DALIAN INSTITUTE OF CHEMICAL PHYSICS, CHINESE ACADEMY OF SCIENCES

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Education:

Sep 1995 – Jul 1999	Zhengzhou University, China, Department of Chemistry, B.S.
Sep 1999 – Jan 2005	Dalian Institute of Chemical Physics, Chinese Academy of sciences, Ph.D. Physical Chemistry

Academic and Working Experience:

May 2022 – present	**Associate Editor, *ACS Catalysis***
May 2021 – present	**Vice Director, Dalian Institute of Chemical Physics, CAS**
Oct 2018 – Mar 2024	Director, Division of Biomass Conversion & Bio-energy, Dalian Institute of Chemical Physics, CAS
Jan 2014 – Oct 2018	Vice Director, Division of Biomass Conversion & Bio-energy, Dalian Institute of Chemical Physics, CAS
Jun 2011 – present	Professor, Dalian Institute of Chemical Physics, CAS
Dec 2009 – Jun 2011	Associate Professor, Team leader of Bioenergy Chemical Group, Dalian Institute of Chemical Physics, CAS
Sep 2006 – Dec 2009	Postdoc, Catalysis Research Center, Hokkaido University, Japan
Aug 2005 – Sep 2006	Postdoc, Department of Chemical Engineering, University of California-Berkeley, USA
Mar 2005 – Jul 2005	Assistant Professor, Organic Catalysis Group, Dalian Institute of Chemical Physics, CAS

Research Interests:

- Synthesis and characterization of structurally well-defined nanomaterials, such as metal oxides, zeolites, and metal nanoparticles
- Development of green and environmentally benign processes for the production of oxygenates from olefins, alcohols and carbon oxides
- Catalytic upgrading of biomass (lignocellulose and derivatives) into phenolic compounds, alcohols and polymer building blocks
- Photocatalysis for solar fuel production, CO_2 valorization, and biomass conversion
- Theoretical calculations and machine learning in catalytic materials and chemistry

Awards

- 2023 First Prize of Natural Science Award of Liaoning Province
- 2023 First-class Dalian Natural Science Award
- 2022 Rare Earth Science and Technology Award - First Prize of Fundamental Research
- Min Enze Energy and Chemical Industry Award - Outstanding Contribution Award, 2021

- ACS Sustainable Chemistry & Engineering Lectureship Awards, ACS, 2020
- National Science Fund for Outstanding Young Scholars, NSFC, 2020
- NSFC-RS Newton Advanced Fellowship, 2019 (Collaborator: Stuart Taylor, Cardiff University, UK)
- Jiaxi Lu Excellent Mentor Award, 2020
- Mentor Award of Chinese Academy of Science, 2019
- Cheung Kong Youth Scholar Program, Ministry of Education of P.R. China, 2016
- National Science Fund for Excellent Young Scholars, NSFC, 2014
- Lin Liwu Excellent Youth Award, 2012
- Chinese Catalytic Xinxiu Award, Chinese Chemistry Society, 2012
- Young Scientist Award, 15th International Congress on Catalysis, Munich, 2012
- Chinese Academy of Sciences (CAS) Presidential Scholarship, 2005

Memberships:

Fellow of the Royal Society of Chemistry (FRSC)
American Chemical Society (ACS)
Chinese Chemical Society (CCS)

Conference Talk:

