Angewandte International Edition Chemie

V. W.-W. Yam

The author presented on this page has published more than **10 articles** since 2003 in *Angewandte Chemie*, most recently: "Platinum-Based Phosphorescent Double-Decker Tweezers: A Strategy for Extended Heterologous Metal–Metal Interactions": Y. Tanaka, K. M.-C. Wong, V. W.-W. Yam, *Angew. Chem.* **2013**, *125*, 14367–14370; *Angew. Chem. Int. Ed.* **2013**, *52*, 14117–14120.

Vivian Wing-Wah Yam

Date of birth:	February 10, 1963
Position:	Philip Wong Wilson Wong Professor in Chemistry and Energy, and Chair Professor of Chemistry, Department of Chemistry, The University of Hong Kong
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Education:	1982–1985 BSc (First Class Hons), The University of Hong Kong 1985–1988 PhD with Professor Chi-Ming Che on high-valent metal-oxo chemistry of ruthenium and osmium, The University of Hong Kong
Awards:	**2000–2001** Croucher Senior Research Fellowship; **2001** Member of the Chinese Academy of Sciences; **2005–2006** RSC Centenary Medal; **2005** State Natural Science Award of PR China; **2006** Japanese Photochemistry Association (JPA) Eikohsha Award; **2006** Fellow of The Academy of Sciences for the Developing World (now The World Academy of Sciences); **2011** Laureate of the L'Oréal–UNESCO Award for Women in Science; **2012** Foreign Associate of the US National Academy of Sciences; **2013** Docteur Honoris Causa, Université de Rennes 1; **2013** Glenn T. Seaborg Memorial Lectureship, University of California, Berkeley
Current research interests:	Synthetic inorganic and organometallic chemistry; supramolecular chemistry; photophysics and photochemistry, including luminescence and excited-state properties; self-assembly and nanostructures; aggregation; noncovalent metal–metal interactions; optical and luminescence probes; photochromic materials; solar energy conversion; functional molecular materials
Hobbies:	Badminton, chemistry, food, cats

I can never resist … good food, good wine, and research funding.

My favorite foods are … hot pot and soup.

The most exciting thing about my research is … to discover strongly chromophoric and luminescent molecules with rich excited-state properties and to control the absorption and emission colors of these compounds not only by conventional chemical modification, but also through the manipulation of their noncovalent intermolecular interactions, and supramolecular assembly, nanostructures.

My biggest motivation is … to show the world the beauty of chemistry, the uniqueness of chemistry in creating new molecules with new or unique properties, and their great relevance to our daily life.

The best advice I have ever been given is … to work hard to overcome one's own shortcomings and to hold onto one's firm beliefs.

I would have liked to have discovered … robust, inexpensive, earth-abundant, and easily processed molecular functional materials with unique chemical and/or physical properties for practical use.

The downside of my job is … to prepare progress reports and to mark examination scripts.

When I'm frustrated, I … have a good meal to provide me with the energy and determination to overcome the difficulties.

My favorite motto is … be determined, persevere, and be forward-looking.

I like refereeing because … it broadens my knowledge and makes me think more.

The most significant scientific advance of the last 100 years has been … the understanding of structure, bonding, and chemistry beyond the molecule, involving manipulation of weak intermolecular forces.

The biggest problem that scientists face is … to convince the public of the importance of science education and basic science research.

What I look for first in a publication are … the innovation and the inspiration.

My favorite piece of research is … to demonstrate the ability to manipulate and control molecular order and supramolecular assembly through noncovalent metal–metal interactions and to utilize them for optical or luminescence sensing and materials development.

The most important thing I learned from my parents is … to be accommodating and sincere.

My favorite places on earth are … Hong Kong, Paris, Florence, San Francisco, London, Shanghai, Beijing, Tokyo.

How is chemistry research different now than at the beginning of your career?

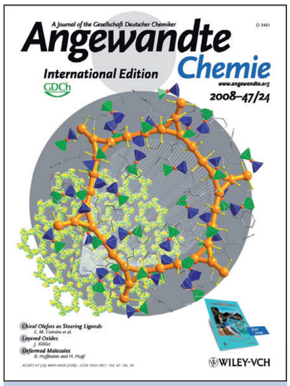
Chemistry research nowadays is in general more interdisciplinary, while chemistry research in the past was more subject-discipline-oriented. In a certain sense, a lot of chemistry research is more demanding in terms of the breadth and the depth of the knowledge, and the variety of the research techniques and instrumentation that one needs to know and to gain access to. For materials research, one needs also to learn condensed-matter physics, device physics, and physical characterization and measurement techniques. For biomedical research, one needs to learn cell biology, proteomics, structural biology, biological assays, etc. Students now have many more opportunities to learn and to expose themselves to a wide spectrum of different subject disciplines and the state-of-the-art instrumentation and techniques. The boundaries between different subject disciplines of science are getting less well-defined. The most important goal is to tackle and to solve the scientific problems by using the variety of toolboxes available. Chemistry is indeed a central science and will play a very important role in a number of major challenges, including materials, energy, healthcare, medicine, and the environment.

