5. Experimental

The experimental work performed to achieve the goals of the proposed work has been described under the heading of chemical work.

5.1 Chemical work

All the chemical reagents and solvents used for the synthesis of the proposed compounds were purified using standard laboratory techniques prior to use. Completion of the reactions was monitored through thin layer chromatography (TLC) on aluminium supported silica gel 60 G plates; using ultraviolet light (254 nm, short wavelength), iodine vapours or ninhydrin reagent as visualizing media. Melting points of the synthesized compounds were determined on Veego make oil bath-type melting point apparatus using open glass capillaries method and were uncorrected. Purification of the compounds was carried out with the aid of column chromatography using silica gel (100-200 mesh) or neutral alumina as the stationary phases. Bruker FT-IR, model ALPHA-T (Germany) spectrophotometer was used for recording of the IR spectra of individual compounds (wave numbers in cm^{-1}) using KBr disc method. ^{1}H-NMR of the synthesized compounds were recorded on Bruker Advance-II 400 MHz spectrometer in $CDCl_3$ (TMS used as internal standard) solvent. Multiplicities of the protons are given as singlet (s), doublet (d), doublets of doublet (dd), doublets of triplet (dt), triplet (t), multiplet (m) and broad singlet (bs), and the chemical shift values are indicated in δ ppm, and coupling constant (*J*) in Hz. Mass spectra were recorded on ABI MSD Sciex, model API-3000 spectrometer with ESI as the ion source.

5.1.1 1,2-Bis(4-methoxyphenyl)ethanone (**81**)

In 50 ml RBF, 2-(4-methoxyphenyl)acetic acid (**77**, 1 gm, 6.01 mM) was reacted with thionyl chloride (1.74 ml, 24.07 mM) at reflux condition for 2-3 hrs in vacuum sealed and dry condition. Completion of the reaction was monitored by TLC. After completion of the reaction, fumes of HCl and gaseous by-products were removed by vacuum. In another 100 ml RBF, anhydrous aluminium chloride (1.20 gm, 9.02 mM) was taken in dry DCM at 0-4 ^oC and anisole (**79**, 0.65 ml, 6.01 mM) was added to it. To this reaction mixture 2-(4-methoxy phenyl)acetyl chloride in dry DCM was added slowly drop-wise in cold condition. The reaction mixture was then allowed to stir for 2 hrs. After completion of the reaction, the reaction mixture was poured into crushed ice containing conc. HCl. The mixture was then extracted with chloroform (30 ml X 3) and the combined organic layer was washed with $NaHCO_3$ solution (5%, aqueous). The organic layer was dried over anhydrous Na_2SO_4 and

removed to obtain the desired product (**81**, 1.35 gm, 83%); m.p. 109-111 ^{o}C (Lit.[1] 110-112 ^{o}C).

Analysis:

TLC : R_f 0.82 (*n*-Hexane: ethyl acetate; 8:2).

IR (KBr, cm^{-1}) : 3028, 2963, 1674, 1596, 1455, 1261, 1166, 1023, 825.

5.1.2 1,2-Bis(4-chlorophenyl)ethanone (82)

Compound (**82**) was prepared by treating 2-(4-chlorophenyl)acetic acid (**78**, 1 gm, 5.86 mM) with thionyl chloride (1.7 ml, 23.45 mM) and subsequent Friedel-Craft acylation reaction with chlorobenzene (**80**, 0.6 ml, 5.86 mM) following the procedure described for the synthesis of compound (**81**) to obtain a white solid (**82**, 1.32 gm, 85%); m.p. 111-113 ^{o}C (Lit.[2] 112-114 ^{o}C).

Analysis:

TLC : R_f 0.89 (*n*-Hexane: ethyl acetate; 8:2).

IR (KBr, cm^{-1}) : 3092, 3039, 2897, 1689, 1585, 1489, 1205, 1090, 821.

5.1.3 1,2-Bis(4-methoxyphenyl)ethane-1,2-dione (83)

1,2-Bis(4-methoxyphenyl)ethanone (**81**, 1.0 gm, 3.9 mM) and selenium dioxide (1.30 gm, 11.7 mM) were added to DMSO (7 ml) in 100 ml RBF and irradiated the mixture in microwave radiation intermittently. After the completion of reaction, the hot reaction mixture was filtered and washed with warm dioxane (10 ml). The filtrate was then poured in crushed ice. The precipitate so obtained was filtered, washed with cold water, dried and recrystallised using methanol to get the desired product (**83**, 0.98 gm, 93%); m.p. 131-133 ^{o}C (Lit.[3] 131-132).

Analysis:

TLC : R_f 0.52 (*n*-Hexane: ethyl acetate; 9:1).

IR (KBr, cm^{-1}) : 2951, 2847, 1655, 1599, 1262, 1160, 1016, 877, 833, 750.

5.1.4 1,2-Bis(4-chlorophenyl)ethane-1,2-dione (84)

Compound (**84**) was synthesized from 1,2-bis(4-chlorophenyl)ethanone (**82**, 1.0 gm, 3.77 mM) and selenium dioxide (1.25 gm, 11.31 mM) using the procedure described for the

synthesis of compound (**83**) to obtain the desired product (**84**, 0.79 gm, 75%); m.p. 187-189 ^{o}C (Lit.[4] 197-198 ^{o}C).

Analysis:

TLC : R_f 0.52 (*n*-Hexane: ethyl acetate; 9:1).

IR (KBr, cm^{-1}) : 3092, 2928, 1662, 1583, 1210, 1171, 1090, 879, 834, 764.

5.1.5 5,6-Bis(4-methoxyphenyl)-1,2,4-triazine-3-thiol (**86**)

1,2-Bis(4-methoxyphenyl)ethane-1,2-dione (**83**, 1.00 gm, 3.70 mM), thiosemicarbazide (0.34 gm, 3.70 mM) and potassium carbonate (0.76 gm, 5.55 mM) were added to a mixture of methanol (10 ml) and H_2O (2 ml). The reaction mixture was then refluxed for 3 hrs. After completion, the reaction mixture was poured in crushed ice (200 gm) and acidified with conc. HCl till the effervescence of CO_2 ceased. The precipitate so formed was filtered, washed with cold water and dried to get the product (**86**, 861.14 gm, 95%). m.p. 166-167 ^{o}C (Lit.[5] 168-169 ^{o}C).

Analysis:

TLC : R_f 0.39 (*n*-Hexane: ethyl acetate; 7:3).

IR (KBr, cm^{-1}) : 3120, 2837, 1604, 1521, 1365, 1256, 1167, 1022, 831.

5.1.6 5,6-Bis(4-chlorophenyl)-1,2,4-triazine-3-thiol (87)

Compound (**87**) was prepared from 1,2-bis(4-chlorophenyl)ethane-1,2-dione (**84**, 1.00 gm, 3.58 mM) following the method used for the synthesis of compound (**86**) to obtain the desired product (**87**, 1.1 gm, 91%); m.p. 155-157 ^{o}C (Lit.[5] 158-160 ^{o}C).

Analysis:

TLC : R_f 0.43 (*n*-Hexane: ethyl acetate; 7:3).

IR (KBr, cm^{-1}) : 3143, 2926, 1591, 1533, 1368, 1177, 1014, 832.

5.1.7 5,6-Diphenyl-1,2,4-triazine-3-thiol (88)

Compound (**88**) was prepared from benzil (**85**, 1.00 gm, 4.75 mM) following the method used for the synthesis of compound (**86**) to obtain the desired product (**88**, 1.21 gm, 96%); m. p. 207-209 ^{o}C (Lit.[6] 201-202 ^{o}C).

Analysis:

TLC : R_f 0.43 (*n*-Hexane: ethyl acetate; 7:3).

IR (KBr, cm^{-1}) : 3123, 3091, 2975, 2869, 1670, 1534, 1182, 1027, 881, 762, 696.

5.1.8 3-(Methylthio)-5,6-bis(4-methoxyphenyl)-1,2,4-triazine (89)

In a 100 ml single necked round bottom flask, 5,6-bis(4-methoxyphenyl)-1,2,4-triazine-3-thiol (**86**, 1.00 gm, 3.07 mM) was dissolved in DMSO (10 ml). Sodium carbonate (0.65 gm, 6.14 mM) and potassium iodide (0.51 gm, 3.07 mM) were added to the reaction mixture and allowed it to stir at RT for 20 min. Methyl iodide (0.43 gm, 3.07 mM) was added to the above reaction mixture. The reaction mixture was then stirred for 30 min and TLC was checked to monitor the reaction completion. After completion, the reaction mixture was poured into the crushed ice/water. The precipitated compound was filtered, washed with water and dried to get the desired product (**89**, 0.98 gm, 94%); m.p. 132-134 ^{o}C (Lit.[5] 133-134 ^{o}C).

Analysis:

TLC : R_f 0.80 (*n*-Hexane: ethyl acetate; 8:2).

