

# Dapeng Liu

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## AWARDS AND ACADEMIC DISTINCTIONS

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<b>Bernard Lewis Fellowship</b>	<i>39th International Combustion Symposium</i>	<i>Vancouver, Canada</i>
<b>First Prize</b>	<i>Ph.D. Workshop of SRSEC 2022</i>	<i>Xi'AN, China</i>
<b>Session Chair</b>	<i>40th International Combustion Symposium</i>	<i>Milano, Italy</i>
<b>SAS-CI Young Talent (Inaugural Awardee)</b>	<i>14th SAS-CI Conference</i>	<i>Jeddah, Saudi Arabia</i>
		<i>Oct 2024</i>

## RESEARCH EXPERIENCE

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<b>King Abdullah University of Science and Technology(KAUST)</b>	<i>Postdoctoral Researcher, FASTER Lab</i>	<i>Jeddah, Saudi Arabia</i>
<b>The Chinese University of HongKong(CUHK)</b>	<i>Postdoctoral Research Associate, Advanced Laser Diagnostic Lab</i>	<i>Hongkong, China</i>

## EDUCATION

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<b>Clean Combustion Research Center, KAUST</b>	<i>Master and Ph.D. degree</i>	<i>Jeddah, Saudi Arabia</i>
<b>Xi'an Jiaotong University (XJTU)</b>	<i>Bachelor degree</i>	<i>Aug 2015 - Dec 2021</i>

## BOOK CHAPTER (INVITED)

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1. Measurement of elementary reaction's rate coefficients(Elsevier Book)  
Dapeng Liu, Aamir Farooq  
expected 06.2025 [\[click me\]](#)

## REVIEW PAPER (INVITED)

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1. Recent advances in measurements of OH reactions  
Dapeng Liu, Aamir Farooq  
*in preparation* [\[click me\]](#)

## PUBLICATION

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1. Investigation of 1,3-Pentadiene Thermal Decomposition  
Dapeng Liu, Aamir Farooq  
*Under Review* [\[click me\]](#)
2. Allyl Radical Formation in Cyclopentyl decomposition  
Dapeng Liu, Aamir Farooq  
*Under Review* [\[click me\]](#)

3. **Empirical Rate Rules for Hydroxyl Radical Reactions with Alkenes**  
Dapeng Liu, Aamir Farooq  
*Combustion and Flame, 2025* [click me]
4. **Thermal Decomposition of Alkenes: Role of Allylic-Alkylic C-C Bond Cleavage**  
Dapeng Liu, Aamir Farooq  
*Combustion and Flame, 2024* [click me]
5. **Investigation of Cyclopentene + OH and Cyclopentene Thermal Decomposition Reactions**  
Dapeng Liu, Fathi Khaled, Wei Ren, Aamir Farooq  
*Combustion and Flame, 2024* [click me]
6. **Heptanone isomers as a biofuel: Reactivity with OH radicals**  
Dapeng Liu, Fathi Khaled, Aamir Farooq  
*Proceedings of the Combustion Institute, 2024* [click me]
7. **A theoretical and Experimental Study of 2-Ethylfuran + OH Reaction**  
Li Fu, Dapeng Liu, ... , HongBo Ning\*, Wei Ren\*, Aamir Farooq  
*Combustion and Flame, 2024* [click me]
8. **Allylic-Alkylic C-C Bond Thermal Decomposition in 1-Butene and 1-Pentene**  
Chengyu Zhou, Dapeng Liu\*, Aamir Farooq\*  
*Combustion and Flame, 2024* [click me]
9. **Investigation of thermal decomposition of nitrobenzene: An energetic material**  
Dapeng Liu, Aamir Farooq  
*Combustion and Flame, 2023* [click me]
10. **Gamma-valerolactone (GVL) as Biofuel: Investigation of GVL Thermal Decomposition and GVL + OH Reaction**  
Dapeng Liu, Aamir Farooq  
*Combustion and Flame, 2023* [click me]
11. **Pressure Hydrogen Oxy-combustion in the Presence of High Levels of H<sub>2</sub>O and CO<sub>2</sub>**  
Ashkan Beigzadeh, Mohammed Alabbad, Dapeng Liu, ... , Eric Croiset, Aamir Farooq.  
*Combustion and Flame, 2022* [click me]
12. **The effect of hydrogen bonding on the reactivity of OH radicals with prenol and isoprenol: a shock tube and multi-structural torsional variational transition state theory study**  
Mohamed, Samah Y., Manuel Monge-Palacios, ... , Dapeng Liu, Aamir Farooq, S. Mani Sarathy.  
*Physical Chemistry Chemical Physics, 2022* [click me]
13. **Investigation of cyclohexene thermal decomposition and cyclohexene + OH reactions**  
Dapeng Liu, Aamir Farooq  
*Combustion and Flame, 2022* [click me]
14. **Investigation of the kinetics of conjugated diolefins using UV absorption spectroscopy**  
Dapeng Liu, Aamir Farooq  
*Proceedings of the Combustion Institute, 2022* [click me]
15. **Reaction Kinetics of OH Radicals with 1,3,5-Trimethyl Benzene: An Experimental and Theoretical Study**  
Dapeng Liu, Binod R. Giri, Tam V.-T. Mai, Lam K. Huynh, Aamir Farooq  
*Proceedings of the Combustion Institute, 2022* [click me]
16. **A comprehensive study on low-temperature oxidation chemistry of cyclohexane. II. Experimental and kinetic modeling investigation**  
Jiabiao Zou, Hanfeng Jin, Dapeng Liu, ..., Yuyang Li  
*Combustion and Flame, 2021* [click me]
17. **Symmetric ethers as bioderived fuels: Reactivity with OH radicals**

