

## CONTENT

<b>1. INTRODUCTION</b>	<b>1</b>
<b>1.1 Risk Factors for AD</b>	<b>2</b>
<b>1.1.1 Non-modifiable risk factors</b>	<b>2</b>
<b>1.1.2 Modifiable risk factors</b>	<b>3</b>
<b>1.2 Pathophysiology of AD</b>	<b>5</b>
<b>1.2.1 Cholinergic hypothesis</b>	<b>5</b>
<b>1.2.2 Amyloid <math>\beta</math>-cascade and Tau (<math>\tau</math>) hypothesis</b>	<b>7</b>
<b>1.2.3 Oxidative stress</b>	<b>8</b>
<b>1.2.4 Metal ion dyshomeostasis</b>	<b>10</b>
<b>1.3 References</b>	<b>11</b>
<b>2. LITERATURE REVIEW</b>	<b>19</b>
<b>2.1 Tacrine-based multifunctional cholinesterase inhibitors</b>	<b>19</b>
<b>2.2 Donepezil-based multifunctional cholinesterase inhibitors</b>	<b>25</b>
<b>2.3 Rivastigmine-based multifunctional cholinesterase inhibitors</b>	<b>31</b>
<b>2.4 Miscellaneous cholinesterase inhibitors</b>	<b>32</b>
<b>2.5 References</b>	<b>38</b>
<b>3. AIM AND OBJECTIVES</b>	<b>47</b>
<b>4. RESULT AND DISCUSSION</b>	<b>49</b>
<b>4.1 Chemical studies</b>	<b>49</b>
<b>4.1.1 Synthesis of vicinal diaryl-substituted triazines (119-194)</b>	<b>53</b>
<b>4.1.1.1 Synthesis of 1,2-diarylethanones (81 and 82)</b>	<b>53</b>
<b>4.1.1.2 Synthesis of 1,2-diarylethane-1,2-diones (83 and 84)</b>	<b>53</b>
<b>4.1.1.3 Synthesis of 5,6-diaryl-1,2,4-triazine-3-thiols (86-88)</b>	<b>54</b>
<b>4.1.1.4 Synthesis of 3-(methylthio)-5,6-diaryl-1,2,4-triazines (89-91)</b>	<b>54</b>
<b>4.1.1.5 Synthesis of 1-substituted benzylpiperidine-4-carboxamides (94-107)</b>	<b>55</b>
<b>4.1.1.6 Synthesis of <i>N</i>-(2-aminoethyl)-5,6-diaryl-1,2,4-triazin-3-amines (108-110)</b>	<b>57</b>

4.1.1.7	Synthesis of 1-( <i>t</i> .butoxycarbonyl)piperidine-4-carboxylic acid ( <b>112</b> )	58
4.1.1.8	Synthesis of <i>t</i> .butyl 4-(2-(5,6-diaryl-1,2,4-triazin-3-ylamino)ethyl-carbamoyl)piperidine-1-carboxylates ( <b>113-115</b> )	58
4.1.1.9	Synthesis of <i>N</i> -(2-(5,6-diaryl-1,2,4-triazin-3-ylamino)ethyl)-1-benzylpiperidine-4-carboxamides ( <b>119-160</b> )	59
4.1.1.10	Synthesis of <i>N</i> -(5,6-diaryl-1,2,4-triazin-3-yl)-1-benzylpiperidine-4-carboxamides ( <b>161-194</b> )	75
4.1.2	Synthesis of vicinal diaryl-substituted pyrimidines ( <b>202-215</b> )	89
4.1.2.1	Synthesis of 3-(dimethylamino)-1,2-bis(4-methoxyphenyl)prop-2-en-1-one ( <b>196</b> )	89
4.1.2.2	Synthesis of <i>t</i> .butyl 2-guanidinyethylcarbamate ( <b>197</b> )	90
4.1.2.3	Synthesis of <i>t</i> .butyl 2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethylcarbamate ( <b>198</b> )	90
4.1.2.4	Synthesis of <i>N</i> -(2-aminoethyl)-4,5-bis(4-methoxyphenyl)pyrimidin-2-amine ( <b>199</b> )	91
4.1.2.5	Synthesis of <i>t</i> .butyl 4-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethylcarbamoyl)piperidine-1-carboxylate ( <b>200</b> )	91
4.1.2.6	Synthesis of <i>N</i> -(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-substituted benzyl-4-carboxamides ( <b>202-215</b> )	92
4.1.3	Synthesis of vicinal diaryltriazines-donepezil hybrids ( <b>218-220</b> )	99
4.1.3.1	Synthesis of 2-bromo-5,6-dimethoxyindan-1-one ( <b>217</b> )	99
4.1.3.2	Synthesis of 2-(5,6-diaryl-1,2,4-triazin-3-ylthio)-5,6-dimethoxyindan-1-ones ( <b>218-220</b> )	100
4.2	Biological studies	101
5.	<b>EXPERIMENTAL</b>	<b>102</b>
5.1	Chemical work	102
5.1.1	1,2-Bis(4-methoxyphenyl)ethanone ( <b>81</b> )	102
5.1.2	1,2-Bis(4-chlorophenyl)ethanone ( <b>82</b> )	103
5.1.3	1,2-Bis(4-methoxyphenyl)ethane-1,2-dione ( <b>83</b> )	103
5.1.4	1,2-Bis(4-chlorophenyl)ethane-1,2-dione ( <b>84</b> )	103
5.1.5	5,6-Bis(4-methoxyphenyl)-1,2,4-triazine-3-thiol ( <b>86</b> )	104
5.1.6	5,6-Bis(4-chlorophenyl)-1,2,4-triazine-3-thiol ( <b>87</b> )	104

