2350.
255. A. Vadakkayil, C. Clever, K. N. Kunzler, S. Tan, B. P. Bloom, and D. H. Waldeck *Chiral Electrocatalysts Eclipse Water Splitting Metrics through Spin Control* Nature Commun. **14** (2023) 1067.
254. N. Tabassum, Z.N. Georgieva, G. H. Debnath, and D. H. Waldeck *Size-dependent Chiro-optical Properties of CsPbBr₃ Nanoparticles* Nanoscale **15** (2023) 2143 – 2151.
253. R. Naaman, D. H. Waldeck, and J. Fransson *New Perspective on Electron Transfer through Molecules* J. Phys. Chem. Lett. **13** (2022) 11753–11759

252. S. Rudra, G. H. Debnath, N. Bhunia, B.P. Bloom, D. H. Waldeck, and P. Mukherjee, *Evaluating Inter-Lanthanide Interactions in Co-Doped Zinc Sulfide Nanoparticles for Multiplex Assays* J. Phys. Chem. C **126** (2022) 11723-11734.
251. Y. Du, E. Wierzbinski, and D.H. Waldeck *Research on the Difference of Characteristics at Steel/Electrolyte Interface under Cathodic Protection and in High-pH Alkaline Solution* J. Electroanal. Chem. **925** (2022) 116878
250. Y. Sang, F. Tassinaria, K. Santra, W. Zhang, C. Fontanesi, B. P. Bloom, D. H. Waldeck, J. Fransson, and R. Naaman *Chirality Enhances Oxygen Reduction* PNAS **119** (2022) e2202650119.
249. Z. N. Georgieva, Z. Zhang, P. Zhang, B. P. Bloom, D. N. Beratan, and D. H. Waldeck *Ligand Coverage and Exciton Delocalization Control Chiral Imprinting in Perovskite Nanoplatelets* J. Phys. Chem. C **126** (2022) 15986–15995.
248. B. P. Bloom, A. R. Waldeck, and D. H. Waldeck *Homochirality and chiral-induced spin selectivity: A new spin on the origin of life* Proc. Nat. Acad. Sci. **119** (2022) e2210505119.
247. C. Clever, E. Wierzbinski, B. P. Bloom, Y. Lu, H. M. Grimm, S. R. Rao, W. S. Horne, and D. H. Waldeck, *Benchmarking Chiral Induced Spin Selectivity Measurements Towards Meaningful Comparisons of Chiral Biomolecule Spin Polarizations*, Isr. J. Chem. **62** (2022) e202200045.
246. P.V. Möllers, J. Wei, S. Salamon, M. Bartsch, H. Wende, D. H. Waldeck, and H. Zacharias *Spin-Polarized Photoemission from Chiral CuO Catalyst Thin Films* ACS Nano **16** (2022) 12145–12155.
245. G.H. Debnath, B. P. Bloom, S.S. Tan, and D. H. Waldeck, *Room temperature doping of Ln³⁺ in perovskite nanoparticles: a halide exchange mediated cation exchange approach* Nanoscale **14** (2022) 6037-6051.
244. T. Liu, X. Wu, S. Zhu, F. Lorandi, L. Ni, S. Li, M. Sun, B. Bloom, D. Waldeck, V. Viswanathan, J. Whitacre, and K. Matyjaszewski *Polymer-Stabilized Liquid Metal Nanoparticles as a Scalable Current Collector Engineering Approach Enabling Lithium Metal Anodes* ACS Applied Energy Materials **5** (2022) 3615-3625.
243. C. D. Aiello, M. Abbas, J. M. Abendroth, A. Afanasev, S. Agarwal, A. S. Banerjee, D. N. Beratan, J. N. Belling, B. Berche, A. Botana, J.R. Caram, G. Luca Celardo, G. Cuniberti, A. Garcia-Etxarri, A. Dianat, I. Diez-Perez, Y. Guo, R. Gutierrez, C. Herrmann, J. Hihath, S. Kale, P. Kurian, Y.-C. Lai, A. Lopez, E. Medina, V. Mujica, R. Naaman, M. Noormandipour, J. L. Palma, Y. Paltiel, W. T. Petuskey, J. C. Ribeiro-Silva, J. J. Saenz, E. J. G. Santos, M. Solyanik, V. J. Sorger, D. M. Stemer, J.M. Ugalde, A. Valdes-Curiel, S. Varela, D. H. Waldeck, P. S. Weiss, H. Zacharias, and Q. H. Wang *A Chirality-Based Quantum Leap* ACS Nano **16** (2022) 4989–5035.
242. S. Chandran, Y. Wu, H. H. Teh, D. H. Waldeck and J. E. Subotnik *Electron Transfer and Spin Orbit Coupling: Can Nuclear Motion Lead to Spin Selective Rates?* J. Chem. Phys. **156** (2022) 174113.
241. Z. Yin, Z. Ji, B. P. Bloom, A. Jayapalan, M. Liu, X. Zeng, D. H. Waldeck, J. Wei *Manipulating cobalt oxide on N-doped aligned electrospun carbon nanofibers towards instant electrochemical detection of dopamine secreted by living cells* Appl. Surf. Sci. **577** (2022) 151912.
240. R. Naaman, Y. Paltiel, and D.H. Waldeck *Chiral Induced Spin Selectivity and Its Implications for*

- Biological Functions* Ann. Rev. Biophysics 51 (2022) 99 – 114.
239. F. Evers, A. Aharony, N. Bar-Gill, O. Entin-Wohlman, P. Hedegard, O. Hod, P. Jelinek, G. Kamieniarz, M. Lemesko, K. Michaeli, V. Mujica, R. Naaman, Y. Paltiel, S. Refaely-Abramson, O. Tal, J. Thijssen, M. Thoss, J. M. van Ruitenbeek, L. Venkataraman, D. H. Waldeck, B. Yan, and L. Kronik *Theory of Chirality Induced Spin Selectivity: Progress and Challenges* Adv. Mat. **34** (2022) 2106629.
238. G. H. Debnath, Z. N. Georgieva, B.P. Bloom, S. Tan, and D. H. Waldeck *Using Post-Synthetic Ligand Modification to Imprint Chirality onto the Electronic States of Cesium Lead Bromide (CsPbBr₃) Perovskite Nanoparticles* Nanoscale **13** (2021) 15248-15256.
237. Y. Lu, B. P. Bloom, S. Qian, and D. H. Waldeck *Enantiospecificity of Cysteine Adsorption on a Ferromagnetic Surface: Is it Kinetically or Thermodynamically Controlled?* J. Phys. Chem. Letters **12** (2021) 7854–7858
236. A. Ziv, P. Karadan, O. Shoseyov, B. Bloom, S. Goldring, S. Yochelis, D. H. Waldeck, R. Yerushalmi, and Y. Paltiel, *Chirality Nano-Sensor with Direct Electric Readout by Coupling of Nanofloret Localized Plasmons with Electronic Transport* Nanoletters **21** (2021) 6496–6503.
235. Y. Sang, S. Mishra, F. Tassinari, K. S. Kumar, R. Carmeli, R. D. Teo, A. Migliore, D. N. Beratan, H. B. Gray, I. Pecht, J. Fransson, D. H. Waldeck, R. Naaman, *Temperature Dependence of Charge and Spin Transfer in Azurin*, J. Phys. Chem. C **125** (2021) 9875–9883.
234. J. Valdiviezo, C. Clever, E. Beall, A. Pearse, Y. Bae, P. Zhang, C. Achim, D. N. Beratan, and D. H. Waldeck *Delocalization-Assisted Transport through Nucleic Acids in Molecular Junctions* Biochemistry **60** (2021) 1368-1378.
233. D. H. Waldeck, R. Naaman, and Y. Paltiel *The spin selectivity effect in chiral materials* APL Materials **9** (2021) 040902.
232. N. Aquino de Carvalho, Y. Wang, N. Morales-Soto, D. Waldeck, K. Bibby, K. Doudrick, and L. M. Gilbertson, *Chemical Composition Manipulations of Graphitic Carbon Nitride Reveals Complexities in Identifying Governing Photocatalytic Properties for Antibacterial Applications* Environmental Science & Technology **1** (2021) 269-280.
231. R. Naaman, Y. Paltiel, and D. H. Waldeck *Chiral Induced Spin Selectivity Gives a New Twist on Spin-Control in Chemistry* Accounts of Chemical Research **53** (2020) 2659-2667.
230. H. Al-Bustami, B. P. Bloom, S. Goldring, S. Yochelis, R. Naaman, D. H. Waldeck, Y. Paltiel *Optical Multilevel Spin Bit Device using Chiral Quantum Dots* Nano Letters **20** (2020) 8675-8681.
229. M. Sun, E. Gottlieb, R. Yuan, S. Ghosh, H. Wang, R. Selhorst, A. Huggett, X. Du, R. Yin, D.H. Waldeck, K. Matyjaszewski, and T. Kowalewski *Polyene-Free Photoluminescent Polymers via Hydrothermal Hydrolysis of Polyacrylonitrile in Neutral Water* ACS Macro Lett. **9** (2020) 1403–1408.
228. G. H. Debnath, P. Mukherjee, and D. H. Waldeck *Optimizing the Key Variables to Generate Host Sensitized Lanthanide Doped Semiconductor Nanoparticle Luminophores* J. Phys. Chem. C **124** (2020) 26495-26517.