IR (KBr, cm^{-1}) : 2960, 2838, 1602, 1460, 1351, 1252, 1176, 1097, 1021, 832.

5.1.9 3-(Methylthio)-5,6-bis(4-chlorophenyl)-1,2,4-triazine (90)

Compound (**90**) was synthesized from 5,6-bis(4-chlorophenyl)-1,2,4-triazine-3-thiol (**87**, 1.00 gm, 2.99 mM) using the procedure mentioned for the preparation of compound (**89**). The titled compound (**90**) was obtained as a light yellow solid (0.96 gm, 92%); m.p. 139-140 ^{o}C (Lit.[5] 137-139 ^{o}C).

Analysis:

TLC : R_f 0.85 (*n*-Hexane: ethyl acetate; 8:2).

IR (KBr, cm^{-1}) : 3065, 2928, 1593, 1499, 1351, 1189, 1085, 1013, 844, 722.

5.1.10 3-(Methylthio)-5,6-diphenyl-1,2,4-triazine (91)

In a 100 ml single necked round bottom flask, 5,6-diphenyl-1,2,4-triazine-3-thiol (**88**, 1.00 gm, 3.77 mM) was dissolved in methanol (30 ml) and triethylamine (0.57 gm, 5.65 mM) was added to it. The reaction mixture was stirred at 10-15 ^{o}C for 15-20 min., and then methyl iodide (0.64 gm, 4.52 mM) was slowly added to the above reaction mixture. The reaction

mixture was allowed to stir for 30 min. After completion of the reaction, excess of methanol was removed on rota evaporator and poured the reaction mixture into crushed ice. The precipitated compound was filtered, washed with water and dried to get the desired product (**91**, 1.03 gm, 98%) m.p. 117-119 **°**C (Lit.[7] 119-120 °C).

Analysis:

TLC : R_f 0.89 (*n*-Hexane: ethyl acetate; 8:2).

IR (KBr, cm^{-1}) : 3061, 2920, 1671, 1492, 1330, 1184, 975, 864, 693.

5.1.11 1-(4-(Trifluoromethoxy)benzyl)piperidine-4-carboxamide (94)

In 50 ml RBF, piperidine-4-carboxamide (**92**, 1.00 gm, 7.82 mM) was dissolved in MeOH (10 ml). To this solution, 4-(trifluoromethoxy)benzyl bromide (**93a**, 1.33 gm, 5.21 mM) and potassium carbonate (2.16 gm, 15.6 mM) were added and refluxed it for 3-4 hrs on water bath. After completion, the reaction mixture was poured into crushed ice to precipitate white solid which was filtered and dried to obtain the desired product (**94**, 1.30 gm, 55%) m.p. 151-153 **°**C.

Analysis:

TLC : R_f 0.38 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3372, 3184, 2940, 1650, 1440, 1301, 1132, 1041, 930, 750, 682.

Mass (*m/z*) **:** 303.34 $[M+H]^+$

5.1.12 1-(2-Chlorobenzyl)piperidine-4-carboxamide (95)

Compound (**95**) was prepared by using 2-chlorobenzyl bromide (**93b**, 1.10 gm, 5.35 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**95**) was obtained as white solid (1.18 gm, 60%); m.p. 159-161 °C.

Analysis:

TLC : R_f 0.41 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3334, 3164, 2945, 1632, 1432, 1305, 1264, 1147, 1042, 929, 790.

5.1.13 1-(4-(Trifluoromethyl)benzyl)piperidine-4-carboxamide (96)

Compound (**96**) was prepared by using 4-(trifluoromethyl)benzyl bromide (**93c**, 1.33 gm, 5.21 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**96**) was obtained as white solid (1.25 gm, 63%); m.p. 146- 148 ºC.

Analysis:

TLC : R_f 0.36 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3330, 3160, 2946, 1635, 1435, 1331, 1134, 830.

5.1.14 1-(4-Chlorobenzyl)piperidine-4-carboxamide (97)

Compound (**97**) was prepared by using 4-chlorobenzyl bromide (**93d**, 1.07 gm, 5.21 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**97**) was obtained as white solid (1.22 gm, 62%); m.p. 154-156 ºC.

Analysis:

TLC : R_f 0.39 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3339, 3168, 2946, 2860, 1631, 1433, 1142, 1094, 814.

5.1.15 1-(4-Cyanobenzyl)piperidine-4-carboxamide (98)

Compound (**98**) was prepared by using 4-cyanobenzyl bromide (**93e**, 1.07 gm, 5.21 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**98**) was obtained as white solid (1.12 gm, 59%); m.p. 163-165 ºC.

Analysis:

TLC : R_f 0.37 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3368, 3180, 2939, 2851, 2224, 1647, 1412, 1144, 857, 816, 667.

5.1.16 1-(3-Methoxybenzyl)piperidine-4-carboxamide (99)

Compound (**99**) was prepared by using 3-methoxybenzyl chloride (**93f**, 0.815 gm, 5.21 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**99**) was obtained as white solid (1.08 gm, 56%); m.p. 146-148 ºC.

Analysis:

TLC : R_f 0.32 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3333, 3163, 3007, 2943, 1632, 1432, 1261, 1146, 1040, 855, 789.

5.1.17 1-(2-Methylbenzyl)piperidine-4-carboxamide (100)

Compound (**100**) was prepared by using 2-methylbenzyl chloride (**93g**, 0.731 gm, 5.21 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**100**) was obtained as white solid (1.02 gm, 56%); m.p. 152-153 ºC.

Analysis:

TLC : R_f 0.36 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3407, 3214, 3013, 2945, 2837, 1657, 1447, 1264, 1106, 932, 744.

5.1.18 1-(2-(Trifluoromethyl)benzyl)piperidine-4-carboxamide (101)

Compound (**101**) was prepared by using 2-(trifluoromethyl)benzyl chloride (**93h**, 1.02 gm, 5.21 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**101**) was obtained as white solid (1.37 gm, 61%); m.p. 165-66 ºC.

Analysis:

TLC : R_f 0.43 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3381, 3194, 2942, 2803, 1649, 1312, 1163, 1108, 797, 719, 660.

5.1.19 1-(2-Cyanobenzyl)piperidine-4-carboxamide (102)

Compound (**102**) was prepared by using 2-cyanobenzyl bromide (**93i**, 1.02 gm, 5.21 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**102**) was obtained as white solid (1.14 gm, 60%); m.p. 157-159 ºC.

Analysis:

TLC : R_f 0.39 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3383, 3184, 2933, 2809, 2220, 1646, 1452, 1129, 1039, 966, 755.

5.1.20 1-(2,6-Difluorobenzyl)piperidine-4-carboxamide (103)

Compound (**103**) was prepared by using 2,6-difluorobenzyl bromide (**93j**, 1.07 gm, 5.21 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**103**) was obtained as white solid (1.26 gm, 63%); m.p. 164-166 ºC.

Analysis:

TLC : R_f 0.45 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3380, 3195, 2941, 2854, 1649, 1466, 1139, 1036, 993, 792, 669.

Mass (*m/z*) **:** 255.27 $[M+H]^+$

5.1.21 1-(3,5-Difluorobenzyl)piperidine-4-carboxamide (104)

Compound (**104**) was prepared by using 3,5-difluorobenzyl bromide (**93k**, 1.07 gm, 5.21 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**104**) was obtained as white solid (1.22 gm, 61%); m.p. 153-155 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3384, 3196, 2940, 2856, 1660, 1444, 1114, 989, 851, 678.

5.1.22 1-(4-Methylbenzyl)piperidine-4-carboxamide (105)

Compound (**105**) was prepared by using 4-methylbenzyl bromide (**93l**, 0.962 gm, 5.21 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**105**) was obtained as white solid (1.05 gm, 58%); m.p. 170-172 ºC.

Analysis:

TLC : R_f 0.38 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3339, 3170, 2945, 2860, 1634, 1433, 1144, 932, 802.

5.1.23 1-(2-Fluorobenzyl)piperidine-4-carboxamide (106)

Compound (**106**) was prepared by using 2-fluorobenzyl bromide (**93m**, 0.984 gm, 5.21 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**106**) was obtained as white solid (1.12 gm, 61%); m.p. 127-128 ºC.

Analysis:

TLC : R_f 0.44 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3372, 3187, 2942, 2803, 1648, 1451, 1176, 1139, 759.

5.1.24 1-(4-Fluorobenzyl)piperidine-4-carboxamide (107)

Compound (**107**) was prepared by using 4-fluorobenzyl bromide (**93n**, 0.984 gm, 5.21 mM) as per the procedure described for the synthesis of compound (**94**). The titled compound (**107**) was obtained as white solid (1.16 gm, 63%); m.p. 152-154 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3340, 3177, 2943, 1634, 1432, 1145, 931, 828.

