Publications 2019

- Li, L.K.; Tang, M.C.; Lai, S.L.; Ng, M.; Kwok, W.K.; Chan, M.Y.; Yam, V.W.W., "Strategies Towards Rational Design of Gold(III) Complexes for High Performance Organic Light-Emitting Devices" *Nat. Photonics* **2019**, *13*, 185-191.
- Yao, L.Y.; Low, K.H.; Yam, V.W.W., "A Gold Quartet Framework with Reversible Anisotropic Structural Transformation Accompanied by Luminescence Response" C*hem* **2019**, *5*, 2418-2428.
- Chen, Z.; Chan, A.K.W.; Wong, V.C.H.; Yam, V.W.W., "A Supramolecular Strategy Towards An Efficient and Selective Capture of Platinum(II) Complexes" *J. Am. Chem. Soc.* **2019**, *141*, 11204-11211.
- Chan, M.H.Y.; Leung, S.Y.L.; Yam, V.W.W., "Rational Design of Multi-Stimuli-Responsive Scaffolds: Synthesis of Luminescent Oligo(ethynyl-pyridine)-Containing Alkynylplatinum(II) Polypyridine Foldamers Stabilized by Pt···Pt Interactions" *J. Am. Chem. Soc.* **2019**, *141*, 12312-12321.
- Wu, N.M.W.; Ng, M.; Yam, V.W.W., "Photochromic Benzo[*b*]phosphole Alkynylgold(I) Complexes with Mechanochromic Property to Serve as Multistimuli-Responsive Materials" *Angew. Chem. Int. Ed.* **2019**, *58*, 3027-3031.
- Li, P.; Chan, H.; Lai, S.L.; Ng, M.K.; Chan, M.Y.; Yam, V.W.W., "Four-Coordinate Boron Emitters with Tridentate Chelating Ligand for Efficient and Stable Thermally Activated Delayed Fluorescence Organic Light-Emitting Devices" *Angew. Chem. Int. Ed.* **2019**, *58*, 9088-9094.
- Li, L.K.; Tang, M.C.; Cheung, W.L.; Lai, S.L.; Ng, M.; Chan, C.K.M.; Chan, M.Y.; Yam, V.W.W., "Rational Design Strategy for the Realization of Red-to Near-Infrared- Emitting Alkynylgold(III) Complexes and Their Applications in Solution-Processable Organic Light-Emitting Devices" *Chem. Mater.* **2019**, *31*, 6706-6714.
- Ai, Y.Y.; Chan, M.H.Y.; Chan, A.K.W.; Ng, M.; Li, Y.G.; Yam, V.W.W., "A Platinum(II) Molecular Hinge with Motions Visualized by Phosphorescence Changes" *Proc. Natl. Acad. Sci. U. S. A.* **2019**, *116*, 13856-13861.
- Tang, M.C.; Kwok, W.K.; Lai, S.L.; Cheung, W.L.; Chan, M.Y.; Yam, V.W.W., "Rational Molecular Design for Realizing High Performance Sky-Blue-Emitting Gold(III) Complexes with Monoaryl Auxiliary Ligands and Their Applications for Both Solution-Processable and Vacuum-Deposited Organic Light-Emitting Devices" *Chem. Sci.* **2019**, *10*, 594-605.
- Law, A.S.Y.; Yeung, M.C.L.; Yam, V.W.W., "A Luminescence Turn-On Assay for Acetylcholinesterase Activity and Inhibitor Screening Based on Supramolecular Self-Assembly of Alkynylplatinum(II) Complexes on Coordination Polymer" *ACS Appl. Mater. Interfaces* **2019**, *11*, 4799-4808.

- Cheung, W.L.; Lai, S.L.; Tang, M.C.; Lee, C.H.; Chan, M.Y.; Yam, V.W.W., "High Performance Gold(III)-Based White Organic Light-Emitting Devices with Extremely Small Efficiency Roll-Off" *J. Mater. Chem. C* **2019**, 7, 8457-8464.
