Zhaomin YANG

Department of Chemistry
University of California, Irvine

Phone: (949)522-0986
Email: zhaominy@uci.edu

Education:

09/2018–06/2023 PhD in environmental sciences Shandong University

Dissertation title: Study on mechanisms of secondary organic aerosol formation from the photooxidation of aromatic hydrocarbons under atmospheric complex pollution conditions

Supervisor: Prof. Lin Du

09/2014–06/2018 BSc in environmental sciences Qingdao University of Science & Technology

Work Experience:

07/2025–present	**Postdoc**	**University of California, Irvine** Supervisor: Prof. Sergey A. Nizkorodov
07/2023–present	**Postdoc**	**Shandong University** Supervisors: Wenxing Wang & Lin Du

Research interest:

Formation and aging of atmospheric organic aerosol

First-authored Publications:

6. Zhaomin Yang, Kun Li, Lin Du*. Highly oxidized molecules make a significant contribution to enhanced aromatic-derived secondary organic aerosol under humid environment. ***Adv. Atmos. Sci.***, 2025, *42*, 641–652.

5. Zhaomin Yang, Kun Li, Narcisse T. Tsona, Xin Luo, Lin Du*. SO_2 enhances aerosol formation from anthropogenic volatile organic compound ozonolysis by producing sulfur-containing compounds. ***Atmos. Chem. Phys.***, 2023, *23*, 417–430.

4. Zhaomin Yang, Narcisse T. Tsona, Christian George, Lin Du*. Nitrogen-containing compounds enhance light absorption of aromatic-derived brown carbon. ***Environ. Sci. Technol.,*** 2022, *56*, 4005–4016.

3. Zhaomin Yang, Lin Du*, Yongjie Li, Xinlei Ge. Secondary organic aerosol formation from monocyclic aromatic hydrocarbons: insights from laboratory studies. ***Environ. Sci.: Processes Impacts,*** 2022, *24*, 351–379.

2. Zhaomin Yang, Li Xu, Narcisse T. Tsona, Jianlong Li, Xin Luo, Lin Du*. SO_2 and NH_3 emissions enhance organosulfur compounds and fine particle formation from the photooxidation of a typical aromatic hydrocarbon. ***Atmos. Chem. Phys.***, 2021, *21*, 7963–7981.

1. Zhaomin Yang, Narcisse T. Tsona, Jianlong Li, Shuyan Wang, Li Xu, Bo You, Lin Du*. Effects of NO_x and SO_2 on the secondary organic aerosol formation from the photooxidation of 1,3,5-trimethylbenzene: A new source of organosulfates. ***Environ. Pollut.,*** 2020, *264*, 114742.

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Co-author publications:

9. Shan Zhang, Kun Li*, Xiaowen Chen, **Zhaomin Yang**, Lin Du. Molecular composition of secondary brown carbon from styrene at low-to-high oxidation degrees. ***Environ. Pollut.,*** 2025, *368*, 125795.

8. Xiaowen Chen, Lin Du*, **Zhaomin Yang,** Shan Zhang, Narcisse T. Tsona, Jianlong Li, Kun Li*. Interaction between marine and terrestrial biogenic volatile organic compounds: Non-linear effect on secondary organic aerosol formation. ***Atmos. Environ.,*** 2024, 338, 120868.

7. Shan Zhang, Lin Du,* **Zhaomin Yang,** Narcisse T. Tsona, Jianlong Li, Kun Li*. Contrasting impacts of humidity on the ozonolysis of monoterpenes: insights into the multi-generation chemical mechanism. ***Atmos. Chem. Phys.***, 2023, *23*, 10809–10822.

6. Yibei Wan, Chong Xing, Xinyu Wang, **Zhaomin Yang,** Xiangpeng Huang, Xinlei Ge, Lin Du, Qiongqiong Wang, Huan Yu*. Nontarget tandem high-resolution mass spectrometry analysis of functionalized organic compounds in atmospherically relevant samples. ***Environ. Sci. Technol. Lett.,*** 2022, *9*, 1022–1029.

5. Li Xu, **Zhaomin Yang,** Narcisse T. Tsona, Xinke Wang, Christian George, Lin Du*. Anthropogenic-biogenic interactions at night: enhanced formation of secondary aerosols, particulate nitrogen- and sulfur-containing organics from β-pinene oxidation. ***Environ. Sci. Technol.,*** 2021, *55*, 7794–7807.

4. Li Xu, Narcisse T. Tsona, Bo You, Yingnan Zhang, Shuyan Wang, **Zhaomin Yang,** Likun Xue, Lin Du*. NO_x enhances secondary organic aerosol formation from nighttime γ-terpinene ozonolysis. ***Atmos. Environ.,*** 2020, *225*, 117375.