5.1.25 *N*-(2-Aminoethyl)-5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-amine (108)

In a 10 ml RBF, 5,6-bis(4-methoxyphenyl)-3-(methylthio)-1,2,4-triazine (**89**, 1.00 gm, 2.94 mM) was added to ethylenediamine (1.76 gm, 29.46 mM) and the reaction mixture was heated at 100-110 **º**C for 2-3 hrs. The reaction progress was checked by TLC. After completion, the reaction mixture was poured into the crushed ice and the precipitate so formed was filtered and dried to get the yellow solid product (**108**, 1.00 gm, 97%); m.p. 153-155 ºC.

Analysis:

TLC : R_f 0.15 ($CHCl_3$: CH_3OH, 9.5:0.5).

IR (KBr, cm^{-1}) : 3239, 3072, 2928, 2840, 1600, 1516, 1437, 1250, 1174, 1021, 833.

^{1}H-NMR ($CDCl_3$, δ) **:** 7.48-7.46 (d, 2H, *J* = 8.6 Hz), 7.38-7.36 (d, 2H, *J* = 8.5 Hz), 6.86-6.80 (m, 4H), 6.22 (bs, 1H), 3.81 (s, 3H), 3.80 (s, 3H), 3.65-3.64 (d, 2H, *J* = 6.2 Hz), 3.02-2.99 (t, 2H, *J* = 6.2 Hz).

5.1.26 *N*-(2-Aminoethyl)-5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-amine (109)

Compound (**109**) was synthesized from 5,6-bis(4-chlorophenyl)-3-(methylthio)-1,2,4-triazine (**90**, 1.00 gm, 2.87 mM) following the method used for the preparation of compound

(**108**). The titled compound (**109**) was obtained as a yellow solid (0.98 gm, 95%); m.p. 171-172 ^{o}C.

Analysis:

TLC : R_f 0.22 ($CHCl_3$: CH_3OH, 9.5:0.5).

IR (KBr, cm^{-1}) : 3237, 3072, 2931, 1592, 1521, 1485, 1091, 1056, 1010, 832.

Mass (*m/z*) **:** 360.74 $[M]^+$, 362.75 $[M+2]^+$.

5.1.27 *N*-(2-Aminoethyl)-5,6-diphenyl-1,2,4-triazin-3-amine (110)

Compound (**110**) was synthesized from 5,6-diphenyl-3-(methylthio)-1,2,4-triazine (**91**, 1.00 gm, 3.58 mM) following the method used for the preparation of compound (**108**). The titled compound (**110**) was obtained as a yellow solid (1.02 gm, 98%); m.p. 143-145 ^{o}C.

Analysis:

TLC : R_f 0.21 ($CHCl_3$: CH_3OH, 9.5:0.5).

IR (KBr, cm^{-1}) : 3416, 3382, 3243, 3074, 2926, 1594, 1519, 1425, 1286, 1050, 767, 698.

Mass (*m/z*) **:** 292.68 $[M+H]^+$.

5.1.28 1-(*t*.Butoxycarbonyl)piperidine-4-carboxylic acid (112)

In a 100 ml RBF, isonipecotic acid (**111**, 1.00 gm, 7.74 mM) was dissolved in a mixture of THF (20 ml) and NaOH solution (2M, 10 ml). BOC anhydride (1.86 gm, 8.51 mM) was then added to above reaction mixture and stirred at room temperature for overnight. Excess of THF was removed on rota evaporator and resulting mixture was acidified using dilute HCl to get a white precipitate of product (**112**, 1.7 gm, 96%); m.p. 151-153 ^{o}C (Lit.[8] 150-152 ^{o}C).

Analysis:

TLC : R_f 0.45 ($CHCl_3$: CH_3OH, 9.5:0.5).

IR (KBr, cm^{-1}) : 3212, 2974, 1735, 1661, 1242, 1163, 825.

5.1.29 *t*.Butyl 4-(2-(5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethylcarbamoyl)-piperidine-1-carboxylate (113)

In a two necked RBF, 1-(*t*.butoxycarbonyl)piperidine-4-carboxylic acid (**112**, 0.55 gm, 2.40 mM) was dissolved in dry DCM (25 ml) at 0-4 ^{o}C under a stream of nitrogen gas. To this, EDC.HCl (0.55 gm, 2.88 mM) and HOBt (0.39 gm, 2.88 mM) were added and stirred the reaction mixture at 0-4 ^{o}C for 30 min. Anhydrous triethylamine (0.29 gm, 2.88 mM) was added to the reaction mixture followed by *N*-(2-aminoethyl)-5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-amine (**108**, 1.00 gm, 2.88 mM). The reaction mixture was allowed to stir for 12 hrs at room temperature. After completion of reaction, excess of DCM was evaporated using rota evaporator and the reaction mixture was poured into ice cold water to get a precipitate. The solid precipitate was filtered, washed with water and dried to afford the desired product as an off white solid (**113**, 1.52 gm, 95%); m.p. 160-162 ^{o}C.

Analysis:

TLC : R_f 0.59 ($CHCl_3$: CH_3OH, 9.5:0.5).

IR (KBr, cm^{-1}) : 3269, 3074, 2928, 1684, 1520, 1251, 1171, 1025, 839.

^{1}H-NMR ($CDCl_3$, δ) : 7.9 (bs, 1H), 7.53-7.51 (d, 2H, *J* = 8.7 Hz), 7.35-7.33 (d, 2H, *J* = 8.6 Hz), 6.90-6.88 (d, 2H, *J* = 8.6 Hz), 6.84-6.82 (d, 2H, *J* = 8.7 Hz), 3.91 (bs, 2H), 3.82 (s, 6H), 3.72 (bs, 2H), 3.63 (bs, 2H), 2.31 (bs, 2H), 1.86 (bs, 2H), 1.46-1.25 (m, 12H).

5.1.30 *t*.Butyl 4-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethylcarbamoyl)-piperidine-1-carboxylate (114)

Compound (**114**) was synthesized from *N*-(2-aminoethyl)-5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-amine (**109**, 1.00 gm, 2.77 mM) following the method used for the preparation of compound (**113**). The titled compound (**114**) was obtained as a yellow solid (1.46 gm, 92%); m.p. 107-109 ^{o}C.

Analysis:

TLC : R_f 0.62 ($CHCl_3$: CH_3OH, 9.5:0.5).

IR (KBr, cm^{-1}) : 3300, 3078, 2932, 2860, 1689, 1557, 1364, 1275, 1167, 1091, 1013, 834.

Mass (*m/z*) **:** 572.31 $[M+2H]^{+}$, 574.33 $[M+4H]^{+}$.

5.1.31 *t*.Butyl 4-(2-(5,6-diphenyl-1,2,4-triazin-3-ylamino)ethylcarbamoyl)piperidine-1-carboxylate (115)

Compound (**115**) was synthesized from *N*-(2-aminoethyl)-5,6-diphenyl-1,2,4-triazin-3-amine (**110**, 1.00 gm, 3.45 mM) following the method used for the preparation of compound (**113**). The titled compound (**115**) was obtained as a yellow solid (1.62 gm, 94%); m.p. 120-122 ^{o}C.

Analysis:

TLC : R_f 0.68 ($CHCl_3$: CH_3OH, 9.5:0.5).

IR (KBr, cm^{-1}) : 3252, 3133, 3066, 2973, 2960, 1695, 1672, 1587, 1166, 1062, 765, 699.

Mass (*m/z*) **:** 504.20 $[M+2H]^+$.

5.1.32 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (116)

In a 25 ml RBF, *t*.butyl 4-((2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)-ethyl)carbamoyl)piperidine-1-carboxylate (**113**, 1 gm, 1.77 mM) was dissolved in DCM (2 ml) and a mixture of trifluoroacetic acid and DCM (70:30) (3 ml) was added and stirred for 2 hrs. DCM was removed and diethyl ether was added slowly to the reaction mixture at cold conditions with continuous stirring to get solid which was filtered and dried to obtain desired product as a off white solid (**116**, 0.92 gm, 93%); m.p. 147-149 ºC.

Analysis:

TLC : R_f 0.15 ($CHCl_3$: CH_3OH, 9.5:0.5).

IR (KBr, cm^{-1}) : 3319, 2965, 1673, 1264, 1132, 1173, 1014, 832, 795, 717.

Mass (*m/z*) **:** 464.10 $[M+2H]^+$.

5.1.33 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (117)

Compound (**117**) was synthesized from *t*.butyl 4-((2-((5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-yl)amino)ethyl)carbamoyl)piperidine-1-carboxylate (**114**, 1 gm, 1.75 mM) following the method used for the preparation of compound (**116**). The titled compound (**117**) was obtained as a semisolid (0.93 gm, 93%).

Analysis:

TLC : R_f 0.22 ($CHCl_3$: CH_3OH, 9.5:0.5).

IR (KBr, cm^{-1}) : 3414, 3062, 2927, 2851, 1678, 1559, 1202, 1057, 835, 737.

