The 45th Western Regional Meeting of the American Chemical Society

WRM 2015 Poster Session

Keisuke Ikehata and Michael Kleinman, *Program Chairs*

California State University, San Marcos
USU 2300A&B

K. Ikehata, M. T. Kleinman, *Organizers*

FRIDAY NOVEMBER 6TH

6:00PM - 8:00PM

23. Observations during prolonged sample exposure with 5N sodium hydroxide on the stability of memantine HCl internal standard in samples. S. Ghosh, C. Weng, **A. Ng**

24. Synthesis of homopropargyl alcohols via three-component coupling of allenyl carbenoids, acyclic organozirconium species, and aldehydes/ketones. **J. Stec**, A.R. Henderson, R.J. Whitby

25. Progressive new methods towards the total synthesis of azaspirene and its analogs: Promising new cancer treatments. **T. Montgomery**, M.J. Kelly, M.B. Bergdahl

26. Synthesis and characterization of hematite nanoparticles for mercury capture. **J. Jung**, S. Liguori, J. Wilcox

27. 3-D interconnected mesoporous tantalum nitride as a novel water splitting photocatalyst. **H. Kang**, S.H. Tolbert

28. Metathesis: The versatile problem solver. **J.H. Phillips**

29. Monitoring atmospheric ammonia through passive diffusion collection on California State Polytechnic University Pomona campus. **L. Aranda**, M. Torres, Y. Liu

30. Preparation of γ-aminoalcohols with pendant quinolyl moiety by reduction of ketoimines with sodium borohydride. **K.J. Goosherst**, D.B. Green, J.M. Fritsch

31. Copolymerization of L-lactide and ε-caprolactone by bis-ligated magnesium complexes binary catalyst systems. **R.M. Slattery**, J.M. Fritsch

32. Nanocrystalline magnesium as an anode material for lithium-ion battery applications. **T.C. Lin**, E. Detsi, J.B. Cook, S.H. Tolbert

33. Stress-induced lift-off silicon foil using epoxy. **H. Chang**

34. The study of spectroscopic and electrochemical properties of substituted anthraquinone an undergraduate laboratory setting. M.M. Allard, **J.D. Rojas**, **R.M. Morales**

35. New cellular delivery vehicles: Polymyxin B and guanidinopolymyxin B. **K. Hamill**, L.C. McCoy, Y. Tor

36. High performance liquid chromatographic determination of four biological aminothiols after microwave-enhanced derivatization with SBD-F. **M.B. Blayney**, S.E. Helm, D.B. Green

37. Highly stereoselective synthesis of lagunamide A: Unprecedented potential for anti-malarial and anti-cancer bioactivity. **B. Banasik**, L. Wang, **A.S. Kanner**, **N. Kohnen**, M.B. Bergdahl

38. Online spectra database for undergraduate organic chemistry laboratories. **J. Charonnat**, K. Hazen, N. Paronian

39. Monobocylation of diamines in continuous flow. **A. Ku**, A.C. Evans

40. Towards continuous flow syntheses of levomilnacipran. **M. Nguyen**, C. Ayoub, A.C. Evans, J. Feng

41. Enzyme degassing for RAFT polymerization in continuous flow. **S. Matsuda**, A.C. Evans

42. Thermally controlled multivalent interactions between biomimetic polymer NPs and target biomacromolecules. **A.C. Weisman**, K.J. Shea, K. Yoshimatsu

43. A β-hairpin peptide derived from transthyretin 106-121 that forms square hydrophobic channels. **S. Yoo**, N. Truex, A. Kreutzer, J.S. Nowick

44. X-ray crystallographic structures of amyloid oligomers: A dodecamer of $A\beta_{17-36}$ that forms an annular pore. **A. Kreutzer**, I.L. Hamza, J.S. Nowick

45. How do undergraduate students conceptualize acid-base chemistry? Development, validation, and utilization of a learning progression-based measure. **W. Romine**, A. Todd, T. Clark

46. Formation and stability of silver nanoparticles formed by the reduction of silver ions by humic acid. **R. Leslie**, D. Pullman

47. NMR characterization of ionicity and transport properties for a series of diethylmethylamine based protic ionic liquids. **F. Thompson**

48. Application of α,β-dipeptides in organocatalysis under solvent-free conditions. **C.G. Ortiz**

49. Synthesis of imidazolium chiral ionic liquids derived from (*S*)-prolinamine and their application in asymmetric Michael reaction. **A. Zuniga**

