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Editorial

We convey our sincere thanks for the publication of this special University of Michigan issue of *Chinese Chemical Letters*. The idea to publish this special issue came from a meeting between Dr. Zhan Chen (Professor of Chemistry at the University of Michigan) and Dr. Huanfang Guo (associate editor-in-chief, *Chinese Chemical Letters*) when Dr. Guo visited the University of Michigan during May 2014. On behalf of Prof. Xuhong Qian, the editor-in-chief of *Chinese Chemical Letters*, Dr. Guo invited Prof. Chen to contact various professors at the University of Michigan to make contributions to a special issue. Prof. Chen received many immediate responses, resulting in the eighteen mini-reviews and research papers published in this issue and authored by members of research groups at the University of Michigan. Nineteen professors, their postdoctoral fellows, students, and collaborators contributed to this special issue, including professors associated with College of Literature, Science and Arts (Chemistry, Biophysics, Applied Physics), College of Engineering (Chemical Engineering, Electrical Engineering), School of Medicine (Radiology, Internal Medicine, Surgery), School of Pharmacy, and School of Dentistry at the University of Michigan. The co-authors for these articles also include many researchers from universities in China such as Nanjing University, China University of Geosciences, Nanjing Medical University, Nanjing College of Chemical Technology, and Southeast University. The research reported in these articles covers many areas in chemistry and related sciences, as well as many interdisciplinary research projects, fitting the nature and scope of *Chinese Chemical Letters*, which publishes mini-reviews and research articles in all areas of chemistry, satisfying a real and urgent need for the dissemination of new and exciting research results.

The broad scope of the articles in this special issue covers studies of various materials and biological samples using advanced spectroscopic and imaging techniques such as ultra-fast laser spectroscopy (T.E. Wiley, B.C. Arruda, N. Miller, M. Lenard, R.J. Sension, "Excited electronic states and internal conversion in cyanocobalamin"), two-dimensional IR spectroscopy (J.T. King, E.J. Arthur, D.G. Osborne, C.L. Brooks III, K.J. Kubarych, "Biomolecular hydration dynamics probed with 2D-IR spectroscopy: From dilute solution to a macromolecular crowd"), interface sensitive nonlinear vibrational spectroscopy (J.N. Myers, Z. Chen, "Surface plasma treatment effects on the molecular structure at polyimide/air and buried polyimide/epoxy interfaces"), Raman spectroscopy (B. Gong, M.D. Morris, "Raman spectroscopy monitors adverse bone sequelae of cancer radiotherapy") and photoacoustic imaging (J. Yin, F. Zhao, C. Tao, X. Wang, X. Liu, "Listen to the chemical information in biological tissue").

This issue also includes reports/reviews of syntheses of various new materials ranging from design of new biological materials such as peptidomimetics to target protein-protein interactions (H. Karatas, S. Lee, E.C. Townsend, F. Cao, J. Xu, D. Bernard, L. Liu, Y. Dou, S. Wang, "Structure-based design of conformationally constrained cyclic peptidomimetics to target the MLL1-WDR5 protein-protein interaction as inhibitors of the MLL1 methyltransferase activity"), to synthesis of α-$SnWO_4$ thin-film electrodes for solar energy application (K.J. Pyper, T.C. Evans, B.M. Bartlett, "Synthesis of α-$SnWO_4$ thin-film electrodes by hydrothermal conversion from crystalline WO_3"), to hydrocarbon biofuel synthesis (F. Lin, E.N.G. Marsh, X.N. Lin, "Recent progress in hydrocarbon biofuel synthesis: pathways and enzymes"). Other articles focusing on new energy/sustainability include a review on organic photovoltaic cells (H.J. Park, L.J. Guo, "Optical enhancement effects of plasmonic nanostructures on organic photovoltaic cells") and fabrication of hybrid organic-inorganic solar cell devices (Z. Wang, E.S. Brown, S. Maldonado, "The photovoltaic behaviors of hybrid inorganic-organic heterojunctions of *n*-type GaP and PEDOT:PSS).

Several articles published in this special issue report the development and application of state-of-the-art bioanalytical methods including metabolomic profiling (N.S. Jain, U. Dürr, A. Ramamoorthy, "Bioanalytical methods for metabolomic profiling: Detection of head and neck cancer, including oral cancer"), Western blot technology (S. Jin, R.T. Kennedy, "New developments in Western blot technology"), and intravascular amperometric glucose sensors (A.K. Wolf, Y. Qin, T.C. Major, M.E. Meyerhoff, "Improved thromboresistance and analytical performance of intravascular amperometric glucose sensors using optimized nitric oxide release coatings").