Mass (*m/z*) **:** 471.98 $[M]^+$.

5.1.34 *N*-(2-(5,6-Diphenyl-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (118)

Compound (**118**) was synthesized from *t*.butyl 4-(2-(5,6-diphenyl-1,2,4-triazin-3-yl amino)ethylcarbamoyl)piperidine-1-carboxylate (**115**, 1 gm, 1.99 mM) following the method used for the preparation of compound (**116**). The titled compound (**118**) was obtained as a off white solid (1.00 gm, 97%); m.p. 142-145 ^oC.

Analysis:

TLC : R_f 0.18 ($CHCl_3$: CH_3OH, 9.5:0.5).

IR (KBr, cm^{-1}) : 3307, 3238, 3079, 2941, 1680, 1521, 1132, 966, 836, 771.

Mass (*m/z*) **:** 403.94 $[M+H]^+$.

5.1.35 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-(trifluoro-methoxy)benzyl)piperidine-4-carboxamide (119)

In 25 ml RBF, *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)-piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) was dissolved in dry DMF (5 ml). Potassium carbonate (0.44 gm, 3.24 mM) and 4-(trifluoromethoxy)benzyl bromide (**93a**, 0.33 gm, 1.29 mM) were added to the reaction mixture and stirred it at 60 ^oC for 1-2 hrs. After completion, the reaction mixture was poured into the cold water. The precipitated solid was then filtered, dried and purified through column chromatography using $CHCl_3$: CH_3OH (10%) as mobile phase to obtain desired product as a yellow solid (**119**, 0.38 gm, 56%); m.p. 161-163 ^oC.

Analysis:

TLC : R_f 0.32 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3271, 3075, 2936, 1666, 1547, 1259, 1067, 1030, 837.

^{1}H-NMR ($CDCl_3$, δ) : 7.50-7.47 (d, 2H, *J* = 7.6 Hz), 7.36-7.34 (d, 2H, *J* = 7.8 Hz), 7.29-7.28 (d, 2H, *J* = 6.6 Hz), 7.13-7.11 (d, 2H, *J* = 6.6 Hz), 6.87-6.80 (m, 4H), 3.82 (s, 3H), 3.81 (s, 3H), 3.77-3.74 (m,

2H), 3.61-3.58 (m, 2H), 3.40 (s, 2H), 2.76-2.75 (bs, 2H), 1.92-1.79 (m, 7H).

Mass (*m/z*) : 637.9 $[M+H]^+$.

5.1.36 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-chlorobenzyl) piperidine-4-carboxamide (120)

Compound (**120**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 2-chlorobenzyl bromide (**93b**, 0.26 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**120**) was so obtained as a yellow solid (0.43 gm, 68%); m.p. 177-179 ºC.

Analysis:

TLC : R_f 0.37 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3257, 3123, 3065, 2943, 1669, 1579, 1252, 1064, 1029, 962, 835, 749, 691.

^{1}H-NMR ($CDCl_3$, δ) : 7.51-7.49 (d, 2H, *J* = 8.8 Hz), 7.42-7.41 (d, 1H, *J* = 7.2 Hz), 7.36-7.34 (d, 2H, *J* = 8.4 Hz), 7.31-7.29 (dd, 1H, *J* = 1.6, 7.6 Hz), 7.20-7.12 (m, 2H), 6.88-6.80 (m, 4H), 3.81 (s, 3H), 3.81 (s, 3H), 3.76-3.72 (m, 2H), 3.63-3.59 (m, 2H), 3.49 (s, 2H), 2.78 (bs, 1H), 2.75 (bs, 1H), 1.72-1.61 (m, 7H).

Mass (*m/z*) : 587.9 $[M+H]^+$.

5.1.37 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-(trifluoro-methyl)benzyl)piperidine-4-carboxamide (121)

Compound (**121**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 4-(trifluoromethyl)benzyl bromide (**93c**, 0.31 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**121**) was so obtained as a yellow solid (0.45 gm, 67%); m.p. 178-180 ºC.

Analysis:

TLC : R_f 0.39 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3265, 3071, 2935, 1664, 1593, 1256, 1066, 1029, 966, 836.

^{1}H-NMR ($CDCl_3$, δ) : 7.52-7.48 (dt, 4H, , *J* = 2, 8.4 Hz), 7.37-7.32 (m, 4H), 6.87-6.79 (m, 4H), 3.81 (s, 3H), 3.80 (s, 3H), 3.75-3.71 (m, 2H), 3.62-3.58 (m, 2H), 3.40 (s, 2H), 2.69 (bs, 3H), 1.66-1.59 (bs, 6H).

5.1.38 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-chlorobenzyl) piperidine-4-carboxamide (122)

Compound (**122**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 4-chlorobenzyl bromide (**93d**, 0.26 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**122**) was so obtained as a yellow solid (0.41 gm, 65%); m.p. 175-177 ºC.

Analysis:

TLC : R_f 0.35 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3338, 3243, 3075, 2938, 1653, 1586, 1257, 1064, 1030, 838.

^{1}H-NMR ($CDCl_3$, δ) : 7.50-7.48 (d, 2H, *J* = 8.4 Hz), 7.34-7.32 (d, 2H, *J* = 8.4 Hz), 7.23-7.21 (d, 2H, *J* = 8.0 Hz), 7.17-7.15 (d, 2H, *J* = 8.0 Hz), 6.86-6.80 (m, 4H), 3.81 (s, 3H), 3.80 (s, 3H), 3.74-3.71 (m, 2H), 3.62-3.58 (m, 2H), 3.32 (s, 2H), 2.68-2.66 (bs, 2H), 1.81-1.58 (m, 7H).

5.1.39 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-cyanobenzyl) piperidine-4-carboxamide (123)

Compound (**123**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 4-cyanobenzyl bromide (**93e**, 0.25 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**123**) was so obtained as a yellow solid (0.34 gm, 55%); m.p. 165-167 ºC.

Analysis:

TLC : R_f 0.33 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3267, 3072, 2938, 2229, 1663, 1582, 1252, 1070, 1029, 837.

^{1}H-NMR ($CDCl_3$, δ) : 7.56-7.54 (d, 2H, *J* = 8.4 Hz), 7.49-7.47 (d, 2H, *J* = 8.8 Hz), 7.38-7.32 (m, 4H), 6.87-6.79 (m, 4H), 3.81 (s, 6H), 3.77-3.73 (m, 2H), 3.62-3.58 (m, 2H), 3.42 (s, 2H), 2.70-2.68 (bs, 2H), 1.63 (bs, 7H).

Mass (*m/z*) : 578.9 $[M+H]^+$

5.1.40 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(3-methoxy-benzyl)piperidine-4-carboxamides (124)

Compound (**124**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 3-methoxybenzyl chloride (**93f**, 0.20 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**124**) was so obtained as a yellow solid (0.35 gm, 55%); m.p. 114-116 ºC.

Analysis:

TLC : R_f 0.34 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3245, 3070, 2928, 1662, 1594, 1255, 1067, 1028, 961, 836, 797.

^{1}H-NMR ($CDCl_3$, δ) : 7.50-7.48 (d, 2H, *J* = 8.4 Hz), 7.34-7.32 (d, 2H, *J* = 8.4 Hz), 7.18-7.14 (t, 1H, *J* = 7.8 Hz), 6.85-6.74 (m, 7H), 3.80 (s, 3H), 3.80 (s, 3H), 3.76 (s, 3H), 3.73-3.70 (m, 2H), 3.61-3.57 (m, 2H), 3.34 (s, 2H), 2.94-2.71 (m, 3H), 1.65-1.53 (m, 6H).

Mass (*m/z*) : 583.9 $[M+H]^+$.

5.1.41 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-methyl-benzyl)piperidine-4-carboxamide (125)

Compound (**125**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 2-methylbenzyl chloride (**93g**, 0.18 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**125**) was so obtained as a yellow solid (0.32 gm, 52%); m.p. 144-146 ºC.

Analysis:

TLC : R_f 0.39 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3337, 3231, 3068, 2920, 1656, 1583, 1255, 1061, 1025, 834, 799, 758.

^{1}H-NMR ($CDCl_3$, δ) : 7.50-7.48 (d, 2H, *J* = 8.6 Hz), 7.35-7.33 (d, 2H, *J* = 6.6 Hz), 7.21-7.05 (m, 4H), 6.87-6.85 (d, 2H, *J* = 8.6 Hz), 6.82-6.80 (d, 2H, *J* = 6.6 Hz), 3.81 (s, 6H), 3.76-3.72 (m, 2H), 3.61-3.57 (m, 2H), 3.35 (s, 2H), 2.95-2.74 (m, 3H), 2.29 (s, 3H), 1.60 (bs, 6H).