3. Shuyan Wang, Lin Du,* Narcisse T. Tsona, Xiaotong Jiang, Bo You, Li Xu, **Zhaomin Yang,** Wenxing Wang. Effect of NO_x and SO_2 on the photooxidation of methylglyoxal: implications in secondary aerosol formation. ***J. Environ. Sci.,*** 2020, *92*, 151–162.

2. Bo You, Siyang Li, Narcisse T. Tsona, Jianlong Li, Li Xu, **Zhaomin Yang,** Shumin Cheng, Qingcai Chen, Christian George, Maofa Ge, Lin Du*. Environmental processing of short-chain fatty alcohols induced by photosensitized chemistry of brown carbons. ***ACS Earth Space Chem.,*** 2020, *4*, 631–640.

1. Shaoping Kuang, Wenqiang Zheng, Yingjie Gu, Zhiyong Sun, **Zhaomin Yang**, Weibing Li, Chang Feng. Dual-functional $Zn_xMg_{1-x}O$ solid solution nanolayer modified ZnO tussock-like nanorods with improved photoelectrochemical anti-corrosion performance. ***J. Electroanal. Chem.***, 2018, *815*, 175–182.

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Selected conference presentations:

12. 2025 International Youth Forum on Green and Low-Carbon Development, Qingdao, China, 05/2025, Secondary organic aerosol formation from anthropogenic volatile organic compounds under air complex pollution (Oral)

11. The 10th Youth Geoscience Forum, Hefei, China, 05/2025, Highly oxidized molecules make a significant contribution to enhanced aromatic-derived secondary organic aerosol under a humid environment (Oral)

10. The 21st Annual Meeting of Asia Oceania Geosciences Society, Pyeongchang, Korea, 06/2024, SO_2 enhances aerosol formation from anthropogenic volatile organic compound ozonolysis by producing sulfur-containing compounds (Oral)

9. The 29th National Conference of Atmospheric Environment Science and Technology, online, 12/2023, SO_2 enhances aerosol formation from anthropogenic volatile organic compound ozonolysis by producing sulfur-containing compounds (Oral)

8. The 12nd National Conference on Environmental Chemistry, Wuhan, China, 11/2023, Nitrogen-containing compounds enhance light absorption of aromatic-derived brown carbon (Oral)

7. The 20th Annual Meeting of Asia Oceania Geosciences Society, Singapore, 08/2023, Nitrogen-containing compounds enhance light absorption of aromatic-derived brown carbon (Oral)

6. The 28th National Conference of Atmospheric Environment Science and Technology, online, 11/2022, Nitrogen-containing compounds enhance light absorption of aromatic-derived brown carbon (Oral)

5. The 1st Academic Forum on Chemistry and Sustainable Development, Qingdao, 07/2022, Nitrogen-containing compounds enhance light absorption of aromatic-derived brown carbon (Excellent Oral Award)

4. The 1st National Conference of Doctoral Students in Atmospheric Environment Chemistry, online, 07/2022, Nitrogen-containing compounds enhance light absorption of aromatic-derived brown carbon (Excellent Oral Award)

3. The 27th National Conference of Atmospheric Environment Science and Technology, online, 12/2021, SO_2 and NH_3 emissions enhance organosulfur compounds and fine particle formation from the photooxidation of a typical aromatic hydrocarbon (Oral)

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2.The 7th Youth Geoscience Forum, Guiyang, 07/2021, SO_2 and NH_3 emissions enhance organosulfur compounds and fine particle formation from the photooxidation of a typical aromatic hydrocarbon (Oral)

1. The 3rd Symposium on the Prevention and Control of Atmospheric Ozone Pollution in China, Shanghai, China, 04/2021, Contribution of aromatic hydrocarbons to ozone and secondary organic aerosol formation in atmospheric compound pollution (Excellent Oral Award)

Selected honors & awards:

2024 Excellent doctoral dissertation of Shandong University
2023 Outstanding Graduate of Shandong Province
2023 Outstanding Graduate of Shandong University
2022 Graduate Innovation Achievement Award in Shandong Province
2022 Academic Excellence Scholarship, Level A, Shandong University
2021 Academic Excellence Scholarship, Level A, Shandong University
2021 Outstanding Youth Award for Ozone Pollution Prevention Symposium
2019 Academic Excellence Scholarship, Level A, Shandong University

Projects:

7. 01/2025–12/2027, National Natural Science Foundation of China (PI, 22406109)
6. 07/2024–06/2026, Postdoctoral Fellowship Program of CPSF (PI, GZC20240918)
5. 07/2024–06/2026, China Postdoctoral Science Foundation (PI, 2024M751797)
4. 08/2024–07/2026, Shandong Postdoctoral Science Foundation (PI, SDCX-ZG-202400178)
3. 05/2024–04/2026, Qingdao Postdoctoral Science Foundation (PI, QDBSH20240101042)
2. 12/2023–11/2027, National Key Research and Development Program of China (2023YFC3706203)
1. 01/2021–12/2024, National Natural Science Foundation of China (91644214)