<b>5.1.7</b>	5,6-Diphenyl-1,2,4-triazine-3-thiol ( <b>88</b> )	104
<b>5.1.8</b>	3-(Methylthio)-5,6-bis(4-methoxyphenyl)-1,2,4-triazine ( <b>89</b> )	105
<b>5.1.9</b>	3-(Methylthio)-5,6-bis(4-chlorophenyl)-1,2,4-triazine ( <b>90</b> )	105
<b>5.1.10</b>	3-(Methylthio)-5,6-diphenyl-1,2,4-triazine ( <b>91</b> )	105
<b>5.1.11</b>	1-(4-(Trifluoromethoxy)benzyl)piperidine-4-carboxamide ( <b>94</b> )	106
<b>5.1.12</b>	1-(2-Chlorobenzyl)piperidine-4-carboxamide ( <b>95</b> )	106
<b>5.1.13</b>	1-(4-(Trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>96</b> )	107
<b>5.1.14</b>	1-(4-Chlorobenzyl)piperidine-4-carboxamide ( <b>97</b> )	107
<b>5.1.15</b>	1-(4-Cyanobenzyl)piperidine-4-carboxamide ( <b>98</b> )	107
<b>5.1.16</b>	1-(3-Methoxybenzyl)piperidine-4-carboxamide ( <b>99</b> )	107
<b>5.1.17</b>	1-(2-Methylbenzyl)piperidine-4-carboxamide ( <b>100</b> )	108
<b>5.1.18</b>	1-(2-(Trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>101</b> )	108
<b>5.1.19</b>	1-(2-Cyanobenzyl)piperidine-4-carboxamide ( <b>102</b> )	108
<b>5.1.20</b>	1-(2,6-Difluorobenzyl)piperidine-4-carboxamide ( <b>103</b> )	109
<b>5.1.21</b>	1-(3,5-Difluorobenzyl)piperidine-4-carboxamide ( <b>104</b> )	109
<b>5.1.22</b>	1-(4-Methylbenzyl)piperidine-4-carboxamide ( <b>105</b> )	109
<b>5.1.23</b>	1-(2-Fluorobenzyl)piperidine-4-carboxamide ( <b>106</b> )	109
<b>5.1.24</b>	1-(4-Fluorobenzyl)piperidine-4-carboxamide ( <b>107</b> )	110
<b>5.1.25</b>	<i>N</i> -(2-Aminoethyl)-5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-amine ( <b>108</b> )	110
<b>5.1.26</b>	<i>N</i> -(2-Aminoethyl)-5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-amine ( <b>109</b> )	110
<b>5.1.27</b>	<i>N</i> -(2-Aminoethyl)-5,6-diphenyl-1,2,4-triazin-3-amine ( <b>110</b> )	111
<b>5.1.28</b>	1-( <i>t</i> .Butoxycarbonyl)piperidine-4-carboxylic acid ( <b>112</b> )	111
<b>5.1.29</b>	<i>t</i> .Butyl 4-(2-(5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl carbamoyl)piperidine-1-carboxylate ( <b>113</b> )	112
<b>5.1.30</b>	<i>t</i> .Butyl 4-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl carbamoyl)piperidine-1-carboxylate ( <b>114</b> )	112
<b>5.1.31</b>	<i>t</i> .Butyl 4-(2-(5,6-diphenyl-1,2,4-triazin-3-ylamino)ethylcarbamoyl) piperidine-1-carboxylate ( <b>115</b> )	113
<b>5.1.32</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl) piperidine-4-carboxamide ( <b>116</b> )	113
<b>5.1.33</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl) piperidine-4-carboxamide ( <b>117</b> )	113
<b>5.1.34</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-	