5.1.42 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-(trifluoro-methyl)benzyl)piperidine-4-carboxamide (126)

Compound (**126**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 2-(trifluoromethyl)benzyl chloride (**93h**, 0.25 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**126**) was so obtained as a yellow solid (0.41 gm, 62%); m.p. 165-167 ºC.

Analysis:

TLC : R_f 0.37 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3273, 3072, 2936, 1667, 1254, 1033, 837, 771.

^{1}H-NMR ($CDCl_3$, δ) : 7.75-7.73 (d, 1H, *J* = 8.0 Hz), 7.58-7.56 (d, 1H, *J* = 8.0 Hz), 7.50-7.43 (m, 3H), 7.36-7.26 (m, 3H), 6.87-6.79 (m, 4H), 3.80 (s, 3H), 3.80 (s, 3H), 3.76-3.72 (m, 2H), 3.62-3.58 (m, 2H), 3.51 (s, 2H), 2.94-2.70 (m, 3H), 1.78 (bs, 2H), 1.66-1.62 (m, 4H).

Mass (*m/z*) : 622.0 $[M+2H]^+$.

5.1.43 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-cyanobenzyl) piperidine-4-carboxamide (127)

Compound (**127**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 2-

cyanobenzyl bromide (**93i**, 0.25 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**127**) was so obtained as a yellow solid (0.37 gm, 59%); m.p. 190-192 ºC.

Analysis:

TLC : R_f 0.36 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3258, 3069, 2942, 2219, 1669, 1580, 1252, 1066, 1026, 963, 836, 802, 766, 689.

^{1}H-NMR ($CDCl_3$, δ) : 7.58-7.56 (d, 1H, *J* = 7.6 Hz), 7.50-7.49 (d, 3H), 7.35-7.25 (m, 4H), 6.88-6.75 (m, 4H), 3.81 (s, 3H), 3.81 (s, 3H), 3.74-3.70 (m, 2H), 3.62-3.60 (m, 2H), 3.54 (s, 2H), 2.69-2.66 (bs, 2H), 1.75-1.59 (m, 7H).

5.1.44 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2,6-difluoro-benzyl)piperidine-4-carboxamide (128)

Compound (**128**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 2,6-(difluoro)benzyl bromide (**93j**, 0.27 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**128**) was so obtained as a yellow solid (0.47 gm, 74%); m.p. 169-171 ºC.

Analysis:

TLC : R_f 0.41 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3339, 3232, 3069, 2944, 1656, 1585, 1256, 1062, 1030, 834, 794.

^{1}H-NMR ($CDCl_3$, δ) : 7.49-7.47 (d, 2H, *J* = 8.8 Hz), 7.34-7.32 (d, 2H, *J* = 8.8 Hz), 7.24-7.16 (m, 1H), 6.87-6.79 (m, 6H), 3.82 (s, 3H), 3.81 (s, 3H), 3.74-3.70 (m, 2H), 3.59-3.55 (m, 4H), 2.81-2.78 (bs, 2H), 1.66-1.59 (m, 7H).

Mass (*m/z*) : 590 $[M+2H]^+$.

5.1.45 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(3,5-difluoro-benzyl)piperidine-4-carboxamide (129)

Compound (**129**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 3,5-(difluoro)benzyl bromide (**93k**, 0.27 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**129**) was so obtained as a yellow solid (0.43 gm, 68%); m.p. 159-161 ºC.

Analysis:

TLC : R_f 0.41 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3268, 3068, 2936, 1673, 1584, 1252, 1062, 1026, 961, 839.

^{1}H-NMR ($CDCl_3$, δ) : 7.51-7.49 (d, 2H, *J* = 9.2 Hz), 7.35-7.32 (d, 2H, *J* = 8.8 Hz), 6.87-6.77 (m, 6H), 6.67-6.61 (m, 1H), 3.81 (s, 3H), 3.81 (s, 3H), 3.75-3.71 (m, 2H), 3.63-3.59 (m, 2H), 3.32 (s, 2H), 2.68-2.66 (bs, 2H), 1.69-1.58 (m, 7H).

5.1.46 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-methyl-benzyl)piperidine-4-carboxamide (130)

Compound (**130**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 4-methylbenzyl bromide (**93l**, 0.24 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**130**) was so obtained as a yellow solid (0.38 gm, 62%); m.p. 182-184 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3337, 3235, 3075, 2920, 1656, 1584, 1257, 1062, 1028, 838, 806.

^{1}H-NMR ($CDCl_3$, δ) : 7.49-7.48 (d, 2H, *J* = 6.8 Hz), 7.35-7.34 (d, 2H, *J* = 7.0 Hz), 7.17-7.15 (d, 2H, *J* = 6.2 Hz), 7.10-7.08 (d, 2H, *J* = 6.2 Hz), 6.87-6.85 (d, 2H, *J* = 6.8 Hz), 6.82-6.80 (d, 2H, *J* = 7.0 Hz), 3.82 (s, 3H), 3.81 (s, 3H), 3.75-3.72 (m, 2H), 3.60-3.57 (m,

2H), 3.43 (s, 2H), 2.81 (bs, 3H), 2.31 (s, 3H), 1.77-1.67 (m, 6H).

Mass (*m/z*) : 567.9 $[M+H]^+$.

5.1.47 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-fluorobenzyl) piperidine-4-carboxamide (131)

Compound (**131**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 2-fluorobenzyl bromide (**93m**, 0.24 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**131**) was so obtained as a yellow solid (0.37 gm, 60%); m.p. 152-154 ºC.

Analysis:

TLC : R_f 0.37 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3255, 3073, 2933, 1671, 1584, 1252, 1065, 1025, 962, 835, 757.

^{1}H-NMR ($CDCl_3$, δ) : 7.50-7.48 (d, 2H, *J* = 8.8 Hz), 7.35-7.32 (m, 3H), 7.23-7.17 (m, 1H), 7.08-6.96 (m, 2H), 6.87-6.79 (m, 4H), 3.82 (s, 6H), 3.76-3.72 (m, 2H), 3.61-3.57 (m, 2H), 3.48 (s, 2H), 2.79 (bs, 1H), 2.76 (bs, 1H), 1.81-1.70 (bs, 7H).

5.1.48 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-fluorobenzyl) piperidine-4-carboxamide (132)

Compound (**132**) was synthesized by reacting *N*-(2-((5,6-bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**116**, 0.5 gm, 1.08 mM) and 4-fluorobenzyl bromide (**93m**, 0.24 gm, 1.29 mM) following the procedure used for the synthesis of compound (**119**). The compound (**132**) was so obtained as a yellow solid (0.42 gm, 68%); m.p. 181-183 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3327, 3235, 3074, 2918, 1653, 1590, 1260, 1062, 1026, 836.

^{1}H-NMR ($CDCl_3$, δ) : **7**.50-7.48 (d, 2H, *J* = 8.8 Hz), 7.36-7.32 (m, 2H), 7.22-7.18 (m, 2H), 6.98-6.92 (m, 2H), 6.87-6.79 (m, 4H), 3.81 (s, 6H), 3.76-3.72 (m, 2H), 3.61-3.57 (m, 2H), 3.35 (s, 2H), 2.74 (bs, 1H), 2.71 (bs, 1H), 1.75-1.60 (bs, 7H).

5.1.49 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-(trifluoro-methoxy)benzyl)piperidine-4-carboxamide (133)

Compound (**133**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 4-(trifluoro-methoxy)benzyl bromide (**93a**, 0.32 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**133**) was so obtained as a yellow solid (0.42 gm, 68%); m.p. 131-133 ºC.

Analysis:

TLC : R_f 0.38 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3248, 3081, 2936, 2804, 1661, 1599, 1263, 1092, 833.

^{1}H-NMR ($CDCl_3$, δ) : 7.43-7.41 (d, 2H, *J* = 8.4 Hz), 7.35-7.28 (m, 8H), 7.15-7.11 (m, 2H), 6.75 (bs, 1H), 6.20 (bs, 1H), 3.75-3.73 (m, 2H), 3.62-3.58 (m, 2H), 3.44 (s, 2H), 2.81 (bs, 1H), 2.79 (bs, 1H), 1.87-1.68 (m, 7H).

Mass (*m/z*) : 646.03 $[M+2H]^+$.

5.1.50 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-chlorobenzyl)-piperidine-4-carboxamide (134)

Compound (**134**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 2-chloro-benzyl bromide (**93b**, 0.26 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**134**) was so obtained as a yellow solid (0.38 gm, 60%); m.p. 122-124 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3274, 3067, 2935, 1648, 1090, 1049, 832, 752.

^{1}H-NMR ($CDCl_3$, δ) : 7.63 (bs, 1H), 7.42-7.40 (d, 2H, *J* = 8.4 Hz), 7.35-7.21 (m, 10H), 6.91 (bs, 1H), 3.79-3.74 (m, 4H), 3.61-3.57 (m, 2H), 3.05-3.02 (bs, 2H), 2.17 (bs, 3H), 1.86-1.81 (m, 4H).

