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(15) J. P. Richard and T. T. Tidwell, "Editor's Preface", *Advances in Physical Organic Chemistry*, *36*, VII -VIII (2001).
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(20) J. P. Richard and R.S. Schowen, "Editorial: Biological Applications of Physical Organic Chemistry" Special Issue of *Journal of Physical Organic Chemistry* on Biological Applications of Physical Organic Chemistry, In Press (2004)**.**
(21) J. P. Richard, "Editor's Preface", *Advances in Physical Organic Chemistry*, *39*, VII-VIII (2004).
(22) J. P. Richard, T. L. Amyes, M. Toteva and Y. Tsuji, "Dynamics for the Reactions of Ion Pair Intermediates of Solvolysis", *Advances in Physical Organic Chemistry, 39*, In Press, (2004).
(23) J. P. Richard and T. L. Amyes, "On the Importance of Being Zwitterionic: Enzymatic Catalysis of Decarboxylation and Deprotonation of Cationic Carbon", *Bioorganic Chemistry, 32,* in press (2004).
(24) J. P. Richard and T. Amyes, "Proton transfer to and from carbon in model reactions", in *Handbook of Hydrogen Transfer*. *Volume 2: Biological Aspects*" J. P. Klinman and R. S. Schowen, Eds, Wiley-VCH, Weinheim, Germany, invited review, scheduled for publication in 2005.
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Journals and Books Edited

(1) *Annual Reports on the Progress of Chemistry, Organic Chemistry*; J. J. Joule and J. P. Richard, Eds.; Royal Society of Chemistry: Cambridge, 1997; Vol. 93, 1996, Section B.
(2) *Annual Reports on the Progress of Chemistry, Organic Chemistry*; J. J. Joule and J. P. Richard, Eds.; Royal Society of Chemistry: Cambridge, 1998; Vol. 94, 1997, Section B.

(3) *Annual Reports on the Progress of Chemistry, Organic Chemistry*; J. J. Joule and J. P. Richard, Eds.; Royal Society of Chemistry: Cambridge, 1999; Vol. 95, 1998, Section B.
(4) *Annual Reports on the Progress of Chemistry, Organic Chemistry*; J. J. Joule and J. P. Richard, Eds.; Royal Society of Chemistry: Cambridge, 2000; Vol. 96, 1999, Section B.
(5) *Annual Reports on the Progress of Chemistry, Organic Chemistry*; J. J. Joule and J. P. Richard, Eds.; Royal Society of Chemistry: Cambridge, 2001; Vol. 97, 2000, Section B.
(6) *Annual Reports on the Progress of Chemistry, Organic Chemistry*; P. Page and J. P. Richard, Eds.; Royal Society of Chemistry: Cambridge, 2002; Vol. 98, 2001, Section B.
(7) *Advances in Physical Organic Chemistry,* T. T. Tidwell and J. P. Richard, Eds.; Academic Press; Vol. 36, 2001.
(8) *Advances in Physical Organic Chemistry,* T. T. Tidwell and J. P. Richard, Eds.; Elsevier; Vol. 37, 2002.
(9) *Advances in Physical Organic Chemistry* [Dedicated to Kendall Houk], J. P. Richard, Ed; Elsevier; Vol. 38, 2003.
(10) *Advances in Physical Organic Chemistry* , J. P. Richard, Ed.; Elsevier; Vol. 39, In Preparation.
(11) *Current Opinion in Chemical Biology*, *Mechanisms*, Vol. 6, Issue 5, 2003.
(12) *Journal of Physical Organic Chemistry,* Special Issue on biological applications of physical organic chemistry, in press.

