

MURC 2019

Presentation ID: 273

Presentation Format: 10-Minute Oral Presentation

Presentation Title: Resolving π -type halogen bonding interactions for intermolecular electron transfer

Understanding the fundamental interactions between molecules provides a path towards better understanding our world through the lens of chemistry. In addition, it often serves as the groundwork for new applications that build on this fundamental research, as it becomes a tool in a researcher's toolbox during their quest in pushing the frontiers of science and technology. To this end, I have explored how a unique intermolecular interaction, halogen bonding, can accelerate electron transfer between molecules, a fundamental process in chemistry that is the basis for numerous catalytic systems, including those in biology. Recently, researchers have established that halogen bonding can accelerate intermolecular electron transfer rates. However, *how* it achieves that remains unresolved. In this talk, I will discuss how halogen bonding can enable accelerated electron transfer through a π -type geometry, with the claim chiefly supported by experimental results from transient absorption spectroscopy and computational modelling using density functional theory. As this π -type intermolecular interaction has not really been explored, it not only enhances our understanding towards intermolecular electron transfer, but also provides new avenues towards further research and novel applications.

Themes:

Check (highlight) the most applicable theme according to the abstract.

<input checked="" type="checkbox"/> Innovation and Technology	<input type="checkbox"/> Health and Wellness	<input type="checkbox"/> Culture and Society	<input type="checkbox"/> Sustainability and Conservation
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Comments:

A lot of great content here. Suggest breaking down some jargon into layman terms. Offers for rewording or substitutions presented above

Commented [SN1]: Consider rewording: Through the lens of chemistry, understanding the fundamental interactions between molecules provides a path towards better understanding our world.

Commented [SN2]: Consider condensing: (In addition, further understanding serves as the groundwork for new applications.)

Commented [SN3]: Consider condensing: This project focused on a a unique intermolecular interaction, halogen bonding, which can accelerate the transfer of electrons between molecules. Electron transfer is a fundamental process in chemistry because ???
Catalytic is a jargon term. Use layman terms.
Delete "including those in biology"

Commented [SN4]: Consider deletion

Commented [SN5]: Consider substitution as the first two sentences of this abstract suggest at the impact of this research – further knowledge and applications. Suggested substitution if you *will* discuss applications in your presentation: I will also discuss potential applications of these findings.