Other biological and materials-related articles include a review on folate binding protein for drug delivery applications (R.L. Merzel, J.J. Chen, E.N.G. Marsh, M.M. Banaszak Holl, "Folate binding protein—Outlook for drug delivery applications"), the hemolytic activity of antimicrobial amphiphilic polymethacrylates (K. Yasuhara, K. Kuroda, "Kinetic study of all-or-none hemolysis induced by cationic amphiphilic polymethacrylates with antimicrobial activity"), stability of polymer thin films prepared by chemical vapor deposition (Y. Liang, X.P. Deng, J.J. Senkevich, H. Ding, J. Lahann, "Thermal and environmental stability of poly(4-ethynyl-p-xylylene-co-p-xylylene) thin films"), and assembly of zinc metallacrowns (J. Jankolovits, J.W. Kampf, V.L. Pecoraro,

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"Assembly of zinc metallacrowns with an α-amino hydroxamic acid ligand").

In addition to the results from our experimental groups, this issue also includes computer simulations to study surface immobilized peptides (S. Wei, C. L. Brooks III, "Stability and orientation of cecropin P1 on maleimide self-assembled monolayer (SAM) surfaces and suggested functional mutations"). Therefore, this special issue covers all sub-disciplines of chemistry including analytical chemistry, biochemistry, physical chemistry, materials chemistry, organic chemistry, and inorganic chemistry. We want to thank all of the authors for their excellent contributions to this University of Michigan special issue.

In 1817, the University of Michigan was established as one of the first public universities in one of the territories of the relatively new United States. Its original location, in Detroit, was at the heart of the territory of Michigan, which had been formed in 1805. In 1837, which was the same year that Michigan became the twenty-sixth state in the USA, the university moved to the city of Ann Arbor, where it is still located. There are many connections between the University of Michigan and China, including the following two connections. The university's fourth President, James Burrill Angell, served as the United States Envoy to the Qing Empire during 1880–81, and Leonard Woodcock, who taught political science at the University of Michigan, served as the last chief of US Liaison Office in Beijing (1977–79) and the first US Ambassador to the People's Republic of China (1979–81).

Today, the University of Michigan is among the top 20 universities worldwide (Ranked No.15 in 2014 by Times Higher Education and No.14 by US News). There are three campuses (located in Ann Arbor, Dearborn, and Flint, Michigan). The main campus, located in Ann Arbor, has more than 43,000 students and 3000 tenured and tenure-track faculty members.

The Department of Chemistry at the University of Michigan has a long, illustrative history. Upon moving the university to Ann Arbor, its first president, Henry Philip Tappan, modeled the university's curriculum on the so-called "German-based research model", which valued open debate and empirical methods. Although chemistry instruction started in 1844, it was only under Tappan's influence that laboratory instruction was encouraged. In 1857, the first free standing building dedicated to chemical laboratory teaching was opened, which was the first structure on the North American continent that was designed, erected, and equipped solely for instruction in chemistry. The few older laboratories that existed (Yale, Philadelphia, Rensselaer Polytechnic) were adapted from existing structures.

The Department of Chemistry at the University of Michigan has hosted many outstanding faculty members, such as Moses Gomberg (Discovery of free radicals) and Werner E. Bachmann (First Total Synthesis of a Steroid, Equilinen, and the Preparation of RDX Explosive), and graduated many excellent students including Richard Smalley (1996 Nobel Prize winner in Chemistry), and Jerome Karle (1985 Nobel Prize winner in Chemistry). Currently the Department of Chemistry has forty-one tenured and tenure-track faculty members, working in six clusters including analytical chemistry, chemical biology, inorganic chemistry, materials chemistry, organic chemistry, and physical chemistry.

Over the years, the Department of Chemistry has recruited many excellent graduate students and postdoctoral research fellows from China. Faculty members in chemistry have visited many universities in China, establishing a variety of collaborative research efforts. The department has also hosted many visiting faculty members and students from China, and established a bilateral summer undergraduate exchange program with Chinese universities. We hope that this special University of Michigan issue of *Chinese Chemical Letters* will further disseminate the results from the chemistry related research in the University of Michigan to interested readers inside and outside of China.

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