Invited Lectures at Professional Meetings

(1) "Summary of Recent Research Activities", May 1989, National Science Foundation Workshop on Reactive Intermediates, Rougemont, NC.
(2) "Substituent Effects on Carbocation Reactivity: New Insights Onto an Old Problem", September 1991, Okazaki Conference, Okazaki, Japan.
(3) "How Does a Reaction Chose its Mechanism? Stepwise and Concerted Substitution Reactions at Ring- Substituted Benzyl and Cumyl Derivatives", October 1991, 4th Kyushu International Symposium on Physical Organic Chemistry, Kyushu, Japan.
(4) "Structure-Reactivity Relationships for Carbocation-Nucleophile Combination Reactions", October 1991, Tsukuba Conference on High Energy Organic Molecules, Tsukuba, Japan.
(5) "Substituent Effects on Carbocation Reactivity: New Insights Onto an Old Problem", May 1992, 24th ACS Central Regional Meeting, Cincinnati, OH.
(6) "Resolution of the Mechanisms and the Spectrum of Transition State Structures for Nucleophilic Substitution Reactions at Benzyl Chlorides", August 1992, 11th IUPAC Conference on Physical Organic Chemistry, Ithaca, NY.
(7) "The Mechanism of Methylglyoxal Formation from Triose Phosphates", December 1992, Biochemical Society Colloquium on Glyoxylases, London, United Kingdom.
(8) "A Bridge Between Carbocations which Follow the Reactivity "Principle" and the N_+ Scale" [Presented by T. L. Amyes], January 1993, Royal Society of Chemistry Symposium on Mechanistically Directed Organic Syntheses, London, United Kingdom.
(9) "Discrimination and Rationalization of Stepwise and Concerted Solvolysis Reaction Mechanisms at Saturated Carbon", June 1993, 76th Canadian Society of Chemistry Conference, Sherbrooke, Canada.
(10) "Formation and Stability of Reactive Intermediates of Organic Reactions in Aqueous Solution" [Presented by T. L. Amyes], July 1993, 4th European Symposium on Organic Reactivity, Newcastle Upon Tyne, United Kingdom.

(11) "Formation and Stability of Simple Carbanions and Carbocation Reaction Intermediates in Aqueous Solution", October 1993, 5th Kyushu International Symposium on Physical Organic Chemistry, Kyushu, Japan.

(12) "On the Mechanism of Galactosyl Transfer Catalyzed by ß–Galactosidase from *E. Coli*", April 1995, 209th ACS National Meeting, Anaheim, CA.

(13) "A Consideration of the Barrier for Carbocation-Nucleophile Combination Reactions", May 1995, 78th Canadian Society of Chemistry Conference, Guelph, Canada.

(14) "Experimental Studies on the Equilibrium Stability and Kinetic Reactivity of Simple Carbocations in Aqueous Solution", July 1995, 6th Kyushu International Symposium on Physical Organic Chemistry, Kyushu, Japan.

(15) "How do Reactions Choose their Mechanisms: Nucleophilic Substitution and Alkene-Forming Elimination Reactions", December 1995, International Chemical Congress of Pacific Basin Societies, Honolulu, HI.

(16) "Mechanism of Acid-Catalyzed Hydrolysis of Ring-Substituted Benzyl *Gem*-Diazides: A Novel "Clock" for the Lifetimes of Ion Pair Intermediates" [Presented by T. L. Amyes], December 1995, International Chemical Congress of Pacific Basin Societies, Honolulu, HI.

(17) "The Use of Deuterium Perturbation of ^{1}H Chemical Shifts in the Study of Proton and Hydride Transfer Reactions", May 1996, 5th Annual Meeting of the Canadian Chapter of the International Isotope Society, Toronto, Canada.

(18) "Structure-Reactivity Relationships on β-Galactosidase-Catalyzed Synthesis and Cleavage of Glycosides", September 1996, 7th International Conference on Correlation Analysis in Chemistry, Fukuoka, Japan.

(19) "β-Galactosidase-Catalyzed Hydrolysis of Glycosides: An S_N1 Reaction in an Enzyme Active Site", November 1996, Ingold Award Symposium, London, United Kingdom.

(20) "Summary of Recent Research Activities", June 1997, National Science Foundation Workshop on Physical Organic Chemistry, Ward, CO.

(21) "Structure-Reactivity Studies on Glycoside Cleavage Reactions Catalyzed by β-Galactosidase", July 1997, Gordon Conference on Enzymes, Coenzymes and Metabolic Pathways, Meriden, NH.