227. F. Tassinari, D. Amsallem, B.P. Bloom, Y. Lu, A Bedi, D. H. Waldeck, O. Gidron, and R. Naaman *Spin-Dependent Enantioselective Electropolymerization* J. Phys. Chem. C **124** (2020) 20974–20980.
226. X. Xu, Y. Guo, B.P. Bloom, J.J. Wei, H.Y. Li, H.L. Li, Y.K. Du, Z. Zeng, L.Q. Li, and D. H. Waldeck, *Elemental Core Level Shift in High Entropy Alloy Nanoparticles via X-ray Photoelectron Spectroscopy Analysis and First-Principles Calculation* ACS Nano **14** (2020) 17704-17712.
225. S. Ghosh, B. P. Bloom, Y. Lu, D. Lamont, and D. H. Waldeck *Increasing the Efficiency of Water Splitting through Spin Polarization using Cobalt Oxide Thin Film Catalysts* J. Phys. Chem. C **124** (2020) 22610–22618.
224. B.P. Bloom, Y. Lu, D. H. Waldeck, T. Metzger, S. Yochelis, Y. Paltiel, C. Fontanesi, S. Mishra, F. Tassinari, and R. Naaman *Asymmetric reactions induced by electron spin polarization* PCCP **22** (2020) 21570 - 21582.
223. Z. Huang, B. P. Bloom, X. Ni, Z. N. Georgieva, M. Marciesky, E. Vetter, F. Liu, D. H. Waldeck, and D. Sun *Magneto-optical Detection of Photoinduced Magnetism via Chirality Induced Spin Selectivity in 2D Chiral Hybrid Organic-Inorganic Perovskites* ACS Nano **14** (2020) 10370–10375.
222. R. Naaman, Y. Paltiel, and D. H. Waldeck *Chiral Molecules and the Spin Selectivity Effect* J. Phys. Chem. Letters **11** (2020) 3660-3666.
221. S. Ghosh, S. Mishra, E. Avigad, B. P. Bloom, L. T. Baczewski, S. Yochelis, Y. Paltiel, R. Naaman, and D.H. Waldeck *Effect of Chiral Molecules on the Electron's Spin Wavefunction at Interfaces* J. Phys. Chem. Letters **11** (2020) 1550-1557.
220. R. Naaman and D.H. Waldeck *Comment on 'Spin-dependent electron transmission for chiral molecules in mesoscopic devices'* Phys. Rev. B **101** (2020) 026403.
219. T. S. Metzger, S. Mishra, B. P. Bloom, N. Goren, A. Neubauer, G. Shmul, J. Wei, S. Yochelis, F. Tassinari, C. Fontanesi, D. H. Waldeck, Y. Paltiel, and R. Naaman *The Electron Spin as a Chiral Reagent* Angew. Chemie Int. Ed. **58** (2019) 2-8.
218. R. Naaman, D. H. Waldeck, and Y. Paltiel, *Chiral Molecules-Ferromagnetic Interfaces, an Approach towards Spin-controlled Interactions* Appl. Phys. Lett. **115** (2019) 133701.
217. J. M. Abendroth, D. M. Stemer, B.P. Bloom, P. Roy, R. Naaman, D. H. Waldeck, P. S. Weiss, and P. Chandra Mondal, *Spin Selectivity in Photoinduced Charge-Transfer Mediated by Chiral Molecules* ACS Nano **13** (2019) 4928-4946.
216. R. Naaman, C. Fontanesi, and D. H. Waldeck *Chirality and Its Role in the Electronic Properties of Peptides: Spin Filtering and Spin Polarization* Current Opinion in Electrochemistry **14** (2019) 138-142.
215. K. Michaeli, D. N. Beratan, D. H. Waldeck, and R. Naaman, *Voltage-induced Long-range Coherent Electron Transfer through Organic Molecules* Proc. of the National Academy of Sciences **116** (2019) 5931-5936.

214. R. Naaman, Y. Paltiel, and D. H. Waldeck *Chiral Molecules and the Electron Spin* Nature Reviews, **3** (2019) 250-260.
213. K. B. Ghosh, W. Zhang, F. Tassinari, Y. Mastai, O. Lidor-Shalev, R. Naaman, P. Möllers, D. Nürenberg, H. Zacharias, J. Wei, E. Wierzbinski, and D. H. Waldeck *Controlling Chemical Selectivity in Electrocatalysis with Chiral CuO-Coated Electrodes* J. Phys. Chem. C **123** (2019) 3024-3031.
212. G. Koplovitz, G. Leitus, S. Ghosh, B. P. Bloom, S. Yochelis, D. Rotem, F. Vischio, M. Striccoli, E. Fanizza, R. Naaman, D. H. Waldeck, D. Porath and Y. Paltiel *Single Domain 10 nm Ferromagnetism Imprinted on Superparamagnetic Nanoparticles Using Chiral Molecules* Small **15** (2019) 1804557.
211. P. Manna, G. Debnath, D. H. Waldeck, and P. Mukherjee, *What Is Beyond Charge Trapping in Semiconductor Nanoparticle Sensitized Dopant Photoluminescence?* J. Phys. Chem. Lett **9** (2018) 6191-6197.
210. B. Bloom, R. Liu, P. Zhang, S. Ghosh, R. Naaman, D. Beratan, and D. H. Waldeck *Directing Charge Transfer in Quantum Dot Assemblies* Accs of Chemical Research **51** (2018) 2565-2573.
209. R. Naaman, Y. Paltiel, and D. H. Waldeck *Chirality and Spin: A Different Perspective on Enantioselective Interactions* Chimia **72** (2018) 394-398.
208. C. Fontanesi, E. Capua, Y. Paltiel, D.H. Waldeck, and R. Naaman *Spin-Dependent Processes Measured without a Permanent Magnet* Advanced Materials **30** (2018) 1707390-6
207. Z. N. Georgieva, B. P. Bloom, S. Ghosh, and D. H. Waldeck, *Imprinting Chirality onto the Electronic States of Colloidal Perovskite Nanoplatelets* Advanced Materials **30** (2018) 1800097.
206. E. Beall, A. Sargun, S. Ulku, Y. Bae, E. Wierzbinski, C. Clever, D. H. Waldeck, and C. Achim, *The Molecular Conductance of Stitched Nucleic Acid Duplexes* J. Phys. Chem. C **122** (2018) 7533-7540.
205. R. Liu, B. P. Bloom, D. H. Waldeck, P. Zhang, and D. N. Beratan, *Improving Solar Cell Performance Using Quantum Dot Triad Charge-separation Engines* J. Phys Chem. C. **122** (2018) 5924-5934.
204. Y. Liu, Z. Zeng, B. Bloom, D. H. Waldeck, and J. Wei, *Stable Low-Current Electrodeposition of α -MnO₂ on Superaligned Electrospun Carbon Nanofibers for High-Performance Energy Storage* Small **14** (2018) 1703237-7.
203. R. Naaman and D.H. Waldeck, Chapter 6: *The Chiral Induced Spin Selectivity (CISS) Effect*. Volume 4: ***Spin in Organics*** (World Scientific, 2018) 235-270.
202. V. Varade, T. Markus, K. Vankayala, N. Friedman, M. Sheves, D. H. Waldeck, and R. Naaman, *Bacteriorhodopsin Based Non-magnetic Spin Filters for Biomolecular Spintronics* PCCP **20** (2018) 1091- 1097.
201. W. Zhang, J. Chavez, Z. Zeng, B. Bloom, A. Sheardy, Z. Ji, Z. Yin, D. Waldeck, Z. Jia, Z. Zhenquan, and J. Wei, *Antioxidant Capacity of Nitrogen, Sulfur Co-doped Carbon Nanodots* ACS Applied Nano Materials **1** (2018) 2699-2708.

