Kuo-Wei Huang

KAUST Catalysis Center and Division of Physical Sciences and Engineering
King Abdullah University of Science and Technology, Thuwal 23955-6900, Saudi Arabia
Phone: +966 (0)5 4470 0034; Office: +966 (0)12 808-0328
E-mail: hkw@kaust.edu.sa

EDUCATION:

2000-2004	Ph.D. Stanford University
1993-1997	B.S. National Taiwan University

WORK EXPERIENCE:

07.2018-present	Professor of Chemical Science, KAUST
07.2014-06.2018	Associate Professor of Chemical Science, KAUST
10.2009-06.2014	Assistant Professor of Chemical Science, KAUST
10.2007-09.2009	Assistant Professor, Department of Chemistry, National University of Singapore
10.2004-09.2007	Goldhaber Distinguished Fellow, Brookhaven National Laboratory
09.1999-07.2000	Full Time Teaching Assistant, Department of Chemistry, National Taiwan University
01.1998-08.1999	Second Lieutenant, Taiwan Military Police Command

HONORS, AWARDS, & RECOGNITIONS:

2017	Appreciation of distinguished teaching contribution, Ministry of Education, KSA
2016	Rising Star, International Symposium for Young Chinese Chemists 2016
2015	New Talents: Asia-Pacific, *Dalton Transactions*
2014	Rising Stars Lectureship, 41st International Conference on Coordination Chemistry
2013-2016	SABIC Presidential Chair Professorship (KAUST)
2013	Asian Rising Stars Lectureship, the 15th Asian Chemical Congress
2012	Danish Chemical Society Lectureship (Denmark)
2012	RIKEN Visiting Fellowship (RIKEN, Japan)
2012	Asian Core Program Lectureship (Singapore)
2011, 2014	Award of Appreciation from King Abdulaziz and his Companions Foundation for Giftedness and Creativity (MAWHIBA) and Ministry of Education, KSA
2010	KAUST 1st and 2nd Seed Fund Program Awards (KAUST)
2008	UK-Singapore Partners In Science Collaboration Development Award
2004-2007	Gertrude and Maurice Goldhaber Distinguished Fellowship (BNL/DOE)
2002-2004	Regina Casper Stanford Graduate Fellowship (Stanford University)
1993-1997	Yuan T. Lee Fellowship in Chemistry (CTCI Foundation)
1993-1997	Tuition Scholarship (Ministry of Education, Taiwan)

1995,1997	President's Awards (National Taiwan University)
07.1993	TQlnivsro9(o)19(TU)ETQ EMC /P <MCID 1>0BDC q149.48 729.42 386.98 54 reW* nB

Polystyrene

17. US Provisional Patent Application No. 62/711,863 Methods for Catalytically Converting Petroleum Hydrocarbons
18. US Provisional Patent Application No. 62/780,454 New Concept for the Generation of Heterogeneous Catalyst with Very High Activity in the Formic Acid Dehydrogenation

PUBLICATIONS:

01. Huang, K.-W.; Waymouth, R. M. "Coordination Chemistry of Stable Radicals: Homolysis of a Titanium-Oxygen Bond." *J. Am. Chem. Soc.* **2002**, *124*, 8200-8201.
02. Mahanthappa, M. K.; Huang, K.-W.; Cole, A. P.; Waymouth, R. M. "Synthesis and molecular structure of titanium complexes containing a reduced TEMPO radical." *Chem. Commun.* **2002**, 502-503.
03. Huang, K.-W.; Waymouth, R. M. "Hydrolysis of $CpTiCl_2$(TEMPO) and Its Application on One-pot Syntheses of $CpTiCl(OR)_2$ Complexes." *Dalton Trans.* **2004**, 354-356.
04. Huang, K.-W.; Han, J. H.; Cole, A. P. ; Musgra -O Bonds: Experimental and Theoretical Studies of Titanium Oxygen Bonds Derived from Stable Nitroxyl *J. Am. Chem. Soc.* **2005**, *127*, 3807-3816.
05. Zhang, J.; Grills, D. C.; Huang, K.-W.; Fujita, E.; Bullo -to-Metal Hydrogen Atom Transfer: Direct Observation Using Time- *J. Am. Chem. Soc.* **2005**, *127,* 15684-15685*, Science* **2005***, 310,* 748 (4th Nov 2005).
06. Zhang, J.; Huang, K.-W.; Szalda, D. J.; Bul -Os Dimers: $[Cp(CO)_2Os]_2$, $[Cp^*(CO)_2Os]_2$, and $[(^iPr_4C_5H)(CO)_2Os]_2$, and Computational Studies on the Relative *Organometallics* **2006**, *25*, 2209-2215.
07. DeBeer-George, S.; Huang, K.-W. -edge XAS of Titanium-TEMPO Complexes: Determination of Oxidation States and Insights into Ti-O Bond *Inorg. Chem.* **2006**, *45*, 4468-4477.
08. Grills, D. C.; Huang, K.-W.; Muckerman, J. T.; Fujita, E Formation of Transition Metal-Dinitrogen Complexes Using Time-Resolved Infrared and UV-vis *Coord. Chem. Rev.* **2006**, *250*, 1681-1695.
09. Huang, K.- tional Calculations on Ti-TEMPO complexes 2: Influence of Ancillary Ligation on the Strength of the Ti- *Organometallics* **2006**, *25*, 3317-3323.
10. Kraft, B. M.; Huang, K.- Synthesis, Structure, and Polymerization Activity of a Titanium Complex with a Chelating [(Hydroxy-κ*O*)- amino-κ*N*]phenolato(2-)-κ*O* Ligand *Helv. Chim. Acta* **2006**, *89*, 1589-1595.
11. Huang, K.- η^2-Dihydrogen Complexes: Hydrogen Binding Modes and Mechanistic Studies by Density Functional *Organometallics* **2007**