50. Alkylation of acids, alcohols, and phenols using *N*-(1)-adamantyl-*O*-isopropyl-4-nitrobenzenesulfonimidate. **H. Truong**

51. Gaining structural insights into folding of the carboxyl-terminal domain of GIV using circular dichroism spectroscopy. **A. Maddox**

52. Structural elucidation of the nano-bio interface: Histidine on fumed silica nanoparticles. **H. Swanson**

53. Novel thermochromic compounds as sensors for high strain experiments. **J. Sanz**, J.R. de Alaniz

54. Aryl di-*n*-butyl phosphates and derivatives as selective inhibitors of butyrylcholinesterase: Compounds with potential for the treatment of Alzheimer's disease. **T. Tran**

55. Binding properties of curcumin with DNA: Influence of the water network in the DNA minor groove. **A. El-Magboub**

56. In-class and online student performance in a pharmacy problem-based learning class. **A. El-Magboub**

57. Synthesis of bivalent organothiophosphate compounds and their inhibition of butyrylcholinesterase for potential treatment of Alzheimer's disease. **A. Tahira**

58. Synthesis of nanoparticle polymer and testing affinity with IgG. **R. Dalal**

59. Effects of tetra-alkyl bisphosphates on BuChE activity using HEPES as a function of pH. **K. Villarreal**

60. A unique approach to identify solid tumor selective compounds using a combination of two *in vitro* cancer cell screenings. **L. Liu**

61. Progress toward the synthesis of gelsedilam. **C.M. Saunders**, F.D. Fernandes, J.T. Shaw

62. New α-helix mimetics targeting the E6 protein in the human papillomavirus. **E. Armenta**

63. Investigation of LEF-1 flexibility vs. DNA binding activity. **A. Pientka**

64. An efficient domino amination-oxidation reaction for the copper-catalyzed synthesis of anilines. **C. Thomas**

65. PLGA film formulations for sustained release of a water-soluble drug. **A. Tumabayeva**

66. Identification, characterization, and modification of fatty acid alkyl esterases found in *Staphylococcus aureus*. **B. Saylor**, J.J. Love

67. Development of redox mediators for lithium-sulfur batteries. **A. Scheuermann**

68. X-ray single crystal analysis of *n*-type organometallic dopants for organic semiconductors. **E. Jucov**

69. Targeting bacterial antioxidant defense to improve antibiotic treatment efficacy of stationary phase *E. coli*. **J. Wang**

70. Sensitive nonlinear multi-photon laser wave-mixing detection methods for environmental and biomedical applications. **M. Murphy**

71. Synthesis and *in vitro* evaluation of asymmetric 1,5-diheteroarylpenta-1,4-dien-3-ones as anti-prostate cancer agents. **X. Zhang**

72. Assessment of UCH-L3 substrate selectivity using engineered ubiquitin fusions with varying linker lengths. **P. Suon**, J.J. Love

73. Anti-mycobacterial drug discovery using extract UA 774 from the surface of *Ulva californica* . **J. Guzman**, J.A. Trischman

74. Analytical method for reliable H_2O-ice production for astrochemical experiments. **M. Park**

75. Effect of hydrophobicity and charge in the oligomerization of amyloidogenic peptides and the design of a pH-switchable oligomer. **Y. Wang**, J.S. Nowick

76. Using protein design to engineer the Cif epoxide hydrolase for neutralization of mycotoxins. **M. Acevedo**, P. Suon, J.J. Love

77. Isotopic fractionation as a result of sublimation of water-ice. **E. Christensen**, M. Park

78. Identification of anti-mycobacterial compounds from the extract of a marine bacterial isolate (UA446) taken from the surface of *Ulva californica*. **T. Fallert**, J.A. Trischman

79. Optimization of a designed protein-protein interface. **B. Maniaci**, J.J. Love

80. Synthesis of small molecules for potential hepatitis C virus translation inhibition. **W. Frauman**

81. New small molecule α-helix mimetics targeting protein-protein interactions of the human papillomavirus. **E. Kroneberger**

82. Synthesizing redox probes to increase the capabilities of biosensors. **H. Effarah**

83. Chapters in novel antibiotics: Isolating a natural product of marine bacteria challenged with *Mycobacterium marinum*. **A. Bulthuis**, J.A. Trischman

84. 3-*O*-alkyl-2,3-dehydrosilibinins: Synthesis and antiproliferative activity towards prostate cancer cells. **S. Zhang**