carboxamide ( <b>118</b> )	114
<b>5.1.35</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-(trifluoromethoxy)benzyl)piperidine-4-carboxamide ( <b>119</b> )	114
<b>5.1.36</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-chlorobenzyl)piperidine-4-carboxamide ( <b>120</b> )	115
<b>5.1.37</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-(trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>121</b> )	115
<b>5.1.38</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-chlorobenzyl)piperidine-4-carboxamide ( <b>122</b> )	116
<b>5.1.39</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-cyanobenzyl)piperidine-4-carboxamide ( <b>123</b> )	116
<b>5.1.40</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(3-methoxybenzyl)piperidine-4-carboxamides ( <b>124</b> )	117
<b>5.1.41</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-methylbenzyl)piperidine-4-carboxamide ( <b>125</b> )	117
<b>5.1.42</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-(trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>126</b> )	118
<b>5.1.43</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-cyanobenzyl)piperidine-4-carboxamide ( <b>127</b> )	118
<b>5.1.44</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2,6-difluorobenzyl)piperidine-4-carboxamide ( <b>128</b> )	119
<b>5.1.45</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(3,5-difluorobenzyl)piperidine-4-carboxamide ( <b>129</b> )	120
<b>5.1.46</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-methylbenzyl)piperidine-4-carboxamide ( <b>130</b> )	120
<b>5.1.47</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-fluorobenzyl)piperidine-4-carboxamide ( <b>131</b> )	121
<b>5.1.48</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-fluorobenzyl)piperidine-4-carboxamide ( <b>132</b> )	121
<b>5.1.49</b> <i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-(trifluoromethoxy)benzyl)piperidine-4-carboxamide ( <b>133</b> )	122
<b>5.1.50</b> <i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-chlorobenzyl)piperidine-4-carboxamide ( <b>134</b> )	122
<b>5.1.51</b> <i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-(trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>135</b> )	123
<b>5.1.52</b> <i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-chlorobenzyl)piperidine-4-carboxamide ( <b>136</b> )	123

<b>5.1.53</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-cyanobenzyl)piperidine-4-carboxamide ( <b>137</b> )	124
<b>5.1.54</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(3-methoxybenzyl)piperidine-4-carboxamides ( <b>138</b> )	124
<b>5.1.55</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-methylbenzyl)piperidine-4-carboxamide ( <b>139</b> )	125
<b>5.1.56</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-(trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>140</b> )	125
<b>5.1.57</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-cyanobenzyl)piperidine-4-carboxamide ( <b>141</b> )	126
<b>5.1.58</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2,6-difluorobenzyl)piperidine-4-carboxamide ( <b>142</b> )	126
<b>5.1.59</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(3,5-difluorobenzyl)piperidine-4-carboxamide ( <b>143</b> )	127
<b>5.1.60</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-methylbenzyl)piperidine-4-carboxamide ( <b>144</b> )	127
<b>5.1.61</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-fluorobenzyl)piperidine-4-carboxamide ( <b>145</b> )	128
<b>5.1.62</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-fluorobenzyl)piperidine-4-carboxamide ( <b>146</b> )	128
<b>5.1.63</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-ylamino)ethyl)-1-(4-(trifluoromethoxy)benzyl)piperidine-4-carboxamide ( <b>147</b> )	129
<b>5.1.64</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-ylamino)ethyl)-1-(2-chlorobenzyl)piperidine-4-carboxamide ( <b>148</b> )	129
<b>5.1.65</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-ylamino)ethyl)-1-(4-(trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>149</b> )	130
<b>5.1.66</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-ylamino)ethyl)-1-(4-chlorobenzyl)piperidine-4-carboxamide ( <b>150</b> )	130
<b>5.1.67</b>	<i>N</i> -(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-cyanobenzyl)piperidine-4-carboxamide ( <b>151</b> )	131
<b>5.1.68</b>	<i>N</i> -(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(3-methoxybenzyl)piperidine-4-carboxamides ( <b>152</b> )	131
<b>5.1.69</b>	<i>N</i> -(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-methylbenzyl)piperidine-4-carboxamide ( <b>153</b> )	132
<b>5.1.70</b>	<i>N</i> -(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-(trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>154</b> )	132
<b>5.1.71</b>	<i>N</i> -(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-	