1. Catalytic Depolymerization of Lignocellulose, 16th Eurasia Conference on Chemical Sciences 2023, Bangkok, Thailand, Dec. 13-15, 2023
2. Catalytic Fractionation of Lignocellulose towards Holistic Valorization, 9th Asia-Pacific Congress on Catalysis (APCAT-9), Hangzhou, China, Oct. 30-Nov. 2, 2023
3. Photocatalytic biorefineries for H_2 production, 2023 International Conference on Photochemistry and Industry, Wuhan, Oct. 10-13, 2023
4. Photocatalytic Cleavage of Lignin C−C or C−O bond, Nature Sustainability Workshop Series, Shenzhen, May 13, 2021
5. Catalytic conversion of lignin into aromatic chemicals, 2020 2nd International Youth Conference on Lignin- and Collagen-based Materials (2nd IYCLCM-2020), Dalian, Nov. 07, 2020
6. Light-driven Catalytic Biomass Conversion, Syngenta International Online Conference, Oct. 22, 2020
7. Light-Driven Catalytic Biomass Conversion to Liquid Fuels and Chemicals, The China-UK Catalysis Symposium, Dalian, Oct. 21, 2020
8. Light-driven Catalytic Biomass Conversion to Liquid Fuels and Chemicals, The 1st CAS-NST Joint Symposium - Focusing on Energy-Related Catalysis, Sept. 1-3, 2020
9. 2020 Catalysis Gordon Research Conference, June 28, 2020
10. Photocatalytic conversion of biomass and its derivatives, the 24th Annual Green Chemistry & Engineering Conference, Washington, USA, June 15-20, 2020
11. Catalytic scissoring of lignin C−C and C−O bonds, the 6th UK Catalysis Conference (UKCC), Loughborough, UK, Jan. 1-7, 2020
12. Ru/Ceria catalyzes the C−C/C−N bond formation reactions and Selective production of phase-separable product from a mixture of biomass-derived aqueous oxygenates, and Visible-light-driven coproduction of diesel precursors and hydrogen from lignocellulose-derived

methylfurans, The 258th ACS National Meeting, Aug. 24-31, 2019

13. Photocatalytic Conversion of Biomass to Fuels and Chemicals, The 10th National Conference on Environmental Chemistry (10th NCEC), Beijing, August 15-19, 2019
14. Catalytic Cleavage of Lignin and its Derivatives into Aromatic Compound, The Spring Meeting of Korea Institute of chemical Engineers (KIChE), Jeju, Republic of Korea, April 23-27, 2019
15. Oxidative cleavage of carbon-carbon bonds of lignin to aromatic and Ceria catalysts for stitching small molecules via multiple bond formation, The 257th ACS National Meeting, Orlando, USA, March 31- April 4, 2019
16. Homogeneous Catalytic Oxidation of Lignin to Cleave C−O and C−C Bonds, Lignin Gordon Research Conference, Easton, USA, Aug. 5-10, 2018
17. Heterogeneous catalysis for lignin conversion, ACS Publications Forum in the 31st CCS, Hangzhou, China, May 5-8, 2018
18. Catalytically oxidative cleavage of lignin C−C bond, The 255th ACS National Meeting, New Orleans, USA, March 18-22, 2018.
19. Catalytic Oxidative Cleavage of C−C Bond Converts Lignin Models and Extracts to Aromatic chemicals, CatBior 2017, Lyon, France, Dec. 11-15, 2017.
20. Acid-base Catalysis of Ceria and Doped Ceria in Organic Transformation, OKCAT2017, Osaka, Japan, Oct. 27-28, 2017.
21. Photocatalytic Cleavage of Lignin into Aromatics, The 254th ACS National Meeting, Washington DC, USA, Aug. 20-24, 2017.
22. Catalytic Conversion of Lignin Models and Extracts into Oxygenates, The 253th ACS National Meeting, San Francisco, USA, April 2-6, 2017.
23. Catalytic cleavage of lignin C−C and/or C−O bonds to oxygenates, International Symposium on Catalytic Activation and Selective Conversion of Energy-Related-Molecules, Xiamen, China, July 10-12, 2016
24. Defect Site Control of Ceria and the Efficient Catalysis in Organic Reactions, The Pacifichem2015, Hawaii, USA, Dec. 14-20, 2015
25. *Session organizer.* Hydrogenolysis of lignin and lignosulfonate over nickel-based catalysts, The Pacifichem2015, Hawaii, USA, Dec. 14-20, 2015
26. Ceria-catalyzed organic reactions, The 17th International Symposium on Relations between homogeneous and heterogeneous catalysis, Utrecht, the Netherlands, July 12-15, 2015
27. Defected oxide-supported gold nanoparticles: charge transfer and crystalline effect in catalysis, The Gold2015 Conference, Cardiff, UK, July 28-30, 2015
28. Catalytic Organic Transformation Reactions over Nanostructured Oxides, PIRE-ECCI Annual Meeting, Santa Barbara, USA, Dec. 16-17, 2013
29. Catalytic Nature of Oxides as Water-Tolerant Lewis Acidic Catalysts in Hydrolysis Reaction, 23rd North American Catalysis Society Meeting, Louisville, USA, Oct. 16, 2013
30. Fundamental studies on lignin depolymerization reaction in alcohol over nickel-based catalysts, 2nd International Symposium on Green Chemistry Renewable carbon and Eco-Efficient Processes, La Rochelle, France, May 21-24, 2013
31. Catalytic Nature of Oxides as Water-Tolerant Lewis Acidic Catalysts in Hydrolysis Reaction, The 6th Asia-Pacific Congress on Catalysis, Taipei, Taiwan, Oct. 13, 2013
32. Electron Transfer at the Interface of Gold Nanoparticles and Partially Reduced MoO_x and

