

# Dapeng Liu

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## EDUCATION

**KAUST, Clean Combustion Research Center (CCRC)**

*Master and PhD ; Supervised by Prof. Aamir Farooq*

*Jeddah, Saudi Arabia*

*Aug 2015 - Dec 2021*

Relative Coursework Combustion kinetics, Spectroscopy, Heat and mass transfer, ...

Awards Bernard Lewis Fellowship|CCRC best poster award

**Xi'an Jiaotong University (XJTU),**

*Bachelor of energy and power engineering (top 15%)*

*Xi'An, China*

Awards 1st prize in XJTU technology innovation competition|outstanding student

*Sep 2010 - Jul 2014*

## PUBLICATIONS

### 1. Allylic-Alkylic C-C Bond Thermal Decomposition in 1-Butene and 1-Pentene

Chengyu Zhou, Dapeng Liu\* Aamir Farooq

*under Review*

[click me]

### 2. Gamma-valerolactone (GVL) as Biofuel: Investigation of GVL Thermal Decomposition and GVL + OH Reaction

Dapeng Liu, Aamir Farooq

*under Review*

[click me]

### 3. Allylic-alkylic C-C Thermal Decomposition: 1-Hexene and 4-Methyl-1-Pentene as Representative Alkenes

Dapeng Liu, Aamir Farooq

*under Review*

[click me]

### 4. 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]

### 5. Investigation of cyclohexene thermal decomposition and cyclohexene + OH reactions

Dapeng Liu, Aamir Farooq

*Combustion and Flame*, 2022

[click me]

### 6. Investigation of the kinetics of conjugated diolefins using UV absorption spectroscopy

Dapeng Liu, Aamir Farooq

*Proceedings of the Combustion Institute*, 2022

[click me]

### 7. 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]

### 8. On the thermal decomposition of nitrobenzene

Dapeng Liu, Aamir Farooq

*under review*

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9. 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]
10. Symmetric ethers as bioderived fuels: Reactivity with OH radicalsl  
Myriam Belmekki, Binod R Giri, Dapeng Liu, Aamir Farooq  
*Energy and Fuels* , 2021 [click me]
11. 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]
12. On the Redox Reactions between Allyl Radicals and NOx  
Dapeng Liu, Milán Szőri, Béla Viskolcz, Et-touhamiEssbar, Binod Giri, Aamir Farooq  
*Proceedings of the Combustion Institute*, 2020 [click me]
13. 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]
14. High Temperature Branching Ratio of Acetaldehyde + OH Reaction  
Dapeng Liu, Binod Giri, Aamir Farooq  
*Proceedings of the Combustion Institute*, 2020 [click me]
15. 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]
16. 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]
17. 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]
18. 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]
19. 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]
20. 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]

21. 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]
22. 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]
23. 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]

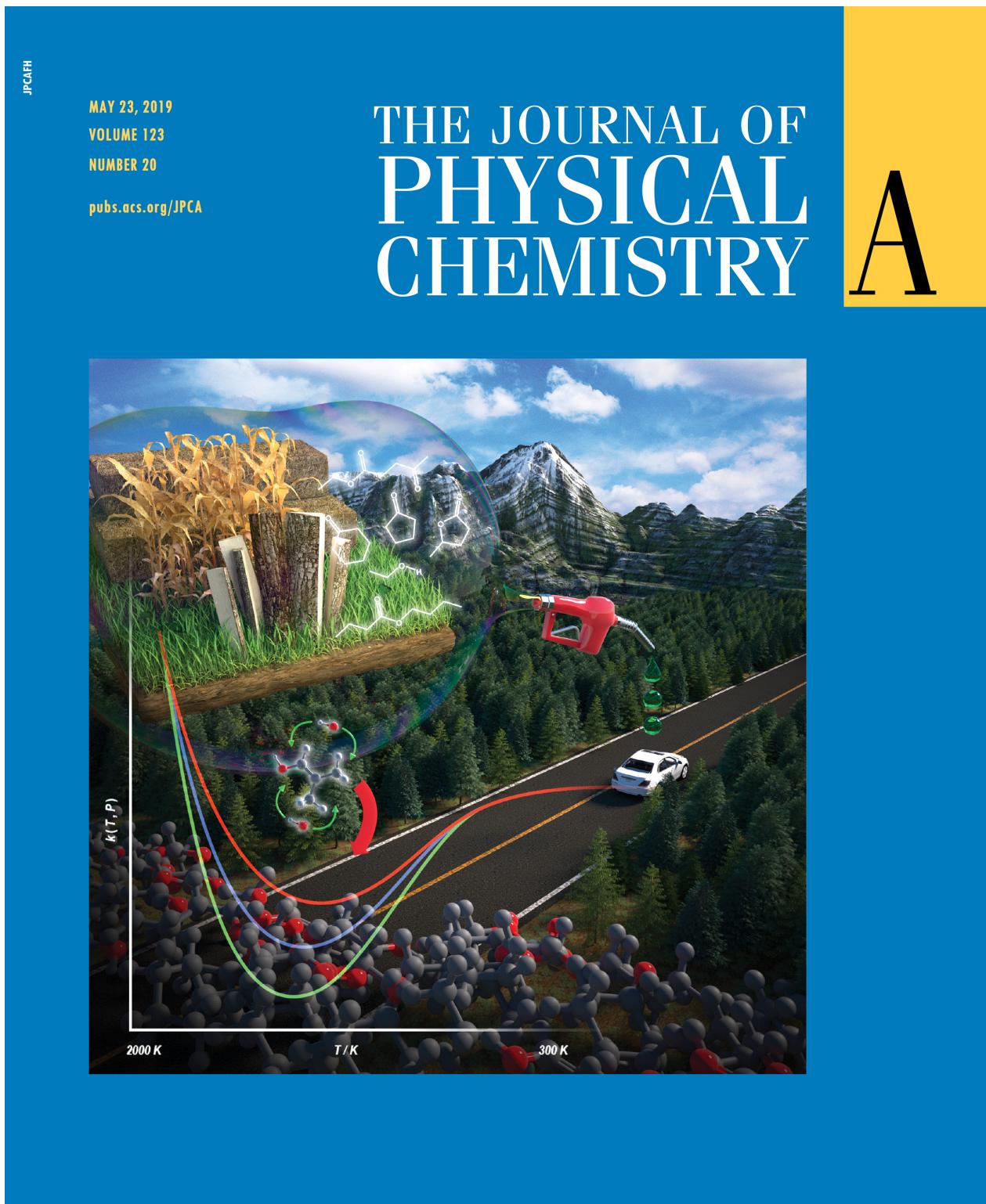
## PRESENTATIONS

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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 NO<sub>x</sub> (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



## BERNARD LEWIS FELLOWSHIP

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

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39th International Symposium on Combustion

## Bernard Lewis Fellowship

Bestowed in the Year 2022 to

Dapeng Liu

In recognition of your outstanding potential  
as a young scientist

Presented at the

Thirty-Ninth International Symposium on Combustion  
Vancouver, Canada 2022

  
President of The Combustion Institute