(2-cyanobenzyl)piperidine-4-carboxamide ( <b>155</b> )	133
<b>5.1.72</b> <i>N</i> -(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2,6-difluorobenzyl)piperidine-4-carboxamide ( <b>156</b> )	133
<b>5.1.73</b> <i>N</i> -(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(3,5-difluorobenzyl)piperidine-4-carboxamide ( <b>157</b> )	134
<b>5.1.74</b> <i>N</i> -(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-methylbenzyl)piperidine-4-carboxamide ( <b>158</b> )	134
<b>5.1.75</b> <i>N</i> -(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-fluorobenzyl)piperidine-4-carboxamide ( <b>159</b> )	135
<b>5.1.76</b> <i>N</i> -(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-fluorobenzyl)piperidine-4-carboxamide ( <b>160</b> )	135
<b>5.1.77</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(4-(trifluoromethoxy)benzyl)piperidine-4-carboxamide ( <b>161</b> )	136
<b>5.1.78</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(2-chlorobenzyl)piperidine-4-carboxamide ( <b>162</b> )	137
<b>5.1.79</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(4-(trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>163</b> )	137
<b>5.1.80</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(4-chlorobenzyl)piperidine-4-carboxamide ( <b>164</b> )	138
<b>5.1.81</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(4-cyanobenzyl)piperidine-4-carboxamide ( <b>165</b> )	138
<b>5.1.82</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(3-methoxybenzyl)piperidine-4-carboxamides ( <b>166</b> )	139
<b>5.1.83</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(2-methylbenzyl)piperidine-4-carboxamide ( <b>167</b> )	139
<b>5.1.84</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(2-(trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>168</b> )	140
<b>5.1.85</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(2-cyanobenzyl)piperidine-4-carboxamide ( <b>169</b> )	140
<b>5.1.86</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(2,6-difluorobenzyl)piperidine-4-carboxamide ( <b>170</b> )	141
<b>5.1.87</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(3,5-difluorobenzyl)piperidine-4-carboxamide ( <b>171</b> )	141
<b>5.1.88</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(4-methylbenzyl)piperidine-4-carboxamide ( <b>172</b> )	142
<b>5.1.89</b> <i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(2-fluorobenzyl)piperidine-4-carboxamide ( <b>173</b> )	142

<b>5.1.90</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(4-fluorobenzyl)piperidine-4-carboxamide ( <b>174</b> ))	143
<b>5.1.91</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-yl)-1-(4-(trifluoromethoxy)benzyl)piperidine-4-carboxamide ( <b>175</b> ))	143
<b>5.1.92</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-yl)-1-(4-chlorobenzyl)piperidine-4-carboxamide ( <b>176</b> ))	144
<b>5.1.93</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-yl)-1-(2-methylbenzyl)piperidine-4-carboxamide ( <b>177</b> ))	144
<b>5.1.94</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-yl)-1-(2,6-difluorobenzyl)piperidine-4-carboxamide ( <b>178</b> ))	145
<b>5.1.95</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-yl)-1-(3,5-difluorobenzyl)piperidine-4-carboxamide ( <b>179</b> ))	145
<b>5.1.96</b>	<i>N</i> -(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-yl)-1-(4-fluorobenzyl)piperidine-4-carboxamide ( <b>180</b> ))	146
<b>5.1.97</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(4-(trifluoromethoxy)benzyl)piperidine-4-carboxamide ( <b>181</b> ))	146
<b>5.1.98</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(2-chlorobenzyl)piperidine-4-carboxamide ( <b>182</b> ))	147
<b>5.1.99</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(4-(trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>183</b> ))	147
<b>5.1.100</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(4-chlorobenzyl)piperidine-4-carboxamide ( <b>184</b> ))	148
<b>5.1.101</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(4-cyanobenzyl)piperidine-4-carboxamide ( <b>185</b> ))	148
<b>5.1.102</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(3-methoxybenzyl)piperidine-4-carboxamides ( <b>186</b> ))	149
<b>5.1.103</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(2-methylbenzyl)piperidine-4-carboxamide ( <b>187</b> ))	149
<b>5.1.104</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(2-(trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>188</b> ))	150
<b>5.1.105</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(2-cyanobenzyl)piperidine-4-carboxamide ( <b>189</b> ))	150
<b>5.1.106</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(2,6-difluorobenzyl)piperidine-4-carboxamide ( <b>190</b> ))	151
<b>5.1.107</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(3,5-difluorobenzyl)piperidine-4-carboxamide ( <b>191</b> ))	151
<b>5.1.108</b>	<i>N</i> -(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(4-methylbenzyl)piperidine-4-carboxamide ( <b>192</b> ))	