19. Jang, C.; Zhang, K; Chi, C.; Huang, K.- -N-annulated Quaterrylenebis(dicarboximide)s *Org. Lett.* **2009**, *11*, 4508-4511.
20. Luo, J.; Qu, H.; Yin, J.; Zhang, X.; Huang, K.- π-Conjugated Oligothiophene-anthracene Cooligomers: Synthesis, Physical Properties, and Self- *J. Mater. Chem.* **2009,** *19*, 8201-8211.
21. Zhang, K.; Huang, K.- With NIR Absorp *Org. Lett.* **2009**, *11*, 4854-4857.
22. Lee, R.; Yang, Y.; Tan, C.-H.; Huang, K.- A Novel Heteroleptic Paddlewheel Diruthenium Bicyclic Guanidinate Complex: Synthesis, Structure, and Scope *Dalton Trans.* **2010**, *39*, 723-725.
23. Li, J.; Zhang, K.; Zhang, X.; Huang, K.-W.; Chi, C.; Wu, J. "Meso-substituted Bisanthenes as New Soluble and Stable Near-infrared Dyes" *J. Org. Chem.* **2010**, *75*, 856-863.
24. Li, S.; Kee, C. W.; Huang, K.-W.; Hor, A. T. S.; Zhao, J. /VI) N-Heterocyclic Carbene Complexes: Synthesis, Structure, and Reactivity under Oxidative *Organometallics* **2010**, *29*, 1924 1933.
25. Jothibasu, R.; Huang, K.-W.; Huynh, H. V. "Synthesis of cis- and trans-Diisothiocyanato-Bis(NHC) Complexes of Ni(II) and Applications in the Kumada-Corriu Reaction" *Organometallics* **2010**, *29*, 3746-3752.
26. Jiao, C.; Huang, K.-W.; Guan, Z.; Xu, Q.- -Annulated Perylene Fused Porphyrins with Enhanced Near- *Org. Lett.* **2010**, *12*, 4046-4049.
27. Sun, Z.; Huang, K.- *Org. Lett.* **2010**, *12*, 4690-4693.
28. Hou, D.-R.; Kuan, T.-C.; Li, Y-K.; Lee, R.; Huang, K.- Ruthenium-Catalyzed [3+2]- *Tetrahedron* **2010**, *66*, 9415-9420.
29. Luo, J.; Huang, K.- -shaped oligothiophenes *Org. Lett.* **2010**, *12*, 5660-5663.
30. Wang, F.; Zhang, W.; Zhu, J.; Li, H.; Huang, K.- -Catalyzed Generation of Difluorocarbene for efficient preparation of gem- *Chem. Commun.* **2011**, *47*, 2411-2413.
31. Jiao, C.; Huang, K.- phyrin-perylene monoimides as *J. Org. Chem.* **2011**, *76*, 661-664.
32. Luo, L.; Wang, H.; Han, X.; Xu, L.-W.; Kwiatkowski, J.; Huang, K.- Vinylogous Aldol Reaction of - -Butenolides and *Angew. Chem. Int. Ed.* **2011**, *50*, 1861-1864.
33. Jiao, C.; Huang, K.- -Fused BODIPY Dye with Near-IR Absorption/Emission and *Org. Lett.* **2011**, *13*, 632-635.
34. Zhong, F.; Wang, Y.; Han, X.; Huang, K.-W.; Lu, Y. -Threonine-Derived Novel Bifunctional Phosphine-Sulfonamide Catalyst-Promoted Enantioselective Aza-Morita-Baylis- *Org. Lett.* **2011**, *13*, 1310-1313.
35. Ma, T.; Fu, X.; Kee, C. W.; Zong, L.; Pan, Y.; Huang, K.-W.; Tan, C.- Pentanidium Catalyzed Enantioselective Phase Transfer Conjugate Addition Reactions *J. Am. Chem. Soc.* **2011**, *133*, 2828-2831.
36. Zhang,Y.; Kee, C. W.; Lee, R.; Fu, X.; Soh, J. Y.-T.; Loh, E. M. F.; Huang, K.-W.; Tan, C.-H. Guanidine-catalyzed enantioselective desymmetrization of meso-aziridines *Chem. Commun.* **2011**, *47*, 2897-3899.
37. Liu, C.; Zhu, Q.; Huang, K.- Primary Amine/CSA Ion Pair: A Powerful Catalytic System for the Asymmetric Enamine Catalysis *Org. Lett.* **2011**, *13*, 2638-2641.
38. Weng, Z.; Lee, R.; Jia, W.; Yuan, Y.; Wang, W. Xue, F.; Huang, K.-W Cooperative Effect of Silver in Copper-Catalyzed Trifluoromethylation of Aryl Iodides Using Me_3SiCF_3 *Organometallics* **2011**, *30*, 3229-3232.
39. Yang, Y.; Wei, X.; Pan, Y.; Lee, R.; Zhu, B.; Liu, H.; Yan, L.; Huang, K.-W.; Jiang, Z.; Tan, C.-H. Highly Enantio- -Methyl- -Monofluoromethyl Substituted Alcohols *Chem. Eur. J.* **2011**, *4*, 8066-8070.
40. Jiao, C.; Zu, N.; Huang, K.-W.; Wang, P.; Wu, J. Perylene Anhydride Fused Porphyrins as Near-Infrared Sensitizers for Dye-Sensitized Solar Cells *Org. Lett.* **2011**, *13*, 3652-3655.
41. Zhu, B.; Yan, L.; Pan, Y.; Lee, R.; Liu, H.; Han, Z.; Huang, K.-W.; Tan, C.-

Base-Catalyzed Highly Enantioselective Allylic Hydroxylation of Morita-Baylis-Hillman Carbonates *J. Org. Chem.* **2011**, *76*, 6894-6900.

42. Sun, Z.; Huang, K.-W.; Wu, J. Soluble and Stable Heptazethrenebis(dicarboximide) with a Singlet Open-Shell Ground State *J. Am. Chem. Soc.* **2011**, *133*, 11896-11899.
43. Ranjit, S.; Lee, R.; Heryadi, D.; Shen, C.; Zhang, P.; Huang, K.- -Mediated C-H Activation/C-S Cross- *J. Org. Chem.* **2011**, *76*, 8999-9007.
44. Ye, Q.; Chang, J.; Huang, K.- -Fused Tetracene Diimide with Low Band Gap *Org. Lett.* **2011**, *13*, 5960-5963.
45. Zeng, L.; Jiao, C.; Huang, X.; Huang, K.-W.; Chin, W.- -fused BODIPYs as Near Infrared Dyes with High Phot *Org. Lett.* **2011**, *13*, 6026-6029.
46. Li, J.; Jiao, C.; Huang, K.-W.; Wu, J. π-conjugation along the bay regions of bisanthene via Diels- *Chem. Eur. J.* **2011**, *17*, 14672-14680.
47. He, L.-P.; Chen, T.; Xue, D.; Eddaoudi, M.; Huang, K.- Catalyzed by A Dearomatized PN^3P Ruthenium Pincer Complex Under Base- *J. Organomet. Chem.* **2012**, *700*, 202-206.
48. Weng, Z.; Li, H.; He, W.; Yao, L.-F.; Tan, J.; Yuan, Y.; Huang, K.- -Catalyzed *Tetrahedron* **2012**, *68*, 2527-2531.
49. Yang, W.; Tan, D.; Lee, R.; Li, L.; Pan, Y.; Huang, K.-W., Tan, C.- Catalytic Diastereoselective Tandem Conjugate Addition-Elimination Reaction of Morita-Baylis-Hillman C-Adducts via C-C Bond Cleavage *Chem. Asian J.* **2012**, *7*, 771-777.
50. Dasgupta, S.; Huang, K.-W.; Wu, J. *Chem. Commun.* **2012**, *48*, 4821-4823.
51. Zhao, Y.; Lim, X.; Pan, Y.; Zong, L.; Feng, W.; Tan, C.-H.; Huang, K.-W. Asymmetric H/D exchange reactions of fluorinated aromatic ketones *Chem. Commun.* **2012**, *48*, 5479-5481.
52. Chen, T.; Yang, L.; Li, L.; Huang, K.- of benzyl halides catalyzed by POCOP nickel *Tetrahedron* **2012**, *68*, 6152-6157.
53. Shen, C.; Xia, H.; Yan, H.; Chen, X.; Ranjit, S.; Xie, X.; Tan, D.; Lee, R.; Yang, Y.; Xing, B.; Huang, K.-W.; Zhnag, P.; Liu, X. A concise, efficient synthesis of sugar-based benzothiazoles through chemoselective intramolecular C S coupling *Chem. Sci.* **2012**, *3*, 2388-2393.
54. Ye, Q.; Chang, J.; Huang, K.-W.; Dai, G.; Zhang, J.; Chen, Z.-K..; Wu, J Incorporating TCNQ into Thiophene-Fused Heptacene for n-Channel Field Effect Transistor *Org. Lett.* **2012**, *14*, 2786-2789.
55. Chang, J.; Ye, Q.; Huang, K.-W.; Zhang, J.; Chen, Z.-K Stepwise Cyanation of Naphthalene Diimide for n-Channel Field-Effect Transistors *Org. Lett.* **2012**, *14*, 2964-2967.
56. Chen, T.; He, L.; Gong, D.; Yang, L.; Maio, X.; Eppinger, J.; Huang, K.- Ruthenium(II) pincer complexes with oxazoline arms for efficient transfer hydrogenation reactions *Tetrahedron Lett.* **2012**, *53*, 4409-4412.
57. Yang, W.; Tan, D.; Li, L.; Han, Z.; Yan, L.; Huang, K.-W.; Tan, C.- allylic alkenylation of N-itaconimides with Morita-Baylis- *J. Org. Chem.* **2012**, *77*, 6600-6607.
58. Yao, L.-F.; Tan, D.; Mao, X.; Huang, K.-W. A Route to Hydroxylfluorenes: TsOH-Mediated Condensation Reactions of 1,3- *RSC Adv.* **2012**, *2*, 7594-7598.
59. Zeng, W.; Lee, B. S.; Sung, Y. M.; Huang, K.-W.; Li, Y.; Kim, D.; Wu, J. -tert-butylphenyl) *Chem. Commun.* **2012**, *48*, 7684-7686.
60. He, L.-P.; Chen, T.; Gong, D.; Lai, Z.-P.; Huang, K.- Introducing an Imine Arm to the Pincer Ligand: Direct Coupling of Two Amines to Form an Imine *Organometallics* **2012**, *31*, 5208-5211.
61. Zeng, Z.; Sung, Y. M.; Bao, N.; Tan, D.; Lee, R.; Zafra, J. L.; Lee, B. S.; Ishida, M.; Ding, J.; Navarrete, J. T. L.; Li, Y.; Zeng, W.; Kim, D.; Huang, K.- Tetrabenzo- ble Ground State and Unusual Transition between Their Closed-shell and Open- *J. Am. Chem. Soc.* **2012**, *134*, 14513-14525.
62. Li, Y.; Heng, W.-K.; Lee, B. S.; Aratani, .; Zafra, J.; Bao, N.; Lee, R.; Sung, Y. M.; Sun, Z.; Huang, K.-W.; Webste Blocked Stable Heptazethrene and Octazethrene: Closed-Shell or Open-