200. D. N. Beratan, R. Naaman, and D. H. Waldeck, Review Article: *Charge and Spin Transport through Nucleic Acids* Current Opinion in Electrochemistry **4** (2017) 175-181.
199. Z. Zeng, W. D. Zhang, D. M. Arvapalli, B. Bloom, A. Sheardy, T. Mabe, Y.Y. Liu, Z.W. Ji, H. Chevva, D. H. Waldeck, and J. J. Wei, *A Fluorescence-Electrochemical Study of Carbon Nanodots (CNDs) in Bio- and Photoelectronic Applications and Energy Gap Investigation* PCCP **19** (2017) 20101-20109.
198. R. Naaman and D. Waldeck *Spin in Quantum Biology* Inference **3**, Issue 2 (2017) <http://inference-review.com/article/spin-in-quantum-biology>.
197. B. P. Bloom, B. M. Graff, S. Ghosh, D. N. Beratan, and D. H. Waldeck *Chirality Control of Electron Transfer in Quantum Dot Assemblies* J. Am. Chem. Soc. **139** (2017) 9038-9043.
196. R. Liu, B. Bloom, D.H. Waldeck, P. Zhang and D. N. Beratan *Controlling the Electron-Transfer Kinetics of Quantum-Dot Assemblies* J. Phys. Chem. C **121** (2017) 14401–14412.
195. E. Beall, S. Ulku, C. Liu, E. Wierzbinski, Y. Zhang, Y. Bae, P. Zhang, C. Achim, D. N. Beratan, and D. H. Waldeck *Effects of the Backbone and Chemical Linker on the Molecular Conductance of Nucleic Acid Duplexes* J. Am. Chem. Soc. **139** (2017) 6726-6735.
194. A. Kumar, E. Capua, M. K. Kesharwani, J. M. L. Martin, E. Sitbon, D. H. Waldeck, and R. Naaman, *Spin Polarization Accompanies Charge Polarization in Chiral Molecules- Implication for Enantioselectivity and Bio-recognition*, Proc. of the National Academy of Sciences **114** (2017) 2474-2478.
193. K. Michaeli, V. Varade, R. Naaman, and D. H. Waldeck *A New Approach Towards Spintronics-Spintronics with No Magnets* J. Phys.: Condens. Matter **29** (2016) 103002
192. P. C. Mondal, C. Fontanesi, D. H. Waldeck, and R. Naaman *Spin-dependent Transport through Chiral Molecules Studied by Spin-dependent Electrochemistry* Accts. Chem. Res **49** (2016) 2560-2568.
191. K. Michaeli, N. Kantor-Uriel, R. Naaman, and D. H. Waldeck *The Electron's Spin and Molecular Chirality- How Are They Related and How Do They Affect Life Processes?* Chem Soc. Reviews **45** (2016) 6478-6487.
190. D. N. Beratan and D. H. Waldeck, *Hot Holes Break the Speed Limit* Nature Chemistry **8** (2016) 992-993.
189. B. M. Graff, B.P. Bloom, E. Wierzbinski, and D. H. Waldeck *Electron Transfer in Nanoparticle Dyads Assembled on Colloidal Template* J. Am. Chem. Soc. **138** (2016) 13260—13270.
188. A. Chakraborty, G. H. Debnath, N. R. Saha, D. Chattopadhyay, D. H. Waldeck, and P. Mukherjee *Identifying the Correct Host - Guest Combination to Sensitize Trivalent Lanthanide (Guest) Luminescence: Titanium Dioxide Nanoparticles as a Model Host System* J. Phys. Chem. C **120** (2016) 23870-23882.
187. B. M. Graff, D. N. Lamont, M. F. L. Parker, B. P. Bloom, C. E. Schafmeister, and D.H. Waldeck *Through Solvent Tunneling in Donor-Bridge-Acceptor Molecules Containing a Molecular Cleft* J. Phys. Chem. A **120** (2016) 6004-6016.

186. B. P. Bloom, V. Kiran, V. Varade, R. Naaman, D.H. Waldeck *Spin Selective Charge Transport through Cysteine Capped CdSe Quantum Dots*, NanoLetters **16** (2016) 4583-4589.
185. Z. Zeng, M.N. Mendis, D.H. Waldeck, J. Wei *A Semi-Analytical Decomposition Analysis of Surface Plasmon Generation and the Optimal Nanoridge Plasmonic Device*, RSC Advances **6** (2016) 17196 – 17203.
184. B. Bloom, M.N. Mendis, E. Wierzbinski, and D. H. Waldeck *Eliminating Fermi-Level Pinning in PbS Quantum Dots Using an Alumina Interfacial Layer* J. Materials Chemistry C **4** (2016) 704 – 712.
183. N. Kantor-Uriel, P. Roy, S. Saris, V. Kiran, D. H. Waldeck, and R. Naaman *Evidence for Enhanced Electron Transfer by Multiple Contacts between Self-Assembled Organic Monolayers and Semiconductor Nanoparticles* J. Phys. Chem. C **119** (2015) 15839–15845.
182. E. Beall, X. Yin, D. H. Waldeck, and E. Wierzbinski *A Scanning Tunneling Microscope Break Junction Method with Continuous Bias Modulation* Nanoscale **7** (2015) 14965-14973.
181. X. Yin and D. H. Waldeck *Electron Transfer: Basic Theory, Experiments, and Computational Methods* Adv. Science Engineering and Medicine **7** (2015) 1093–1111.
180. P. C. Mondal, C. Fontanesi, D. H. Waldeck and R. Naaman, *Magnetic Field and Chirality Effects on Electrochemical Charge Transfer Rates: Spin Dependent Electrochemistry* ACS Nano **9** (2015) 3377-3384
179. R. Naaman and D. H. Waldeck, *Spintronics and Chirality: Spin Selectivity in Electron Transport through Chiral Molecules* Ann. Rev. Phys. Chem. **66** (2015) 263-281.
178. M. Kettner, B. Gohler, H. Zacharias, D. Mishra, V. Kiran, R. Naaman, D. H. Waldeck, S. Sek, J. Pawlowski, and J. Juhaniwicz *Spin Filtering in Electron Transport through Chiral Oligopeptides* J. Phys. Chem. C. **119** (2015) 14542-14547.
177. R. Naaman and D. H. Waldeck, *Chiral Supramolecular Structures as Spin Filters in Supramolecular Materials for Opto-Electronics*; N. Koch, ed., **RSC Smart Materials** **12** (2015) 203 – 225.
176. J. Wei, M. Kofke, S. Singhal, and D. H. Waldeck, *A Study of Localised Surface Plasmon Resonance Nanoslit Array and Applications for Chip-based Protein Detection* JSM Nanotechnology & Nanomedicine **2** (2014) 1024.
175. R. Venkatramani, E. Wierzbinski, D.H Waldeck, and D. N Beratan, *FD 174: Breaking the Simple Proportionality between Molecular Conductances and Charge Transfer Rates* Faraday Discussions **174** (2014) 57-78.
174. X. Yin, J. Kong, A. DeLeon, YL Li, Z. J. Ma, E. Wierzbinski, C. Achim, and D. H. Waldeck *Luminescence Quenching by Photoinduced Charge Transfer between Metal Complexes in Peptide Nucleic Acids* J. Phys Chem. B **118** (2014) 9037-9045.
173. B. Ding, Y. Wang, P.S. Huang, D. H. Waldeck, and J.-K. Lee, *Depleted Bulk Heterojunctions in Thermally Annealed PbS Quantum Dot Solar Cells* J. Phys. Chem. C **118** (2014) 14749-14758.

- 172 B. Ding, T. Gao, Y. Wang, D.H. Waldeck, P. Leu, and J.-K. Lee, *Synergistic Effect of Surface Plasmonic Particles in PbS/TiO₂ Heterojunction Solar Cells* *Solar Energy Materials and Solar Cells* **128** (2014) 386-393.
171. X. Yin, E. Wierzbinski, H. Lu, S. Bezer, A. R. de Leon, K. L. Davis, C. Achim, and D. H. Waldeck, *A Three-Step Kinetic Model for Electrochemical Charge Transfer in the Hopping Regime* *J. Phys. Chem. A* **118** (2014) 7579-7589
170. Y. Wang, K. Liu, P. Mukherjee, D. A. Hines, P. Santra, H. Y. Shen, P. Kamat, and D. H. Waldeck, *Driving Charge Separation for Hybrid Solar Cells: Photo-induced Hole Transfer in Conjugated Copolymer and Semiconductor Nanoparticle Assemblies* *Phys. Chem. Chem. Phys.* **16** (2014) 5066 - 5070
169. R. D. Harris, J. T. Auletta, S. A. M. Motlagh, M. J. Lawless, N. M. Perri, S. Saxena, L. M. Weiland, D. H. Waldeck, W. W. Clark, and T. Y. Meyer, *Chemical and Electrochemical Manipulation of Mechanical Properties in Stimuli-Responsive Copper-Cross-Linked Hydrogels* *ACS Macro Lett.* **2** (2013) 1095-1099.
168. M. N. Mendis, H. S. Mandal, and D. H. Waldeck, *Enhanced Sensitivity of Delocalized Plasmonic Nanostructures* *J. Phys. Chem. C* **117** (2013) 25693–25703.
167. L.B. Zhao, A. K. Mishra, and D. H. Waldeck *Voltammetry Can Reveal Differences between the Potential Energy Curve (pec) and Density of States (dos) Models for Heterogeneous Electron Transfer* *J. Phys. Chem. C.* **117** (2013) 20746-20761.
166. M. J. Kofke, E. Wierzbinski, and D. H. Waldeck *Seedless CTAB mediated growth of anisotropic nanoparticles and nanoparticle clusters on nanostructured plasmonic templates* *J. Mater. Chem. C* **1** (2013) 6774-6781.
165. B. P. Bloom, L.-B. Zhao, Y. Wang, D. H. Waldeck, D. N. Beratan, P. Zhang, and R. Liu, *Ligand Induced Changes in the Characteristic Size Dependent Electronic Energies of CdSe Nanoparticles* *J. Phys. Chem. C.* **117** (2013) 22401–22411.
164. Dimitri E. Khoshtariya, Tina D. Dolidze, Tatyana Tretyakova, David H. Waldeck and Rudi van Eldik *Electron Transfer with Azurin at Au–SAM Junctions in Contact with a Protic Ionic Melt: Impact of Glassy Dynamics* *PCCP* **15** (2013) 16515-16526.
163. Prasun Mukherjee, Robin F. Sloan, Chad M. Shade, David H. Waldeck, and Stéphane Petoud *A Postsynthetic Modification of II–VI Semiconductor Nanoparticles to Create Tb³⁺ and Eu³⁺ Luminophores* *J. Phys. Chem. C* **117** (2013) 14451–14460.
162. E. Wierzbinski, R. Venkatramani, K.L. Davis, S. Bezer, J. Kong, Y. Xing, E. Borguet, C. Achim, D.N. Beratan, and D. H. Waldeck, *The Single-Molecule Conductance and Electrochemical Electron-Transfer Rate are Related by a Power Law.* *ACS Nano* **7** (2013) 5391-5401.
161. E. Wierzbinski, X. Yin, K. Werling, and D. H. Waldeck, *The Effect of Oxygen Heteroatoms on the Single Molecule Conductance of Saturated Chains* *J. Phys. Chem. B* **117** (2013) 4431–4441.
160. R. Naaman and D. H. Waldeck *Chiral-Induced Spin Selectivity Effect* *J. Phys. Chem. Lett* **3** (2012) 2178-2187.