Myriam Belmekki, Binod R Giri, Dapeng Liu, Aamir Farooq

*Energy and Fuels* , 2021

[click me]

18. **First aromatic ring formation by the radical-chain reaction of vinylacetylene and propargyl**

Hanfeng Jin, Lili Xing, Dapeng Liu, Junyu Hao, Jiuzhong Yang, Aamir Farooq

*Combustion and Flame* , 2021

[click me]

19. **On the Redox Reactions between Allyl Radicals and NO<sub>x</sub>**

Dapeng Liu, Milán Szőri, Béla Viskolcz, Et-touhamiEssbar, Binod Giri, Aamir Farooq

*Proceedings of the Combustion Institute*, 2020

[click me]

20. **Kinetics and Thermochemistry of Cyclohexadienes Reactions with OH Radicals**

Dapeng Liu, Milán Szőri, Béla Viskolcz, Lam K. Huynh, Binod Giri, Aamir Farooq

*Proceedings of the Combustion Institute*, 2020

[click me]

21. **High Temperature Branching Ratio of Acetaldehyde + OH Reaction**

Dapeng Liu, Binod Giri, Aamir Farooq

*Proceedings of the Combustion Institute*, 2020

[click me]

22. **A high temperature shock tube study of phenyl recombination reaction using laser absorption spectroscopy**

Hanfeng Jin, Dapeng Liu, Binod Giri,Aamir Farooq

*Proceedings of the Combustion Institute*, 2020

[click me]

23. **Chemical kinetics of hydroxyl reactions with cyclopentadiene and indene**

Hanfeng Jin, Dapeng Liu, Jiabiao Zou,Junyu Hao,Can Shao, Mani Sarathy,Aamir Farooq

*Combustion and Flame*, 2020

[click me]

24. **Insights into the Reactions of Hydroxyl Radical with Diolefins from Atmospheric to Combustion Environments**

Fethi Khaled, Binod Giri, Dapeng Liu, Emmanuel Assaf, Christa Fittschen, Aamir Farooq

*The Journal of Physical Chemistry A* , 2020

[click me]

25. **QCL-Based Dual-Comb Spectrometer for Multi-Species Measurements at High Temperatures and High Pressures**

Guangle Zhang, Raphael Horvath, Dapeng Liu, Markus Geiser, Aamir Farooq

*Proceedings of the Combustion Institute* , 2020

[click me]