- Ai, Y.Y.; Li, Y.G.; Fu, H.L.K.; Chan, A.K.W.; Yam, V.W.W., "Aggregation and Tunable Color Emission Behaviors of L-Glutamine- Derived Platinum(II) Bipyridine Complexes by Hydrogen Bonding, π–π Stacking and Metal-Metal Interactions" *Chem. Eur. J.* **2019**, *25*, 5251-5258.
- Hau, F.K.W.; Cheung, K.L.; Zhu, N.; Yam, V.W.W., "Calixarene-Based Alkynyl-Bridged Gold(I) Isocyanide and Phosphine Complexes as Building Motif for the Construction of Chemosensors and Supramolecular Architecture" *Org. Chem. Front.* **2019**, *6*, 1205-1213.
- Po, C.; Tao, C.H.; Li, K.F.; Chan, C.K.M.; Fu, H.L.K.; Cheah, K.W.; Yam, V.W.W., "Design, Luminescence and Non-Linear Optical Properties of Truxene-Containing Alkynylplatinum(II) Terpyridine Complexes" *Inorg. Chim. Acta* **2019**, *488*, 214-218.
- Po, C.; Tao, C.H.; Li, K.F.; Chan, C.K.M.; Fu, H.L.K.; Zhu, N.; Cheah, K.W.; Yam, V.W.W., "Design, Synthesis, Luminescence and Non-Linear Optical Properties of 1,3,5-Triethynyl-benzene-Based Alkynylplatinum(II) Terpyridine Complexes" *J. Organomet. Chem.* **2019**, *881*, 13-18.
- Zhou, D.; To, W.P.; Kwak, Y.; Cho, Y.; Cheng, G.;Tong, G.S.M., Che, C.M., "Thermally Stable Donor–Acceptor Type (Alkynyl)-Gold(III) TADF Emitters Achieved EQEs and Luminance of up to 23.4% and 70300 cd m^{-2} in Vacuum Deposited OLEDs" *Adv. Sci.* **2019**, *6*, 1802297.
- Chan, K.T.; Lam, T.L.; Yu, D.; Du, L.; Phillips, D.L.; Kwong, C.L.; Tong, G.S.M., Cheng, G., Che, C.M., "Strongly Luminescent Tungsten Emitters with Emission Quantum Yields up to 84%: TADF and High-Efficiency Molecular Tungsten OLEDs" *Angew. Chem. Int. Ed.* **2019**, *58*, 14896-14900.
- Li, J.; Leung, C. W. T.; Wong, D. S. H.; Xu, J.; Li, R.; Zhao, Y.; Yung, C. Y. Y.; Zhao, E.; Tang, B. Z.; Bian, L., "Photocontrolled SiRNA Delivery and Biomarker-Triggered AIEgen Emission by Upconversion $NaYF_4:Yb^{3+}Tm^{3+}@SiO_2$ Nanoparticles for Inducing and Monitoring Stem Cell Differentiation" *ACS Appl. Mater. Interfaces* **2019**, *11*, 22074-22084.
- Zhang, Y.; Yang, H.; Ma, H.; Bian, G.; Zang, Q.; Sun, J.; Zhang, C.; An, Z.; Wong, W.-Y., "Excitation Wavelength Dependent Fluorescence of an ESIPT Triazole Derivative for Amine Sensing and Anti-Counterfeiting Applications" *Angew. Chem. Int. Ed.* **2019**, *58*, 8773-8778.
- Liu, D.; Zhang, Y.; Zhan, L.; Lau, T.-K.; Yin, H.; Fong, P.W. K.; So, S. K.; Zhang, S.; Lu, X.; Hou, J.; Chen, H.; Wong, W.-Y.; G. Li, "Design of Wide-Bandgap Polymers with Deeper Ionization Potential Enables Efficient Ternary Non-Fullerene Polymer Solar Cells with 13% Efficiency" *J. Mater. Chem. A* **2019**, *7*, 14153-14162.