159. J. F. Lemonnier, L. Babel, L. Guenee, P. Mukherjee, D. H. Waldeck, S. V. Eliseeva, S. Petoud, and C. Piguet *Perfluorinated Aromatic Spacers for Sensitizing Europium (III) Centers in Dinuclear Oligomers: Better than the Best by Chemical Design?* *Angew. Chem. Intl. Ed* **51** (2012) 11302-11305.
158. Y. Wang, Z. Xie, G. Gotesman, L. Wang, B.P. Bloom, T. Z. Markus, D. Oron, R. Naaman, and D. H. Waldeck *Determination of the Electronic Energetics of CdTe Nanoparticle Assemblies on Au Electrodes by Photoemission, Electrochemical, and Photocurrent Studies.* *J. Phys. Chem. C* **116** (2012) 17464-17472.
157. E. Wierzbinski, A. de Leon, X. Yin, A. Balaeff, K. L. Davis, S. Reppireddy, R. Venkatramani, S. Keinan, D. H. Ly, M. Madrid, D. N. Beratan, C. Achim, and D. H. Waldeck, *The Effect of Backbone Flexibility on Charge Transfer Rates in Peptide Nucleic Acid Duplexes* *J. Am. Chem. Soc.* **134** (2012) 9335-9342; erratum **134** (2012) 13141.
156. E. Wierzbinski, A. de Leon, K. L. Davis, S. Bezer, M.A. Wolak, M.J. Kofke, R. Schlaf, C. Achim, D.H. Waldeck, *Charge Transfer through Modified Peptide Nucleic Acids* *Langmuir* **28** (2012) 1971-1981.
155. P. Calvo-Marzal, M. P. Delaney, T. Pan, J. T. Auletta, N. Perri, L. M. Weiland, D. H. Waldeck, W. W. Clark, T. Y. Meyer *Manipulating Mechanical Properties with Electricity: Electroplastic Elastomer Hydrogels* *ACS Macro Letters* **1** (2012) 204-208.
154. J.-F. Lemonnier, L. Guénée, C. Beuchat, T. A. Wesolowski, P. Mukherjee, D. H. Waldeck, K.A. Gogick, S. Petoud, and C. Piguet, *Optimizing Sensitization Processes in Dinuclear Luminescent Lanthanide Oligomers. Selection of Rigid Aromatic Spacers.* *J. Am. Chem. Soc* **133** (2011) 16219-16234.
153. A. K. Mishra and D. H. Waldeck *A Comparison of the Density of States (dos) and Potential Energy Curve (pec) Models for the Electrochemical Rate Constant.* *J. Phys. Chem. C* **115** (2011) 20662-20673.
152. S. S. Skourtis, D. N. Beratan, and D. H. Waldeck *Coherence in Electron Transfer Pathways* *Procedia Chemistry* **61** (2011) 461-485.
151. D. H. Waldeck and D. E. Khoshtariya, *Fundamental Studies of Long- and Short-Range Electron Exchange Mechanisms between Electrodes and Proteins* in 'Applications of Electrochemistry and Nanotechnology in Biology and Medicine I', edited by N. Eliaz., *Modern Aspects of Electrochemistry* **52** (Springer, New York, 2011). 105-238. ISBN: 978-1-4614-0346-3.
150. Y. Wang, L. Wang, and D. H. Waldeck *Electrochemically Guided Photovoltaic Devices: A Photocurrent Study of the Charge Transfer Directionality between CdTe and CdSe Nanoparticles* *J. Phys. Chem. C* **115** (2011) 18136-18141.
149. M. A. Wolak, A. Balaeff, S. Gutmann, H. J. Helmrich, R. Vosloo, M. M. Beerbom, E. Wierzbinski, D. H. Waldeck, S. Bezer, C. Achim, D. N. Beratan, and R. Schlaf *Electronic Structure of Self-Assembled Peptide Nucleic Acid Thin Films* *J. Phys. Chem. C* **115** (2011) 17123-17135.
148. P. Mukherjee, C.M. Shade, A. M. Yingling, D. N. Lamont, D. H. Waldeck and S. Petoud *Lanthanide Sensitization in II-VI Semiconductor Materials: A Case Study with Terbium (III) and*

- Europium (III) in Zinc Sulfide Nanoparticles* J. Phys. Chem. A **115** (2011) 4031-4041.
147. G. O. Angheloiu, A. S. Haka, I. Georgakoudi, J. Arendt, M. G. Müller., O. R. Scepanovic, S. P. Evanko, T. N. Wight, P. Mukherjee, D. H. Waldeck, R. R. Dasari, M. Fitzmaurice, J. R. Kramer and M. S. Feld *Detection of coronary atherosclerotic plaques with superficial proteoglycans and foam cells using real-time intrinsic fluorescence spectroscopy* Atherosclerosis **215** (2011) 96-102.
146. R. Venkatramani, K. L. Davis, E. Wierzbinski, S. Bezer, A. Balaeff, S. Keinan, A. Paul, L. Kocsis, D. N. Beratan, C. Achim, and D. H. Waldeck *Evidence for a Near-Resonant Charge Transfer Mechanism for Double-Stranded Peptide Nucleic Acid* J. Am. Chem. Soc. **133** (2011) 62-72.
145. M. J. Kofke, D. H. Waldeck, and G. C. Walker *Composite Nanoparticle Nanoslit Arrays: a Novel Platform for LSPR Mediated Subwavelength Optical Transmission* Optics Express, **18** (2010) 7705-7713.
144. S. S. Skourtis, D. H. Waldeck, and D. N. Beratan, *Fluctuations in Biological and Bioinspired Electron-Transfer Reactions* Ann. Rev. of Physical Chemistry **61** (2010) 461-485.
143. M. Wu, P. Mukherjee, D. N. Lamont, and D. H. Waldeck *Electron Transfer and Fluorescence Quenching of Nanoparticle Assemblies* J. Phys. Chem. C **114** (2010) 5751-5759.
142. D. E. Khoshtariya, T. D. Dolidze, M. Shushanyana, K. L. Davis, D. H. Waldeck and R. van Eldik, *Fundamental Signatures of Short- and Long-Range Electron Transfer for the Blue Copper Protein Azurin at Au/SAM Junctions* Proc. Nat. Acad. Sci. **107** (2010) 2757-2762.
141. A. Paul, R. M. Watson, E. Wierzbinski, K. L. Davis, A. Sha, C. Achim, and D. H. Waldeck, *Distance Dependence of the Charge Transfer Rate for Peptide Nucleic Acid Monolayers* J. Phys. Chem. B **114** (2010) 14140-14148.
140. A. K. Mishra and D. H. Waldeck, *A Unified Model for the Electrochemical Rate Constant that Incorporates Solvent Dynamics* J. Phys. Chem. C **113** (2009) 17904-17914.
139. Y. S. Jung, J. Wuenschell, H. K. Kim, P. Kaur, and D. H. Waldeck, *Blue-Shift of Surface Plasmon Resonance in a Metal Nanoslit Array Structure* Optics Express **17** (2009) 16081-16091.
138. T. Z. Markus, M. Wu, L. Wang, D. H. Waldeck, D. Oron, and R. Naaman, *Electronic Structure of CdSe Nanoparticles Adsorbed on Au Electrodes by an Organic Linker: Fermi Level Pinning of the HOMO* J. Phys. Chem. C **113** (2009) 14200.
137. A. Paul, S. Bezer, R. Venkatramani, L. Kocsis, E. Wierzbinski, A. Balaeff, S. Keinan, D. N. Beratan, C. Achim, and D. H. Waldeck, *Role of Nucleobase Energetics and Nucleobase Interactions in Single-Stranded Peptide Nucleic Acid Charge Transfer* J. Am. Chem. Soc. **131** (2009) 6498-6507.
136. S. Chakrabarti, M. Liu, D. H. Waldeck, A. M. Oliver, and M. N. Paddon-Row, *Solvent Dynamical Effects on Electron Transfer in U-Shaped Donor-Bridge-Acceptor Molecules* J. Phys. Chem. A **113** (2009) 1040-1048.