85. Regulation of vascular mitochondrial plasticity: Role of cellular crosstalk. **C. Sauceda**

86. Ball milling as an approach to molecular encapsulation. **S. Journey**, B.W. Purse

87. Investigation and review of surrogate parameters to evaluate oxidation of trace organic contaminants during ozonation of wastewater effluents. **R. Tackaert**

88. Mixed quantum and classical simulation of the hydrated electron: Temperature dependence in resonance Raman spectra, excited states relaxation, and whether the electron resides in a cavity. **C. Zhou**

89. Formation and stability of silver nanoparticles formed by the reduction of silver ions by humic acid. **R. Leslie**

90. Oxidative cyclization reactions of benzaldehyde oximes with built-in heteroaromatic nucleophiles. **A.A. Alshreimi**

91. Antimycobacterial ceramides produced by a marine surface bacterium. J.A. Trischman, **G. Allognon**, A. Bulthuis

92. Catalytic anhydride-Mannich reactions of *N*-sulfonyl imines. **S.W. Laws**, M.J. Di Maso, J.T. Shaw

93. Structural study of isotopically modified antifreeze glycoproteins (AFGPs) using high-resolution nuclear magnetic resonance (NMR) spectroscopy. **C. Her**, S. Vazquez, S. Maitra, K.V. Krishnan

94. Development of molecular photoswitches as MRI contrast agents. **A. Faulkner**, E.I. Balmond, B.K. Tautges, B.M. Hodur, J.T. Shaw, A. Louie

95. First semester general chemistry undergraduates' ability to distinguish variables in the experimental design of a stoichiometry activity in structured and guided inquiry modes. **E. Hoong**

96. Fabrication of wafer-scale, low resistance, single carbon nanotube devices. **A. Rajapakse**, P.G. Collins

97. Conformational equilibrium dynamics of β-methyl-amino-L-alanine (BMAA) and its carbamate adducts using NMR spectroscopy. **A. Alonzo**

98. Analysis of mercury concentration in three common cigarette brands sold in the United States as a viable source of human exposure. **S. Freitag**, S. Aloisio

99. A lanthanum(III)-catalyzed multi-component reaction for the synthesis of substituted malonamides with interesting photophysical properties. **J. Jennings**, C.P. Bhatt, A.K. Franz

100. Effect of the overlap between the vertical ionization energies and the adiabatic ionization energies of DNA nucleobases. **H. Kwon**, K.G. Bacani, V. Andrianarijaona

SATURDAY NOVEMBER 7TH

2:00PM - 5:00PM

230. Effectiveness of socially-mediated and online learning tools in general chemistry. **K.A. Kaiser**

231. Development of specific, irreversible inhibitors for a receptor tyrosine kinase EphB3. **A. Kung**, C. Zhang

232. DFT calculations relating hydricities, pK_a, and redox potentials in coordination and organometallic iridium(III) complexes. **R. Adams**, A. Lopez, S. Bellows, T. Cundari

233. Alkylation of amino acids by anticancer drug, chlorambucil. **T. Wang**, **B. Brook**

234. A historical perspective of the STS (science-technology-society) movement and an application of STS teaching approach in the community college chemistry classroom. **G. Perkins**

235. Synthesis of alkanethiolate-capped platinum nanoparticle catalysts with enhanced activity using alkylthiosulfate ligand precursor. **K. San**, Y. Shon

236. C-H amination of tetrahydroisoquinoline. **K. Bay**, S. Han, B.M. Stoltz

237. Plant growth and soil chemistry: Standard solution models and measurement errors. P. Johnson, **L. Huang**

238. The effects of high leverage on the optimum product yield of oxazoline. P. Johnson, **L. Huang**

239. Get involved with the ACS Division of Chemical Education. **J.L. Sarquis**

240. Characterizing the Rubisco / Rubisco activase interaction via assembly studies. **A.J. Serban**

241. Novel peptidomimetic inhibitors for the West Nile virus NS2B-NS3 protease. **J. Truong**, B. Espinosa

242. Thin film crystallization. **K. Ulle**

243. Activity and selectivity of Pd nanoparticle catalysts for alkyne hydrogenation in water: Effects of graphene oxide supports and thiolate surface ligands. **V. Chen**, Y. Shon

244. TNA protects DNA and RNA from nuclease digestion under simulated physiological conditions. **M. Culbertson**, K.W. Temburnikar, S. Sau, J. Liao, S. Bala, J.C. Chaput