5.1.51 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-(trifluoro-methyl)benzyl)piperidine-4-carboxamide (135)

Compound (**135**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 4-(trifluoro)-benzyl bromide (**93c**, 0.30 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**135**) was so obtained as a yellow solid (0.43 gm, 64%); m.p. 108-110 ºC.

Analysis:

TLC : R_f 0.38 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3265, 3071, 2935, 2840, 1664, 1593, 1321, 1124, 836.

^{1}H-NMR ($CDCl_3$, δ) : 7.54-7.52 (d, 2H, *J* = 8.4 Hz), 7.44-7.42 (d, 2H, *J* = 8.4 Hz), 7.39-7.36 (m, 2H), 7.33-7.29 (m, 6H), 3.75 (bs, 2H), 3.64-3.61 (m, 2H), 3.44 (s, 2H), 2.74 (bs, 2H), 1.71-1.60 (m, 7H).

5.1.52 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-chlorobenzyl)-piperidine-4-carboxamide (136)

Compound (**136**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 4-chloro-benzyl bromide (**93d**, 0.26 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**136**) was so obtained as a yellow solid (0.40 gm, 63%); m.p. 203-206 ºC.

Analysis:

TLC : R_f 0.40 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3372, 3242, 3079, 2934, 1668, 1091, 832.

^{1}H-NMR ($CDCl_3$, δ) : 7.42-7.40 (d, 2H, *J* = 8.4 Hz), 7.34-7.29 (m, 10H), 3.77-3.73 (m, 2H), 3.61-3.57 (m, 4H), 2.95 (bs, 1H), 2.93 (bs, 1H), 1.80-1.78 (bs, 7H).

Mass (*m/z*) : 594.09 $[M]^+$, 596.21 $[M+2]^+$.

5.1.53 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-cyanobenzyl)-piperidine-4-carboxamide (137)

Compound (**137**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 4-cyano-benzyl bromide (**93e**, 0.25 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**137**) was so obtained as a yellow solid (0.34 gm, 55%); m.p. 210-213 ºC.

Analysis:

TLC : R_f 0.37 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3353, 3304, 3050, 2946, 2809, 2230, 1659, 1092, 838.

^{1}H-NMR ($CDCl_3$, δ) : 7.60-7.58 (d, 2H, *J* = 8.0 Hz), 7.46-7.44 (d, 2H, *J* = 7.6 Hz), 7.41-7.39 (d, 2H, *J* = 8.0 Hz), 7.35-7.32 (m, 6H), 3.78-3.74 (m, 2H), 3.65-3.61 (m, 2H), 3.46 (s, 2H), 2.74 (bs, 2H), 1.78 (bs, 7H).

Mass (*m/z*) : 586.96 $[M+H]^+$.

5.1.54 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(3-methoxybenzyl) piperidine-4-carboxamides (138)

Compound (**138**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 3-methoxy benzyl chloride (**93f**, 0.2 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**138**) was so obtained as a yellow solid (0.35 gm, 56%); m.p. 150-152 ºC.

Analysis:

TLC : R_f 0.34 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3278, 3067, 2936, 1649, 1264, 1089, 1048, 833.

^{1}H-NMR ($CDCl_3$, δ) : 7.48-7.46 (d, 2H, *J* = 6.8 Hz), 7.39-7.36 (m, 3H), 7.32-7.28 (m, 4H), 7.22-7.19 (t, 1H, *J* = 7.8 Hz), 6.99 (bs, 1H), 6.90-6.88 (d, 1H, *J* = 7.8 Hz), 6.83-6.81 (dd, 1H, *J* = 2.4, 7.8 Hz)

3.79-3.74 (m, 5H), 3.61-3.57 (m, 4H), 2.95 (bs, 1H), 2.92 (bs, 1H), 1.79 (bs, 7H).

Mass (*m/z*) : 590.2 $[M]^+$, 592.22 $[M+2]^+$.

5.1.55 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-methylbenzyl)-piperidine-4-carboxamide (139)

Compound (**139**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 2-methybenzyl chloride (**93g**, 0.18 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**139**) was so obtained as a yellow solid (0.33 gm, 54%); m.p. 139-141 ºC.

Analysis:

TLC : R_f 0.48 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3416, 3306, 3067, 2941, 2801, 1642, 1091, 1053, 1013, 833.

^{1}H-NMR ($CDCl_3$, δ) : 8.04 (bs, 1H), 7.46-7.44 (d, 2H, *J* = 8.0 Hz), 7.36-7.30 (m, 7H), 7.20-7.11 (m, 4H), 3.76 (bs, 2H), 3.65-3.61 (m, 2H), 3.35 (s, 2H), 2.77 (bs, 2H), 2.31 (s, 3H), 1.93 (bs, 4H), 1.62-1.56 (m, 3H).

5.1.56 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-(trifluoro-methyl)benzyl)piperidine-4-carboxamide (140)

Compound (**140**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 2-(trifluoro-methyl)benzyl chloride (**93h**, 0.21 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**140**) was so obtained as a yellow solid (0.41 gm, 61%); m.p. 168-170 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3292, 3232, 3078, 2939, 2858, 1669, 1587, 1311, 1122, 830, 769.

^{1}H-NMR ($CDCl_3$, δ) : 7.74-7.72 (d, 1H, *J* = 7.7 Hz), 7.59-7.57 (dd, 1H, *J* = 1.5, 7.7 Hz), 7.48-7.42 (m, 3H), 7.35-7.27 (m, 7H), 3.75-3.73 (m, 2H) 3.64-3.60 (m, 2H), 3.54 (s, 2H), 2.76 (bs, 1H), 2.73 (bs, 1H), 1.70-1.64 (bs, 7H).

Mass (*m/z*) : 629.94 $[M+H]^+$.

5.1.57 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-cyanobenzyl)-piperidine-4-carboxamide (141)

Compound (**141**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 2-cyano-benzyl bromide (**93i**, 0.25 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**141**) was so obtained as a yellow solid (0.37 gm, 61%); m.p. 140-142 ºC.

Analysis:

TLC : R_f 0.41 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3277, 3066, 2938, 2807, 2223, 1648, 1090, 832, 760.

^{1}H-NMR ($CDCl_3$, δ) : 7.61-7.60 (d, 1H, *J* = 7.6 Hz), 7.53-7.51 (m, 2H), 7.44-7.42 (d, 2H, *J* = 8.0 Hz), 7.36-7.30 (m, 7H), 3.76-3.72 (m, 2H), 3.63-3.60 (m, 4H), 2.78-2.75 (bs, 2H), 1.85 (bs, 3H), 1.63 (bs, 4H).

5.1.58 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2,6-difluoro-benzyl)piperidine-4-carboxamide (142)

Compound (**142**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 2,6-(difluoro) benzyl bromide (**93j**, 0.26 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**142**) was so obtained as a yellow solid (0.41 gm, 64%); m.p. 108-110 ºC.

Analysis:

TLC : R_f 0.44 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3289, 3070, 2941, 2856, 1658, 1266, 1091, 1038, 833.

^{1}H-NMR ($CDCl_3$, δ) : 7.44-7.42 (d, 2H, *J* = 8.0 Hz), 7.34-7.27 (m, 6H), 7.25-7.20 (m, 1H), 6.89-6.82 (m, 2H), 3.72 (bs, 2H), 3.61-3.59 (m, 4H), 2.81 (bs, 2H), 2.09-2.04 (m, 1H), 1.62-1.52 (m, 6H).

Mass (*m/z*) : 599.96 $[M+3H]^+$

5.1.59 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(3,5-difluoro-benzyl)piperidine-4-carboxamide (143)

Compound (**143**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 3,5-(difluoro) benzyl bromide (**93k**, 0.26 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**143**) was so obtained as a yellow solid (0.38 gm, 60%); m.p. 99-101 ºC.

Analysis:

TLC : R_f 0.41 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3290, 3087, 2942, 2870, 1647, 1091, 1053, 832.

^{1}H-NMR ($CDCl_3$, δ) : 7.44-7.42 (d, 2H, *J* = 8.4 Hz), 7.36-7.30 (m, 6H), 6.83-6.78 (m, 2H), 6.69-6.64 (m, 1H), 3.75 (bs, 2H), 3.63-3.59 (m, 2H), 3.37 (s, 2H), 2.77-2.74 (bs, 2H), 1.79-1.65 (bs, 7H).

5.1.60 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-methylbenzyl)-piperidine-4-carboxamide (144)

Compound (**144**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 4-methyl-benzyl bromide (**93l**, 0.23 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**144**) was so obtained as a yellow solid (0.35 gm, 57%); m.p. 159-161 ºC.

Analysis:

TLC : R_f 0.46 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3275, 3063, 2923, 1667, 1091, 830.