Catalytic Applications, The 6th International conference GOLD 2012, Tokyo, Japan, Sep. 7, 2012

33. Catalytic utilization of glycerol as a sustainable feedstock for chemicals and materials, The 15th International Congress on Catalysis, Munich, Germany, July 1-6, 2012
34. Catalytic C–C Cross Coupling Reactions at Benzylic Position over Molybdenum Oxide, The Sixth Tokyo Conference on Advanced Catalytic Science and Technology & The Fifth Asia Pacific Congress on Catalysis, Sapporo, Japan, July 18-23, 2010

Major Grants and Funds:

1. National Key R&D Program, "Directional catalytic conversion of biomass to prepare high value-added oxygenated chemicals", 2022/12-2027/11.
2. Major Program of National Natural Science Foundation of China, "The conversion of methanol coupling with oxygenates", 2020/01-2024/12.
3. National Science Fund for Outstanding Young Scholars, "Heterogenous Catalysis", 2021/01-2025/12.
4. National Key R&D Program (International Science and Technology Innovation Cooperation Key Special Project), "Photocatalyzed selective transformation of lignocellulose with hydrogen production", 2020/01-2022/12. (*Collaborator*: Paolo Fornasiero, the University of Trieste, Italy)
5. NSFC-RS Newton Advanced Fellowship, "Catalytic transformation of light alkanes to olefins or oxygenates", 2019/03-2022/02. (*Collaborator*: Stuart Taylor, Cardiff University, United Kingdom)
6. Dalian Science and Technology Innovation Fund, "Catalytic technology for high-value utilization of low-carbon olefins", 2019/01-2021/12.
7. Strategic Priority Research Program of the Chinese Academy of Sciences (B), "Research on New Catalytic Reaction for Efficient Use of Resources", 2016/06-2021/05.
8. National Science Fund for Excellent Young Scholars, "Heterogenous Catalysis", 2015/01-2017/12.

Book, Review & Perspectives:

1. Chaofeng Zhang, **Feng Wang**. Lignin Conversion Catalysis: Transformation to Aromatic Chemicals[M]. Weinheim, Germany: WILEY-VCH GmbH, 2022. Print ISBN 978-3-527-34973-9.
2. Jianyu Han; Junju Mu; **Feng Wang**, Single-Metal Alloys. In *Supported Metal Single Atom Catalysis*[B], 2022; pp 145-168. (chapter)
3. Chaofeng Zhang, **Feng Wang**, Catalytic cleavage of lignin C–O and C–C bonds. *Advances in Inorganic Chemistry*, 2021, 77: 175-218. (Editor: Ford, Peter C.; van Eldik, Rudi) (chapter)
4. Chaofeng Zhang,* Xiaojun Shen, Yongcan Jin,* Jinlan Cheng, Cheng Cai, **Feng Wang***, Catalytic Strategies and Mechanism Analysis Orbiting the Center of Critical Intermediates in Lignin Depolymerization. *Chemical Rev*iews 2023, 123, 8, 4510-4601.
5. Zhipeng Huang; Nengchao Luo; Chaofeng Zhang; **Feng Wang**, Radical generation and fate control for photocatalytic biomass conversion. *Nature Reviews Chemistry* 2022, 6, 197-214.
6. Zhuyan Gao#, Puning Ren#, Lulu Sun, Nengchao Luo*, **Feng Wang***. Photocatalysts for steering charge transfer and radical reactions in biorefineries, *Nature Synthesis*, 2024, 3, 438-451.
7. Xiaojun Shen; Chaofeng Zhang; Buxing Han; **Feng Wang**, Catalytic self-transfer hydrogenolysis of lignin with endogenous hydrogen: road to the carbon-neutral future. *Chemical Society Reviews* 2022, 51, 1608-1628.
8. Xuejiao Wu; Nengchao Luo; Shunji Xie*; Haikun Zhang; Qinghong Zhang; **Feng Wang***; Ye Wang*, Photocatalytic transformations of lignocellulosic biomass into chemicals. *Chemical Society Reviews* 2020, 49(17), 6198-6223.