135. M. J. Kofke, D. H. Waldeck, A. Fakhraai, S. Ip, and G. C. Walker, *The Effect of Periodicity on the Extraordinary Optical Transmission of Annular Aperture Arrays* Appl. Phys. Lett. **94** (2009) 023104.
134. S. Chakrabarti, M. F. L. Parker, C. W. Morgan, C. E. Schafmeister, and D. H. Waldeck, *Experimental Evidence for Water Mediated Electron Transfer Through Bis-Amino Acid Donor-Bridge-Acceptor Oligomers* J. Am. Chem. Soc. **131** (2009) 2044-2045.
133. G. Gotesman, D. H. Waldeck, and R. Naaman, *Self-Assembly of Nanoparticle Arrays on Semiconductor Substrate for Charge Transfer Cascade* J. Phys. Chem. A **113** (2009) 7213-7217.
132. S. S. Skourtis, D. N. Beratan, R. Naaman, A. Nitzan, and D. H. Waldeck, *Chiral Control of Electron Transmission through Molecules* Phys. Rev. Lett. **101** (2008) 238103-4.
131. K. L. Davis and David H. Waldeck, *Effect of Deuterium Substitution on Electron Transfer at Cytochrome c/SAM Interfaces* J. Phys. Chem. B **112** (2008) 12498-12507.
130. H. J. Yue, M. Y. Wu, C. H. Xue, S. Velayudham, H. Y. Liu, and D. H. Waldeck, *Evolution in the Supramolecular Complexes between Poly(phenylene ethynylene)-based Polyelectrolytes and Octadecyltrimethylammonium Bromide as Revealed by Fluorescence Correlation Spectroscopy* J. Phys. Chem. B **112** (2008) 8218-8226.
129. K. L. Davis, B. J. Drews, H. Yue, D. H. Waldeck, K. Knorr, and R. A. Clark, *Electron Transfer Kinetics of Covalently Attached Cytochrome c/SAM/Au Electrode Assemblies* J. Phys. Chem. C **112** (2008) 6571-6576.
128. A. Paul, R. M. Watson, P. Lund, Y. Xing, K. Burke, Y. He, E. Borguet, C. Achim, and D. H. Waldeck, *Charge Transfer through Single-Stranded Peptide Nucleic Acid Composed of Thymine Nucleotides* J. Phys. Chem. C **112** (2008) 7233-7240.
127. B. Pradhan, K. Setyowati, H. Liu, D. H. Waldeck, and J. Chen, *Carbon Nanotube–Polymer Nanocomposite Infrared Sensor* Nano Lett. **8** (2008) 1142-1146. doi:10.1021/nl0732880
126. H. Yue, D.H. Waldeck, K. Schrock, D. Kirby, K. Knorr, S. Switzer, J. Rosmus, R.A. Clark, *Multiple Sites for Electron Tunneling between Cytochrome c and Mixed Self-Assembled Monolayers*, J. Phys. Chem. C **112** (2008) 2514-2521.
125. M. Wu, P. Kaur, H. Yue, A. M. Clemmens, D.H. Waldeck, C. Xue, and H. Liu, *Charge Density Effects on the Aggregation Properties of Poly(p-phenylene-ethynylene)-Based Anionic Polyelectrolytes* J. Phys. Chem. B. **112** (2008) 3300-3310.
124. L. Wang and D. H. Waldeck, *Denaturation of Cytochrome c and its Peroxidase Activity when Immobilized on SAM films* J. Phys. Chem. C **112** (2008) 1351-1356.
123. P. Kaur, M. Wu, L. Anzaldi, D. H. Waldeck, C. Yue, and H. Liu, *Dependence of Fluorescence Quenching of a Poly (p-phenylene ethynylene) Polyelectrolyte on the Electrostatic and Hydrophobic Properties of the Quencher* Langmuir **23** (2007) 13203-13208.
122. T. D. Dolidze, S. Rondinini, A. Vertova, D. H. Waldeck, and D. E. Khoshtariya, *Impact of Self-Assembly Composition on the Alternate Interfacial Electron Transfer of Electrostatically Immobilized Cytochrome C* Biopolymers **87** (2007) 68-73.

121. P. Kaur, H. Yue, M. Wu, M. Liu, J. Treece, D. H. Waldeck, *Solvation and Aggregation of Polyphenylethynylene Based Anionic Polyelectrolytes in Dilute Solutions*, J. Phys. Chem. B **111** (2007) 8589-8596.
120. L. V. Basova, I. V. Kurnikov, L. Wang, V.B. Ritov, N. A. Belikova, I. I. Vlasova, A.A. Pacheco, D. E. Winnica, J. Peterson, H. Bayir, D. H. Waldeck, and V.E. Kagan, *Cardiolipin Switch in Mitochondria: Shutting off the Reduction of Cytochrome c and Turning on the Peroxidase Activity* Biochemistry **46** (2007) 3423-3434.
119. S. Chakrabarti, D. H. Waldeck, A. M. Oliver, and M. Paddon Row, *Electron Transfer Pathways in Hydrocarbon Frameworks: Short-Circuiting Through-Bond Tunneling by Tunneling Through Non-Bonded Contacts in Rigid U-Shaped Norbornylogous Systems Containing a Cavity-Bound Aromatic Pendant Group* J. Am. Chem. Soc. **129** (2007) 3247-3256.
118. H. Yue, D. Khoshtariya, D. H. Waldeck, J. Grochol, P. Hildebrandt, and D. H. Murgida, *On the Electron Transfer Mechanism between Cytochrome c and Metal Electrodes. Evidence for Dynamic Control at Short Distances.* J. Phys. Chem. B **110** (2006) 19906-19913.
117. Y. S. Jung, Z. Sun, J. Wuenschell, H. K. Kim, P. Kaur, L. Wang, D. H. Waldeck, *High-Sensitivity Surface Plasmon Resonance Spectroscopy Based on Metal Nanoslit Arrays*, Applied Physics Letters, **88** (2006) 243105 to 243105-3.
116. M. Liu, S. Chakrabarti, D. H. Waldeck, A. M. Oliver, and M. N. Paddon-Row, *Pendant Unit Effect on Electron Tunneling in U-Shaped Molecules* Chemical Physics (Special Issue in Honor of N. S. Hush) **324** (2006) 72 - 84.
115. H. Yue and D. H. Waldeck, *Understanding Interfacial Electron Transfer to Monolayer Protein Assemblies* Current Opinion in Solid State and Materials Science **9** (2005) 28-36.
114. H. Yue, D. H. Waldeck, J. Petrovic, and R. A. Clark, *The Effect of Ionic Strength on the Electron Transfer Rate of Surface Immobilized Cytochrome c* J. Phys. Chem. B **110** (2006) 5062-5072.
113. M. R. Goldsmith, C. B. George, G. Zuber, R. Naaman, D. H. Waldeck, P. Wipf, and D. N. Beratan, *The Chiroptical Signature of Achiral Metal Clusters Induced by Dissymmetric Adsorbates* PCCP **8** (2006) 6367.
112. J. J. Wei, C. Schafmeister, G. Bird, A. Paul, R. Naaman, and D. H. Waldeck, *Molecular Chirality and Charge Transfer through Self-Assembled Scaffold Monolayers* J. Phys. Chem. B. **110** (2006) 1301-1308.
111. M. Liu, N. Ito, M. Maroncelli, D. H. Waldeck, A. M. Oliver, and M. N. Paddon-Row, *Solvent Friction Effect on Intramolecular Electron Transfer* J. Am. Chem. Soc. **127** (2005) 17867-17876.
110. S. G. Ray, H. Cohen, R. Naaman, H. Liu, and D. H. Waldeck, *Organization induced charge redistribution in self-assembled organic monolayers on gold* J. Phys. Chem. B **109** (2005) 14064 - 14073.
109. A. V. Tivanski, Y. He, E. Borguet, H. Liu, G. C. Walker, and D.H. Waldeck, *Conjugated Thiol Linker for Enhanced Electrical Conduction of Gold-Molecule Contacts* J. Phys. Chem. B **109** (2005) 5398-5402.