- Liu, Y.; Sakamoto, R.; Ho, C.-L.; Nishihara, H.; Wong, W.-Y., "Electrochromic Triphenylamine-Based Cobalt(II) Complex Nanosheets" *J. Mater. Chem. C* **2019**, *7*, 9159-9166.

- Zhang, J.; Guan, Y.; Yang, J.; Hua, W.; Wang, S. Z.; Ling, Lian, H.; Liao, Y.; Lan, W.; Wei, B.; Wong, W.-Y., "Highly-Efficient Solution-Processed Green Phosphorescent Organic Light-Emitting Diodes with Reduced Efficiency Roll-Off Using Ternary Blend Hosts" *J. Mater. Chem. C* **2019**, *7*, 11109-11117.
- Dong, Y.; Ma, S.; Zhang, X.; Qian, J.; Zhu, N.; Xu, B.; Ho, C.-L.; Tian, W.; Wong, W.-Y., "A Cyanostilbene-Based Molecule with Aggregation-Induced Emission Properties: Amplified Spontaneous Emission, Protonation Effect and Electroluminescence" *Sci. China Chem.* **2019**, *62*, 212-219.
- Yiu, S.-C.; Nunns, A.; Ho, C.-L.; Ngai, J. H.-L.; Meng, Z.; Li, G.; Gwyther, J.; Whittell, G. R.; Manners, I.; Wong, W.-Y., "Nanostructured Bimetallic Block Copolymers as Precursors to Magnetic FePt Nanoparticles" *Macromolecules* **2019**, *52*, 3176-3186.
- Meng, Z.; Ho, C.-L.; Wong, H.-F.; Yu, Z.-Q.; Zhu, N.; Li, G.; Leung, C.-W.; Wong, W.-Y., "Lithographic Patterning of Ferromagnetic FePt Nanoparticles from a Single-Source Bimetallic Precursor Containing Hemiphasmidic Structure for Magnetic Data Recording Media" *Sci. China Mater.* **2019**, *62*, 566-576.
- Li, G.; Xu, Q.; Chang, C.; Fan, Q.; Zhu, X.; Li, W.; Guo, X.; Zhang, M.; Wong, W.-Y., "High-Performance Nonfullerene Polymer Solar Cells Based on a Wide-Bandgap Polymer without Extra Treatment" *Macromol. Rapid Commun.*, **2019**, *40*, 1800660.
- Tan, G.; Wang, L.; Wang, S.; Liu, P.; Fan, H.; Ho, C.-L.; Ma, D., Wong, W.-Y., "Synthesis, Photoluminescence and Electroluminescence of Triphenylphosphine Functionalized Cyclometalated Iridium(III) Complexes" *Dyes Pigments* **2019**, *160*, 717-725.
- Dong, Y.; Qian, J.; Liu, Y.; Zhu, N.; Xu, B.; Ho, C.-L.; Tian, W.; Wong, W.-Y., "Imidazole-Containing Cyanostilbene-Based Molecules with Aggregation-Induced Emission Characteristics: Photophysical and Electroluminescent Properties" *New J. Chem.* **2019**, *43*, 1844-1850.
- Liu, L.-P.; Zhang, R.; Liu, L.; Zhong, X.-X.; Li, F.-B.; Wang, L.; Wong, W.-Y.; Li, G.-H.; Cong, H.-J.; Alharbi, N. S.; Zhao, Y., "A New Strategy to Synthesize Three-Coordinate Mononuclear Copper(I) Halide Complexes Containing a Bulky Terphenyl Bidentate Phosphine Ligand and their Luminescencet Properties" *New J. Chem.* **2019**, *43*, 3390-3399.