9. Hongji Li; Anon Bunrit; Ning Li; **Feng Wang***, Heteroatom-participated lignin cleavage to functionalized aromatics. *Chemical Society Reviews* 2020, 49(12), 3748-3763.
10. Min Wang*, Hongru Zhou, **Feng Wang***. Photocatalytic biomass conversion for hydrogen and renewable carbon-based chemicals, *Joule*, 2024, 8(3), 604-621.
11. Min Wang*, Hongru Zhou, and **Feng Wang***. Photocatalytic Production of Syngas from Biomass. *Accounts of Chemical Research* 2023, 56, 9, 1057-1069.
12. Chaofeng Zhang; **Feng Wang**, Catalytic Lignin Depolymerization to Aromatic Chemicals. *Accounts of Chemical Research* 2020, 53(2), 470-484.
13. Mahdi M. Abu-Omar; Katalin Barta; Gregg T. Beckham; Jeremy S. Luterbacher; John Ralph; Roberto Rinaldi; Yuriy Román-Leshkov; Joseph S. M. Samec; Bert F. Sels; **Feng Wang**, Guidelines for performing lignin-first biorefining. *Energy & Environmental Science,* 2021, 14 (1), 262-292.
14. Min Wang; **Feng Wang***, Catalytic Scissoring of Lignin into Aryl Monomers. *Advanced Materials* 2019, 31(50), 1901866.
15. **Feng Wang*** and Haohong Duan*. Opportunities and future directions for photocatalytic biomass conversion to value-added chemicals, *Chem Catal.*, 2022, 2, 4, 644-646.
16. Haohong Duan* and **Feng Wang***. Opportunities for electrocatalytic biomass valorization, *Chem Catal*., 2022, 2, 4, 641-643.
17. Lijun Lei; Yehong Wang; Zhixin Zhang; Jinghua An; **Feng Wang***, Transformations of Biomass, Its Derivatives, and Downstream Chemicals over Ceria Catalysts. *ACS Catalysis* 2020, 10(15), 8788-8814.
18. Wang, Y.; Zhang, C.; Cai, C.*; Huang, C.; Shen, X.; Lou, H.; Hu, C.; Pan, X.; **Wang, F.***; Xie, J.* Advances in Humins Formation Mechanism, Inhibition Strategies, and Value-added. *Chinese Journal of Catalysis* 2025, 71, 25.
19. Chaofeng Zhang; **Feng Wang***, Sell a dummy: Adjacent functional group modification strategy for the catalytic cleavage of lignin beta-O-4 linkage. *Chinese Journal of Catalysis* 2017, 38(7), 1102-1107.
20. Z. Y. Gao; N. C. Luo; Z. P. Huang; S. H. Taylor; **F. Wang***, Controlling Radical Intermediates in Photocatalytic Conversion of Low-Carbon-Number Alcohols. *ACS Sustainable Chemistry & Engineering* 2021, 9, 6188-6202.
21. Xueyuan Wang, Nengchao Luo, **Feng Wang***. Advances and challenges of photocatalytic methane C-C coupling. *Chin. J. Chem*., 2022, 12, 1492-1505.
22. K. Su; H. Liu; Z. Gao; P. Fornasiero*; **F. Wang***, Nb_2O_5-Based Photocatalysts. *Adv. Sci.,* 2021, 8, 2003156.