245. Antioxidant activity, total phenolics and total flavonoids content study of *Yucca whipplei* blossoms. C. Bwiza, M. Quach, A. Hidalgo, T. Yoon, D. Paez, J. Kalimba, J. Luong, D. McCarthy, M. Barth, **Y. Hu**

246. Dye-sensitized solar cell based on the natural dye extract from elderberry leaves. J. Kalimba, J. Luong, **Y. Hu**

247. Effects of steric hindrance near the metal surface of unsupported palladium nanoparticle catalysts for alkene isomerization. **P. Tieu**, Y. Shon

248. Elucidating molecular pathways of prostate field cancerization: Potential role of EGR-1 as a master regulator. **K. Gabriel**, M. Bisoffi

249. Computational study of butyrylcholinesterase inhibition by dialkyl phenyl phosphate derivatives. **S.G. McCoy**, W. Alvarado, A. Garcia, E.J. Sorin

250. Computational study of the addition of ammonia, methylamine, and dimethylamine to acetaldehyde catalyzed by a single water molecule: Energetics for carbinolamine formation. **J.E. Perez**, M.K. Louie, A. Sinha

251. β-hairpins: Molecular accessories for helical peptide expression. **M.E. Lokensgard**, J.J. Love

252. Sensitive detection of proteins and cancer markers by nonlinear laser wave-mixing detection and capillary electrophoresis. **M. Brown**, J.S. Pradel, S. Ramos, W.G. Tong

253. Triplet state dynamics in the visible light absorbing zinc chlorodipyrrin. **W. Thornbury**, S. Das, A. Bartynski, M.E. Thompson, S.E. Bradforth

254. A synthetic siderophore as a molecular shuttle. **A.A. Avanes**, J. Saboury, A. Davidian, C. Bezjian, B. Ulloa, M. Pinto, C.G. Gutierrez

255. Crystallization processes modeled by Monte-Carlo simulation of two-dimensional surface diffusion. **M. Salem**, M. Schmidt

256. A poster session demonstrating graduate student teaching assistants' competence in the design and implementation of a student-centered lesson plan. **M.A. Boerneke**, H. Dembinski, S. Brydges

257. Relationship between speech and gesture to support molecular-level explanations of macroscopic phenomena in the context of acid-base titration. **A. Lien**, B.L. Gonzalez

258. Synthesis of homochiral metal-organic frameworks using tetradentate ligands. **E. Nguyen**, X. Zhao, X. Bu

259. Photoelectrochemical characterization CuGaSe hotocathodes. **B. Bachman**, T.G. Deutsch, J. Young

260. Spectroelectrochemical characterization and solvent effect on the tautomerism of free-base corrole. **F. Kohl**, G.N. Calvillo, S. Klein, A. Loogman, S. Becerra, E.A. Aleman

261. Visualization of organic molecules: An analysis of students' visual-spatial ability at a large primarily undergraduate institution. **A. Garcia**, L. Perez

262. Novel synthesis of modified nucleic acids and nucleoside analogs for solid phase synthesis of ribonucleic guanidine (RNG). **A. Chavez**

263. Systematic structure modifications of imidazo[1,2-a]pyrimidines to reduce and predict aldehyde oxidase-mediated metabolism. **M.A. Ornelas**

264. Synthesis and investigation of soluble PyQuin gold(III) complexes. **E. Roman**, M.D. Sterling, C.H. Larsen

265. Real-time reaction kinetics by quantitative nuclear magnetic resonance spectroscopy. **J. Singh**, C. Her, K.V. Krishnan

266. Revolutionary view on third-hand smoke by NMR spectroscopy: A chemometric approach. **J. Vang**, K.V. Krishnan, A. Hasson

267. Thermodynamic and electrochemical studies of a $[Ni(bisphosphine)_2]^{2+}$ complex in water and organic solvents. **B.M. Ceballos**, J.Y. Yang, C. Tsay

268. Fragmentation studies of flubendiamide under various atmospheric conditions. **E. Rangel**

269. Novel biomarkers for HIV-1 disease progression. **T. Taylor**, A. Pandya, K. Borgmann, A. Ghorpade

270. Small molecule activation using transition metal-Si complexes. **A. Bartrom**, H. Harman

271. Carbon dioxide reduction to formate by a multi-functional, redox-active borane. **J. Taylor**, A. McSkimming, H. Harman

272. Automatic classification of surface-bound bacteria cell motion by image analysis and tracking algorithms. **S. Shen**

273. Reactions of a germylene and stannylene with water and methanol: Evidence of sigma-bond metathesis in the formation of {Sn(μ-OR)}2. **J. Erickson**