

MING-YU NGAI, PH.D.

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RESEARCH INTERESTS

Excited-State/Photoredox Catalysis, Fluorine Chemistry, Carbohydrate Chemistry, Carbonyl Chemistry, Lewis Acid Catalysis, Asymmetric Catalysis, Transition-Metal Catalysis, Radical Chemistry, and Small Molecule Drug Synthesis.

ACADEMIC APPOINTMENTS

- 2023- **Professor of Chemistry**
Purdue University
- 2019-2023 **Associate Professor of Chemistry**
State University of New York at Stony Brook
- 2013-2019 **Assistant Professor of Chemistry**
State University of New York at Stony Brook

EDUCATION & TRAINING

- 2011-2013 **Harvard University**, Post-doctoral Associate
Advisor: Professor Tobias Ritter
- 2009-2011 **Stanford University**, Croucher Post-doctoral Fellow
Advisor: Professor Barry M. Trost
- 2004-2008 **The University of Texas at Austin** Ph.D., Chemistry
Advisor: Professor Michael J. Krische
Thesis: "Transition Metal-Catalyzed Reductive Carbon-Carbon Bond Formation under Hydrogenation and Transfer Hydrogenation Conditions."
- 2002-2003 **The University of California, San Diego**, Exchange Student
Advisor: Professor Michael S. VanNeuwenhze
- 2000-2003 **The University of Hong Kong**, B.Sc. Chemistry (1st-Class Honors)
Advisors: Professor Wai-Kin Chan & Professor Chi-Ming Che

AWARDS & HONORS

- 2023 Distinguished Alumni Lecture (UT-Austin)
- 2021 Inducted as a Member of the National Academy of Inventors
- 2021 Maximizing Investigator Research Award for Established Investigator (NIGMS, 2021-2026)
- 2019 Young Academic Investigator (ACS-Division of Organic Chemistry)
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2019	Discovery Prize Finalist
2019	NSF CAREER Award (2019-2024)
2018	Young Academic Inventor's Award (National Academy of Inventors–SBU Chapter)
2017	ChemComm Emerging Investigator
2016	Maximizing Investigator Research Award for Early-Stage Investigator (NIGMS, 2016-2021)
2016	Thieme Chemistry Journal Award
2016	Individual Development Awards (SBU)
2015	Organic & Biomolecular Chemistry New Talent (Journal)
2009	Croucher Foundation Postdoctoral Fellowship (Hong Kong)
2008	Professional Development (Travel) Award (UT-Austin)
2007	Wendell Gordon Fellowship (UT-Austin)
2007	Presidential Green Chemistry Challenge Award (EPA, US)
2007	William S. Livingston Award for the Outstanding Graduate Student Academic Employee (UT-Austin)
2007	Phi Kappa Phi Honor Society Member (UT-Austin)
2004	Robert H. Hamilton/Eugene P. Schoch Fellowship (UT-Austin)
2003	The National Society of Collegiate Scholars (UCSD)
2002	HKU Worldwide Undergraduate Student Exchange Program Scholarship
2002	The Hong Kong Jockey Club Summer Internship Scholarship for Tertiary Students in Hong Kong
2000	Cheung King Pak Memorial Scholarship (HKU)
2000	Honors Student Gold Award (Cognitio College)
1999	Mrs. Phyllis Ng Scholarship (Cognitio College)
1998	Parents Teachers Association Scholarship (Cognitio College)
1998	Poon Shun Kwok Prize (Cognitio College)

CURRENT, PENDING & PAST SUPPORT

Secured Grant Total (Direct & Indirect Costs) since 2013: >US\$ 5.2 million

Current:

Agency: NIH/NIGMS
Award: Maximizing Investigator's Research Award for EI (R35GM119652)
Title: Excited-State Catalysis in Organic Synthesis
P.I.: Ming-Yu Ngai
% Effort: 51%
Period: 6/1/2021 – 5/31/2026

Total Costs: \$2,272,875 (\$285,000 Direct Costs/year for 5 years; \$847,875 Total Indirect Costs)