Research articles:

1. Ping Jin, Pu Guo, Nengchao Luo,* Hui Zhang, Chenwei Ni, Ruotian Chen, Wei Liu, Rengui Li, Jianping Xiao, Guoxiong Wang, Fuxiang Zhang, Paolo Fornasiero,* **Feng Wang***. Photochemical H_2 dissociation for nearly quantitative CO_2 reduction to ethylene. *Science*, 2025, 389 (6764), 1037-1042.
2. Ning Li, Kexin Yan, Thanya Rukkijakan, Jiefeng Liang, Yuting Liu, Zhipeng Wang, Heran Nie, Suthawan Muangmeesri, Gonzalo Castiella-Ona, Xuejun Pan, Qunfang Zhou, Guibin Jiang, Guangyuan Zhou, John Ralph, Joseph S.M. Samec*, **Feng Wang***. Selective lignin arylation for biomass fractionation and benign bisphenols. *Nature*, 2024, 630, 381–386.
3. Nengchao Luo; Tiziano Montini; Jian Zhang; Paolo Fornasiero; Emiliano Fonda; Tingting Hou; Wei Nie; Jianmin Lu; Junxue Liu; Marc Heggen; Long Lin; Changtong Ma; Min Wang; Fengtao Fan; Shengye Jin; **Feng Wang***. Visible-light-driven coproduction of diesel precursors and hydrogen from lignocellulose-derived methylfurans. *Nature Energy,* 2019, 4(7), 575-584.
4. Zhipeng Huang‡; Zhitong Zhao‡; Chao Feng Zhang; Jianmin Lu; Huifang Liu; Nengchao Luo; Jian Zhang; **Feng Wang***. Enhanced photocatalytic alkane production from fatty acid decarboxylation via inhibition of radical oligomerization. *Nature Catalysis,* 2020, 3(2), 170-178.
5. Qi Song; **Feng Wang***; Jiaying Cai; Yehong Wang; Junjie Zhang; Weiqiang Yu; Jie Xu*. Lignin depolymerization (LDP) in alcohol over nickel-based catalysts via a fragmentation-hydrogenolysis process. *Energy & Environmental Science,* 2013, 6(3), 994-1007.
6. Yifan Yang, Jianhan Wu, Zhendong Luo, Xiuquan Jia*, Guibin Jiang*, **Feng Wang***. Interactions of aqueous microdroplets and mineral particles drive fluorine-first perfluoroalkyl mineralization, *J. Am. Chem. Soc*., 2025, 147(36), 32537–32547.