^{1}H-NMR ($CDCl_3$, δ) : 7.43-7.40 (d, 2H), 7.35-7.29 (m, 6H), 7.16-7.13 (d, 2H), 7.11-7.09 (d, 2H), 3.75 (bs, 2H), 3.62-3.57 (m, 2H), 3.41 (s, 2H), 2.83-2.80 (bs, 2H), 2.32 (s, 3H), 1.81 (bs, 7H).

Mass (*m/z*) : 575.98 $[M+H]^+$, 577.93 $[M+4H]^+$.

5.1.61 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-fluorobenzyl)-piperidine-4-carboxamide (145)

Compound (**145**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 4-fluoro-benzyl bromide (**93m**, 0.24 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**145**) was so obtained as a yellow solid (0.40 gm, 65%); m.p. 110-112 ºC.

Analysis:

TLC : R_f 0.40 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3280, 3069, 2940, 1646, 1091, 1053, 833, 757.

^{1}H-NMR ($CDCl_3$, δ) : 7.43-7.41 (d, 2H, *J* = 8.0 Hz), 7.35-7.28 (m, 6H), 7.25-7.20 (m, 2H), 7.10-7.06 (m, 1H), 7.03-6.98 (m, 1H), 3.75 (bs, 2H), 3.62-3.58 (m, 2H), 3.51 (s, 2H), 2.84-2.81 (bs, 2H), 1.71 (bs, 7H).

Mass (*m/z*) : 579.91 $[M+2H]^+$

5.1.62 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-fluorobenzyl)-piperidine-4-carboxamide (146)

Compound (**146**) was synthesized by reacting *N*-(2-(5,6-bis(4-chlorophenyl)-1,2,4-triazin-3-ylamino)ethyl)piperidine-4-carboxamide (**117**, 0.5 gm, 1.06 mM) and 4-fluoro-benzyl bromide (**93n**, 0.24 gm, 1.27 mM) following the procedure used for the synthesis of compound (**119**). The compound (**146**) was so obtained as a yellow solid (0.37 gm, 60%); m.p. 118-121 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3263, 3072, 2937, 1668, 1115, 828.

^{1}H-NMR ($CDCl_3$, δ) : 7.42-7.40 (d, 2H, *J* = 8.0 Hz), 7.34-7.28 (m, 8H), 7.02-6.95 (m, 2H), 3.76-3.72 (m, 2H), 3.63-3.56 (m, 4H), 3.00-2.95 (m, 2H), 2.21-2.17 (bs, 3H), 1.85-1.80 (bs, 4H).

5.1.63 *N*-(2-(5,6-Diphenyl-1,2,4-triazin-3-ylamino)ethyl)-1-(4-(trifluoromethoxy)benzyl) piperidine-4-carboxamide (147)

Compound (**147**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 4-(trifluoromethoxy)-benzyl bromide (**93a**, 0.38 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**147**) was so obtained as a yellow solid (0.42 gm, 59%); m.p. 172-174 ºC.

Analysis:

TLC : R_f 0.35 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3314, 3077, 2935, 2859, 1663, 1580, 1268, 776, 698.

^{1}H-NMR ($CDCl_3$, δ) : 7.49-7.47 (d, 2H, *J* = 7.7 Hz), 7.41-7.37 (m, 3H), 7.33-7.25 (m, 7H), 7.12-7.10 (d, 2H, *J* = 8.0 Hz), 3.78-3.74 (m, 2H), 3.64-3.60 (m, 2H), 3.37 (s, 2H), 2.72 (bs, 1H), 2.69 (bs, 1H), 1.87-1.77 (bs, 7H).

Mass (*m/z*) : 576.16 $[M]^+$.

5.1.64 *N*-(2-(5,6-Diphenyl-1,2,4-triazin-3-ylamino)ethyl)-1-(2-chlorobenzyl)piperidine-4-carboxamide (148)

Compound (**148**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 2-chlorobenzyl-bromide (**93b**, 0.30 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**148**) was so obtained as a yellow solid (0.36 gm, 55%); m.p. 161-163 ºC.

Analysis:

TLC : R_f 0.38 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3318, 3266, 3073, 2938, 1659, 1574, 1269, 940, 755, 692.

^{1}H-NMR ($CDCl_3$, δ) : 7.50-7.48 (d, 2H, *J* = 6.8 Hz), 7.41-7.37 (m, 4H), 7.33-7.27 (m, 6H), 7.20-7.12 (m, 2H), 3.78-3.74 (m, 2H), 3.64-3.60 (m, 2H), 3.48 (s, 2H), 2.75 (bs, 1H), 2.72 (bs, 1H), 1.87 (bs, 3H), 1.66-1.58 (m, 4H).

5.1.65 *N*-(2-(5,6-Diphenyl-1,2,4-triazin-3-ylamino)ethyl)-1-(4-(trifluoromethyl)benzyl)-piperidine-4-carboxamide (149)

Compound (**149**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 4-(trifluoromethyl)-benzyl bromide (**93c**, 0.35 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**149**) was so obtained as a yellow solid (0.43 gm, 62%); m.p. 179-181 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3317, 3245, 3076, 2940, 1671, 1599, 1124, 773, 699.

^{1}H-NMR ($CDCl_3$, δ) : 7.53-7.51 (d, 2H, *J* = 8.0 Hz), 7.48-7.46 (d, 2H, *J* = 6.8 Hz), 7.40-7.35 (m, 4H), 7.34-7.25 (m, 6H), 3.80-3.76 (m, 2H), 3.63-3.59 (m, 2H), 3.44 (s, 2H), 2.74 (bs, 1H), 2.71 (bs, 1H), 1.62 (bs, 7H).

Mass (*m/z*) : 560.18 $[M]^+$.

5.1.66 *N*-(2-(5,6-Diphenyl-1,2,4-triazin-3-ylamino)ethyl)-1-(4-chlorobenzyl)piperidine-4-carboxamide (150)

Compound (**150**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 4-chlorobenzyl-bromide (**93d**, 0.30 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**150**) was so obtained as a yellow solid (0.45 gm, 69%); m.p. 180-182 ºC.

Analysis:

TLC : R_f 0.40 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3414, 3269, 3074, 2937, 1659, 1554, 1110, 963, 847, 769, 696.

^{1}H-NMR ($CDCl_3$, δ) : 7.49-7.47 (d, 2H, *J* = 7.2 Hz), 7.41-7.37 (m, 3H), 7.34-7.27 (m, 5H), 7.24-7.22 (d, 2H, *J* = 7.4 Hz), 7.18-7.16 (d, 2H, *J* = 7.4 Hz), 3.78-3.74 (m, 2H), 3.63-3.59 (m, 2H), 3.33 (s, 2H), 2.70 (bs, 1H), 2.67 (bs, 1H), 1.86-1.74 (bs, 7H).

Mass (*m/z*) : 526.05 $[M]^+$, 528.14 $[M+2H]^+$.

5.1.67 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-cyanobenzyl)piperidine-4-carboxamide (151)

Compound (**151**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 4-cyanobenzyl bromide (**93e**, 0.29 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**151**) was so obtained as a off white solid (0.34 gm, 53%); m.p. 165-168 ºC.

Analysis:

TLC : R_f 0.32 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3280, 3062, 2929, 2226, 1652, 1555, 1057, 820, 767, 698.

^{1}H-NMR ($CDCl_3$, δ) : 7.57-7.55 (d, 2H, *J* = 7.6 Hz), 7.48-7.46 (d, 2H, *J* = 7.2 Hz), 7.42-7.36 (m, 4H), 7.34-7.27 (m, 6H), 3.78-3.74 (m, 2H), 3.63-3.59 (m, 2H), 3.52 (s, 2H), 2.77 (bs, 2H), 1.95-1.68 (bs, 7H).

5.1.68 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(3-methoxybenzyl)-piperidine-4-carboxamides (152)

Compound (**152**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 3-(methoxy)benzyl chloride (**93f**, 0.23 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**152**) was so obtained as a light brown solid (0.34 gm, 52%); m.p. 108-110 ºC.

Analysis:

TLC : R_f 0.37 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3248, 3070, 2936, 1651, 1587, 1259, 1136, 1037, 771, 695.

^{1}H-NMR ($CDCl_3$, δ) : 7.49-7.46 (d, 2H, *J* = 8.0 Hz), 7.40-7.37 (m, 3H), 7.32-7.27 (m, 5H), 7.20-7.16 (t, 1H, *J* = 8.0 Hz), 6.83-6.75 (m, 3H), 3.79-3.74 (m, 5H), 3.63-3.59 (m, 2H), 3.37 (s, 2H), 2.76 (bs, 1H), 2.73 (bs, 1H), 1.73-1.61 (bs, 7H).

Mass (*m/z*) : 522.17 $[M]^+$.

5.1.69 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-methylbenzyl)piperidine-4-carboxamide (153)

Compound (**153**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)-amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 2-methylbenzyl chloride (**93g**, 0.21 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**153**) was so obtained as a off white solid (0.32 gm, 51%); m.p. 144-147 ºC.