Agency: National Science Foundation (NSF)
Award: NSF CAREER Award 2019 (CHE-1848463)
Title: Chiral Catalysts for Enantioselective Photoredox-Catalyzed C–C Bond-Forming Reactions
P.I.: Ming-Yu Ngai
% Effort: 10%
Period: 5/1/2019 – 4/30/2024
Total Costs: \$675,000 for 5 years

Pending:

Agency: National Science Foundation (NSF)
Title: Helium Recovery Equipment: Support NMR Facility for STEM Education & Multi-Disciplinary Research
P.I.: Ming-Yu Ngai
% Effort: 1%
Period: 5/1/2023 – 4/30/2026
Total Costs: \$281,970 for 3 years

Past:

Agency: Stony Brook University, Department of Chemistry
Award: Matching Fund
Title: Ultra-High Performance Liquid Column Chromatography-Mass Spectrometer for Reaction Discovery, Analysis, and Optimization in Organic Synthesis
P.I.: Ming-Yu Ngai
% Effort: -
Period: 6/1/2019 – 5/31/2022
Total Costs: \$45,120 Direct Cost

Agency: NIH/NIGMS
Award: Maximizing Investigator's Research Award for ESI (R35GM119652)
Title: Novel Strategies and Reagents for Introduction of Fluorinated Groups
P.I.: Ming-Yu Ngai
% Effort: 51%
Period: 8/4/2016 – 5/31/2021
Total Costs: \$1,950,710 (\$250,000 Direct Costs/year for 5 years; \$700,710 Total Indirect Costs)

Agency: National Science Foundation (NSF)
Award: NSF AGEF Graduate Research Supplement (Parent Grant: CHE-1848463)
Title: Chiral Catalysts for Enantioselective Photoredox-Catalyzed C–C Bond-Forming Reactions
P.I.: Ming-Yu Ngai

% Effort: -
Period: 6/1/2020 – 5/31/2021
Total Costs: \$64,981

Agency: NIH/NIGMS
Award: Maximizing Investigator's Research Award (R35GM119652-S04)
Title: Ultra-High Performance Liquid Column Chromatography-Mass Spectrometer for Reaction Discovery, Analysis, and Optimization in Organic Synthesis
P.I.: Ming-Yu Ngai
% Effort: -
Period: 6/1/2019 – 5/31/2020
Total Costs: \$99,023 Direct Cost

Agency: State University of New York Research Foundation/Office of the Vice-President for Research (SUNY-RF/OVPR)
Award: Matching Fund (RSR 19-0325-4391)
Title: Ultra-High Performance Liquid Column Chromatography-Mass Spectrometer for Reaction Discovery, Analysis, and Optimization in Organic Synthesis
P.I.: Ming-Yu Ngai
% Effort: -
Period: 6/1/2019 – 5/31/2020
Total Costs: \$42,373 Direct Cost

Agency: Shimadzu Corporation
Award: Shimadzu Scientific Instruments Grant
Title: Ultra High Performance Liquid Chromatography/Mass Spectrometer
P.I.: Ming-Yu Ngai
% Effort: 5%
Period: 7/1/2019 – 6/30/2020
Total Costs: \$82,000 Direct Cost

MEMBERSHIPS

2022- Member of Beyond CCHF: Catalysis Innovation Consortium
2021- Member of the National Academy of Inventors
2013- Institute of Chemical Biology & Drug Discovery, Stony Brook University
2002- The American Chemical Society
2002 The National Society of Collegiate Scholars
2002 Phi Kappa Phi Honor Society Member

COMMUNITY SERVICES

Editor

2019- Associate Editor (Frontiers in Chemistry)

Conference/Symposium Organizer

- 2023 18th Midwest Carbohydrate and Glycobiology Symposium – Symposium on Carbohydrate Chemistry (Co-chair, West Lafayette, October 6-7, 2023)
- 2023 ACS Northeast Regional Meeting – Symposium on Carbohydrate Chemistry (Chair, Boston, June 14-17, 2023)

Grant Proposals (Reviewer)

- 2021 ACS Petroleum Research Fund DNI proposal
- 2021 NSF review panel, Chemistry
- 2021 ACS Petroleum Research Fund ND proposal
- 2020 NIH/NIGMS ad hoc member, SBCA study section
- 2019 NSF ad hoc member, Chemistry
- 2018 ACS Petroleum Research Fund DNI proposal
- 2014 The Center for Research, William Paterson University of New Jersey

Journals (Reviewer)

Serve as a reviewer for >30 journals including *Science*, *Nature Chemistry*, *Nature Communications*, *Journal of the American Chemical Society*, *Chem*, *Angewandte Chemie International Edition*, *ACS Catalysis*, *Chemical Science*, *Organic Letters*, etc.

