- (115) M.-Y. Yang, O. Iranzo, J. P. Richard and J. R. Morrow, "Solvent Deuterium Isotope Effects on Phosphodiester Cleavage Catalyzed by an Extraordinarily Active Zn(II) Complex", *Journal of the American Chemical Society*, 127, 1064-1065 (2005).
- (116) A. C. O'Donoghue, T. L. Amyes and J. P. Richard, "Mechanism for Hydron Transfer Catalyzed by Triosephosphate Isomerase: The Products of Isomerization of D-Glyceraldehyde 3-Phosphate in D₂O", *Biochemistry*, 44, 2610-2621 (2005).
- (117) A. C. O'Donoghue, T. L. Amyes and J. P. Richard, Mechanism for Hydron Transfer Catalyzed by Triosephosphate Isomerase: The Products of Isomerization of Dihydroxyacetone Phosphate in D₂O", *Biochemistry*, 44, 2622-2631 (2005).
- (117) J. P. Richard and Y. Tsuji, "Reactions of Ion Pair Intermediates of Solvolysis", Chemical Record, 5, 94-106, (2005).
- (119) J. Crugeiras, A. Rios, T. L. Amyes and J. P. Richard, "Carbon Acidity of the α-Pyridinium Carbon of a Pyridoxamine Analog", *Organic & Biomolecular Chemistry*, *3*, 2145-2149 (2005).
- (120) Y. Chiang, A. J. Kresge, I. Onyido, J. P. Richard, P. Wan and M. Xu, "Ketonization of the remarkably strongly acidic elongated enol generated by flash photolytic decarboxylation of *p*-benzoylphenylacetic acid in aqueous solution", *Chemical Communications*, 4231-4233 (2005).
- (121) J. P. Richard, D. A. McCall, C. K. Heo and M. M. Toteva, "Ground State, Transition State and Metal Cation Effects of the 2-Hydroxyl Group on β-D-Galactopyranosyl Transfer Catalyzed by β-Galactosidase (Escherichia coli, lac Z)", Biochemistry, 44, 11872-11881 (2005).
- (122) A. Rios, A. C. O'Donoghue, T. L. Amyes and J. P. Richard, "Formation and Stability of Organic Zwitterions: The Carbon Acid p K_a s of the Trimethylsulfonium and Tetramethylphosphonium Cations in Water", *Canadian Journal of Chemistry*, 83, 1536-1542 (2005).
- (123) T. L. Amyes, J. P. Richard and J. J. Tait, "Activation of Orotidine 5'-Monophosphate Decarboxylase by Phosphite Dianion: The Whole Substrate is the Sum of Two Parts", *Journal of the American Chemical Society*, 127, 15708-15709 (2005).
- (124) A. C. O'Donoghue, S. Y. Pyun, M.-Y. Yang, J. R. Morrow and J. P. Richard, "Substrate Specificity of an Active Dinuclear Zn(II) Catalyst for Cleavage of RNA Analogs and a Dinucleoside", *Journal of the American Chemical Society*, 128, 1615 1621 (2006).
- (125) K. Toth, L. M. Gaskell and J. P. Richard, "Claisen-Type Addition of Glycine to a Pyridoxal Iminium Ion in Water", *Journal of Organic Chemistry*, 71, 7094-7094 (2006).
- (126) Y. Tsuji and J. P. Richard, "When Does an Intermediate become a Transition State? Degenerate Isomerization Occurs Without Competing Racemization During Solvolysis of (S)-1-(3-Nitrophenyl)ethyl Tosylate", *Journal of the American Chemical Society*, 128, 17139-17145 (2006).
- (127) T. L. Amyes and J. P. Richard, "Proton Transfer to and from Carbon in Model Reactions", In *Hydrogen-Transfer Reactions, Volume 3: Biological Aspects I-II*, J. T. Hynes, J. P. Klinman, H.-H Limbach and R. S. Schowen, Eds.; Wiley-VCH: Weinheim, Germany, 2006, pp 949-973.
- (128) K. Toth and J. P. Richard, "Covalent Catalysis by Pyridoxal: Evaluation of the Effect of the Cofactor on the Carbon Acidity of Glycine", *Journal of the American Chemical Society*, 129, 3013-3021 (2007).
- (129) T. L. Amyes and J. P. Richard, "Enzymatic Catalysis of Proton Transfer at Carbon: Activation of Triosephosphate Isomerase by Phosphite Dianion", *Biochemistry*, 5841-5854 (2007).
- (130) J. P. Richard and R. W. Wolfenden, "The ACS Division of Biological Chemistry" *IUBMB Life*, Accepted for publication (2007).
- (131) J. P. Richard and K. B. Williams, "A Marcus Treatment of Rate Constants for Protonation of Ring-Substituted α-Methoxystyrenes: Intrinsic Reaction Barrier and the Shape of the Reaction Coordinate" Journal of the American Chemical Society, 6952-6961 (2007). [64]
- (132) Chi-Tung Chiang, Marek Freindorf, Thomas Furlani, Robert L. DeLeon, John P. Richard and James F. Garvey, Characterization of a Three Electron Interaction Between Ammonia and the Benzene Radical Cation, *Journal of Physical Chemistry*, In Press (2007).
- (133) Erik R. Farquhar, John P. Richard and Janet R. Morrow "Formation and Stability of Mononuclear and Dinuclear Eu(III) Complexes and Their Catalytic Reactivity Toward Cleavage of an RNA Analog", *Inorganic Chemistry*, In Press (2007).
- (134) John P. Richard, W. Y. Tsang, "A Simple Method to Determine Kinetic Deuterium Isotope Effects and Evidence that Proton Transfer To Carbon Proceeds Over and not Through the Reaction Barrier" *Journal of the American Chemical Society*, submitted for publication (2007).

(135) M.-Y. Yang, J. R. Morrow and J. P. Richard, "A Transition State Analog for Phosphate Diester Cleavage Catalyzed by an Enzyme-Like Small Molecule Metal Ion Complex", *Bioorganic Chemistry*, ASAP (2007)