108. J. Petrović, R. A. Clark, H. Yue, D. H. Waldeck, and E. F. Bowden, *Impact of Surface Immobilization and Solution Ionic Strength on the Formal Potential of Immobilized Cytochrome c* Langmuir **21** (2005) 6308-6316.
107. M. Liu, P. Kaur, D.H. Waldeck, C. Xue, and Haiying Liu, *The fluorescence quenching mechanism of a polyphenylene polyelectrolyte with other macromolecules: cytochrome c and dendrimers.* Langmuir **21** (2005) 1687-1690.
106. D. H. Waldeck, *Protagonists in Chemistry* Inorganica Chimica Acta **358** (2005) 2841-2843.
105. J. J. Wei, H. Liu, K. Niki, E. Margoliash, and D. H. Waldeck, *Probing Electron Tunneling Pathways: Electrochemical Study of Rat Heart Cytochrome c and its Mutant on Pyridine-Terminated SAMs*, J. Phys. Chem. B, **108** (2004) 16912-16917.
104. M. Liu, D. H. Waldeck, A. M. Oliver, N. J. Head, and M. N. Paddon-Row, *Observation of Dynamic Solvent Effect for Electron Tunneling in U-shaped Molecules*, J. Am. Chem. Soc. **126** (2004) 10778-10786.
103. D. H. Murgida, P. Hildebrandt, J. Wei, Y.-F. He, Haiying Liu, and D. H. Waldeck, *SERR and Electrochemical Study of Cytochrome c Bound on Electrodes through Coordination with Pyridinyl-terminated SAMs.*, J. Phys. Chem. B. **108** (2004) 2261-2269.
102. S. S. Skourtis, D. H. Waldeck, and D. N. Beratan, *Inelastic Electron Tunneling Erases Coupling-Pathway Interferences* J. Phys. Chem. B. **108** (2004) 15511-15518.
101. J.M. Nadeau, M. Liu, D.H. Waldeck, and M. B. Zimmt, *Hole Transfer in a C-shaped Molecule: Conformational Freedom versus Solvent Mediated Coupling* J. Am. Chem. Soc. **125** (2003) 15964-15973.
100. T. D. Dolidze, D. E. Khoshtariya, D. H. Waldeck, J. Macyk, and R. van Eldik, *Positive Activation Volume for a Cytochrome C Electrode Process: Evidence for a "Protein Friction" Mechanism from High-Pressure Studies.* J. Phys. Chem. B **107** (2003) 7172-7179.
99. D. Bodlaki, H. Yamamoto, D. H. Waldeck and E. Borguet, *Ambient Stability of Chemically Passivated Germanium Interfaces*, Surface Science **543** (2003) 63-74.
98. D. E. Khoshtariya, J. Wei, H. Liu, H. J. Yue, and D. H. Waldeck, *Charge Transfer Mechanism for Cytochrome C Adsorbed on Nanometer Thick Films. Distinguishing Friction Control from Conformational Gating.* J. Am. Chem. Soc., **125** (2003) 7704-7714.
97. M. B. Zimmt and D. H. Waldeck, *Exposing Solvent's Roles in Electron Transfer Reactions: Tunneling Pathway and Solvation* J. Phys. Chem. A, Feature Article, **107** (2003) 3580-3597.
96. H. Liu, H. Yamamoto, J. Wei, and D. H. Waldeck, *Control of the Electron Transfer Rate between Cytochrome c and Gold Electrodes by the Manipulation of the Electrode's Hydrogen Bonding Character* Langmuir, **19** (2003) 2378-2387.
95. A. M. Napper, H. Liu, H. Yamamoto, D. Khoshtariya, and D. H. Waldeck *Effect of Molecular Properties on Electron Transmission through Organic Monolayer Films in Molecules as Electronic Devices* ACS Symposium Series 844; Lieberman, M. eds. (2003), 62-75.

94. R. Kaplan, A. M. Napper, D. H. Waldeck, and M. B. Zimmt, *The Role Played by Orbital Energetics in Solvent Mediated Electronic Coupling*, J. Phys. Chem. A **106** (2002), 1917-1925.
93. H. Yamamoto and D. H. Waldeck, *Effect of Tilt-Angle on Electron Tunneling through Organic Monolayer Films*. J. Phys. Chem. B **106** (2002) 7469-7473.
92. A. M. Napper, I. Read, and D. H. Waldeck, R. W. Kaplan and M. B. Zimmt, *Electron Transfer Reactions of C-shaped Molecules in Alkylated Aromatic Solvents: Evidence that the Effective Electronic Coupling Magnitude is Temperature Dependent*. J. Phys. Chem. A **106** (2002) 4784-4793.
91. J. Wei, H. Liu, A. Dick, H. Yamamoto, Y. He, and D. H. Waldeck, *Direct Wiring of Cytochrome c's Heme Unit to an Electrode: Electrochemical Studies*. J. Am. Chem. Soc. **124** (2002) 9591-9599.
90. A.M. Napper, N. J. Head, A.M. Oliver, M. J. Shephard, M. N. Paddon-Row, I. Read, and D. H. Waldeck, *Use of U-shaped Donor-Bridge-Acceptor Molecules to Study Electron Tunneling Through Non-Bonded Contacts* J. Am. Chem. Soc. **124** (2002) 10171-10181.
89. J. Wei, H. Liu, D. E. Khoshtariya, H. Yamamoto, A. Dick, and D. H. Waldeck, *Electron Transfer Dynamics of Cytochrome C. A Change in the Reaction Mechanism with Distance*. Angew. Chemie **41** (2002) 4700-4703
88. A. M. Napper, I. Read, R. Kaplan, M. B. Zimmt and D.H. Waldeck, *Solvent Mediated Superexchange in a C-Clamp Shaped Donor-Bridge-Acceptor Molecule: The Correlation between Solvent Electron Affinity and Electronic Coupling*. J. Phys. Chem. A **106** (2002) 5288-5296.
87. J. Chen, H. Liu, W. A. Weimer, M. D. Halls, D. H. Waldeck, and G. C. Walker, *Noncovalent Engineering of Carbon Nanotube Surfaces by Rigid, Functional Conjugated Polymers* J. Am. Chem. Soc. **124** (2002) 9034-9036.
86. D. E. Khoshtariya, T. D. Dolidze, L. D. Zusman and D. H. Waldeck, *Observation of the Turnover of the Solvent Friction (Overdamped) and Tunneling (Nonadiabatic) Charge Transfer Mechanisms for a Au/Fe(CN)₆^{3-/4-} Electrode Process and Evidence for a Freezing Out of the Marcus Barrier*, J. Phys. Chem. **105** (2001) 1818-1829.
85. H. Yamamoto, H. Liu, and D. H. Waldeck, *Immobilization of Cytochrome c at Au Electrodes by Ligation between a Pyridine Terminated SAM and the Heme of Cytochrome* Chem. Commun. B (2001) 1032 - 1033.
84. A. M. Napper, H. Liu, and D. H. Waldeck, *The Nature of Electronic Coupling between Ferrocene and Gold through Alkanethiolate Monolayers on Electrodes. The Importance of Chain Composition, Interchain Coupling, and Quantum Interference*. J. Phys. Chem. B **105** (2001) 7699-7707.
83. T. D. Burleigh, Y. Gu, G. Donahey, M. Vida, and D. H. Waldeck, *Tarnish Protection of Silver using a Hexadecanethiol Self-Assembled Monolayer and Descriptions of Accelerated Tarnish Tests*. Journal of Science and Engineering Corrosion **57** (2001) 1066 - 1074.

82. A. M. Napper, I. Read, D. H. Waldeck, N. J. Head, A. M. Oliver and M. N. Paddon-Row, *An Unequivocal Demonstration of the Importance of Nonbonded Contacts in the Electronic Coupling between Electron Donor and Acceptor Units of Donor-Bridge-Acceptor Molecules* J. Am. Chem. Soc. **122** (2000) 5220-5221.
81. D. Farcasiu, M. Lezcano, P. Lukinskas, and D. H. Waldeck, *Effects of Anions on the NMR Relaxation of Pyridinium and Di-tert-Butylpyridinium Ions in Acid Solution. Implications for Chemisorption on Solid Acids*, J. Phys. Chem. **104** (2000) 5190-5196.
80. D. H. Waldeck, *The Role of Solute-Solvent Friction in Large Amplitude Motions* in *Methods in Stereochemical Analysis: Conformational Analysis of Molecules in Excited States*, Chapter 3, J. Waluk ed., (Wiley, NY, 2000) 113-177.
79. R. A. Butera and D. H. Waldeck, *An EPR Experiment for the Undergraduate Physical Chemistry Laboratory* J. Chem. Ed., **77** (2000) 1489-1491.
78. I. Read, A. Napper, M. B. Zimmt and D. H. Waldeck, *Electron Transfer in Aromatic Solvents: The Importance of Quadrupolar Interactions*, J. Phys. Chem. A, **104** (2000) 9385-9394.
77. R. Kaplan, A. Napper, D. H. Waldeck, and M. B. Zimmt, *Solvent Mediated Electronic Coupling: Not a π Bond in Site* J. Am. Chem. Soc. **122** (2000) 12039-12040.
76. K. Ray, S. P. Ananthavel, D. H. Waldeck and R. Naaman, *Asymmetry in the Transmission of Polarized Electrons through Organized Organic Films of Chiral Molecules*, Science **283** (1999) 814-816.
75. Y. Gu, B. Akhremitchev, G. C. Walker and D. H. Waldeck, *Structural Characterization and Electron Tunneling at the n -Si/SiO₂/SAM/Liquid Interface*, J. Phys. Chem. B **103** (1999) 5220-5226. Erratum, *ibid*, 5612.
74. T. D. Burleigh and D. H. Waldeck, *The Effect of Several Elements on the Resistance of Copper-10% Nickel Alloys to Seawater Impingement*, Journal of Science and Engineering Corrosion **55** (1999) 800-804.
73. H. Yamamoto, R. A. Butera, Y.-P. Gu and D. H. Waldeck, *Characterization of the Surface to Thiol Bonding in Self-Assembled Monolayer Films on C₁₂H₂₅SH on InP(100) by Angle-Resolved X-Ray Photoelectron Spectroscopy*, Langmuir **15** (1999) 8640-8644.
72. I. Read, A. Napper, R. Kaplan, M. B. Zimmt and D. H. Waldeck, *Solvent Mediated Electronic Coupling: The Role of Solvent Placement* J. Am. Chem. Soc. **121** (1999) 10976-10986.
71. K. Ray, A. Shanzer, D. H. Waldeck and R. Naaman, *Resonances in Low-Energy Electron Transmission Through Organized Organic Films. Evidence for Molecular Quantum- Wells*, Phys Rev. B **60** (1999) 13347-13350.
70. A. P. Sukharevsky, I. Read, B. Linton, A. D. Hamilton and D. H. Waldeck, *Experimental Measurements of Low Frequency Intermolecular Host-Guest Dynamics* J. Phys. Chem. B **102** (1998) 5394-5403.