7. Xuke Chen[#], Yu Xia[#], Yifan Yang, Yunpeng Xu, Xiuquan Jia*, Richard N. Zare*, **Feng Wang***. Microdroplet-mediated multiphase cycling in a cloud of water drives chemoselective electrolysis. *J. Am. Chem. Soc.*, 2024, 146(43), 29742-29750.
8. Zhuyan Gao[#], Tiziano Montini[#], Junju Mu, Nengchao Luo*, Emiliano Fonda, Paolo Fornasiero*, **Feng Wang***. Photocatalytic methanol dehydrogenation promoted synergistically by atomically dispersed Pd and clustered Pd, *J. Am. Chem. Soc.,* 2024, 146(35), 24440–24449.
9. Xuke Chen, Yu Xia, Yingfeng Wu, Yunpeng Xu, Xiuquan Jia*, Richard N. Zare*, **Feng Wang***. Sprayed Oil–Water Microdroplets as a Hydrogen Source. *J. Am. Chem. Soc*., 2024, 146(15), 10868-10874.
10. Ruolan Zhang[#], Zhenyuan Zhang[#], Xuke Chen[#], Jichun Jiang, Lei Hua, Xiuquan Jia,* Rui Bao,* **Feng Wang***. Pyrogenic Carbon Degradation by Galvanic Coupling with Sprayed Seawater Microdroplets, *J. Am. Chem. Soc*., 2024, 146(12), 8528-8535.
11. Jianyu Han[#], Jingyi Yang[#], Zhixin Zhang[#], Xunzhu Jiang, Wei Liu*, Botao Qiao*, Junju Mu*, **Feng Wang**. Strong Metal–Support Interaction Facilitated Multicomponent Alloy Formation on Metal Oxide Support. *J. Am. Chem. Soc.*, 2023, 145(41), 22671–22684.
12. Xuke Chen, Yu Xia, Zhenyuan Zhang, Lei Hua, Xiuquan Jia*, **Feng Wang**, Richard N. Zare*. Hydrocarbon Degradation by Contact with Anoxic Water Microdroplets. *J. Am. Chem. Soc.*, 2023, 145(39), 21538–21545.
13. Hongru Zhou, Min Wang*, Fanhao Kong, Zhiwei Chen, Zhaolin Dou, **Feng Wang***. Facet-Dependent Electron Transfer Regulates Photocatalytic Valorization of Biopolyols, *J. Am. Chem. Soc.*, 2022, 144(46), 21224–21231.
14. Zhuyan Gao, Junju Mu, Jian Zhang, Zhipeng Huang, Xiangsong Lin, Nengchao Luo*, **Feng Wang***. Hydrogen bonding promotes alcohol C–C coupling, *J. Am. Chem. Soc.,* 2022, 144(41), 18986-18994.
15. Zhe Zhang; Min Wang*; Hongru Zhou; **Feng Wang***, Surface Sulfate Ion on CdS Catalyst Enhances Syngas Generation from Biopolyols. *J. Am. Chem. Soc.,* 2021, 143(17), 6533-6541.
16. Chaofeng Zhang; Zhipeng Huang; Jianmin Lu; Nengchao Luo; **Feng Wang***. Generation and Confinement of Long-Lived N-Oxyl Radical and Its Photocatalysis. *J. Am. Chem. Soc.,* 2018, 140(6), 2032-2035.
17. Jinghua An[‡]; Yehong Wang[‡]; Jianmin Lu; Jian Zhang; Zhixin Zhang; Shutao Xu; Xiaoyan Liu; Tao Zhang; Martin Gocyla; Marc Heggen; Rafal E. Dunin-Borkowsk; Paolo Fornasiero; **Feng Wang***. Acid-Promoter-Free Ethylene Methoxycarbonylation over Ru-Clusters/Ceria: The Catalysis of Interfacial Lewis Acid-Base Pair. *J. Am. Chem. Soc.,* 2018, 140(11), 4172-4181.
18. Yehong Wang; **Feng Wang***; Qi Song; Qin Xin; Shutao Xu; Jie Xu*, Heterogeneous Ceria Catalyst with Water-Tolerant Lewis Acidic Sites for One-Pot Synthesis of 1,3-Diols via Prins Condensation and Hydrolysis Reactions. *J. Am. Chem. Soc.* 2013, 135(4), 1506-1515.
19. Hongru Zhou; Min Wang*; **Feng Wang***. Oxygen-controlled photo-reforming of biopolyols to CO over Z-scheme CdS@g-C_3N_4. *Chem,* 2022, 8, 465-479.
20. Puning Ren, Zhuyan Gao, Tiziano Montini, Zhitong Zhao, Na Ta, Yike Huang, Nengchao Luo*, Emiliano Fonda, Paolo Fornasiero*, **Feng Wang***. Stepwise photoassisted decomposition of carbohydrates to H_2, *Joule*, 2023, 7(2), 333-349.
21. Hongru Zhou; Min Wang*; **Feng Wang***. Oxygen-vacancy-mediated catalytic methanation of lignocellulose at temperatures below 200 °C. *Joule,* 2021, 5, 3031-3044.
22. Xiaojun Shen*, Zhitong Zhao, Jialong Wen, Jian Zhang, Yi Ji, Guangjin Hou, Yuhe Liao, Chaofeng Zhang*, Tong-Qi Yuan*, **Feng Wang***. Standardization transformation of C-lignin to catechol and propylene. *Nat. Commun*., 2025，16, 6245.
23. Hongji Li*, Xiaotong Sun, Ting Li, Zhitong Zhao, Xiaomei Yang, Chaofeng Zhang*, **Feng Wang***. Photothermal catalytic transfer hydrogenolysis of protolignin, *Nat. Commun.*, 2024, 15, 10176.
24. Xiaoqin Si; Rui Lu; Zhitong Zhao; X. Yang; **Feng Wang**; Huifang Jiang; Xiaolin Luo; Aiqin Wang; Zhaochi Feng; Jie Xu; Fang Lu*, Catalytic production of low-carbon footprint sustainable natural gas. *Nat. Commun.,* 2022, 13, 258.
25. Min Wang; Meijiang Liu; Jianmin Lu; **Feng Wang***. Photo splitting of bio-polyols and sugars to methanol and syngas. *Nat. Commun.,* 2020, 11(1), 1083.
26. Yehong Wang; Mi Peng; Jian Zhang; Zhixin Zhang; Jinghua An; Shuyan Du; Hongyu An; Fengtao Fan; Xi Liu; Peng Zhai; Ding Ma*; **Feng Wang***. Selective production of phase-separable product from a mixture of biomass-derived aqueous oxygenates. *Nature Communnications,* 2018, 9(1), 5183.