J. Am. Chem. Soc. **2012**, *134*, 14913-14922.

63. Zhang, W.; Tan, D.; Lee, R.; Tong, G.; Chen, W.; Qi, B.; Huang, K.-W.; Tan, C.- Enantio- and Diastereoselective Reactions of γ-Substituted Butenolides Through Direct Vinylogous *Angew. Chem. Int. Ed.* **2012**, *51*, 10069-10073.
64. Huang, Y.; Fang, X.; Lin, X.; Li, H.; He, W.; Huang, K.- -Temperature Base-Free Copper-Catalyzed Trifluoromethylation of Organotrifluoroborates to Trifluoromethylarenes *Tetrahedron* **2012**, *68*, 9949-9953.
65. Zheng, H.; Huang, Y.; Wang, Z.; Li, H.; Huang, K.- Synthesis of trifluoromethylated acetylenes via copper-catalyzed trifluoromethylation of alkynyltrifuoroborates *Tetrahedron Lett.* **2012**, *53*, 6646-6649.
66. Zeng, G.; Chen, T.; He, L.-P; Pinnau, I.; Lai, Z.-P.; Huang, K.- roach to ethyl acetate: Quantitative conversion of ethanol through direct dehydrogenation in a Pd- *Chem. Eur. J.* **2012**, *18*, 15940-15943.
67. Ni, Y.; Zeng, W.; Huang, K.-W. Benzene-fused BODIPYs: synthesis and the impact of fusion mode *Chem. Commun.* **2013**, *49*, 1211-1219.
68. Weng, Z.; He, W.; Chen, C.; Lee, R.; Tan, D.; Lai, Z.P.; Kong, D.; Yuan, Y.; Huang, K.- Air- *Angew. Chem. Int. Ed.* **2013**, *52*, 1548-1552.
69. Ye, Q.; Chang, J.; Huang, K.-W.; Shi, X. Cyanated Diazatetracene Diimides with Ultrahigh Electron Affinity for n-Channel Field Effect Transistors *Org. Lett.* **2013**, *15*, 1194-1197.
70. Lin, X.; Wang, G.; Li, H.; Huang, Y.; He, W.; Te, D.; Huang, K.-W.; Yuan, Y.; Weng, Z. Copper-catalyzed trifluoromethylation of arylsulfinate salts using an electrophilic trifluoromethylation reagent *Tetrahedron* **2013**, *69*, 2628-2632.
71. Doherty, M. D.; Grills, D. C.; Huang, K.-W.; Muckerman, J. T.; Polyansky, D. E.; van Eldik, R.; Fujita, - *Inorg. Chem.* **2013**, *52*, 4160-4172.
72. Tong, G.; Zhu, B.; Lee, R.; Yang, W.; Tan, D.; Yang, C.; Han, Z.; Yan, L.; Huang, K.-W.; Jiang, Z. - and Diastereoselective Allylic Alkylation of Morita Baylis Hillman Carbonates with Allyl Ketones" *J. Org. Chem.* **2013**, *78*, 5067-5072.
73. Fang, X.; Huang, Y.; Chen, X.; Lin, X.; Bai, Z.; Huang, K.- fluorinated biaryls through direct palladium-catalyzed coupling of polyfluoroarenes with *J. Fluorine Chem.* **2013**, *151*, 50-57.
74. Hayashi, Y.; Szalda, D. K.; Grills, D. C.; Hanson, J.; Huang, K.-W.; Muckerman, J. T.; Fujita, E. -ray Structures of Four Rh(PCP) Complexes Including a Rh(I) Dioxygen Complex with a Short O- *Polyhedron* **2013**, *58*, 106-114.
75. Gong, D.; Jia, W.; Chen, T.; Huang, K.- -butadiene catalyzed by pincer cobalt(II) complexes derived from 2-(1-arylimino)-6-(pyrazol-1- *Appl. Catal. A Gen.* **2013**, *464-465*, 35-42.
76. Zhu, B.; Zhang, W.; Lee, R.; Han, Z.; Yang, W.; Tan, D.; Huang, K.-W.; Jiang, Z. Direct Asymmetric Vinylogous Aldol Reaction of Allyl Ketones with Isatins: Divergent Synthesis of 3-Hydroxy-2-Oxindole Derivatives *Angew. Chem. Int. Ed.* **2013**, *52*, 6666-6670.
77. Zheng, B.; Pan, Y.; Lai, Z.-P.; Huang, K.- -Opening in ZIF-8: Identification of Factors for Ethane and Propane Separatio *Langmuir* **2013**, *29*, 8865-8872.
78. Lee, R.; Zhong, F.; Zheng, B.; Meng, Y.; Lu, Y.; Huang, K.-W. The origin of enantioselectivity in the L-threonine-derived phosphine sulfonamide catalyzed aza-Morita-Baylis-Hillman reaction: effects of the intramolecular hydrogen bonding *Org. Biomol. Chem.* **2013**, *11*, 4818-4824.
79. Tong, C.; Chang, J.; Tan, J. M.; Dai, G.; Huang, K.-W.; Chan, H. Z. O.; Chi, C. semiconductors for n-c *Org. Biomol. Chem.* **2013**, *11*, 5683-5691.
80. Ye, Q.; Chang, J.; Huang, K.-W.; Dai, G.; Chi, C. -embedded heptacene and nonacene: *Org. Biomol. Chem.* **2013**, *11*, 6285-6291.
81. Han, X.; Lee. R.; Chen. T.; Luo, J.; Lu, Y.; Huang, K.- Kinetic Evidence of an Apparent Negative Activation Enthalpy in an Organocatalytic Process *Sci. Rep.* **2013**, 2557.
82. Liu, Y.; Chen, C.; Li, H.; Huang, K.- $_2$ Fluorination of Primary and *Organometallics* **2013**, *32*, 6587-6592.

83. Bendjeriou-Sedjerari, A.; Azzi, J. M.; Abou-Hamad, E.; Anjum, D. H.; Pasha, F. A.; Huang, K.-W.; Emsley, L.; Basset, J.- anometallic complexes with surface N-donor ligands and application to the catalytic cleavage of C-H and C-C bonds in n- *J. Am. Chem. Soc.* **2013**, *135*, 17943-17951.

84. Sun, Z.; Lee, S.; Park, K. H.; Zhu, X.; Zhang, W.; Zheng, B.; Hu, P.; Zeng, Z.; Das, S.; Li, Y.; Chi, C.; Li, R.-W.; Huang, K.-W.; *J. Am. Chem. Soc.* **2013**, *135*, 18229-18236.

85. Luo, J.; Xu, M.; Li, R.; Huang, K.-W.; Jiang, C.; Qi, Q.; Zeng, W.; Zhang, J.; Chi, C.; Wang, P.; Wu, J. -Annulated Perylene as An Efficient Electron Donor for Porphyrin-based Dyes: Enhanced Light-Harvesting Ability and High-efficiency Co(II/III)-based Dye-Sensi *J. Am. Chem. Soc.* **2014**, *136*, 265-272.

86. Ni, Y.; Zeng, L.; Kang, N.-Y.; Huang, K.-W.; Wang, L.; Zeng, Z.; Chang, Y.- *meso*-Ester and Carboxylic Acid Substituted BODIPYs with Far-Red and Near-Infrared Emission for Bioimaging Applic *Chem. Eur. J.* **2014**, *20*, 2301-2310.

87. Li, Y.; Huang, K.- Kinetically Blocked 1,14:11,12-Dibenzopentacene: A Persistent Triplet Diradical of Non-Kekulé Polycyclic Benzenoi *Chem. Sci.* **2014**, *5*, 1908-1914.

88. Kumar, R.; Zheng, B.; Huang, K.- polyisobutylene catalyzed by EtAlCl2/bis(2- *Macromolecules* **2014**, *47*, 1959-1965.