69. M. G. Kurnikova, N. Balabai, D. H. Waldeck and R. D. Coalson, *Rotational Relaxation in Polar Solvents: Molecular Dynamics Study of Solute-Solvent Interaction* J. Am. Chem. Soc. **120** (1998) 6121-6130.
68. N. Balabai, A. Sukharevsky, I. Read, B. Strazisar, M. Kurnikova, R. S. Hartman, R. D. Coalson and D. H. Waldeck, *Rotational Diffusion of Organic Solutes: The Role of Dielectric Friction in Polar Solvents and Electrolyte Solutions* J. Mol. Liq. **77** (1998) 37-60.
67. K. Kumar, I. Kurnikov, D. Beratan, D. H. Waldeck and M. B. Zimmt, *Use of Modern Electron Transfer Rate Theories to Determine Electronic Coupling Matrix Elements in Intramolecular Systems* J. Phys. Chem. A **102** (1998) 5529-5541.
66. Y. Gu and D. H. Waldeck, *Electron Tunneling at the Semiconductor-Insulator-Electrolyte Interface. Photocurrent Studies of the n-InP-Alkanethiol-Ferrocyanide System* J. Phys. Chem. B **102** (1998) 9015-9028.
65. N. Balabai, M. G. Kurnikova, R. D. Coalson and D. H. Waldeck, *Rotational Relaxation of Ionic Molecules in Electrolyte Solutions: Anisotropy Relaxation and Molecular Dynamics Study* J. Am. Chem. Soc. **120** (1998) 7944-7951.
64. N. Balabai, B. Linton, A. Napper, S. Priyadarshy, A. P. Sukharevsky and D. H. Waldeck, *Orientalional Dynamics of β -Cyclodextrin Inclusion Complexes* J. Phys. Chem. B **101** (1998) 9617-9624.
63. R. A. Butera and D. H. Waldeck, *X-Ray Diffraction Investigation of Alloys* J. Chem. Ed. **74** (1997) 115 - 119.
62. Y. Gu, K. Kumar, Z. Lin, I. Read, M. B. Zimmt and D. H. Waldeck, *Studies into the Character of Electronic Coupling in Electron Transfer Reactions* J. Photochem. and Photobiol. A. **105** (1997) 189 - 196.
61. N. Balabai and D. H. Waldeck, *Solute-Solvent Frictional Coupling in Electrolyte Solutions. The Role of Ion Pairs.* J. Phys. Chem. **101** (1997) 2339 - 2347.
60. R. S. Hartman, W. M. Konitsky, D. H. Waldeck, Y. J. Chang and E. W. Castner, Jr., *Probing Solute-Solvent Electrostatic Interactions. Rotational Diffusion Studies of 9,10-Disubstituted Anthracenes* J. Chem. Phys. **106** (1997) 7920 - 7930.
59. R. A. Butera and D. H. Waldeck, *The Dependence of Resistance on Temperature for Metals, Semiconductors, and Superconductors* J. Chem. Ed. **74** (1997) 1090 - 1094.
58. Z. Lin, S. Priyadarshy, A. Bartko and D. H. Waldeck, *Photophysics and Intramolecular Excimer Formation in a Constrained Anthracenyl Diadduct* J. Photochem and Photobiol. A **110** (1997) 131-139.
57. K. Kumar, Z. Lin, D. H. Waldeck, and M. B. Zimmt, *Electronic Coupling in C-Clamp Shaped Molecules: Solvent Mediated Superexchange Pathways* J. Am. Chem. Soc. **118** (1996) 243-244.
56. M. Kurnikova, D. H. Waldeck, and R. D. Coalson, *A Molecular Dynamics Study of Dielectric Friction* J. Chem. Phys. **105** (1996) 628 - 638.

55. Y. Gu and D. H. Waldeck, *Studies of Electron Tunneling at Semiconductor Electrodes* J. Phys. Chem. **100** (1996) 9573 - 9576.
54. K. H. Liao and D. H. Waldeck, *A Photocapacitance Study of Chemically Sensitized TiO₂ Electrodes* J. Phys. Chem. **99** (1995) 4569 - 4576.
53. Y. Gu, Z. Lin, R. A. Butera, V. S. Smentkowski, and D. H. Waldeck, *Preparation of Self Assembled Monolayers on InP* Langmuir **11** (1995) 1849 - 1851.
52. G. B. Dutt, W. Konitsky, and D. H. Waldeck, *Nonradiative Relaxation of 2-Phenylindene in Solution and Its Implications for Isomerization of Stilbenes* Chem. Phys. Lett. **245** (1995) 437-440.
51. D. S. Alavi and D. H. Waldeck, *Dielectric Continuum Models of Solute/Solvent Interactions* *Understanding Chemical Reactivity* (Kluwer, 1994, Amsterdam) 249-265.
50. A. Haran, D. H. Waldeck, R. Naaman, E. Moons, and D. Cahen, *The Dependence of Electron Transfer Efficiency on Conformational Order in Organic Monolayers* Science **263** (1994) 948-950.
49. R. S. Hartman and D. H. Waldeck, *A Test of Dielectric Friction Models. Rotational Diffusion of Fluorenes in Dimethylsulfoxide.* J. Phys. Chem. **98** (1994) 1386-1393.
48. J. Ma, G. B. Dutt, D. H. Waldeck, and M. B. Zimmt, *The Excited State Potential Energy Surface for the Photoisomerization of Tetraphenylethylene: A Fluorescence and Picosecond Optical Calorimetry Investigation.* J. Am. Chem. Soc. **116** (1994) 10619-10629.
47. J. Saltiel, A. S. Waller, D. F. Sears Jr., E. A. Hoberg, D. M. Zeglinski and D. H. Waldeck, *Fluorescence Quantum Yields and Lifetimes of Substituted Stilbenes in n-Alkanes. A Re-examination of the Relationship between Solute Size and Medium Effect on Torsional Relaxation* J. Phys. Chem. **98** (1994) 10689 - 10698.
46. W. J. Dollard, M. L. Shumaker and D. H. Waldeck, *Time-Resolved Studies of Charge Carrier Relaxation in Chemically Modified Semiconductor Electrodes: n-CdSe/Silane Interfaces* J. Phys. Chem. **97** (1993) 4141-4148.
45. R. Tenne, K. Eherman, M. Peisach, W. Kautek, A. Wold, R. Matson, D. Mahalu, and D. Waldeck, *The WSe₂/Tungsten-Oxide Interface: Structure and Photoluminescence* Ber. Bunsenges. Phys. Chem. **97** (1993) 702-709.
44. D. H. Waldeck and D. N. Beratan, *Molecular Electronics: Observation of Molecular Rectification* Science **261** (1993) 576-577.
43. R. S. Hartman, D. S. Alavi and D. H. Waldeck, *Elucidating the Molecular Origins of Solute-Solvent Friction* Israel J. Chem. **33** (1993) 157-166.
42. R. S. Hartman, W. Konitsky and D. H. Waldeck, *Rotational Diffusion in Electrolyte Solutions* J. Am. Chem. Soc. **115** (1993) 9692-9700.
41. D. H. Waldeck *Photoisomerization Dynamics of Stilbenes in Polar Solvents* J. Mol. Liq. **57** (1993) 127-148.

40. D. S. Alavi and D. H. Waldeck, *Time Resolution Limits for Two Color Pump-Probe Spectroscopy* Rev. Sci. Inst. **63** (1992) 2913-2921.
39. R. J. Tepper, A. J. Hooper, D. H. Waldeck and M. B. Zimmt, *Photophysics of Polycycloalkane Xanthenylidene Compounds* Chem. Phys. Lett. **191** (1992) 411-418.
38. M. L. Shumaker, W. J. Dollard, and D. H. Waldeck, *Carrier Relaxation at Semiconductor Interfaces and the Essential Features of a Quantitative Model* J. Phys. Chem. **96** (1992) 10371-10379.
37. R. C. Petter, C. T. Sikorski, and D. H. Waldeck, *Inclusion Complexation by Bis-Cyclodextrins in the Presence of Phospholipid Vesicles* J. Am. Chem. Soc. **113** (1991) 2325-2327.
36. D. S. Alavi, R. S. Hartman, and D. H. Waldeck, *A Test of Continuum Models for Dielectric Friction. Rotational Diffusion of Phenoxazine Dyes in Dimethylsulfoxide.* J. Chem. Phys. **94** (1991) 4509-4520.
35. D. S. Alavi and D. H. Waldeck, *Rotational Dielectric Friction on a Generalized Charge Distribution* J. Chem. Phys. **94** (1991) 6196-6202; J. Chem. Phys. **98** (1993) 3580.
34. D. H. Waldeck, *Photoisomerization Dynamics of Stilbenes* Chem. Reviews **91** (1991) 415-435.
33. D. S. Alavi and D. H. Waldeck, *A Test of Hydrodynamics in Binary Solvent Systems. Rotational Diffusion Studies of Oxazine 118.* J. Phys. Chem. **95** (1991) 4848-4852.
32. R. S. Hartman, D. S. Alavi, and D. H. Waldeck, *An Experimental Test of Dielectric Friction Models Using the Rotational Diffusion of Aminoanthraquinones* J. Phys. Chem. **95** (1991) 7872-7880.
31. D. S. Alavi, R. S. Hartman, and D. H. Waldeck, *The Influence of Wavevector Dependent Dielectric Properties on Rotational Friction. Rotational Diffusion of Phenoxazine Dyes.* J. Chem. Phys. **95** (1991) 6770-6783; J. Chem. Phys. **98** (1993) 3580.
30. M. L. Shumaker, W. J. Dollard, D. M. Zeglinski, and D. H. Waldeck, *Time-Resolved Fluorescence Studies of Chemically Derivatized CdSe Electrodes* **Proceedings of the Society for Imaging Science and Technology** (IS&T, Springfield, VA, 1991) 231-238.
29. Y.-P. Sun, J. Saltiel, N. S. Park, A. E. Hoburg, and D. H. Waldeck, *Application of the Medium-Enhanced Barrier Model to the Photoisomerization Dynamics of Substituted Stilbenes in n-Alkane Solvents* J. Phys. Chem. **95** (1991) 10336-10344.
28. N. S. Park and D. H. Waldeck, *The Influence of Polar Solvents on Reaction Dynamics. Photoisomerization Studies of Dihydroxystilbene.* J. Phys. Chem. **94** (1990) 662-669.
27. D. S. Alavi, R. S. Hartman, and D. H. Waldeck, *Optically Heterodyned Polarization Spectroscopy. Measurement of the Orientational Correlation Function.* J. Chem. Phys. **92** (1990) 4055-4066.
26. M. L. Shumaker, D. Burdelski, and D. H. Waldeck, *Time-Resolved Studies of Surface Recombination in CdSe Electrodes* in **Picosecond and Femtosecond Spectroscopy from Laboratory to Real World**, K. A. Nelson, ed. Vol. 1209 (SPIE, Bellingham, WA, 1990) 109-114.