What is the secret to publishing so many high-quality papers?

There is no particular secret in publishing and whether they are of high quality or not really depends on the judgment of my peers. I work hard and I am very careful with my research findings and publications. I will try my best to make sure that the science is correct, avoid making mistakes, and to be self-critical. I like our work to be rigorous and solid. I am a perfectionist. I am open to critical comments, willing to learn, to work hard to increase the rigor of the work, to expand the scope, to take on new directions and challenges, and to overcome any shortcomings.

My 5 top papers:

1. "Proof of Potassium Ions by Luminescence Signaling Based on Weak Gold–Gold Interactions in Dinuclear Gold(I) Complexes": V. W.-W. Yam, C.-K. Li, C.-L. Chan, *Angew. Chem.* **1998**, *110*, 3041–3044; *Angew. Chem. Int. Ed.* **1998**, *37*, 2857–2859.
The first demonstration of the use of host–guest interactions to modulate the switching of noncovalent Au···Au interactions through conformational changes induced by potassium ion binding. This work is the foundation for the understanding of noncovalent metal–metal interactions and the subsequent development of various luminescence chemosensors based on noncovalent Au···Au interactions and polynuclear Au^I clusters and aggregates.
2. "Solvent-Induced Aggregation Through Metal···Metal/π···π Interactions: Large Solvatochromism of Luminescent Organoplatinum(II) Terpyridyl Complexes": V. W.-W. Yam, K. M.-C. Wong, N. Zhu, *J. Am. Chem. Soc.* **2002**, *124*, 6506–6507.
The first observation of the existence of metal···metal/π···π interactions in supramolecular aggregates of mononuclear platinum(II) polypyridine complexes in the solution state. While examples of mononuclear platinum(II) complexes showing solid-state polymorphism with short Pt···Pt contacts are known, little is known of mononuclear platinum(II) complexes that show noncovalent Pt···Pt interactions in the solution state. The enhanced solubility of these complexes has rendered the formation of stable supramolecular aggregates and oligomers in solution possible, even upon reduced solvation. This work provides the basis for the understanding of noncovalent metal···metal/π···π interactions, their excited-state properties, and their subsequent applications.
3. "Polymer-Induced Self-Assembly of Alkynylplatinum(II) Terpyridyl Complexes by Metal···Metal/π···π Interactions": C. Yu, K. M.-C. Wong, K. H.-Y. Chan, V. W.-W. Yam, *Angew. Chem.* **2005**, *117*, 801–804; *Angew. Chem. Int. Ed.* **2005**, *44*, 791–794.
The first demonstration of polyelectrolyte-induced supramolecular assembly of charged platinum(II) complexes. These cationic complexes have been shown to self-assemble onto anionic polyelectrolytes to form two-component ensembles, which are further stabilized by noncovalent interactions, giving rise to drastic color and luminescence changes. This work was the start of the development of chemosensors and biological assays and the use of conjugated polyelectrolyte/metal complex ensembles for FRET sensing.
4. "Luminescent Gold(III) Alkynyl Complexes: Synthesis, Structural Characterization, and Luminescence Properties": W. W.-W. Yam, K. M.-C. Wong, L.-L. Hung, N. Zhu, *Angew. Chem.* **2005**, *117*, 3167–3170; *Angew. Chem. Int. Ed.* **2005**, *44*, 3107–3110.
The first report on gold(III) alkynyl complexes with strong luminescence in solution at room temperature. This work has led to the development of efficient organic light-emitting diodes (OLEDs) based on gold(III) complexes.
5. "Supramolecular Self-Assembly of Amphiphilic Anionic Platinum(II) Complexes: A Correlation between Spectroscopic and Morphological Properties": C. Po, A. Y.-Y. Tam, K. M.-C. Wong, V. W.-W. Yam, *J. Am. Chem. Soc.* **2011**, *133*, 12136–12143.
The first report on the supramolecular assembly of anionic platinum(II) complexes and the direct correlation of the absorption and luminescence properties of these amphiphilic complexes with their supramolecular nanostructures and morphologies. A vesicle-to-cylindrical-rod transition has been achieved through a change in the solvent composition, and has led to drastic color and luminescence changes. This has indicated the importance of supramolecular assembly and the control and manipulation of molecular order in influencing the optical properties of the complexes.



The work of V. W.-W. Yam has been featured on the cover of Angewandte Chemie:
"Au_{36} Crown: A Macrocyclization Directed by Metal–Metal Bonding Interactions": S.-Y. Yu, Q.-F. Sun, T. K.-M. Lee, E. C.-C. Cheng, Y.-Z. Li, V. W.-W. Yam, *Angew. Chem.* **2008**, *120*, 4627–4630; *Angew. Chem. Int. Ed.* **2008**, *47*, 4551–4554.

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