89. Qu, S.; Dang, Y.; Song, C.; Wen, M.; Huang, K.-W.; Wang, Z.-X. Pyrrole Synthesis via Dehydrogenative Coupling Mediated by PNP-Ir or PNN-Ru Pincer Complexes: Crucial Role of Proton-Transfer Shuttles in the PNP- *J. Am. Chem. Soc.* **2014**, *136*, 4974-4991.

90. Jia, W.-G.; Li, D.-D.; Dai, Y.-C.; Zhang, H.; Yan, L.-Q.; Sheng, E.-H.; Wei, Y.; Mu, X.-L.; Huang, K.-W. -copper(II) complexes and their application in the cou - *Org. Biomol. Chem.* **2014**, *12*, 5509-5516.

91. Pasha, F. A.; Bendjeriou-Sedjerari, A.; Huang, K.-W.; Basset, J.-M H and C C Activation of n-Butane with Zirconium Hydrides Supported on SBA15 Containing N-Donor Ligands: [(≡ ≡ $_2$], [(≡ ≡ $_2$ZrH], and[(≡SiN═)(≡ *Organometallics* **2014**, *33*, 3320-3327.

92. Yang, L; Wang, F.; Lee, R.; Huang, K.-W.; Zhong, G -Catalyzed Aza-Diels Alder Reactions: Highly - *Org. Lett.* **2014**, *16*, 3872-3875.

93. Ye, Q.; Chang, J.; Shi, X.; Dai, G.; Zhang, W.; Huang, K.- Stable 7,14-Disubstituted-5,12-Dithiapentacenes with Quinoidal Conjugation *Org. Lett.* **2014**, *16*, 3966-3969.

94. Gong, D.; Jia, X.; Wang, B.; Zhang, X.; Huang, K.- *Trans*-1,4 selective polymerization of 1,3- *J. Organomet. Chem.* **2014**, *766*, 79-85.

95. Chen, T.; Li, H.; Qu, S.; Zheng, B.; Lai, Z.-P.; Wang, Z.-X.; Huang, K.-W. Catalyzed by Ruthenium PN^3- *Organometallics* **2014**, *33*, 4152-4155.

96. LaGrow, A.; Sinatra, L.; Elshewy, A.; Huang, K.-W.; Katsiev, K.; Kirmani, A.; Amassian, A.; Anjum, D.; Bakr, O. *J. Phys. Chem. C* **2014**, *118*, 19374-19379.

97. Das, S.; Lee, S.; Son, M.; Zhu, X.; Zhang, W.; Zheng, B.; Hu, P.; Zeng, Z.; Sun, Z.; Zeng, W.; Li, R.-W.; Huang, K.-W.; Ding, J.; Kim, D.; *para*-Quinodimethane-Bridged Perylene Dimers and Pericondensed Quaterrylenes: The Effect of the Fusion Mode on the Ground States and Physical *Chem. Eur. J.* **2014**, *20*, 11410-11420.

98. Gong, D.; Liu, W.; Chen, T.; Chen, Z.-R.; Huang, K.- ^{3}-type pincer *J. Mol. Catal. A: Chem.* **2014**, *395*, 100-107.

99. Chen, T.; Yang, L.; Gong, D.; Huang, K.- n *Inorg. Chim. Acta* **2014**, *423*, 320-325.

100. Laws, D. R.; Bullock, R. M.; Lee, R.; Huang, K.- -electron Oxidations of CO-Bridged vs Unbridged Bimetallic Complexes: Electron-transfer Chemistry of

$Os_2Cp_2(CO)_4$ and $Os_2Cp^*_2(\mu\text{-}CO)_2(CO)_2$ *Organometallics* **2014**, *33*, 4716-4728.

101. Chen, Y.; Zheng, B.; Abou-Hamad, E.; Hamieh, A.; Hamzaoui, B.; Huang, K.-W.; Basset, J.-M. The use of well-defined surface organometallic complex as a probe molecule: [(≡ SiO)$Ta^VCl_2Me_2$] shows different isolated silanol sites on silica surface *Chem. Commun.* **2014**, *50*, 11721-11723.

102. Shi, X.; Burrezo, P. M.; Lee, S.; Zhang, W.-H.; Zheng, B.; Dai, G.; Chang, J.-J.; Navarrete, J. T. L.; Huang, K.-W.; Kim, D.; Casado; J.; omatic Bisindeno-[n]thienoacenes With Small Singlet Biradical Characters: Syntheses, Structures and Chain Length Dependent Physical *Chem. Sci.* **2014**, *5*, 4490-4503.

103. Hu, L.; Zheng, B.; Lai, Z.; Huang, K.-W. Room Temperature Hydrogen Generation from Hydrolysis of Ammonia-Borane over an Efficient NiAgPd/C Catalyst *Int. J. Hydrogen Energy* **2014**, *39*, 20031-20037.

104. Sun, Z.; Zheng, B.; Hu, P.; Huang, K.-W.; Wu, J -Dibenzozethrenes: *ChemPlusChem* **2014**, *79*, 1549-1553.

105. Luo, D.; Lee, S.; Zheng, B.; Sun, Z.; Zheng, W.; Huang, K.-W.; Furukawa, K.; Kim, D.; Webster; R. D.; -
Determines The Singlet Biradical C *Chem. Sci.* **2014**, *5*, 4944-4952.

106. Kumar, R.; De, P.; Zheng, B.; Huang, K.-
polyisobutylene with $FeCl_3$ *Polym. Chem.* **2015**, *6*, 322-329.

107. Dai, G.; Chang, J.; Shi, X.; Zhang, W.; Zheng, B.; Huang, K.-W.; -Fused Pentalenes: Syntheses, Structures, Physical Properties and Applications for Organic Field-Effect *Chem. Eur. J.* **2015**, *21*, 2019-2028.

108. Dai, G.; Chang, J.; Zhang, W.; Bai, S.; Huang, K.-W.; Xu, J.; *a,e*]pentalenes: synthesis, crystallographic structures and applications in organic field- *Chem. Commun.* **2015**, *51*, 503-506.

109. Lakshminarayana, A. B.; Chang, J.; Luo, J.; Zheng, B.; Huang, K.-W.; Chi, C. -annulated pentacenes with exceptionally high photo-stability and ordered molecular packing: simple synthesis by a regio- *Chem. Commun.* **2015**, *51*, 3604-3607.

110. Qi, Q.; Wang, X.; Fan, L.; Zheng, B.; Zeng, W.; Luo, J.; Huang, K.-W.; Wang, Q.; Wu, J. *N*-Annulated Perylene-Based Push Pull- *Org. Lett.* **2015**, *17*, 724-727.

111. Zhang, J.; Ajitha, M. J.; He, L.; Liu, K.; Dai, B.; Huang, K.-W.
Oxa-Michael Aldol Cascade Reactions: Construction of Chiral 4*H*-Chromenes with a *Adv. Synth. Catal.* **2015**, *351*, 967-973.

112. Wang, X.; Xie, L.; Huang, K.-W.; -borane complex in a metal organic framework: a novel reusable hydrogen storage and size- *Chem. Commun.* **2015**, *51*, 7610-7613.

113. Luo, J.; Lee, S.; Son, M.; Zheng, B.; Huang, K.-W.; Qi, Q.; Zheg, W.; Li, G.; Kim, D.; Wu, J. *N*-Annulated Perylene Substituted and Fused Porphyrin Dimers with Intense Near-Infrared One-Photon and Two- *Chem. Eur. J.* **2015**, *21*, 3708-3715.

114. Li, H.; Zheng, B.; Huang, K.- ^{3}-pincer ligands for metal-ligand cooperative *Coord. Chem. Rev.* **2015**, *293-294*, 116-138.

115. Yao, L.-F.; Wang, Y.; Huang, K.-
gold- *Org. Chem. Front.* **2015**, *2*, 721-725.

116. Gong, D.; Liu, W.; Pan, W.; Chen, T.; Jia, X.; Huang, K.-
1,3-butadiene polymerization by using 2,6-bis(dimethyl-2-oxazolin-2-yl)pyridine incorporated *J. Mol. Catal. A: Chem.* **2015**, *406*, 78-84.

117. Yang, X.; Lu, A.-Y.; Zhu, Y.; Min, S.; Hedhili, M. N.; Han, Y.; Huang, K.-W.; Li, J.- -like FeP nanocrystal assembly on a carbon cloth: an exceptionally efficient and stable cathode for hydrogen *Nanoscale* **2015**, *7*, 10974-10981.

