



Department of Chemistry  
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## Biography

Welcome to my personal website...

### Dr. Md. Mizanur Rahman Badal

Professor

**Research Area** Organic Synthesis, Organic Reaction Mechanism, Computational Chemistry

## Education

### PhD (Physical Organic Chemistry)

Kyushu University, Japan()

**Thesis Title:** [Study on Reaction Mechanism of Nucleophilic Addition of Phenylketenes](#)

### M.Sc. in Chemistry (Organic)

Dhaka University, Bangladesh()

**Thesis Title:** [Study on Reaction of Arylideneacetophenones with cyclic 1,3-diketones](#)

### B.Sc. (Hons) in Chemistry

Dhaka University, Bangladesh() Group: Chemistry,

HSC

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SSC

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## Service Records

- **Professor**  
**Department/Section:** Department of Chemistry  
**Khulna University of Engineering & Technology** From 01-01-1970 to 01-01-1970
- **Associate Professor**  
**Department/Section:** Department of Chemistry  
**Khulna University of Engineering & Technology** From 01-01-1970 to 01-01-1970
- **Assistant Professor**  
**Department/Section:** Department of Chemistry  
**Khulna University of Engineering & Technology** From 01-01-1970 to 01-01-1970
- **Lecturer**  
**Department/Section:** Department of Chemistry  
**Khulna University of Engineering & Technology** From 01-01-1970 to 01-01-1970
- **PD Officer**  
**Department/Section:** Product Development  
**Opsonin Pharma Limited** From 01-01-1970 to 11-11-2000
- **QC Officer**  
**Department/Section:** Quality Control  
**Opsonin Pharma Limited** From 01-01-1970 to 01-01-1970

## Research Interest

Organic Synthesis, Organic Reaction Mechanism, Computational Chemistry

## Publication

### Books

### Journals

16. (2021) , " Antimicrobial, Structure-Activity Relationship and Computational Studies of Some Synthesized Chalcone Derivatives," **Asian Journal of Chemistry**, vol33, no.3, pp.644-650
15. Badal, M. M. R. ,Hossain, M. Z. and Yousuf, M. M. a. M. A. (2020) , " Synthesis, identification and computational studies of novel Schiff bases N-(2,6-dibenzylidenecyclohexylidene)-N<sup>2</sup>-(2,4-dinitrophenyl)hydrazine derivatives," **SN Applied Science 2**, Springer Nature
14. Badal, M. M. R. , Islam, H. M. A. , Maniruzzaman, M. and Yousuf, a. M. A. (2020) , " Acidochromic Behavior of Dibenzylidene Cyclohexanone-Based Bischalcone: Experimental and Theoretical Study," **ACS Omega** , ACS Publications, vol5, no.36, pp.22978-83
12. (2015) , " Intra- and Intermolecular Reactivity of Triplet Sumanenetrione," **Bulletin of the Chemical Society of Japan**
11. Yasui, S. ,Badal, M. M. R. and Mishima, S. K. a. M. (2014) , " Combination of LFP-TRIR spectroscopy and DFT computation as a tool to determine the intermediate during the photooxidation of triarylphosphine," **Journal of Physical Organic Chemistry** , vol27, pp.967-972
10. (2014) , " Pyrazinyl and Pyrimidinyl Ketenes, Bisketenes, and Ylides: Direct Observation and Nucleophilic Reactivity, ," **Canadian Journal of**

**Chemistry**, vol92, pp.1-12

9. (2014) , " Gas-Phase Acidity of Polyfluorinated Hydrocarbons. Effects of Fluorine and the Perfluoroalkyl Group on Acidity," **Bulletin of the Chemical Society of Japan** , vol87, no.7, pp.825-834
8. Yasui,S. , Badal,M. M. R. , Kobayashi,S. and Mishima,M. (2013) , " DFT Computations in an Attempt to Simulate the IR Spectrum of a Transient Intermediate Generated upon Laser Flash Photolysis of Triarylphosphines ," **Chemistry Letters** , vol42, no.8, pp.866-868
7. Badal,M. M. R. , Zhang,M. , Kobayashi,S. and Mishima,M. (2013) , " Amination of Phenylketene Revisit. Substituent Effect on Reactivity," **Bulletin of the Chemical Society of Japan Vol 86(7)**, pp-856-863, vol86, no.7, pp.856-863
6. Zhang,M. , Badal,M. M. R. , Koppel,I. A. and Mishima,M. (2013) , " Gas Phase Acidities of  $\dot{I}\pm$ - and  $\dot{I}\pm,\dot{I}\pm$ -SO<sub>2</sub>CF<sub>3</sub> Substituted Toluenes. Varying Resonance Demand in the Electron-rich System," **Bulletin of the Chemical Society of Japan** , vol86, no.7, pp.813-820
5. Badal,M. M. R. , Zhang,M. , Kobayashi,S. and Mishima,a. M. (2013) , " Amination of Phenylketenes. Substituent Effect on Amine-catalyzed Tautomerization of Amide Enol," **Journal of Physical Organic Chemistry** , vol26, pp.1071-1076
5. Badal,M. M. R. and Mishima,M. (2010) , " Gas-Phase Acidities of Acetophenone Oximes. Substituent Effect and Solvent Effect ," **Bulletin of the Chemical Society of Japan**, vol83, no.1, pp.58-65
5. Badal,M. M. R. , Ali,M. E. , Akther,M. , Islam,G. J. and Ahamed,P. (2013) , " Mahogani (Swietenia Mahogani) leaf powder: Study of adsorption properties for removal of reactiveblue P3R dye from aqueous solutions ," **Journal of Engineering Science**, vol4, no.1, pp.111-118
4. Than,S. , Badal,M. M. R. , Itoh,S. and Mishima,M. (2010) , " Gas-Phase Basicities of Acetophenones toward Lanthanum Cation [La(OMe)<sub>2</sub>+] ," **Journal of Physical Organic Chemistry** , vol23, no.5, pp.411-417
3. Itoh,S. ,Badal,M. M. R. and Mishima,M. (2009) , " Structural Effect on the Stability of Acetophenone-B(OMe)<sub>2</sub> Complexes in the Gas Phase- The Nature of the Bond between the Boron Cation and Neutral Molecules," **Journal of Physical chemistry A**, vol113, pp.10075-1008
2. (2005) , " Synthesis of Substituted and unsubstituted 2,4-diaryl-5-oxo-5,6,7,8-tetrahydro-2-chromens," **Indian Journal of Chemistry**, vol44, no.B, pp.622-624