26. **A mid-infrared diagnostic for benzene using a tunable difference-frequency-generation laser**

Mohammad Khaled Shakfa, Mhanna Mhanna, Hanfeng Jin, Dapeng Liu,Khalil Djebbi,Marco Marangoni, Aamir Farooq

*Sensors* , 2020

[click me]

27. **Cyclic Ketones as Future Fuels: Reactivity with OH Radicals (journal cover paper)**

Dapeng Liu, Binod Giri, Aamir Farooq

*The Journal of Physical Chemistry A* , 2019

[click me]

28. **A shock tube kinetic study on the branching ratio of methanol+ OH reaction**

Dapeng Liu, Binod Giri, Aamir Farooq

*Proceedings of the Combustion Institute*, 2018

[click me]

29. **A theoretical and shock tube kinetic study on hydrogen abstraction from phenyl formate**

Hongbo Ning, Dapeng Liu, Junjun Wu, Liuhao Ma, Wei Ren, Aamir Farooq

*Physical Chemistry Chemical Physics*, 2018

[click me]

30. **H-Abstraction by OH From Large Branched Alkanes: Overall Rate Measurements and Site-Specific Tertiary Rate Calculations**

Dapeng Liu, Fethi Khaled, Binod Giri, Emmanuel Assaf, Christa Fittschen, Aamir Farooq

*The Journal of Physical Chemistry A* , 2017

[click me]

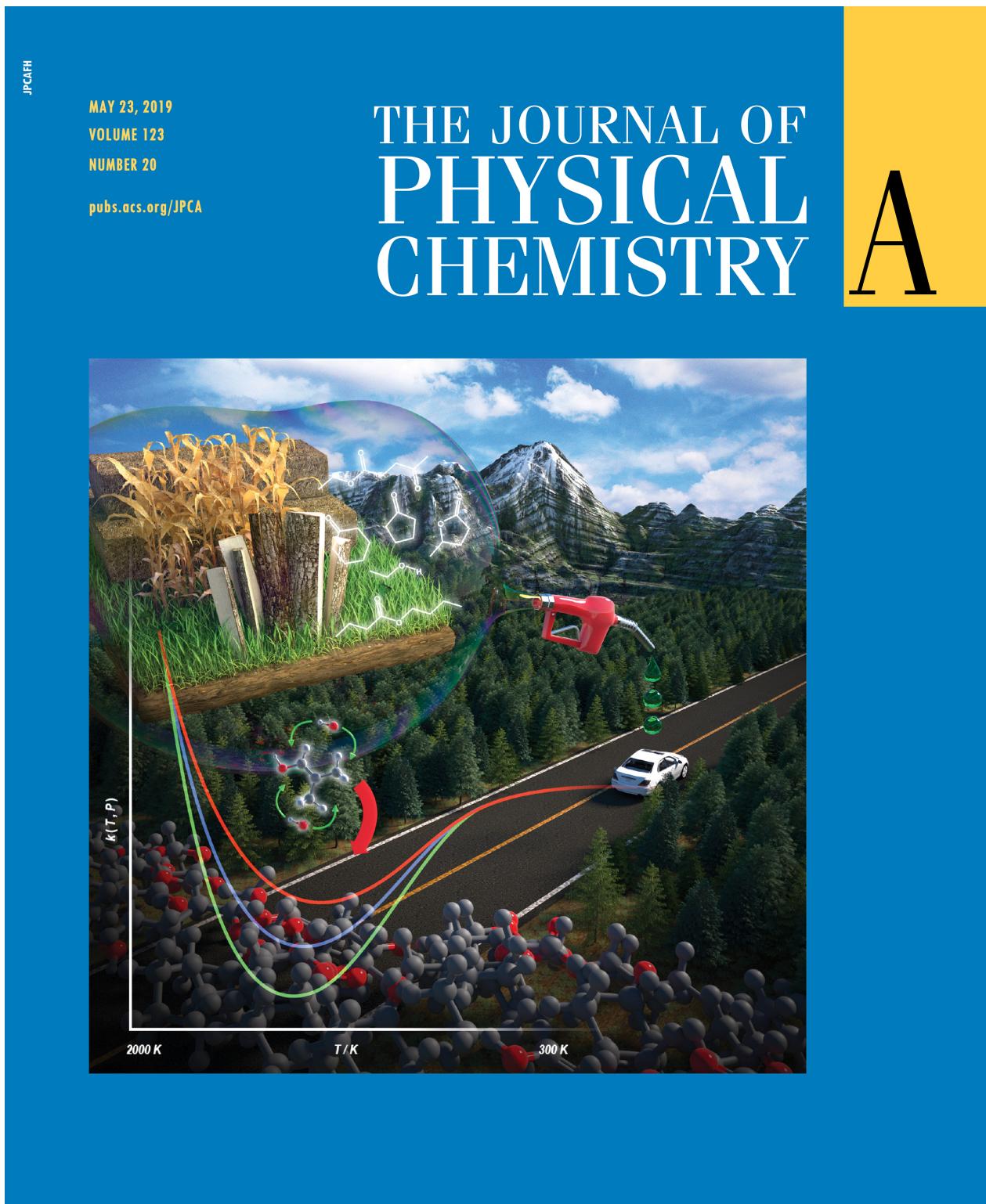
31. **Retro-Ene Decomposition of 1-Methylcyclohexene**