118. Yang, X.; Lu, A.-Y.; Zhu, Y.; Min, S.; Hedhili, M. N.; Huang, K.-W.; Han, Y.; Li, J.-

Nano Energy **2015**, *15*, 634-641.

119. Qi, Q.; Li, R.; Liu, J.; Zheng, B.; Huang, K.-W.; Wang, P.; Push pull type porphyrin based sensitizers: The effect of donor structure on the light-harvesting ability and photovoltaic performance

Dyes and Pigments **2015**, *122*, 199-205.
120. Chua, M. H.; Huang, K.-W.; Xu, J.; Wu, J

138. Pasha, F. A.; Bendjeriou-Sedjerari, A.; Abou-Hamad, E.; H.; Huang, K.-W.; Basset, J.-M CO_2 activation through silylimido and silylamido zirconium hydrides supported on N-donor chelating SBA15 surface ligands *Chem. Commun.* **2016**, *52*, 2577-2580.

139. Min, S.; Rasul, S.; Li, H.; Grills, D. C.; Takanabe, K.; Li, L.-J.; Huang, K.- Reduction of Carbon Dioxide with a Well-Defined PN^3-Ru Pincer Complex *ChemPlusChem* **2016**, *81*, 166-171.

140. Dai, G.; Chang, J.; Luo, J.; Dong, S.; Aratani, N.; Zheng, B.; Huang, K.-W.; Yamada, H.; Chi, C. Z-Shaped Pentaleno-Acene Dimers with High Stability and Small Band Gap *Angew. Chem. Int. Ed.* **2016**, *55*, 2693-2696.

141. Hu, P.; Lee, S.; Herng, T. S.; Aratani, N.; Gonçalves, T. P.; Qi, Q.; Shi, X.; Yamada, H.; Huang, K.-W.; Ding, J.; Kim, D.; Wu, J. Towards Tetraradicaloid: The Effect of Fusion Mode on Radical Character and Chemical Reactivity *J. Am. Chem. Soc.* **2016**, *138*, 1065-1077.

142. Ajitha, M. J.; Huang, K.-W. Mechanism and Regioselectivity of Rh(III)-catalyzed Intermolecular Annulation of Aryl Substituted Diazenecarboxylates and Alkenes: DFT insights *Organometallics* **2016**, *35*, 450-455.

143. Xun, J.; Shen, C.; Zhu, X.; Zhang, P.; Ajitha, M. J.; Huang, K.-W.; An, Z.; Liu, X. Remote C-H Activation of Quinolines through Copper-Catalyzed Radical Cross-Coupling *Chem. Asian J.* **2016**, *11*, 882-892.

144. Hu, P.; Lee, S,

Huang, K.-W.; Gajan, D.; Lesage, A.; Emsley, L; Basset, J.-M. Atomic-level organization of vicinal acid base pairs through the chemisorption of aniline and derivatives onto mesoporous SBA15 *Chem. Sci.* **2016**, *7*, 6099-6105.

158. Yang, X.; Shi, X.; Aratani, N.; Gonçalves, T. P.; Huang, K.-W.; Yamada, H.; Chi, C.; Miao, Q. " Benzo[4,5]cyclohepta[1,2-: B] fluorene: An isomeric motif for pentacene containing linearly fused five-, six- and seven-membered rings" *Chem. Sci.* **2016**, *7*, 6176-6181.

159. Alsabban, M M.; Min, S.; Hedhili, M. N.; Ming, J.; Li, L.-J.; Huang, K.- 2 *ECS J. Solid State Sci. Technol.* **2016**, *5*, Q3067-Q3071.

160. Bendjeriou-Sedjerari, A,; Sofack-Kreutzer, J,; Minenkov, Y.; Abou-Hamad, E.; Hamzaoui, B.; Werghi, B.; Anjum, D. H.; Cavallo, L.; Huang, K.-W.; Basset, J.-M. Tungsten (VI) Carbyne/Bis-Carbene Tautomerization enabled by N-donor SBA15 Surface Ligands: A Comprehensive Study by Advanced Solid State NMR and DFT *Angew. Chem. Int. Ed.* **2016**, *55*, 11162-11166.

161. Ajitha, M. J.; Huang, K.-W. Non-Classical C H···X Hydrogen Bonding and Its Role in Asymmetric Organocatalysis *Synthesis* **2016**, *48*, 3449-3458.

162. Lu, A.-Y.; Yang, X.; Tseng, C.-C.; Min, S,; Lin, S.-H.; Hsu, C.-L.; Li, H.; Idriss, H.; Kuo, J.-L.; Huang, K.-W.; Li, L.-J. High-Sulfur-Vacancy Amorphous Molybdenum Sulfide as a High Current Electrocatalyst in Hydrogen Evolution *Small* **2016**, *12*, 5530-5537.

163. Gong, D.; Zhang, X.; Huang, K.-W. Regio- and stereo-selective polymerization of 1,3-butadiene catalyzed phosphorus-nitrogen PN^3-pincer cobalt(II) complexes *Dalton Trans.* **2016**, *45*, 19399-19407.

164. Eppinger, J.; Huang, K.-W. Formic Acid as a Hydrogen Energy Carrier *ACS Energy Lett.* **2017**, *2*, 188-195.

165. Wang, H.; Min, S.; Ma, C.; Liu, Z.; Zhang, W.; Wang, Q.; Li, D.; Li, Y.; Turner, S.; Han, Y.; Zhu, H.; Abou-hamad, E.; Hedhili, M.; Pan, J.; Yu, W.; Huang, K.-W. Li, L.-J.; Yuan, J.; Antonietti, M.; Wu, T. "Synthesis of Single-crystal-like Nanoporous Carbon Membranes and Their Application in Overall Water Splitting" *Nature Comm.* **2017**, *8*, 13592.

166. Guan, C.; Zhang, D.; Pan, Y.; Iguchi, M.; Ajitha, M. J.; Hu, J.; Li, H.; Yao, C.; Huang, M.-H.; Min, S.; Zheng, J.; Himeda, Y.; Kawanami, H.; Huang, K.-W. Dehydrogenation of Formic Acid Catalyzed by a Ruthenium Complex with an N, N -Diimine Ligand *Inorg. Chem.* **2017**, *56*, 438-445.

167. Zhou, X.; Yang, X.; Hedhill, M. N.; Li, H.; Min, S.; Ming, J.; Huang, K.-W.; Zhang, W.; Li, L.-J. $_9S_8$-MoS_x *Nano Energy* **2017**, *32*, 470-478.

168. Li, W.; Ajitha, M. J.; Lang, M.; Huang, K.-W.; Wang, J. Catalytic Intermolecular Cross-Couplings of Azides and LUMO-Activated Unsaturated Acyl Azoliums *ACS Catal.* **2017**, *7*, 2139-2144.

169. Chen, H.; Pan, W.; Huang, K.-W.; Zhang, X.; Gong, D. Controlled polymerization of isoprene promoted by a type of hemilabile $X=PN^3$ (X = O, S) ligand supported cobalt(II) complexes: the role of a hemilabile donor on the level of control *Polym. Chem.* **2017**, *8*, 1805-1814.

170. Lo, Y.-C.; Ting, H.-C.; Li, Y.-Z.; Li, Y.-H.; Liu, S.-W.; Huang, K.-W.; Wong, K.-T. The synthesis, structure, and properties of 5,6,11,12-tetraarylindeno[1,2-*b*]fluorenes and their applications as donors for organic photovoltaic devices *Org. Chem. Front.* **2017**, *4*, 675-681.

171. Wang, X.; Liu, Y.; Ma, X.; Das, S. K.; Ostwal, M.; Gadwal, I. M.; Yao, K.; Dong, X.; Han, Y.; Pinnau, I.; Huang, K.-W.; Lai, Z. Soluble Polymers with Intrinsic Porosity for Flue Gas Purification and Natural Gas *Adv. Mater.* **2017**, *29*, 1605826.

172. Li, H.; Wang, Y.; Lai, Z.; Huang, K.- Well-Defined Complex of Ruthenium and Phosphorus-Nitrogen PN^3-Pincer Ligand Containing a *ACS Catal.* **2017**, *7*, 4446-4450.