## Conference

19. (24-25 Feb, 2018) , "Synthesis and Antimicrobial Activites of Chromene Derivatives," **ICCST-Chem 2018**
18. (24-25 Feb, 2018) , "Acidochromic Behavior of 2,6-Bis-(4-dimethylaminobenzylidene)Cyclohexanone Based Bischalcone in EtOH," **ICCST-Chem 2018**
17. Badal,M. M. R. and Mishima,M. (March 1, 2014) , "Substituent Effects for Reaction of Phenylketenes with Azide Anion and Theoretical Calculations of Duality of Electronic Interactions ," **36th Annual Conference of Bangladesh Chemical Society 2013**
16. Badal,M. M. R. and Mishima,M. (December 07-09, 2012 ) , "Exploration of the reaction of diazoacetylpyrazine and 4-diazoacetylpyrimidine with amine: A LFP technique," **35th Annual Conference of Bangladesh Chemical Society 2012**
15. Badal,M. M. R. and Mishima,M. (December 19-20, 2011) , "Amination of Phenylketenes: A Laser Flash Photolysis with Time-resolved Infrared Detection ," **34th Annual Conference of Bangladesh Chemical Society 2011**
14. Badal,M. M. R. and Mishima,M. (January 30-February 01, 2009) , "Reactivity of Phenylketene towards Amines: Substituent Effect," **31st Annual Conference of Bangladesh Chemical Society 2008**
13. Yasui,S. , Badal,M. M. R. , Kobayashi,S. and Mishima,M. (September 15 -20, 2013 ) , "Laser Flash Photolysis- Time Resolved Infrared Spectroscopy on the Photooxidation of Triarylphosphines Combined with DFT Computation," **International Turkish Congress on Molecular Spectroscopy (TURCMOS2013)**
12. Zhang,M. , Badal,M. M. R. , Sonoda,T. , Misihima,M. , Fukaya,H. and Ono,T. (September 1 -6, 2013 ) , "Gas-phase Acidity of Polyfluorinated Hydrocarbons," **14th European Symposium on Organic Reactivity (ESOR 2013)**
11. Badal,M. M. R. ,Kobayashi,S. and Mishima,M. (March 26-29, 2011) , "Substituent Effect on Reactions of Phenylketenes with Primary Amines - Reactivity of Amide-enol Intermediates ," **The 91th Annual meeting of Chemical Society of Japan**
10. Yasui,S. ,Badal,M. M. R. and Mishima,M. (March 26-30, 2010 ) , "Time-resolved infrared spectroscopic study of photo-oxidation of triarylphosphines ," **The 90th Annual meeting of Chemical Society of Japan**
9. Badal,M. M. R. and Mishima,M. (March 26-30, 2010 ) , "Study on Intermediates in Reaction of Phenylketene with Amines. Amide enols or Zwitterions? ," **The 90th Annual meeting of Chemical Society of Japan**
8. Badal,M. M. R. and Mishima,M. (December, 15-18, 2009) , "Mechanistic Studies of Amination of Phenylketenes: A Laser Flash Photolysis with Time-resolved Infrared Detection ," **12th Kyushu International Symposium on Physical Organic Chemistry, KISPOC-XII**
7. Badal,M. M. R. and Mishima,M. (September, 28-30, 2009) , "Amination of Phenylketenes: Re-examination of substituent effect," **20th symposium on Physical Organic Chemistry**
6. Badal,M. M. R. , Allen,A. D. , Tidwell,T. T. and Mishima,M. (March 27-30, 2009) , "Photolysis of Diazoacetylpyrazine and 4-Diazoacetylpyrimidine -Nucleophilic Reactions of the Ketenes ," **The 89th Annual meeting of Chemical Society of Japan**
5. Badal,M. M. R. and Mishima,M. (October 3-5, 2008 ) , "Substituent effects on Amination of Phenylketene," **19th Symposium on Fundamental Organic Chemistry**
4. Badal,M. M. R. and Mishima,M. (March 26-30, 2008 ) , "Substituent Effect on Nucleophilic Reactions of Phenylketene," **The 88th spring meeting of Chemical Society of Japan**
3. Badal,M. M. R. and Mishima,M. (March 15, 2008 ) , "Mechanism of Nucleophilic Reaction of Ketenes ," **The 3rd Symposium on Materials Synthesis -Multidisciplinary approach for materials synthesis**
2. Badal,M. M. R. and Mishima,M. (September 29-30, 2007) , "Gas Phase Acidities of Acetophenone Oximes: Experimental and Theoretical Studies ," **57th Symposium on Physical Organic Chemistry**
1. Badal,M. M. R. and Mishima,M. (July 30-31, 2007) , "Substituent effect on the Gas Phase Acidity of acetophenone oxime: Experimental and Theoretical Studies ," **The Post ISNA-12 Symposium on Physical Organic Chemistry**