Stony Brook University (SBU)

- 2022 NIH R-Series Workshop Panelist (Office of Proposal Development)
- 2022 NSF CAREER Panelist (Office of Proposal Development)
- 2021 CAS working group, From fundamental biochemistry to drug diagnosis & discovery
- 2020 NSF CAREER Panelist (Office of Proposal Development)
- 2019 STEAM: Education and Communication and Creative Expression Committee
- 2018 Radiochemists Search Committee
- 2016- Faculty Advisor for SBU Intervarsity Christian Fellowship
- 2016 Imaging Cluster: PET Imaging Chemistry Search Committee
- 2015 CNS Radiochemist Search Committee
- 2014-2017 Thesis Committee (Nii Mensah, Department of Pharmacology)

Chemistry Department (SBU):

- 2022-2023 Department Chair Search Committee
- 2022-2023 Chem Rehab Committee
- 2022 Department Chair Search Committee
- 2021 Organic Faculty Search Committee
- 2021 21st Annual Chemistry Research Day
- 2020-2021 Chemistry Building Rehabilitation Scoping Committee
- 2020-2021 Lab-Restarting Committee (COVID-19 Pandemic)
- 2019 Positron Emission Tomography Chemist Hiring Committee (Chair)
- 2019-2023 NMR and Instrumentation Committee (Chair)

2016	Organic Chemist/Radio Chemist Hiring Committee
2016-2019	NMR and Instrumentation Committee
2015-2023	Graduate Recruiting Committee
2014-2015	Central Nervous System Radio Chemist Hiring Committee
2013-2016	Safety Committee
2013-2020	Graduate Admission Committee
2013-2023	Advancement to Candidacy Committee

Thesis Committee (Outside SBU)

2022	Daniel_Gorelik (University of Toronto)
2021	Saghir Ali (India Institute of Technology Guwahati)
2020-	John-Paul Marrazzo (Drexel University)

Others:

2015-2019	Setauket Elementary School Science Fair (Experiment Demonstrator)
2014-2022	WAC Lighting Foundation Invitational Science Fair (Judge)
2014	Chinese Christian Faculty Network Conference (Panelist)

MENTORING

Post-Doctoral Supervisions: Career Numbers: 6

- Pengju Feng (2013-2015)
- Kongzhen Hu (2014-2015)
- Arghya Banerjee (2017-2021)
- Satavisha Sarkar (2017-2021)
- Gaoyuan Zhao (2019-)
- Zhaofie Zhang (2022-)

Ph.D. Student Supervisions: Career Numbers: 10

- Weijia Zheng (2013-2019, Award: 2019 Chemistry Award for Excellence in Doctoral Research)
- Katarzyna N. Lee (2014-2017, Awards: 2014 Chemistry Graduate Student Fellowship; 2015-2017 NIH Chemical Biology Training Program Fellowship; 2018 Maria Tzamarioudaki Memorial Award for Outstanding Doctoral Student)
- Johnny Lee (2015-2020, Awards: 2015 Chemistry Graduate Research Fellowship; 2020 Chemistry Graduate Research Fellowship; 2020 CAS Future Leaders Award from Chemical Abstracts Service)
- Zhan Lei (2015-2020)
- Sanghyun Lim (2017- Award: Graduate Research Award)
- Wang Yao (2017-, Awards: Best Poster Award in organic chemistry at Chemistry Research Day)

- Jaclyn Mauro (2019-, Chemistry Award for Advanced Graduate Student Teaching Assistant)
- Upasana Mukherjee (2019-)
- Jagrut Shah (2019-)
- Sahil Sharma (2023-)