173. Lei, Y.; Yang, C.; Hou, J.; Wang, F.; Min, S.; Ma, X.; Jin, Z.; Xu, J.; Lu, G.; Huang, K.- Strongly coupled CdS/graphene quantum dots nanohybrids for highly efficient photocatalytic hydrogen evolution: Unraveling the essential roles of graphene quantum dots *Appl. Catal. B: Environ.* **2017**, *216*, 59-69.

174. Lee, R.; Tan, D.; Liu, C.; Li, H.; Gao, H.; Shyue, J.-J.; Huang, K.- Selective Terminal C-H Activation of n- *J. Saudi Chem. Soc.* **2017**, *21*, 558-562.

175. Wang, X.; Yao, L.; Pan, Y.; Huang, K.- Unsymmetrical PN^3P-Pincer Ligand Through Ligand Post- *J.*

Organomet. Chem. **2017**, *845*, 25-29.
176. Zhou, X.; Yang, X.; Hedhill, M. N.; Huang, K.-W.; Li, L.-J.; Zhang, W.

5558(.)] TJETQ EMC /P /MCID415>BDC q63 65.88 473.46 717.54 reW* nBT/F3 10

-

Green Chem. **2018**, *20*, 4201-4205.

196. Zhong, S.; Yang, X.; Cao, Z.; Dong, X.; Kozlov, S.; Falivene, L.; Huang, J.-K.; Zhou, X.; Hedhili, M.; Lai, Z.; Huang, K.-W.; Han, Y.; Cavallo, L.; Li, L.-J. CO_2 to C_2/C_3 Chemicals on Benzimidazole- *Chem. Commun.* **2018**, *54*, 11324-11327.

197. Li, H.; Gonçalves, T. P.; Zhao, Q.; Gong, D.; Lai, Z.; Wang, Z.; Zheng, J.; Huang, K.-W. catalytic reactivity of a dearomatized PN^3P*-nickel hydride pincer complex towards CO_2 *Chem. Commun.* **2018**, *54*, 11395-11398.

198. Yang, L.; Shi, L.; Xing, Q.; Huang, K.- *o*-Nitrostyrenes beyond Reduction for Selective Access to Indolin-2-one and Dihydroquinolin-2- *ACS Catal.* **2018**, *8*, 10340-10348.

199. Li, H.; Al-Dakhil, A.; Lupp, D.; Gholap, S.; Lai, Z.; Liang, L.-C.; Huang, K.- -Catalyzed *Org. Lett.* **2018**, *20*, 6430-6435.

200. Chao,C.-H.; Cheng, J.-C.; Gonçalves, T. P.; Huang, K.-W.; Lin, C.-C.; Huang, H.-C.; Hwang, S.-Y.; Wu, Y.- C, daphniphyllum alkaloids from *Daphniphyllum glaucescens* *Sci. Rep.* **2018**, *8*, 15417.

201. Wang, X.; Ang, E. P. L.; Guan, C.; Zhang, W.; Wu, W.; Liu, P.; Zheng, N.; Zhang, D.; Lopatin, S.; Lai, Z.; Huang, K.- -site ruthenium pincer complex knitted in porous organic polymers for *ChemSusChem* **2018**, *11*, 3591-3598.

202. Shinde, D.; Sheng, G.; Li, X.; Ostwal, M.; Emwas, A.-H.; Huang, K.- Covalent Organic Framework Membranes for High- *J. Am. Chem. Soc.* **2018**, *140*, 14342 14349.

203. Yao, C.; Chakraborty, P; Aresu, E.; Li, H.; Zhou, C.; Liang, L.-C.; Huang, K.- hydroxide stabilized by a sterically demanding phosphorus-nitrogen PN^3P-pincer ligand: synthesis, *Dalton Trans.* **2018**, *47*, 16057-16065.

204. Shinde, D.; Ostwal, M.; Wang, X.; Hengne, A.; Liu, Y.; Guan, S.; Huang, K.-W. Functionalized Keto-Enamine Based Covalent Organic Frameworks for CO_2 Separation and *CrystEngComm* **2018**, *20*, 7621-7625.

205. Zhang, Y.; Chen, X.; Zheng, B.; Guo, X.; Pan, Y.; Chen, H.; Li, H.; Min, S.; Guan, C.; Huang, K.-W.; Zheng, Dehydrogenation Catalysis Using Two- *Proc. Natl. Acad. Sci. U.S.A.* **2018**, *115*, 12395-12400.

206. Liang, L.-C.; Zou, X.-R,; Chang, Y.-N.; Huang, K.- Complexes Containing P-bridged Biphenolate Ligands in Ring- *Front. Chem.* **2018**, *6*, 607.

207. Li, H.; Gonçalves, T. P.; Hu, J. Zhao, Q.; Gong, D.; Lai, Z.; Wang, Z.; Zheng, J.; Huang, K.-W. A Pseudo-Dearomatized PN^3P*Ni- -Nucleophilic atalyst *J. Org. Chem.* **2018**, *83*, 14969-14977.

208. Yuan, D.-J.; Hengne, A. M.; Saih, Y.; Huang, K.- -oxidative dehydrogenation of methanol to methyl formate through highly stable and reusable CuMgO- *ACS Omega* **2019**, *4*, 1854-1860.

209. Li, H.; Gonçalves, T. P.; Lupp, D.; Huang, K.- ^{3}(P)-Pincer omplexes: Cooperative Catalysis *ACS Catal.* **2019**, *9*, 1619-1629.

210. Zhong, S.; ao, Z.; Yang, X.; Kozlov, S. M.; Huang, K. -W.; Tung, V.; Cavallo, L.; Li, L.-J.; n, Y. $_2$ to 2- *ACS Energy Lett.* **2019**, *4*, 600-605.

211. Schwartz, L. A.; Holmes, M.; Brito, G. A.; Gonçalves, T. P.; Richardson, J.; Ruble, J. R.; Huang, K.-W.; Krische, M. J. Cyclometalated Iridium PhanePhos Complexes Are Active Catalysts in Enantioselective Allene Fluoral Reductive Coupling and Related Alcohol-Mediated arbonyl Additions That Form Acyclic Quaternary Carbon Stereocenters *J. Am. em.* **2019**, *141*, 2087-2096.

212. Zhou, C.; Hu, J.; Wang, Y.; Yao, C.; Chakraborty, P.; Li, H.; Guan, C.; Huang, M.-H.; Huang, K.-W. -nitrogen PN^3P-rhodium(I) *Org. em. t.* **2019**, *6*, 721-724.

213. Li, K.; Gonçalves, T. P.; Huang, K.-W.; Lu, Y. Dearomatization of 3 Nitroindoles via a Phosphine catalyzed Enantioselective [3+2] Annulation Reaction *Angew. em. Int. Ed.* **2019**, *58*,

5427-5431.

214. Huang, M.-H.; Gonçalves, T. P.; Huang, K.- ^{3}(P) System: Synthesis of Non-Symmetrical PONNP-Pincer Ligands and a Unique Ni-Ag Bimetallic Complex Containing a Short Ag- *J. Chin. Chem. Soc.* **2019**, *66*, 455-458.

215. Alsabban, M. M.; Yang, X.; Wahyudi, W.; Fu, S. J.-H.; Hedhili, M. N.; Ming, J.; Yang, C.-W.; Nadeem, M. A.; Idriss, H.; Lai, Z.; Li, L.-J.; Tung, V.; Huang, K.-
Highly-durable Carbon Coated Cobalt Diphosphide Core-shell Nanostructure Electrocatalyst for the *ACS Appl. Mater. Interfaces* **2019**, *11*, 20752-20761.

216. Liu, L.; Chen, Z.; Wang, J.; Zhang, D.; Zhu, Y.; Ling, S.; Huang, K.-W.; Belmabkhout, Y.; Adil, K.; Zhang, Y.; Slater, B.; Eddaoudi, M.; Han, Y. organic framework at sub-unit- *Nat. Chem.* **2019**, *11*, 622-628.

217. Gabal, M. A.; Al-Solami, F.; Al Angari, Y. M.; Ali, A. A.; Al-Juaid, A. A.; Huang, K.-W.; Alsabban, M. -combustion synthesis and characterization of perovskite-type $LaFeO_3$ nanocrystals prepared *Ceram. Int.* **2019**, *45*, 16530-16539.