27. Qiang Xue, Hanxi Li, Peng Jin, Xukai Zhou,* **Feng Wang***. Singlet-Oxygen-Driven Cooperative Photocatalytic Coupling of Biomass Valorization and Hydrogen Peroxide Production Using Covalent Organic Frameworks. *Angew. Chem. Int. Ed.,* 2025, 64, e202423368.
28. Xueyuan Wang, Xueshang Xin, Lunqiao Xiong, Jianlong Yang, Tieou Wang, Yang Yang, Zhipeng Huang, Nengchao Luo*, Junwang Tang*, **Feng Wang**. Buffered Hydroxyl Radical for Photocatalytic Non-Oxidative Methane Coupling. *Angew. Chem. Int. Ed.*, 2025, 64, e202420606.
29. Meijiang Liu, Hongji Li, Jian Zhang, Huifang Liu*, **Feng Wang***. Photocatalytic Production of Ethanolamines and Ethylenediamines from Bio-Polyols over a Cu/TiO_2 Catalyst. *Angew. Chem. Int. Ed*., 2024, 63, e202315795.
30. Qingchun Xu[#], Puning Ren[#], Yang Peng, Nengchao Luo*, Zhuyan Gao, Caixia Meng, Jian Zhang, **Feng Wang***. Photocatalytic 2-iodoethanol coupling to produce 1,4-butanediol mediated by TiO_2 and a catalytic nickel complex. *Angew. Chem. Int. Ed*., 2023, 62, e202301668.
31. Lin Yuan; Yancheng Hu; Zhitong Zhao; Guangyi Li; Aiqin Wang; Yu Cong; **Feng Wang**; Tao Zhang; Ning Li, Production of Copolyester Monomers from Plant-Based Acrylate and Acetaldehyde. *Angew. Chem. Int. Ed*., 2022, 61, e202113471:1-5.
32. Hu Yancheng[‡]; Zhao Zhitong[‡]; Liu Yanting; Li Guangyi; Wang Aiqin; Cong Yu; Zhang Tao; **Wang Feng***; Li Ning*. Synthesis of 1,4-Cyclohexanedimethanol, 1,4-Cyclohexanedicarboxylic Acid and 1,2-Cyclohexanedicarboxylates from Formaldehyde, Crotonaldehyde and Acrylate/Fumarate. *Angew. Chem. Int. Ed*., 2018, 57(23), 6901-6905.
33. Jinghua An; Yehong Wang; Zhixin Zhang; Zhitong Zhao; Jian Zhang; **Feng Wang***. The Synthesis of Quinazolinones from Olefins, CO, and Amines over a Heterogeneous Ru-clusters/Ceria Catalyst. *Angew. Chem. Int. Ed*., 2018, 57(38), 12308-12312.
34. Min Wang; Jianmin Lu; Jiping Ma; Zhe Zhang; **Feng Wang***. Cuprous Oxide Catalyzed Oxidative C-C Bond Cleavage for C-N Bond Formation: Synthesis of Cyclic Imides from Ketones and Amines. *Angew. Chem. Int. Ed*., 2015, 54(47), 14061-14065.
35. **Feng Wang***; Wataru Ueda*; Jie Xu*. Detection and Measurement of Surface Electron Transfer on Reduced Molybdenum Oxides (MoO_x) and Catalytic Activities of Au/MoO_x. *Angew. Chem. Int. Ed*., 2012, 51(16), 3883-3887.
36. Zhang, S.; Wang, X.; Li, G.; Liu, Y.; Huang, D.; Yang, T.; Mu, J.; Huang, Y.; Zhang, C.*; **Wang, F.*** A coupled system accelerating the photocatalytic reduction of in situ captured CO_2 to methane. *Chem. Commun.* 2025, 61, 10570.