Master Student Supervisions: Career Numbers: 7

- Chengbo Zhan (2013-2015)
- Han Gao (2014-2016)
- Zipan Cao (2019-2020)
- Daniela Pla-Jauregui (2019-2020)
- Chaudhary Harris (2019-2020)
- Emmanuel.Bazan-Bergamino (2019-2021)
- Miguel Gomez (2020-2021)

Undergraduate Student Supervisions: Career Numbers: 16

- Alexa Accettura (2013-2014)
- Oliver Chen (2013-2014)
- Arthur Makarenko (2013-2014)
- Rodrigo Justo (2014-2015)
- Matthew Swoyer (2014-2015)
- Fuhua Zhao (2014-2016, 2015 ACS DOC SURF, one publication)
- James Herbort (2016 Summer, NSF REU)
- Bike Ozkan (2016)
- Taranvir Signh (2016-2017)
- Alexa Gilberti (2017)
- Rachel Lowe (2017 Summer, NSF REU)
- Dominique Spiegowski (2016-2018, URECA Summer Research Fellowship, URECA Research of the Month, 2018 URA Academic Excellence Award, 2 publications)
- Eric Rizzo (2017-2018, 2018 ACS DOC SURF, 2019 URA Academic Excellence Award)
- Abbigayle Cuomo (2018)
- Saba Gulzar (2020-, Sei Sujishi Award, Frances Velay Women and Science Research Fellowship)
- Nicholas Wodzinski (2022-2023, Dr. Kenneth M. Nicholas Undergraduate Fellowship)

High School Student Supervisions: Career Numbers: 1

- Anne-Marie Tehn-Addy (2015-2016)

TEACHING

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- 2023 Spring **Instructor**, 11 Lectures
CHE 383: Introductory Synthetic and Spectroscopic Laboratory Techniques
Instructor, 11 Lectures
CHE 582/619/696: Combined Organic Group Meeting
- 2022 Fall **Instructor**, 38 Lectures
CHE 345/504 Structure and Reactivity in Organic Chemistry
- 2022 Spring **Instructor**, 11 Lectures
CHE 383: Introductory Synthetic and Spectroscopic Laboratory Techniques
Instructor, 11 Lectures
CHE 582/619/696: Combined Organic Group Meeting
- 2021 Fall **Instructor**, 38 Lectures
CHE 345/504 Structure and Reactivity in Organic Chemistry
- 2021 Spring **Instructor**, 11 Lectures
CHE 383: Introductory Synthetic and Spectroscopic Laboratory Techniques
- 2020 Fall Sabbatical, No Teaching
- 2020 Spring **Instructor**, 11 Lectures
CHE 383: Introductory Synthetic and Spectroscopic Laboratory Techniques
- 2019 Fall **Instructor**, 38 Lectures
CHE 345/504 Structure and Reactivity in Organic Chemistry
- 2019 Spring **Instructor**, 11 Lectures
CHE 383: Introductory Synthetic and Spectroscopic Laboratory Techniques
- 2018 Fall **Instructor**, 38 Lectures
CHE 345/504 Structure and Reactivity in Organic Chemistry
Guest Lecture, 1 Lecture
CHE 607 Modern Drug Design and Discovery
- 2018 Spring **Instructor**, 11 Lectures
CHE 134: General Chemistry Laboratory
- 2017 Fall **Instructor**, 38 Lectures
CHE 345/504 Structure and Reactivity in Organic Chemistry
- 2017 Spring **Instructor**, 11 Lectures
CHE 327: Organic Chemistry Laboratory
Instructor, 11 Lectures
CHE 582/619/696: Combined Organic Group Meeting
Guest Lecture, 1 Lecture
SSO 102: Undergraduate College Seminar: Science and Society
- 2016 Fall **Instructor**, 38 Lectures
CHE 345/504 Structure and Reactivity in Organic Chemistry
Guest Lecture, 1 Lecture
CHE 607 Modern Drug Design and Discovery
- 2016 Spring **Instructor**, 11 Lectures
CHE 327: Organic Chemistry Laboratory
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- Instructor**, 11 Lectures
CHE 582/619/696: Combined Organic Group Meeting
- 2015 Fall **Instructor**, 38 Lectures
CHE 345/504: Structure and Reactivity in Organic Chemistry
- 2014 Spring **Instructor**, 11 Lectures
CHE 327: Organic Chemistry Laboratory
Instructor, 11 Lectures
CHE 582/619/696: Combined Organic Group Meeting
- 2014 Fall **Instructor**, 38 Lectures
CHE 345/504: Structure and Reactivity in Organic Chemistry
- 2014 Spring **Instructor**, 11 Lectures
CHE 327: Organic Chemistry Laboratory
Instructor, 11 Lectures
CHE 582/619/696: Combined Organic Group Meeting
Guest Lecture, 1 Lecture
CHE 503 Synthetic Organic Chemistry
- 2013 Fall **Instructor**, 38 Lectures
CHE 345/504: Structure and Reactivity in Organic Chemistry