218. Zou, X.-R,; Liao,S. M.; Huang, K.-W.; Liang, L.- *Chem. Lett.* **2019**, *48*, 811-819.

Guan, C.; Zhang, D.-D.; Zhang, T.; Huang, M.-H.; Chakraborty, P.; Li, H.; Yao, C.; Zhou, C.; Hu, J.; Huang, K.-W. y guided design of a new Rh catalyst for selective formic acid *Int. J. Hydrogen Energy* **2019**, *44*, 0000.

Iguchi, M.; Guan, C.; Huang, K.- Kawanami, H. -pressure Hydrogen Gas Generation by D *Int. J. Hydrogen Energy* **2019**, , 0000

Wang, L.; Huang, K.- -ion Batteries with Zn- *Sci. Adv.* **2019**, *5*, 0000.

Pan, Y.; Guan, C.; Li, H.; Huang, K.- $_2$ Hydrogenation by Phosphorus Nitrogen PN^3P- *Dalton Trans.* **2019**, *48*, 0000.

Yao, C.; Cha T; Zhou, C.; Huang, K. $_2$ heterolysis: in-plane steric effects in the regioselective protonation of the PN^3P- *Dalton Trans.* **2019**, *48*, in revision.

Lupp, D.; Huang, K.- The importance of metal-ligand cooperativity in the PN P platform: a computational study on Mn catalyzed pyrrole synthesis *Organometallics* **2019**, *38*, in revision.

Han, A.; Aljarb, A. S.; Li, P.; Ma, C.; Xue, F. . .-W.; Huang, J.-K.; Wan, Y.; Zhang, X.; Huang, K. . .; Tung, V.; Anthopoulos, T.; Li, L J Growth of 2H Stacked WSe_2 Bilayers on Sapphire *Nanoscale Horiz.* **2019**, *4*, in revision.

Munkerup, K.; Thulin, M.; Tan, D.; Lim, X.; Lee, R.; Huang, K.
Conformational Analysis in Modelling Transition Metal-Mediated Re-actions: Case Studies on Pincer *J. Saudi Chem. Soc.* **2019**, *23*, in revision

Wu, Y.; Li, M.; Wahyudi , W.; Sheng, G.; Miao, X.-H.; Anthopoulos, T.; Huang, K.-W.; Li, Y.; Lai, Z. ed NCM Lithium-ion Batteries at High Voltage by a Microporous Al_2O_3 Sol- *ACS Omega* **2019**, , in revision

Das, P. K.; Chakraborty, P.; Gholap, S. S.; Gonçalves, T. P.; Yao, C.; Li, H.; Emwas, A.-H.; Lai, Z.; Huang, K.- of Oxidation States in Nickel Catalyzed Reductive .

Das, P. K.; Bhunia, S.; Chakraborty, P.; Rana, A Dey, A.; Huang, K.- Aromaticity Driven Electrocatalytic Water Oxidation by a Phosphorus-Nitrogen PN^3-Pincer Cobalt Complex .

silica-supported V-substituted heteropoly acid for efficient selective conversion of glycerol to formic .

AlJabri, N.; Lai, Z.; -

W.

Hengne, A. M.; Yuan, D.-J.; Date, N.; Kamble, S.; Rode,; Huang, K.-
copper-gallia nanocomposite catalysts

INVITED LECTURES* AND SEMINARS:

01. 06.2019 School of Chemistry & Chemical Engineering, Shanghai Jiao Tong University, China
02. 06.2019 Department of Chemistry, Fudan University, China
03. 06.2019 Shanghai Institute of Organic Chemistry, China
04. 05.2019 Department of Chemistry, University of Houston, USA
05. 05.2019 College of Science, National Taiwan Normal University, Taiwan
06. 05.2019 Department of Chemistry, Southern University of Science and Technology, China
07. 03.2019 Vidyasirimedhi Institute of Science and Technology, Thailand
08. 03.2019 Division of Chemistry and Biological Chemistry, NTU, Singapore
09. 01.2019 Department of Chemistry, National University of Singapore, Singapore
10. 12.2018* 10th Singapore International Chemistry Conference (SICC10), Singapore
11. 12.2018* GCC Pavilion Events, UN Climate Change Conference-COP24, Katowice, Poland
12. 11.2018 College of Environmental & Resource Sciences, Zhejiang University, China
13. 11.2018* 18th Tateshina Conference on Organic Chemistry, Japan
14. 11.2018 Advanced Science Institute, RIKEN, Wako-shi, Japan
15. 10.2018 Department of Chemistry, National Tsing Hua University, Hsinchu, Taiwan
16. 10.2018 Department of Chemistry, National Chung Hsing University, Taichung, Taiwan
17. 10.2018 Department of Chemistry, University of Pennsylvania, USA
18. 08.2018 Dept. of Medicinal and Applied Chemistry, Kaohsiung Medical Univ., Taiwan
19. 08.2018* The 43rd International Conference on Coordination Chemistry, Sendai, Japan
20. 07.2018 Chemicals R&D Division, Research and Development Centre, Saudi Aramco
21. 05.2018 Center of Basic Molecular Science, Tsinghua University, Beijing, China
22. 05.2018 Shanghai Institute of Organic Chemistry, Shanghai, China
23. 05.2018 Department of Chemistry, Peking University, Beijing, China
24. 04.2018 Department of Chemistry, National Taiwan Normal University, Taipei, Taiwan
25. 01.2018* KAUST Research Conference: New Challenges in Heterogeneous Catalysis, KAUST
26. 01.2018 Department of Chemistry, Boston College, USA
27. 01.2018 Department of Chemistry, University of Pennsylvania, USA
28. 01.2018 School of Pharmacy, University of Wisconsin Madison, USA
29. 12.2017* 10th National Conference on Organic Chemistry, Shenzhen, China
30. 12.2017* S.-T. Yau Science Forum, Tsinghua University, Beijing, China
31. 11.2017 National Institute of Advanced Industrial Science and Technology, Miyagi, Japan
32. 11.2017 Department of Chemistry, Tohoku University, Miyagi, Japan

33. 10.2017 EPFL-KAUST Symposium, LPI-ISIC, EPFL, Switzerland
34. 10.2017 LSCI-ISIC, École Polytechnique Fédérale de Lausanne, Switzerland
35. 10.2017* 12th National Conference on Physical Organic Chemistry, Wuhan, China
36. 05.2017 Department of Chemistry, National Taiwan University, Taipei, Taiwan
37. 05.2017 Institute of Chemistry, Academia Sinica, Taipei, Taiwan
38. 05.2017 Lanzhou Institute of Chemical Physics in Suzhou, Suzhou, China
39. 03.2017 Department of Chemistry, The Chinese University of Hong Kong, Hong Kong
40. 03.2017 Department of Chemistry, The University of Hong Kong, Hong Kong
41. 02.2017* 3rd International Conference on Molecular and Functional Catalysis (ICMFC-3)
42. 01.2017* 2017 International Workshop for collaboration in Hydrogen Energy
43. 12.2016* The 10th World Bioenergy Symposium (WBS 2016), Dongguan, China
44. 12.2016* The 14th International Symposium for Chinese Organic Chemists, Singapore
45. 12.2016 School of Chemistry, South China University of Technology, Guangzhou, China
46. 11.2016* International Symposium in Catalysis and Fine Chemicals 2016, Taipei, Taiwan
47. 11.2016* 6th International Kyoto Symposium on Organic Nanostructures, Kyoto, Japan
48. 10.2016* 3rd Innovation for Cool Earth Forum (ICEF2016), Tokyo, Japan
49. 08.2016* 2nd International conference on Advances in Functional Materials, Jeju Island, Korea
50. 07.2016* 20th International Symposium on Homogeneous Catalysis (ISHCXX), Kyoto, Japan
51. 05.2016* International Symposium for Young Chinese Chemists 2016, Shanghai, China
52. 04.2016* KAUST-NTU-AS Workshop for Enhancing Collaborations on Research and Education in Chemical and Materials Sciences and Engineering, KAUST, Saudi Arabia
53. 03.2016 Department of Chemistry and Biochemistry, University of Notre Dame, USA
54. 03.2016 Department of Chemistry, Ohio State University, Columbus, Ohio, USA
55. 02.2016* KAUST Research Conferences: Artificial Photosynthesis
56. 01.2016 KAUST Winter Enrichment Program 2016
57. 12.2015 College of Chemistry, Chemical Engineering and Material Science, Soochow University, Suzhou, China
58. 12.2015 Department of Chemistry, Fudan University, Shanghai, China
59. 12.2015 College of Chemistry and Molecular Engineering, Peking University, Beijing, China
60. 12.2015 John van Geuns Lecture,
Amsterdam, The Netherlands
61. 11.2015 Department of Chemistry, Trinity University, San Antonio, Texas, USA
62. 11.2015* 5th International Kyoto Symposium on Organic Nanostructures, Kyoto, Japan