37. Zhitong Zhao*, Zhixin Zhang, Pan Hao, Chong Chen, Yongzhong Liu, Yongjian Liu, Xuekuan Li*, **Feng Wang***. Economic and Environmental Evaluation of Ethylene Production via Syngas-Derived Ethanol Dehydration. *ACS Sustainable Chemistry & Engineering*, 2025, 13(36), 14770-14781.
38. Yafei Liang[1], Yuji Qi[1], Mingli Bi, Zhen Shi, Junju Mu, Shushuang Li, Jian Zhang, Yehong Wang*, **Feng Wang**. Enhanced selective oxidation of dimethyl ether to formaldehyde by MoO_3-$Fe_2(MoO_4)_3$ interaction over iron-molybdate catalysts, *J. Energy Chem*., 2025, 106, 832-841.
39. Yujie Zhan, Chengqin Zhong, Mingli Bi, Yafei Liang, Yuji Qi, Jiaqi Chen, Jiaxu Liu, Xindang Zhang, Shuai Zhang, Yehong Wang*, **Feng Wang**. Unveiling the catalytic active sites of iron-vanadium catalysts for the selective oxidation of methanol to formaldehyde, *Chin. J. Catal*, 2025, 72, 334–343.
40. Yuji Qi, Yafei Liang, Mingli Bi, Shushuang Li, Zhen Shi, Jian Zhang, Xindang Zhang, Shuai Zhang, Yehong Wang*, **Feng Wang**. Regeneration of spent iron molybdate catalysts via ammonia leaching for catalytic methanol oxidation to formaldehyde, Industrial & Engineering Chemistry Research, *Ind. Eng. Chem. Res.* 2025, 64, 8689-8697.
41. Genheng Li, Dalie An, Xukai Zhou,* **Feng Wang**. Photo/Thermal Sequential Catalytic Production of Bio-ε-Caprolactam from Succinic Acids over a Ru/TiO_2 Catalyst, ACS Catal. 2025, 15, 7800–7809.
42. Ping Wu, Fangming Du, Qiang Xue, Hanxi Li, Ming-Chen Fu, Xukai Zhou*, **Feng Wang**. Photothermal-Catalyzed Hydrogen Peroxide Production Enabled by Gold-Organic Frameworks. *Adv. Funct. Mater.*, 2025, 2420941.
43. Siqi Li, Yuda Zhang, Qiang Guo, Yafei Liang, Yuji Qi, Xiaowei Zhao, Yehong Wang*, **Feng Wang**. Direct dehydrogenation condensation of ethanol to ethyl acetate with superior selectivity over acid-base balanced CuZnZrO solid solution catalyst. *Chem. Eng. J.*, 2025, 508, 161144.
44. Mingwei Wang[#], Zhen Shi[#], Zhiquan Yu, Shushuang Li, Zhixin Zhang*, **Feng Wang**. Synergistic Catalysis by MgO Induced Acid-Base Bifunctional Sites for Cross Condensation of HCHO and Acetaldehyde. *ChemCatChem*, 2025, 17, e202400441.
45. Li, T.[1]; Su, K.[1]; Zhang, C.*; Luo, B.; Zhang, Y.; Cheng, J.; Jin, Y.*; **Wang, F***. Matching the metal oxides with a conjugated and confined N-oxyl radical for the photocatalytic C(sp^3)–H bond activation. *Appl. Catal. B* 2024, 342,

123432.

46. Ping Jin, Nengchao Luo*, **Feng Wang***. Analogy in the Mechanism of Heterolytic H2 Dissociation. *ACS Catalysis*, 2024, 14, 24, 18639–18650.
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