STUDIES ON CORRELATION BETWEEN ELECTRONIC STRUCTURE AND ELECTRONIC CONDUCTIVITY IN MoX₂ (X = S, Se and Te)

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UNIVERSITI MALAYSIA PAHANG
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Thesis submitted in fulfillment of the requirements for the award of the degree of Bachelor of Applied Science (Honor) Material Technology

Faculty of Industrial Sciences & Technology
UNIVERSITI MALAYSIA PAHANG

DECEMBER 2016
SUPERVISORS’ DECLARATION

I hereby declare that I have checked the thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Bachelor of Applied Science (Honor) Material Technology.

Signature : 
Name of Supervisor : DR. SAIFFUL KAMALUDDIN BIN MUZAKIR 
Position : SUPERVISOR 
Date : 

STUDENT'S DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged. The thesis has not been accepted for any degree and is not concurrently submitted for award of other degree.

Signature : 
Name : MUHAMAD HAIKAL HAZAZI BIN MOHD RUSLAND
ID Number : SC13001
Date : 

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DEDICATION

Special Dedication to my supervisor, my family members, my friends and all faculty members for all your care, support and believe in me.
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# LIST OF SYMBOLS

<table>
<thead>
<tr>
<th>Symbol</th>
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<tr>
<td>~</td>
<td>approximately</td>
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<td>%</td>
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<td>wavelength</td>
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<td>angstrom ($10^{-10}$)</td>
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<td>$\sigma$</td>
<td>conductivity</td>
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<td>Abbreviation</td>
<td>Description</td>
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<td>--------------------------------------------</td>
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<tr>
<td>EC</td>
<td>electrochemical capacitor</td>
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<tr>
<td>ASC</td>
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<tr>
<td>B3LYP</td>
<td>Becke, 3-parameter, Lee-Yang-Parr.</td>
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<td>Crystallographic information file</td>
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<td>Periodic Boundary Conditions</td>
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<tr>
<td>HOMO</td>
<td>highest occupied molecular orbital</td>
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