INVITED PRESENTATIONS

56. IUPAC International Conference on Organic Synthesis, October 15th-20th, 2023
55. International Conference on Photochemical Technology and Industry Wuhan, China October 10th-13th, 2023
54. Midwest Carbohydrate and Glycobiology Symposium, October 6th, 2023
53. Duke University, September 19th, 2023
52. North Carolina State University, September 18th, 2023
51. City University of New York, April 17th, 2023
50. Distinguished Alumni Lecture, University of Texas at Austin, April 7th, 2023
49. ACS Northeast Regional Meeting, October 4th, 2022
48. CCHF Virtual Symposium, February 8th, 2022
47. Emory University, November 21st, 2021
46. Chemistry Research Day, Stony Brook University, October 29th, 2021
45. New York University, October 8th, 2021
44. University of Louisville, September 24th, 2021
43. Institute of Chemical Biology & Drug Discovery, Stony Brook University, September 17th, 2021
42. Greater Indianapolis Organic Seminar Series (GIOSS), April 27-28th, 2021
41. Bridgewater State University, October 30th, 2020

40. Hunter College (City University of New York), February 14th, 2020
39. Virginia Commonwealth University, September 13th, 2019
38. Young Investigator Symposium (ACS National Meeting at San Diego), Aug 27th, 2019
37. Markovnikov Congress on Organic Chemistry, Russia, June 25th, 2019
36. Stony Brook University, Discovery Prize, April 23th, 2019
35. University of South Florida, March 18th, 2019
34. Rutgers University, March 14th, 2019
33. Stony Brook University, Young Academic Inventor's Award Symposium, September 11th, 2018
32. Boehringer Ingelheim, June 27th, 2018
31. Stony Brook University, Department of Chemistry, May 16th, 2018
30. Temple University, May 9th, 2018
29. Drexel University, May 8th, 2018
28. University of Pennsylvania, May 7th, 2018
27. University of Illinois at Chicago, May 3rd, 2018
26. University of Chicago, May 4th, 2018
25. Texas A&M, April 19th, 2018
24. University of Texas at Austin, April 16th, 2018
23. Georgia State University, April 12th, 2018
22. Emory University, April 11th, 2018
21. Auburn University, April 10th, 2018
20. Purdue University, April 3rd, 2018
19. Indiana University at Bloomington, April 2nd, 2018
18. University of Florida, March 15th, 2018
17. Stony Brook University, University Libraries STEM Speakers Series, November 14th, 2017
16. Iowa State University, October 13th, 2017
15. University of Iowa, October 12th, 2017
14. City University of New York, Brooklyn College, September 26th, 2017
13. University of Hawaii at Manoa, January 18th, 2017
12. University of Hawaii Cancer Center, January 17th, 2017
11. Baylor University, Seminar, August 3rd, 2015
10. University of California at Riverside, Seminar, January 9th, 2013
9. The University of Toledo, Seminar, November 28th, 2012
8. University of Colorado at Denver, Seminar, March 14th, 2011
7. Louisiana State University, Seminar, February 17th, 2011
6. Westmont College, Seminar, January 19th, 2011

5. The Shenzhen Graduate School of Peking University, Seminar, February 13, 2009.
4. The Hong Kong University of Science and Technology, Seminar, February 9, 2009.
3. The Chinese University of Hong Kong, Seminar, February 5, 2009.
2. The Hong Kong Polytechnic University, Seminar, February 4, 2009.
1. The University of Hong Kong, Seminar, January 20, 2009.