## INVITED TALK

1. **A shock tube kinetic study on the reaction of 1,3 and 1,4-cyclohexadiene + OH (oral presentation)**  
Dapeng Liu, Binod Giri, Milán Szőri, Béla Viskolcz, Lam K. Huynh, Aamir Farooq  
*38th international symposium on combustion, 2021, Adelaide, Australia* [click me]
2. **On the Redox Reactions between Allyl Radicals and NOx (oral presentation)**  
Dapeng Liu, Binod Giri, Milán Szőri, Béla Viskolcz, Aamir Farooq  
*38th international symposium on combustion, 2021, Adelaide, Australia* [click me]
3. **High Temperature Branching Ratio of Acetaldehyde + OH Reaction (oral presentation)**  
Dapeng Liu, Binod Giri, Aamir Farooq  
*38th international symposium on combustion, 2021, Adelaide, Australia* [click me]
4. **A shock tube kinetic study on Branching Ratio of Methanol + OH Reaction (best poster award)**  
Dapeng Liu, Binod Giri, Aamir Farooq  
*KAUST Research Workshop: Physics of Turbulent Combustion, 2019, Thuwal, Saudi Arabia* [click me]
5. **A shock tube kinetic study on the reaction of cyclopentanone/cyclohexanone + OH (oral presentation)**  
Dapeng Liu, Binod Giri, Aamir Farooq  
*The 11th U.S. National Combustion Meeting, 2019, Pasadena, U.S.A* [click me]
6. **A shock tube study on the branching ratios of OH + methanol (oral presentation)**  
Dapeng Liu, Binod Giri, Aamir Farooq  
*37th international symposium on combustion, 2018, Dublin, Ireland* [click me]
7. **High-temperature rate constant measurement for the reaction of GVL with OH (oral presentation)**  
Dapeng Liu, Fethi Khaled, Aamir Farooq  
*11th Asia-Pacific Conference on Combustion, 2017, Sydney, Australia* [click me]
8. **Shock Tube Rates Measurements for H-Abstraction by OH from Nine Large Alkanes (poster)**  
Dapeng Liu, Fethi Khaled, Binod Giri, Aamir Farooq  
*8th European Combustion Meet, 2017, Dubrovnik, Croatia* [click me]

## PROJECT HIGHLIGHTS

Our work, "OH + Cyclic-ketone", is highlighted in journal cover JPCA, 2019



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## BERNARD LEWIS FELLOWSHIP

- Dr. Dapeng Liu received Bernard Lewis Fellowship  
*39th International Symposium on Combustion, Vancouver, 2022*

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## SAS-CI YOUNG TALENT AWARD

Dr. Dapeng Liu received SAS-CI Young Talent Award as the inaugural awardee Jeddah, 2024