25. N. S. Park and D. H. Waldeck, *On the Dimensionality of Stilbene Isomerization* Chem. Phys. Lett. **168** (1990) 379-384.
24. D. S. Alavi, R. S. Hartman, and D. H. Waldeck, *Rotational Diffusion of Phenoxazine Dyes: Characterization of Molecular Friction* **Ultrafast Phenomena VII**; C. B. Harris, E. P. Ippen, G. A. Mourou and A. H. Zewail, eds. (Springer, Berlin, 1990) 450-452.
23. N. S. Park and D. H. Waldeck, *Photoisomerization Dynamics of Methylstilbenes* **Ultrafast Phenomena VII**; C. B. Harris, E. P. Ippen, G. A. Mourou and A. H. Zewail, eds. (Springer, Berlin, 1990) 465-467.
22. P. Tecilla, R. P. Dixon, G. Slobodkin, D. S. Alavi, D. H. Waldeck, and A. D. Hamilton, *Hydrogen Bonding Self-Assembly of Multichromophore Structures* J. Am. Chem. Soc. **112** (1990) 9408-9410.
21. F. Mendicuti, B. Patel, D. H. Waldeck, and W. L. Mattice, *Intramolecular Excimer Formation by Phthaloyl, Isophthaloyl, and Terephthaloyl Groups in Polyesters with Different Numbers of Methylene and Ethylene Oxide Spacers* Polymer **30** (1989) 1680-1684.
20. N. Sivakumar, E. A. Hoburg and D. H. Waldeck, *Solvent Dielectric Effects on Isomerization Dynamics: Photoisomerization of 4,4'-Dimethoxystilbene and t-Stilbene in n-Alkyl Nitriles* J. Chem. Phys. **90** (1989) 2305-2316.
19. N. S. Park and D. H. Waldeck, *Implications for Multidimensional Effects on Isomerization Dynamics: Photoisomerization Study of 4,4'-Dimethylstilbene in n-Alkane Solvents* J. Chem. Phys. **91** (1989) 943-952.
18. D. M. Zeglinski and D. H. Waldeck, *Evidence for Dynamical Solvent Effects on the Photoisomerization of 4,4'-Dimethoxystilbene* J. Phys. Chem. **92** (1988) 692-701.
17. N. S. Park, N. Sivakumar, E. A. Hoburg, and D. H. Waldeck, *Influence of Functional Groups and Solvent on the Photoisomerization of Stilbenes* **Ultrafast Phenomena VI** (Springer Verlag, Berlin, 1988) 551-554.
16. A. P. Alivisatos, M. F. Arndt, S. Efrima, D. H. Waldeck, and C. B. Harris, *Electronic Energy Transfer at Semiconductor Interfaces: I. Energy Transfer from Two Dimensional Molecular Films to Si(111)*, J. Chem. Phys. **86**, (1987) 6540-6549.
15. D. M. Zeglinski and D. H. Waldeck, *Evidence for Dynamical Solvent Dielectric Effects: Photoisomerization of Stilbene* **Advances in Laser Science 3, 172** (1987) 634-636.
14. D. M. Zeglinski and D. H. Waldeck, *Photoisomerization Studies of Substituted Stilbene: 4,4'-Dihydroxystilbene and 4,4'-Dimethoxystilbene* **Ultrafast Phenomena V** (Springer-Verlag, Berlin, 1986) A. Siegman and G. R. Fleming, eds., 347-349.
13. A. P. Alivisatos, D. H. Waldeck, and C. B. Harris, *Non-Classical Behaviour of Energy Transfer from Molecules to Metal Surfaces: Biacetyl ($3n\pi^*$)/Ag(111)* J. Chem. Phys. **82** (1985) 541-547.
12. D. H. Waldeck, A. P. Alivisatos, and C. B. Harris, *Nonradiative Damping of Molecular Excited States by Solid Surfaces* Surface Science **158** (1985) 103-125.

11. G. R. Fleming, D. H. Waldeck, K. M. Keery, and S. P. Velsko, *Photochemical Isomerization Viewed as a Model for Activated Barrier Crossing in Solution* **Application of Picosecond Spectroscopy to Chemistry** K. B. Eisenthal, ed. (Reidel, Dordrecht, 1984) 67-78.
10. S. P. Velsko, D. H. Waldeck, and G. R. Fleming, *Breakdown of Kramers Theory Description of Photochemical Isomerization and the Possible Involvement of Frequency Dependent Friction* J. Chem. Phys. **78** (1983) 249-258.
9. A. J. Cross, D. H. Waldeck, and G. R. Fleming, *Time Resolved Polarization Spectroscopy: Orientational Motion and Level Kinetics* J. Chem. Phys. **78** (1983) 6455-6466; erratum, J. Chem. Phys. **79** (1983) 3173.
8. D. H. Waldeck, W. T. Lotshaw, D. B. McDonald, and G. R. Fleming, *Ultraviolet Picosecond Pump-Probe Spectroscopy with a Synchronously Pumped Dye Laser. Rotational Diffusion of Diphenylbutadiene*. Chem. Phys. Lett. **88** (1982) 297-300.
7. G. R. Fleming, S. P. Velsko, and D. H. Waldeck, *Dynamics of Photoisomerization in Picosecond Phenomena III* (Springer-Verlag, Berlin, 1982) K. B. Eisenthal, R. Hochstrasser, W. Kaiser, and A. Laubereau, eds.
6. D. H. Waldeck, A. J. Cross, D. B. McDonald, and G. R. Fleming, *Picosecond Pulse Induced Transient Molecular Birefringence and Dichroism* J. Chem. Phys. **74** (1981) 3381-3387.
5. D. H. Waldeck and G. R. Fleming, *Influence of Viscosity and Temperature on Rotational Reorientation, Anisotropic Absorption Studies of 3,3'-Diethyloxycarbocyanine Iodide* J. Phys. Chem. **85** (1981) 2614-2617.
4. G. R. Fleming, D. H. Waldeck, and G. S. Beddard, *Applications of Synchronously Pumped Dye Lasers to Time Resolved Emission and Absorption Spectroscopy II* Nuovo Cemento **63B** (1981) 151-172.
3. G. R. Fleming, W. T. Lotshaw, D. B. McDonald, and D. H. Waldeck, *Picosecond Laser Studies of Molecular Dynamics in Liquids Proceedings of the International Conference on Lasers '81* (1981) 882-885.
2. D. B. McDonald, D. H. Waldeck, and G. R. Fleming, *Pulse Structure Studies and Absolute Cavity Length Determination for a Synchronously Pumped Picosecond Dye Laser* Optics Communications **34** (1980) 127-132.
1. G. S. Beddard, G. R. Fleming, D. B. McDonald, G. Porter, D. H. Waldeck, and M. Westby, *Anisotropic Absorption Studies of Orientational Motion in Picosecond Phenomena II*, R. Hochstrasser, W. Kaiser, and C. V. Shank, eds. (Springer-Verlag, Berlin, 1980) 101-105.

Patents

- 'Nanoscale surface plasmonics sensor with nanofluidic control'. The inventors are J. J. Wei, S. Sameer, D. H. Waldeck, and M.J. Kofke. The patent was issued on April 17, 2012.
- 'Redox Stimulated Variable-Modulus Material'. The inventors are T.Y. Meyer, W. W. Clark, D.H. Waldeck, L. M. Weiland, P. Calvo-Marzal, T. Pan, R.D. Harris, and H. Liu. The patent was issued on April 17, 2018.