(22) "Imperatives for Enzymatic Catalysis of Aldose-Ketose Isomerization of Sugars and Sugar Phosphates", July 1997, 6th European Symposium on Organic Reactivity, Louvain-la-Neuve, Belgium.

(23) "How Do Reaction Mechanisms Change? Specific and General Acid Catalysis of Cleavage of Benzaldehyde Acetals and the Lifetimes of α-Alkoxy Benzyl Carbocation Intermediates", November 1997, 5th Chemical Conference of North America, Cancun, Mexico.

(24) "Generation and Stability of Amino Acid Enolates and their Derivatives at Neutral pH in Aqueous Solution", December 1997, 7th Kyushu International Symposium on Physical Organic Chemistry, Kyushu, Japan.

(25) "Structure-Reactivity Correlations for Addition of Nucleophiles to a Simple Quinone Methide", April 1998, 215th ACS National Meeting, Dallas, TX.

(26) "Enzymatic Enhancement of Brønsted Acid Catalysis of the Cleavage of Acetals", June 1998, 81st Canadian Society of Chemistry Conference, Whistler, Canada.

(27) "Intrinsic Barriers to the Formation and Reaction of Carbocations", August 1998, 14th IUPAC Conference on Physical Organic Chemistry, Florianópolis, Brazil.

(28) "Dynamics for Reactions of Carbocation-Anion Pairs in Aqueous Solution", September 1999, 8th Kyushu International Symposium on Physical Organic Chemistry, Kyushu, Japan.

(29) "Substituent Effects on the Acidity of Weak Carbon Acids in Water", July 2000, 15th IUPAC Conference on Physical Organic Chemistry, Göteborg, Sweden.

(30) "Determination of the pK_as of Weak Carbon Acids in Aqueous Solution: Substituent Effects and Marcus Intrinsic Barriers", December 2000, International Chemical Congress of Pacific Basin Societies, Honolulu, HI.

(31) "Catalysis of Bioorganic Reactions: Proton Transfer, Hydride Transfer and Aldol Condensation", November 2001, Symposium on Organic Reaction Mechanisms, Himeji, Japan.

(32) "Carbon and Oxygen Nucleophilicity of Phenol Towards Addition to the 1-(4-Methoxyphenyl)ethyl Carbocation", November 2001, 9th Kyushu International Symposium on Physical Organic Chemistry, Kyushu, Japan.

(33) "Primary Kinetic Isotope Effects and Intrinsic Reaction Barriers for Proton Transfer at Carbon", February 2002, Gordon Conference on Isotopes in Biological and Chemical Sciences, Ventura, CA.

(34) "Studies on the Mechanism for Enzymatic Catalysis of Proton Transfer at Carbon" August 2002, 6th IUPAC Conference on Bioorganic Chemistry, Toronto, Canada.

(35) "Studies on the Mechanism for Catalysis of Proton Transfer at Carbon" June, 2003, Steenbock Symposium on Coenzymes, Enzymes and Catalysis, Madison, WI.

(36) "Dynamics of Ion-Pair Intermediates of Solvolysis" September, 2003, 7th Latin American Conference on Physical Organic Chemistry, Florianopolis, Brazil.

(37) "Cooperativity in Metal Ion Catalysis of Phosphate Diester Hydrolysis" October 2003, 10th Kyushu International Symposium on Physical Organic Chemistry, Kyushu, Japan.

(38) "Primary Kinetic Isotope Effects and Intrinsic Reaction Barriers for Proton Transfer at Carbon", February 2004, Gordon Conference on Isotopes in Biological and Chemical Sciences, Ventura, CA.

(39) "What Makes a Small Molecule a Good Catalyst? Studies on Catalysis of Phosphate Diester Cleavage by Metal-Ion Complexes" June 2004, 7th International Symposium on Biomolecular Chemistry, Sheffield, United Kingdom.

(40) "Formation and Stability of Carbocations and Carbanions in Water and Intrinsic Barriers to Their Reactions", July 2004, Reaction Mechanisms VII, Dublin, Ireland.