CONFERENCE PRESENTATIONS

11. “Development of Novel Chemical Tools for Accessing Unexplored Chemical Spaces” Ngai, M.-Y.* *ACS National Meeting, San Diego, 2019*. (Oral)
10. “Development of Novel Chemical Tools for Accessing Unexplored Chemical Spaces” Ngai, M.-Y.* *Markovnikov Congress on Organic Chemistry, Russia, 2019*. (Oral)
9. “Catalytic C-H Trifluoromethoxylation of Arene and Heteroarenes” Zheng, W.; Morales-Rivera C. A.; Lee, J. W.; Liu, P.; Ngai, M.-Y.* *Gordon Research Conference: Organic Reactions and Processes, 2017*. (Poster)
8. “Photoredox-Catalyzed Perfluoroalkoxylation of Arenes and Heteroarenes” Lee, K. N.; Zheng, W.; Feng, P.; Lee, J. W.; Zhan, C, Ngai, M.-Y. *Gordon Research Conference: Stereochemistry, 2016*. (Poster)
7. “Photoredox-Catalyzed Perfluoroalkoxylation of Arenes and Heteroarenes” Lee, K. N.; Zheng, W.; Feng, P.; Lee, J. W.; Zhan, C, Ngai, M.-Y. *Gordon Research Conference: Organic Reactions and Processes, 2016*. (Poster)
6. “Trifluoromethoxylation of Arenes and Heteroarenes *via* OCF₃-Migration: Access to a New Class of Synthetic Building Blocks” Lee, K. N.; Feng, P.; Lee, J. W.; Zhan, C, Ngai, M.-Y. *TrostConn75, 2016*. (Poster)
5. “Trifluoromethoxylation of Arenes and Heteroarenes *via* OCF₃-Migration: Access to a New Class of Synthetic Building Blocks” Lee, K. N.; Feng, P.; Lee, J. W.; Zhan, C, Ngai, M.-Y. *Gordon Research Conference: Organic Reactions and Processes, 2015*. (Poster)
4. “Trifluoromethoxylation of Arenes and Heteroarenes *via* OCF₃-Migration: Access to a New Class of Synthetic Building Blocks” Lee, K. N.; Feng, P.; Lee, J. W.; Zhan, C, Ngai, M.-Y. *Gordon Research Conference: Organometallics, 2015*. (Poster)
3. “Ligand Accelerated Asymmetric Propargylation of Aldehydes via Allenylzinc Reagents” Trost, B. M.; Ngai, M.-Y.; Dong, G. *Abstracts of Papers, 241st ACS National Meeting & Exposition, Anaheim, CA, United States. 2011*. (Oral)
2. “Hydrogenative and transfer hydrogenative C-C bond formation: Asymmetric vinylation and allylation reactions” Ngai, M.-Y.; Krische, M. J. *Abstracts of Papers, 41st National Organic Symposium, Boulder, CO, United States. 2009*. (Poster)

1. “Asymmetric allylic amines formation via iridium catalyzed carbon-carbon bond forming hydrogenations.” Ngai, M.-Y.; Barchuk, A.; Krische, M. J. *Abstracts of Papers, 235th ACS National Meeting & Exposition, New Orleans, LA, United States. 2008.* (Oral)

PUBLICATIONS (PEER-REVIEWED)

