

**MECHANISTIC INSIGHTS INTO INTER-/INTRA-MOLECULAR THIOLYSIS OF  
SULFONATE ESTERS: REACTION DYNAMICS, ORBITAL OVERLAP vs  
MOLECULAR REACTIVITY, INDUCED PROXIMITY EFFECT AND DIRECTED  
TRANSANNULAR INTERACTION**

*A THESIS*

*Submitted in partial fulfilment of the requirements for the award of the degree*

*of*

**DOCTOR OF PHILOSOPHY**

*by*

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**SCHOOL OF BASIC SCIENCES  
INDIAN INSTITUTE OF TECHNOLOGY MANDI  
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*March, 2018*

*DEDICATED TO  
MY MOTHERLAND  
INDIA  
AND  
ITS  
FARMERS, TEACHERS,  
SOLDIERS, RESEARCHERS  
AND  
LOVING PARENTS*



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### Declaration by the Research Scholar

This is to certify that the thesis entitled “**Mechanistic insights into inter-/intra-molecular thiolysis of sulfonate esters: reaction dynamics, orbital overlap vs molecular reactivity, induced proximity effect and directed transannular interaction**” submitted by me to the Indian Institute of Technology Mandi for the award of the degree of Doctor of Philosophy is a bonafide record of research work carried out by me under the supervision of Dr. Subrata Ghosh. The contents of this thesis, in full or in parts, have not been submitted to any other Institute or University for the award of any degree or diploma.

In keeping with the general practice of reporting scientific observation, due acknowledgements have been made wherever the work described is based on the findings of other investigators.

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### Thesis Certificate

This is to certify that the thesis entitled “**Mechanistic insights into inter-/intra-molecular thiolysis of sulfonate esters: reaction dynamics, orbital overlap vs molecular reactivity, induced proximity effect and directed transannular interaction**” submitted by Mr. Mangili Venkateswarulu to the Indian Institute of Technology, Mandi for the award of the degree of Doctor of Philosophy is a bonafide record of research work carried out by him under my supervision. The contents of this thesis, in full or in parts, have not been submitted to any other Institute or University for the award of any degree or diploma. In keeping with the general practice of reporting scientific observation, due acknowledgements have been made wherever the work described is based on the findings of other investigators.

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Research Guide

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