	piperidine-4-carboxamide ( <b>192</b> )	152
<b>5.1.109</b>	<i>N</i> -(2-(5,6-Diphenyl)-1,2,4-triazin-3-yl)-1-(2-fluorobenzyl) piperidine-4-carboxamide ( <b>193</b> )	152
<b>5.1.110</b>	<i>N</i> -(2-(5,6-Diphenyl)-1,2,4-triazin-3-yl)-1-(4-fluorobenzyl) piperidine-4-carboxamide ( <b>194</b> )	153
<b>5.1.111</b>	3-(Dimethylamino)-1,2-bis(4-methoxyphenyl)prop-2-en-1-one ( <b>196</b> )	153
<b>5.1.112</b>	<i>t</i> .Butyl 2-guanidinylethylcarbamate ( <b>197</b> )	153
<b>5.1.113</b>	<i>t</i> .Butyl 2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino) ethylcarbamate ( <b>198</b> )	154
<b>5.1.114</b>	<i>N</i> -(2-Aminoethyl)-4,5-bis(4-methoxyphenyl)pyrimidin-2-amine ( <b>199</b> )	154
<b>5.1.115</b>	<i>t</i> .Butyl 4-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino) ethylcarbamoyl-piperidine-1-carboxylate ( <b>200</b> )	155
<b>5.1.116</b>	<i>N</i> -(2-(4,5-Bis(4-methoxyphenyl)pyrimidin-2-ylamino) ethyl)piperidine-4-carboxamide ( <b>201</b> )	155
<b>5.1.117</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1- (4-(trifluoromethoxy)benzyl)piperidine-4-carboxamide ( <b>202</b> )	156
<b>5.1.118</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1- (2-chlorobenzyl)piperidine-4-carboxamide ( <b>203</b> )	156
<b>5.1.119</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1- (4-(trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>204</b> )	157
<b>5.1.120</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1- (4-chlorobenzyl)piperidine-4-carboxamide ( <b>205</b> )	157
<b>5.1.121</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1- (4-cyanobenzyl)piperidine-4-carboxamide ( <b>206</b> )	158
<b>5.1.122</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1- (3-methoxybenzyl)piperidine-4-carboxamides ( <b>207</b> )	159
<b>5.1.123</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1- (2-methylbenzyl)piperidine-4-carboxamide ( <b>208</b> )	159
<b>5.1.124</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1- (2-(trifluoromethyl)benzyl)piperidine-4-carboxamide ( <b>209</b> )	160
<b>5.1.125</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1- (2-cyanobenzyl)piperidine-4-carboxamide ( <b>210</b> )	160
<b>5.1.126</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1- (2,6-difluorobenzyl)piperidine-4-carboxamide ( <b>211</b> )	161
<b>5.1.127</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1- (3,5-difluorobenzyl)piperidine-4-carboxamide ( <b>212</b> )	162

<b>5.1.128</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(4-methylbenzyl)piperidine-4-carboxamide ( <b>213</b> )	162
<b>5.1.129</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(2-fluorobenzyl)piperidine-4-carboxamide ( <b>214</b> )	163
<b>5.1.130</b>	<i>N</i> -(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(4-fluorobenzyl)piperidine-4-carboxamide ( <b>215</b> )	163
<b>5.1.131</b>	2-Bromo-2,3-dihydro-5,6-dimethoxyinden-1-one ( <b>217</b> )	164
<b>5.1.132</b>	2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylthio)-5,6-dimethoxyindan-1-one ( <b>218</b> )	164
<b>5.1.133</b>	2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylthio)-5,6-dimethoxyindan-1-one ( <b>219</b> )	165
<b>5.1.134</b>	2-(5,6-Diphenyl-1,2,4-triazin-3-ylthio)-5,6-dimethoxyindan-1-one ( <b>220</b> )	165
<b>5.2</b>	References	166
<b>6.</b>	<b>CONCLUSION</b>	<b>167</b>
<b>7.</b>	<b>SUPPLEMENTARY</b>	<b>168</b>