46. “Merging Excited-State Copper Catalysis and Triplet Nitro(hetero)arenes for Direct Synthesis of 2-Aminophenol Derivatives” Shah, J.A.; Banerjee, A.; Ngai, M.-Y.* *Chem. 2023, Under Review.*
45. “Expanding Reaction Profile of Allyl Carboxylates via 1,2-Radical Migration (RaM): Visible-Light-Induced Phosphine-Catalyzed 1,3-Carbobromination of Allyl Carboxylates” Zhao, G.; Lim S.; Musaev, D. G.; Ngai, M.-Y.* *J. Am. Chem. Soc. 2023, 145, 8275.*
44. “Synthesis of Ketonylated Carbocycles via Excited-State Copper-Catalyzed Radical Carbo-Aroylation of Unactivated Alkenes” Sarkar, S.; Banerjee, A.; Ngai, M.-Y.* *ChemCatChem, 2023, 15, e202201128.*
43. “Excited-State Palladium-Catalyzed α -Selective C1-Ketonylation” Zhao, G.;# Mukherjee, U.# Zhou, L.; Mauro, J. N.; Wu, Y.; Liu, P.*; Ngai, M.-Y.* *CCS Chem., 2023, 5, 106.*
42. “Excited-State Copper-Catalyzed [4+1] Annulation Reaction Enables Modular Synthesis of α,β -Unsaturated- γ -Lactams” Sarkar, S.; Banerjee, A.; Shah, J.; Mukherjee, U.; Frederiks, N. C.; Johnson, C. J.*; Ngai, M.-Y.* *J. Am. Chem. Soc., 2022, 144, 20884.*
41. “C2-Ketonylation of Carbohydrates via Excited-State Palladium-Catalyzed 1,2-Spin-Center Shift” Zhao, G.; Mukherjee, U.; Zhou, L.; Wu, Y.; Yao, W.; Mauro, J. N.; Liu, P.*; Ngai, M.-Y.* *Chem. Sci., 2022, 13, 6276.*
40. “Excited-State Palladium-Catalyzed Radical Migratory Mizoroki-Heck Reaction Enables C2-Alkenylation of Carbohydrates” Yao, W.;# Zhao, G.;# Zhou, L.; Wu, Y.; Mukherjee, U.; Liu, P.*; Ngai, M.-Y.* *J. Am. Chem. Soc. 2022, 144, 3353.*
39. “(Hetero)aryl C-H Amination via Organic Electrochemistry” Shah, J. A.; Ngai, M.-Y.* *Handbook of CH-Functionalization, 2022, DOI: 10.1002/9783527834242.chf0066.*
38. “Excited-State Copper Catalysis for the Synthesis of Heteroarenes” Banerjee, A.; Sarkar, S.; Shah, J. A.; Frederiks, N. C.; Bazan Bergamino, E. A.; Johnson, C. J.; Ngai, M.-Y.* *Angew. Chem. Int. Ed. 2022, 61, e202113841.*
 - [Top Downloaded Paper, 2022.](#)
37. “Visible-Light-Induced Asymmetric Photocatalysis” Yao, W.; Bazan-Bergamino, E. A.; Ngai, M.-Y.* *ChemCatChem, 2022, 14, e202101292.*
 - [Top Downloaded Paper, 2022.](#)
36. “Nickel-Catalyzed Radical Migratory Coupling Enables C-2 Arylation of Carbohydrates” Zhao, G.; Yao, W.; Kevlishvili, I.; Mauro, J. N.; Liu, P.*; Ngai, M.-Y.* *J. Am. Chem. Soc. 2021, 143, 8590.*

