

List of Tables

<i>Table 2.1 Hydrogen (Z=1)</i>	27
<i>Table 2.2 Carbon (Z=6)</i>	27
<i>Table 2.3 Flourine (Z=9)</i>	27
<i>Table 2.4 Oxygen (Z=8)</i>	27
<i>Table 2.5 Nitrogen (Z=7)</i>	28
<i>Table 2.6 Parameters A and B for 50 - 500 eV</i>	51
<i>Table 3.1 Prior research on e – - PFK scattering processes</i>	63
<i>Table 3.2 Dielectric Strength (E_r) and GWP comparative to SF₆ of PFK compounds</i>	64
<i>Table 3.3 Target properties of PFK molecules</i>	65
<i>Table 3.4 Total cross-sections (\AA^2) for CF₂O molecule.</i>	68
<i>Table 3.5 Total cross-sections (\AA^2) for C₂F₄O molecule.</i>	71
<i>Table 3.6 Total cross-sections (\AA^2) for C₃F₆O molecule.</i>	74
<i>Table 3.7 Total cross-sections (\AA^2) for C₄F₈O molecule</i>	77
<i>Table 3.8 Total cross-sections (\AA^2) for C₅F₁₀O molecule</i>	80
<i>Table 3.9 Total cross-sections (\AA^2) for C₆F₁₂O molecule.</i>	83
<i>Table 3.10 Present Molecule's properties and projected polarizability</i>	85
<i>Table 4.1 Literature survey of bio-molecules on the present study</i>	99
<i>Table 4.2 Molecular characteristics of present bio-molecules</i>	100
<i>Table 4.3 Total cross-sections (\AA^2) for Adenine molecule</i>	104
<i>Table 4.4 Total cross-sections (\AA^2) for Guanine molecule</i>	107
<i>Table 4.5 Total cross-sections (\AA^2) for Cytosine molecule</i>	110
<i>Table 4.6 Total cross-sections (\AA^2) for Thymine molecule.</i>	113
<i>Table 4.7 Total cross-sections (\AA^2) for Uracil molecule</i>	116

<i>Table 4.8 Literature survey of furfural and PBQ targets</i>	118
<i>Table 4.9 Targets properties of Furfural and PBQ Compounds</i>	119
<i>Table 4.10 Total cross-sections (\AA^2) for Furfural molecule</i>	122
<i>Table 4.11 Total cross-sections (\AA^2) for PBQ molecule</i>	126
<i>Table 4.12 Molecular properties of PFPA compound</i>	128
<i>Table 4.13 Predicted polarizability α (\AA^3)</i>	131
<i>Table 4.14 Computed dielectric constants (ϵ)</i>	133
<i>Table 4.15 Calculated Number density N and Dielectric constant ϵ</i>	134
<i>Table 4.16 Calculated and estimated dielectric constant (ϵ)</i>	136
<i>Table 5.1 Previous research addressed the scattering of electrons by fluoronitriles</i>	147
<i>Table 5.2 Comparison of the GWP and dielectric strength of SF_6, $\text{C}_3\text{F}_5\text{N}$ and $\text{C}_4\text{F}_7\text{N}$</i> ...	147
<i>Table 5.3 Target properties of $\text{C}_3\text{F}_5\text{N}$ and $\text{C}_4\text{F}_7\text{N}$</i>	147
<i>Table 5.4 Total cross-sections (\AA^2) for Pentafluoropropionitrile molecule</i>	150
<i>Table 5.5 Total cross-sections (\AA^2) for Heptafluorobutyronitrile molecule</i>	154
<i>Table 5.6 Molecular properties and predicted α</i>	156
<i>Table 5.7 Calculated number density N and dielectric constant ϵ</i>	160
<i>Table 6.1 Summary of the present work</i>	166