- Wei, Q.; Chen, H.-T.; Liu, L.; Zhong, X.-X.; Wang, L.; Li, F.-B.; Cong, H.-J., Wong, W.-Y.; Alamry, K.A., Qin, H.-M., "Syntheses and Photoluminescence of Copper(I) Halide Complexes Containing Dimethylthiophene Bidentate Phosphine Ligand" *New J. Chem.* **2019**, 43, 13408-13417.
- Li, G.; Meng, Z.; Qian, J.; Ho, C.-L.; Lau, S.-P.; Wong, W.-Y.; Yan, F., "Inkjet Printed Pseudocapacitive Electrodes on Laser-Induced Graphene for Electrochemical Energy Storage" *Mater. Today Energy* **2019**, *12*, 155-160.

- Long, M.; Zhang, T.; Chen, D.; Qin, M.; Chen, Z.; Gong, L.; Lu, X.; Xie, F.; Xie, W.; Chen, J.; Xu, J., "Interlayer Interaction Enhancement in Ruddlesden–Popper Perovskite Solar Cells toward High Efficiency and Phase Stability" *ACS Energy Lett.* **2019**, *4*¸1025-1033.
- Wang, J.; Chu, M.; Fan, J.-X.; Lau, T.-K.; Ren, A.-M.; Lu, X.; Miao, Q., "Crystal Engineering of Biphenylene-Containing Acenes for High-Mobility Organic Semiconductors" *J. Am. Chem. Soc.* **2019**, *141*, 3589-3596.
- Wang, H.; Cheng, G.; Xie, J.; Zhao, S.; Qin, M.; Chan, C. C. S.; Qiu, Y.; Chen, G.; Duan, C.; Wong, K. S.; Wang, J.; Lu, X.; Xu, J.; Yan, K., "Bulk Heterojunction Quasi-Two-Dimensional Perovskite Solar Cell with 1.18 V High Photovoltage" *ACS Appl. Mater. Interfaces* **2019**, *11*, 2935-2943.
- Wong, W.-S.; Tse, H.-W.; Cheung, E.; Kuck, D.; Chow, H.-F., "Enantiopure Aromatic Saddles Bearing the Fenestrindane Core" *J. Org. Chem.* **2019**, *84*, 869-878.
- Ng, C.-F.; Chow, H.-F.; Mak, T. C. W., "Organic Molecular Tessellations and Intertwined Double Helices Assembled by Halogen Bonding" *CrystEngComm.* **2019**, *21*, 1130-1136.
- Guo, Z.; Chen, G.; Cometto, C.; Ma, B.; Zhao, H.; Chen, L.; Fan, H.; Man, W. L.; Yiu, S. M.; Lau, K. C.; Lau, T. C.; Robert, M., "Visible-Light Driven Catalytic Reduction of CO_2 with a Dicobalt Complex. Cooperative Metals for Switching Selectivity from CO to $HCOO^-$ upon Changing the Acid Co-substrate" *Nat. Catal.* **2019**, *2*, 801-808.
- Liu, Y.; Lau, T. C., "Activation of Metal Oxo and Nitrido Complexes by Lewis Acids" *J. Am. Chem. Soc.* **2019**, *141*, 3755-3766.
- Xiang, J.; Jin, X. X.; Su, Q. Q.; Cheng, S. C.; Ko, C. C.; Man, W. L.; Xue, M.; Wu, L.; Che, C. M.; Lau, T. C., "Photochemical Nitrogenation of Alkanes and Arenes by a Strongly Luminescent Osmium(VI) Nitrido Complex" *Commun. Chem.* **2019**, *2*, 40.
- Cometto, C.; Chen, L.; Anxolabehere-Mallart, E.; Fave, C.; Lau, T. C.; Robert, M., "Molecular Electrochemical Catalysis of the CO_2-to-CO Conversion with a Co complex: A Cyclic Voltammetry Mechanistic Investigation" *Organometallics* **2019**, *38*, 1280-1285.