63. 10.2015 National Chemical Laboratory, Pune, India
64. 10.2015 Department of Chemistry, Indian Institute of Technology Bombay, Mumbai, India
65. 08.2015* Golden Jubilee Chemistry Conference, Singapore
66. 06.2015 Institute of Chemistry, Academia Sinica, Taipei, Taiwan
67. 06.2015 Department of Chemistry, National Sun Yat Sen University, Kaohsiung, Taiwan
68. 06.2015 Department of Chemistry, National Taiwan Normal University, Taipei, Taiwan
69. 05.2015 The Institute of Materials Research and Engineering, Singapore
70. 05.2015 SABIC Corporate Research and Innovation (CRI) Center at KAUST
71. 04.2015* 4th Grubbs Symposium, Ningbo University, Ningbo, China
72. 02.2015* KAUST Research Conferences: Catalytic Carbon and hydrogen Management
73. 12.2014* 8th Singapore International Chemistry Conference, Singapore
74. 12.2014 Xiamen University, Xiamen, China
75. 11.2014* 4th International Kyoto Symposium on Organic Nanostructures, Kyoto, Japan
76. 10.2014 The University of Texas at Austin, Austin, TX, USA
77. 10.2014* The 2014 ECS and SMEQ Joint International Meeting, Cancun, Mexico
78. 07.2014 Nanyang Technological University, Singapore
79. 07.2014* The 41st International Conference on Coordination Chemistry
80. 06.2014 College of Chemistry and Molecular Engineering, Peking University, Beijing, China
81. 06.2014 Department of Chemistry, National Taiwan University, Taipei, Taiwan
82. 04.2014* 3rd Grubbs Symposium, Ningbo University, Ningbo, China
83. 04.2014 Shanghai Institute of Organic Chemistry, Shanghai, China
84. 03.2014 Department of Chemistry, Rice University, Houston, TX, USA
85. 03.2014 SABIC Technology Center, Sugar Land, TX, USA
86. 12.2013 National Center for Nanoscience and Technology, Beijing, China
87. 12.2013 College of Chemistry and Chemical Engineering, Shihezi University, China
88. 12.2013* 2013 International Symposium on Catalysis and Fine Chemicals (C&FC2013)
89. 10.2013* The Sixth Asia-Pacific Congress on Catalysis (APCAT-6)
90. 10.2013 Department of Chemistry, University of Houston, Houston, TX, USA
91. 09.2013 Institute of Coal Chemistry, CAS, Taiyuan, China
92. 09.2013 University of Chinese Academy of Science, Beijing, China
93. 08.2013* 15th Asian Chemical Congress, Singapore
94. 07.2013 Department of Chemistry, University of Texas, San Antonio, Texas, USA
95. 05.2013 College of Chemistry, Huainan Normal University, Huainan, China

96. 05.2013 College of Materials Science, Anhui University of Science and Technology, China

97. 05.2013* 2nd Grubbs Symposium, Ningbo University, Ningbo, China

98. 04.2013* 3rd
Thuwal, Saudi Arabia

99. 03.2013 Department of Chemistry, National University of Singapore, Singapore

100. 11.2012* 2nd International Kyoto Symposium on Organic Nanostructures, Kyoto, Japan

101. 11.2012* 4th RSC Dalton Transactions International Symposium, Singapore

102. 10.2012 Department of Chemistry, Aarhus University, Aarhus, Denmark

103. 10.2012 Department of Chemistry, University of Copenhagen, Copenhagen, Denmark

104. 07.2012* 2nd International Conference on Molecular & Functional Catalysis, Singapore

105. 07.2012 Department of Chemistry, Nagoya University, Nagoya, Japan

106. 07.2012 Advanced Science Institute, RIKEN, Wako-shi, Japan

107. 03.2012 College of Chemistry, Chemical Engineering and Material Science, Soochow University, Suzhou, China

108. 02.2012* 5th International Catalysis mini-symposium, Wuhan, China

109. 01.2012 Institute of Chemistry, Academia Sinica, Taipei, Taiwan

110. 01.2012 Department of Chemistry, National Taiwan University, Taipei, Taiwan

111. 01.2012 Department of Chemistry, National Taiwan Normal University, Taipei, Taiwan

112. 01.2012 Department of Chemistry, National Sun Yat Sen University, Kaohsiung, Taiwan

113. 01.2012 Department of Chemistry, National Tsing Hua University, Hsinchu, Taiwan

114. 01.2012 Department of Applied Chemistry, National Chiao Tung University, Hsinchu, Taiwan

115. 01.2012 Department of Chemistry, National Chung Hsing University, Taichung, Taiwan

116. 11.2011* 1st ICE/KCC Symposium on Catalysis, KAUST, Thuwal, Saudi Arabia

117. 11.2011* International Conference on Green & Sustainable Chemistry 2011, Singapore

118. 11.2011* 1st International Kyoto Symposium on Organic Nanostructures, Kyoto, Japan

119. 11.2011 Guangzhou Institute of Energy Conversion, Guangzhou, China

120. 11.2011 Sun Yat-Sen University, Guangzhou, China

121. 09.2011* 14th Asian Chemical Congress, Bangkok, Thailand

122. 08.2011 Shanghai Institute of Organic Chemistry, Shanghai, China

123. 03.2011 Department of Chemistry, King Saud University, Riyadh, Saudi Arabia

124. 12.2010* KCC Symposium on Catalysis, KAUST, Thuwal, Saudi Arabia

125. 11.2010* KICP Seminar Series: Beyond Wind and Solar. The Future of Fossil & Renewable Power Generation in KSA: New Technologies, Deployment Models, Enabling Policies, KAUST, Thuwal, Saudi Arabia

126. 11.2010* First International Collaborative and Cooperative Chemistry Symposium in Frontiers in Molecular Design & Synthesis, Singapore

127. 11.2010* 5th Asian Symposium of Advanced Organic Synthesis, Kyoto University, Japan

128. 07.2010* International Conference on Molecular & Functional Catalysis, Singapore

129. 09.2009 Department of Chemistry, National Taiwan University, Taipei, Taiwan

130. 09.2009 Department of Chemistry, National Taiwan Normal University, Taipei, Taiwan

131. 09.2009 Department of Chemistry, National Central University, Chung-Li, Taiwan

132. 09.2009 Department of Chemistry, National Tsing Hua University, Hsinchu, Taiwan

133. 09.2009 Department of Chemistry, National Sun Yat Sen University, Kaohsiung, Taiwan

134. 07.2009 Department of Chemistry, Peking University, Beijing, China

135. 07.2009 School of Chemical Biology and Biotechnology, Peking University Shenzhen Graduate School, Shenzhen, China

136. 07.2009 Department of Chemistry, East China University of Science and Technology, China

137. 07.2009 Shanghai Institute of Organic Chemistry, Shanghai, China

138. 02.2009 Department of Chemistry, University of Hyderabad, Hyderabad, India

139. 02.2009 Department of Chemistry, Indian Institute of Technology at Bombay, Mumbai, India

140. 02.2009 Laboratoire de Chimie Organométallique de Surface, CPE-Lyon, France

141. 12.2008 Department of Chemistry, University of Queensland, Queensland, Australia

142. 11.2008 Department of Chemistry, Wuhan University, Wuhan, China

143. 11.2008* 4th Asian Symposium of Advanced Organic Synthesis, Kyoto University, Japan

144. 11.2008 Mitsui Chemicals, Chiba, Japan

145. 10.2008 Singapore National Institute of Chemistry, Singapore

146. 09.2008 School of Chemistry, University of Nottingham, Nottingham, United Kingdom

147. 09.2008 Department of Chemistry, University of Warwick, Coventry, United Kingdom

148. 08.2008 Department of Chemistry, Tamkang University, Tamsui, Taiwan

149. 07.2008* The 9th International Symposium for Chinese Organic Chemists (ISCOC), China

150. 11.2007* 3rd Asian Symposium of Advanced Organic Synthesis, Kyoto University, Japan