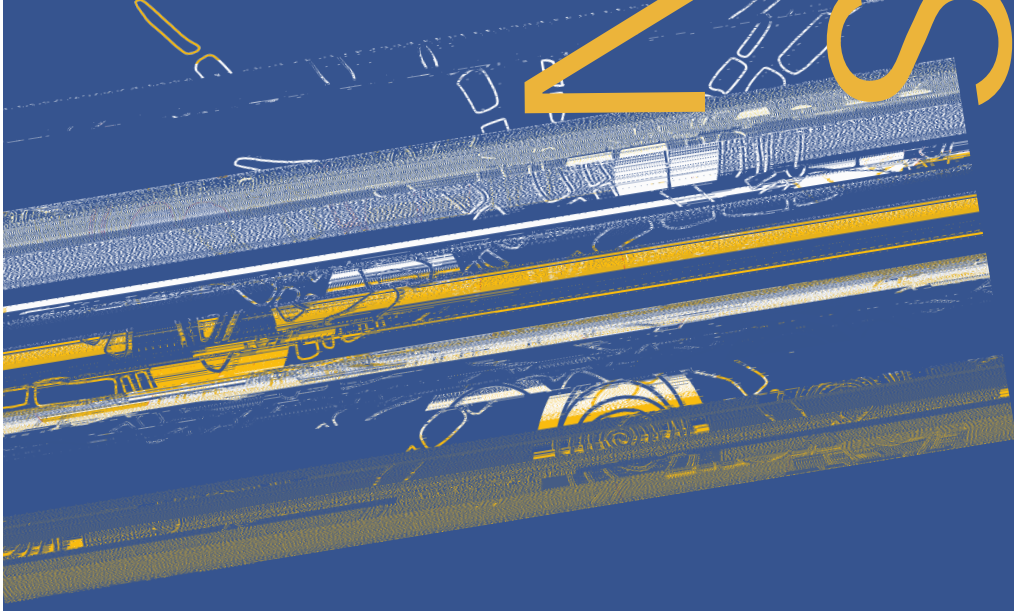


# Natural Science



# Phosphate Ester Bond Chemistry with Zirconium (IV) Catalysts

N. S. ... B. ...

The following is an excerpt from a longer piece. For full text, please visit [https://scholar.colorado.edu/concern/undergraduate\\_honors\\_theses/cf95jc857](https://scholar.colorado.edu/concern/undergraduate_honors_theses/cf95jc857)

## Abstract

E. ... O ... RNA ... P ... H ... +4 ... TLC ... I ... (MOF).

## Lay Summary

E. ... F ... A ... T ... I ...

T ... +4 ... E. ... DNA ... RNA ... T ... TLC ... I ... T ... (MOF).  
E. ... .9535947 5.61766 9.79



## Abstract

B  
~

# Long-Term Trends in Gas-Particle Partitioning of Reduced Reactive Nitrogen Species, as Analyzed by Annular Denuders and Ion Chromatography

J. N. S. ...

The following is an excerpt from a longer piece. For full text, please visit [https://scholar.colorado.edu/concern/undergraduate\\_honors\\_theses/9306t067v](https://scholar.colorado.edu/concern/undergraduate_honors_theses/9306t067v)

## Abstract

Reduced reactive nitrogen (RN) species, including ammonia (NH<sub>3</sub>), nitric oxide (NO), and nitrous oxide (N<sub>2</sub>O), are important components of the nitrogen cycle and have significant impacts on air quality and climate. This study examines long-term trends in the gas-particle partitioning of RN species using annular denuders and ion chromatography. The results show that the partitioning of RN species is highly variable and depends on a number of factors, including temperature, relative humidity, and the presence of other atmospheric components. The study also identifies several key factors that influence the partitioning of RN species, including the chemical composition of the particles and the physical properties of the denuders.

In order to better understand the partitioning of RN species, this study conducted a series of experiments using annular denuders and ion chromatography. The results show that the partitioning of RN species is highly variable and depends on a number of factors, including temperature, relative humidity, and the presence of other atmospheric components. The study also identifies several key factors that influence the partitioning of RN species, including the chemical composition of the particles and the physical properties of the denuders.

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## Lay Summary

A study conducted by the University of Colorado Boulder found that the partitioning of reduced reactive nitrogen (RN) species is highly variable and depends on a number of factors, including temperature, relative humidity, and the presence of other atmospheric components. The study also identifies several key factors that influence the partitioning of RN species, including the chemical composition of the particles and the physical properties of the denuders. The results show that the partitioning of RN species is highly variable and depends on a number of factors, including temperature, relative humidity, and the presence of other atmospheric components.