- Highlighted in *Org. Chem. Highlights*, 2022.
 - Highlighted in *Chem-Station* 2022.
35. “Excited-State Palladium-Catalyzed 1,2-Spin-Center Shift Enabled Selective C-2 Reduction, Deuteration, and Iodination of Carbohydrates” Zhao, G.#; Yao, W.#; Mauro, J. N.; Ngai, M.-Y.* *J. Am. Chem. Soc.* **2021**, *143*, 1728. (#Equal Contribution)
- Highlighted in *Org. Chem. Highlights*, 2022.
34. “Redox-Neutral TEMPO Catalysis Toward Direct Radical (Hetero)Aryl C-H Di- and Trifluoromethoxylation” Lee, J. W.#; Lim, S.#; Maienshein, D. N.; Liu, P.*; Ngai, M.-Y.* *Angew. Chem. Int. Ed.* **2020**, *59*, 21475. (#Equal Contribution)
- Highlighted in *Synfacts*, 2020, *16*, 1342.
33. “Direct Trifluoromethoxylation of Aromatics and Heteroaromatics” Lee, J. W.; Lee, K. N.; Ngai, M.-Y.* In *Emerging Fluorinated Motifs*, Cahard, D.; Ma, J. A., Eds. Wiley-VCH Verlag GmbH & Co. KGaA.: **2020**; pp 225-250.
32. “Photocatalytic Aroyl-(Hetero)arylation of Unactivated Alkenes: Pathway to 1,4-, 1,6- and 1,7-Diketones” Sarkar, S.#; Banerjee, A.#; Yao, W.; Patterson, E. V.; Ngai, M.-Y.* *ACS Catal.* **2019**, *9*, 10358. (#Equal Contribution)
- Highlighted in *Organic Chemistry Portal*, 5/25/2020
31. “Synthesis of Tri- and Difluoromethoxylation Compounds via Visible Light Photoredox Catalysis” Lee, J. W.; Lee, K. N.; Ngai, M.-Y.* *Angew. Chem. Int. Ed.* **2019**, *58*, 11171.
- Top Downloaded Paper 2018-2019
30. “ β -Selective Aroylation of Alkenes by Photoredox Catalysis” Lei, Z.#; Banerjee, A.#; Kusevska, E.; Rizzo, E. R.; Liu, P.*; Ngai, M.-Y.* *Angew. Chem. Int. Ed.* **2019**, *58*, 7318. (#Equal Contribution)
29. “Catalytic Difluoromethoxylation of Arenes and Heteroarenes” Lee, J. W.#; Zheng, W.#; Morales-Rivera, C. A.; Liu, P.*; Ngai, M.-Y.* *Chem. Sci.* **2019**, *10*, 3217. (#Equal Contribution)
- Selected as the HOT Article Collection
 - Highlighted in *ChemistryView* 2019
 - Highlighted in *Synfacts*, 2019, *15*, 0520
 - Highlighted in *Chem. Sci.* “Editor’s Choice” Collection, 2019
28. “Acyl Radical Chemistry via Photoredox Catalysis” Banerjee, A.#; Lei, Z.#; Ngai, M.-Y.* *Synthesis* **2019**, *51*, 303. (#Equal Contribution) (Invited Review by Professor Dieter Enders)
- Selected as the Cover of the Issue.
27. “Recent Development of Catalytic Trifluoromethoxylation Reactions” Lee, K. N.; Lee, J. W.; Ngai, M.-Y.* *Tetrahedron* **2018**, *74*, 7127. (Invited Review for *Organo Fluorine Chemistry Special Issue*)

26. “Redox-active Reagents for Photocatalytic Generation of the OCF₃ Radical and (Hetero)aryl C–H Trifluoromethoxylation” Zheng, W.; Lee, J. W.; Morales-Rivera, C. A.; Liu, P.*; Ngai, M.-Y.* *Angew. Chem. Int. Ed.* **2018**, *57*, 13795.
25. “Transition-Metal-Free C–H Amidation and Chlorination: Synthesis of *N/N'*-Mono-Substituted Imidazopyridin-2-ones from *N*-Pyridyl-*N*-hydroxylamine Intermediates” Lee, K. N.; [Spiegowski, D. N.](#); Lee, J. W.; Lim, S.; [Zhao, F.](#); Ngai, M.-Y.*, *Chem. Comm.* **2018**, *54*, 6935 (Invited Article, Emerging Investigator Issue **2018**)
24. “Catalytic C-H Trifluoromethoxylation of Arenes and Heteroarenes” Zheng, W.; Morales-Rivera C. A.; Lee, J. W.; Liu, P.*; Ngai, M.-Y.*, *Angew. Chem. Int. Ed.* **2018**, *57*, 9645.
 - Accepted as a Very Important (VIP) Paper
 - Highlighted in *Angew. Chem. Int. Ed.* **2018**, *57*, 7942.
23. “Recent Developments in Transition-Metal Photoredox-Catalysed Reactions of Carbonyl Derivatives” Lee, K. N.; Ngai, M.-Y.* *Chem. Commun.* **2017**, *53*, 13093.
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