- Chen, L.; Qin, Y.; Chen, G.; Li, M.; Cai, L.; Qiu, Y.; Fan, H.; Robert, M.; Lau, T. C., "A Molecular Noble Metal-Free System for Efficient Visible Light-Driven Reduction of CO_2 to CO" *Dalton Trans.* **2019**, *48*, 9596-9602.
- Hua, Y.; Chen, S.; Zhang, D.; Xu, P.; Sun, A.; Ou, Y.; Wu, T.; Sun, H.; Cui, B.; Zhu, X., "Bis[di(4-methoxyphenyl)amino]carbazole-Capped Indacenodithiophenes as Hole Transport Materials for Highly Efficient Perovskite Solar Cells: the Pronounced Positioning Effect of a Donor Group on the Cell Performance" *J. Mater. Chem. A* **2019**, *7*, 10200-10205.
- Piradi, V.; Xu, X.; Wang, Z.; Ali, J.; Peng, Q.; Liu, F.; Zhu, X., "Panchromatic Ternary Organic Solar Cells with Porphyrin Dimers and Absorption-Complementary Benzodithiophene-based Small Molecules" *ACS Appl. Mater. Interfaces* **2019**, *11*, 6, 6283-6291.

- Zhou, X.; Tang, W.; Bi, P.; Liu, Z.; Lu, W.; Wang, X.; Hao, X.; Wong, W.-K.; Zhu, X., "Enhanced Light-Harvesting of Benzodithiophene Conjugated Porphyrin Electron Donors in Organic Solar Cells" *J. Mater. Chem. C* **2019**, *7*, 380-386.
- Chen, S.; Tang, W.; Yin, H.; Wang, Z.; Zheng, K.; Xie, L.; Wang, X.; So, S.-K.; Liu, F.; Zhu, X., "Tuning Electronic Properties of Molecular Acceptor-π-Porphyrin-π-Acceptor Donors *via* π-Linkage Structural Engineering" *Org. Electron.* **2019**, *73*, 146–151.
- Li, C.; Zhang, J.; Li, Z.; Zhang, W.; Wong, M. S.; Yu, G., "Water-Stable Organic Field-Effect Transistors based on Naphthodithieno- [3,2-b]thiophene Derivatives" *J. Mater. Chem. C* **2019**, *7*, 297-301.
- Huang, L.; Zhang, G.; Zhang, K.; Peng, Q.; Wong, M. S., "Temperature Modulated Optimization of High-Performance Polymer Solar Cells Based on Benzodithiophene-Difluorodialkyl thienyl-Benzothiadiazole Copolymers: Aggregation Effect" *Macromolecules* **2019**, *52*, 4447-4457.
- Ma, J. N.; Zhang, X. T.; Phillips, D. L., "Time-Resolved Spectroscopic Observation and Characterization of Water-Assisted Photoredox Reactions of Selected Aromatic Carbonyl Compounds" *Acc. Chem. Res.* **2019**, *52*, 726-737.
- Wang, W. C.; Zhao, X. L.; Cao, Y. N.; Yan, Z. P.; Zhu, R. X. ; Tao, Y. ; Chen, X. L.; Zhang, D. Q.; Li, G. S.; Phillips, D. L., "Copper Phosphide-Enhanced Lower Charge Trapping Occurrence in Graphitic-C_3N_4 for Efficient Noble-Metal-Free Photocatalytic H-2 Evolution" *ACS Appl. Mater. Interfaces* **2019**, *11*, 16527-16537.
- Zhao, J. F.; Zhang, X. T.; Zhu, R. X.; Su, T.; Phillips, D. L., "Photophysical Properties Controlled by Substituents with Lone-Pair Electrons at the Ortho- or Para-Positions of Fluoroquinolone Antibiotics" *J. Phys. Chem. B* **2019**, *123*, 3156-3162.