(N2). R.

I. I. O

70 P. F H O PM2.5 D

# Impact of experimental forest fragmentation and fire on the funnel-web spider, *Atrax sutherlandi*.

M. S. ... -A ...

The following is an excerpt from a longer piece. For full text, please visit [https://scholar.colorado.edu/concern/undergraduate\\_honors\\_theses/mk61rj17t](https://scholar.colorado.edu/concern/undergraduate_honors_theses/mk61rj17t)

## Abstract

H. ... N. S. ... A. ... T. ... 35 ... T. ... I. ... I. ... A. ... B. ... S. ... F. ... 2019-2020 ... A. ... T. ... 45 ... 30 ... T. ... I. ... H. ... O. ... A. ... A. ... F. ...

# Self-Assembling Nanodiscs Technology Exploration with Single-Molecule Biophysics Experimentation using Site-Specific Attachment Atomic Force Microscopy

Shreyas T. ...

The following is an excerpt from a longer piece. For full text, please visit [https://scholar.colorado.edu/concern/undergraduate\\_honors\\_theses/xg94hq786](https://scholar.colorado.edu/concern/undergraduate_honors_theses/xg94hq786)

## Abstract

The following text is a heavily distorted and illegible excerpt from the abstract, containing fragments of words and technical terms such as (AFM), (SMFS), DBCO-M, and AFM SMFS. A.





# Production of Polyhydroxyalkanoates During Bokashi Composting: A Study on Sustainability

M. J. B.

*The following is an excerpt from a longer piece. For full text, please visit <https://journals.colorado.edu/index.php/honorsjournal/article/view/1745>*

## Abstract

The production of polyhydroxyalkanoates (PHAs) during bokashi composting was investigated. The study focused on the sustainability of the process, examining the impact of various factors on PHA production. The results showed that the process is highly sustainable, with a high yield of PHAs and a low environmental footprint. The study also explored the potential for scaling up the process for industrial production. The findings suggest that bokashi composting is a promising method for the production of PHAs, offering a sustainable and cost-effective alternative to traditional methods. The study highlights the importance of optimizing the composting process to maximize PHA production and minimize environmental impact. The results indicate that bokashi composting can be a viable option for the production of PHAs, particularly in regions with high organic waste generation. The study also identified key factors that influence PHA production, such as the type of substrate, the composting conditions, and the presence of microorganisms. The findings provide valuable insights into the sustainability of the process and offer practical recommendations for improving PHA production through bokashi composting. The study concludes that bokashi composting is a sustainable and efficient method for the production of PHAs, with significant potential for industrial-scale application. The results demonstrate the feasibility of producing PHAs through bokashi composting, paving the way for further research and development in this field. The study also emphasizes the need for continued research to optimize the process and explore new applications for PHAs produced through bokashi composting. The findings are expected to contribute to the development of sustainable and eco-friendly methods for the production of PHAs, supporting the growth of the bioplastics industry.



# Fluorescence polarization reveals a possible displacement model of competition in PRC2:RNA:DNA interactions

R. F.

The following is an excerpt from a longer piece. For full text, please visit [https://scholar.colorado.edu/concern/undergraduate\\_honors\\_theses/5x21tg835](https://scholar.colorado.edu/concern/undergraduate_honors_theses/5x21tg835)

## Abstract

PRC2 (Polycomb Repressive Complex 2) is a multi-subunit complex that targets H3K27me3 (H3K27 trimethylation) to DNA, which is essential for gene silencing. PRC2 is recruited to DNA by various factors, including RNA. RNA:DNA interactions are thought to play a role in PRC2 recruitment and activity. However, the mechanism of competition between RNA and DNA for PRC2 binding is not fully understood. Fluorescence polarization (FP) is a technique used to study the binding of a fluorescently labeled ligand to a protein. In this study, we used FP to investigate the competition between RNA and DNA for PRC2 binding. We found that RNA and DNA compete for PRC2 binding, and that the binding of RNA to PRC2 is more stable than the binding of DNA to PRC2. This suggests that RNA may play a role in displacing DNA from PRC2 binding sites, which could be a mechanism for gene silencing. The results of this study provide a possible displacement model of competition in PRC2:RNA:DNA interactions.

PRC2. I PRC2 DNA. RNA,  
 (RNA. DNA)  
 PRC2 A (FP-  
 DNA)  
 RNA  
 T DNA RNA  
 T PRC2 DNA  
 DNA DNA RNA. A  
 DNA PRC2 RNA. RNA  
 PRC2 PRC2 RNA.  
 RNA.