Analysis:

TLC : R_f 0.41 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3302, 3245, 3123, 3069, 2943, 1661, 1582, 1060, 761, 697.

^{1}H-NMR ($CDCl_3$, δ) : 7.47-7.45 (d, 2H, *J* = 7.2 Hz), 7.39-7.36 (m, 2H), 7.33-7.26 (m, 6H), 7.22-7.12 (m, 4H), 3.78-3.74 (m, 4H), 3.60-3.56 (m, 2H), 3.04 (bs, 2H), 2.34 (s, 3H), 1.83-1.72 (bs, 7H).

5.1.70 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-(trifluoromethyl)benzyl)-piperidine-4-carboxamide (154)

Compound (**154**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)-amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 2-(trifluoromethyl)-benzyl chloride (**93h**, 0.29 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**154**) was so obtained as a off white solid (0.40 gm, 58%); m.p. 120-122 ºC.

Analysis:

TLC : R_f 0.36 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3296, 3248, 3127, 3074, 2943, 1663, 1581, 1117, 770, 697.

^{1}H-NMR ($CDCl_3$, δ) : 7.74-7.72 (d, 1H, *J* = 7.6 Hz), 7.59-7.57 (d, 1H, *J* = 8.0 Hz), 7.50-7.37 (m, 6H), 7.34-7.26 (m, 6H), 3.79-3.75 (m, 2H), 3.65-3.61 (m, 2H, *J* = 5.4 Hz), 3.51 (s, 2H), 2.71 (bs, 1H), 2.68 (bs, 1H), 1.78-1.58 (m, 7H).

5.1.71 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-cyanobenzyl)piperidine-4-carboxamide (155)

Compound (**155**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 2-cyanobenzyl bromide (**93i**, 0.29 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**155**) was so obtained as a yellow solid (0.39 gm, 61%); m.p. 113-116 ºC.

Analysis:

TLC : R_f 0.32 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3248, 3063, 2932, 2223, 1667, 1580, 1222, 1068, 961, 765, 699.

^{1}H-NMR ($CDCl_3$, δ) : 7.60-7.58 (d, 1H, *J* = 7.6 Hz), 7.51-7.47 (m, 4H), 7.42-7.38 (m, 3H), 7.34-7.28 (m, 6H), 3.78-3.74 (m, 2H), 3.64-3.60 (m, 2H), 3.56 (s, 2H), 2.72 (bs, 1H), 2.69 (bs, 1H), 1.81-1.63 (m, 7H).

Mass (*m/z*) : 517.05 $[M]^+$.

5.1.72 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2,6-difluorobenzyl)-piperidine-4-carboxamide (156)

Compound (**156**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 2,6-difluorobenzyl bromide (**93j**, 0.31 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**156**) was so obtained as a light brown solid (0.45 gm, 69%); m.p. 113-116 ºC.

Analysis:

TLC : R_f 0.46 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3269, 3072, 2933, 1670, 1590, 1266, 1133, 994, 767, 697.

^{1}H-NMR ($CDCl_3$, δ) : 7.49-7.47 (d, 2H, *J* = 7.2 Hz), 7.38-7.36 (d, 2H, *J* = 7.0 Hz), 7.32-7.24 (m, 6H), 7.23-7.17 (m, 1H), 6.88-6.81 (m, 2H), 3.76-3.72 (m, 2H), 3.61-3.58 (m, 4H), 2.77 (bs, 1H), 2.75 (bs, 1H), 1.74-1.56 (m, 7H).

5.1.73 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(3,5-difluorobenzyl)-piperidine-4-carboxamide (157)

Compound (**157**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 3,5-difluorobenzyl bromide (**93k**, 0.31 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**157**) was so obtained as a light yellow solid (0.41 gm, 63%); m.p. 151-153 ºC.

Analysis:

TLC : R_f 0.41 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3266, 3074, 2936, 1659, 1553, 1110, 845, 769, 694.

^{1}H-NMR ($CDCl_3$, δ) : 7.49-7.47 (d, 2H, *J* = 7.2 Hz), 7.40-7.38 (d, 2H, *J* = 7.2 Hz), 7.34-7.28 (m, 6H), 6.80-6.78 (m, 2H), 6.68-6.62 (m, 1H), 3.79 -3.75 (m, 2H), 3.64-3.60 (m, 2H), 3.34 (s, 2H), 2.70 (bs, 1H), 2.68 (bs, 1H), 1.71-1.61 (bs, 7H).

Mass (*m/z*) : 528.03 $[M]^+$.

5.1.74 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-methylbenzyl)piperidine-4-carboxamide (158)

Compound (**158**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 4-methylbenzyl bromide (**93l**, 0.27 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**158**) was so obtained as a off white solid (0.33 gm, 53%); m.p. 125-128 ºC.

Analysis:

TLC : R_f 0.43 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3275, 3049, 2920, 1668, 1589, 1069, 767, 696.

^{1}H-NMR ($CDCl_3$, δ) : 7.48-7.46 (d, 2H, *J* = 7.0 Hz), 7.39-7.36 (m, 2H), 7.33-7.26 (m, 6H), 7.18-7.16 (d, 2H, *J* = 7.6 Hz), 7.10-7.08 (d, 2H, *J* = 7.6 Hz), 3.77-3.73 (m, 2H), 3.62-3.57 (m, 2H), 3.48 (s, 2H), 2.85 (bs, 1H), 2.82 (bs, 1H), 2.31 (s, 3H), 1.68 (bs, 7H).

5.1.75 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(2-fluorobenzyl)piperidine-4-carboxamide (159)

Compound (**159**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 2-fluorobenzyl bromide (**93m**, 0.28 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**159**) was so obtained as a yellow solid (0.37 gm, 58%); m.p. 159-161 ºC.

Analysis:

TLC : R_f 0.34 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3314, 3269, 2938, 1662, 1577, 1096, 762, 696.

^{1}H-NMR ($CDCl_3$, δ) : 7.49-7.47 (d, 2H, *J* = 7.6 Hz), 7.39-7.37 (d, 3H, *J* = 7.4 Hz), 7.33-7.27 (m, 6H), 7.23-7.17 (m, 1H), 7.08-7.04 (m, 1H), 7.01-6.96 (m, 1H), 3.77-3.73 (m, 2H), 3.63-3.59 (m, 2H), 3.46 (s, 2H), 2.75 (bs, 1H), 2.72 (bs, 1H), 1.74-1.58 (bs, 7H).

5.1.76 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-ylamino)ethyl)-1-(4-fluorobenzyl)piperidine-4-carboxamide (160)

Compound (**160**) was synthesized by reacting *N*-(2-((5,6-diphenyl-1,2,4-triazin-3-yl)amino)ethyl)piperidine-4-carboxamide (**118**, 0.5 gm, 1.24 mM) and 4-fluorobenzyl bromide (**93n**, 0.28 gm, 1.49 mM) following the procedure used for the synthesis of compound (**119**). The compound (**160**) was so obtained as a light brown solid (0.35 gm, 55%); m.p. 154-156 ºC.

Analysis:

TLC : R_f 0.41 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3259, 3072, 2936, 1665, 1593, 1219, 1060, 767, 698.

^{1}H-NMR ($CDCl_3$, δ) : 7.49-7.47 (d, 2H, *J* = 7.2 Hz), 7.41-7.37 (m, 3H), 7.34-7.27 (m, 5H), 7.22-7.17 (m, 2H), 6.98-6.93 (m, 2H), 3.78-3.74 (m, 2H), 3.63-3.59 (m, 2H), 3.35 (s, 2H), 2.73 (bs, 1H), 2.70 (bs, 1H), 1.77-1.60 (m, 7H).

Mass (*m/z*) : 510.18 $[M]^+$.

5.1.77 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(4-(trifluoromethoxy)-benzyl)piperidine-4-carboxamide (161)

To a solution of sodium hydride (0.03 gm, 1.32 mM) in anhydrous DMSO (3 ml) at 10-15 ^oC, 1-(4-(trifluoromethoxy)benzyl)piperidine-4-carboxamide (**94**, 0.27 gm, 0.88 mM) was added under a stream of nitrogen. After stirring for 10-15 mins, 5,6-bis(4-methoxyphenyl)-3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) in dry THF (2 ml) was added slowly and the reaction mixture was stirred at R.T. for 5-6 hrs. After completion, the reaction mixture was poured into ice-cold water and stirred for 30-60 mins. The precipitated solid was then filtered, dried and purified through column chromatography using $CHCl_3$: CH_3OH (10%) as mobile phase to obtain the desired product (**161**) as an off white solid (0.34 gm, 65%); m.p. 177-179 **°**C.

Analysis:

TLC : R_f 0.39 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3210, 3078, 2942, 1725, 1607, 1470, 1259, 1172, 1027, 956, 835.

^{1}H-NMR ($CDCl_3$, δ) : 9.26 (s, 1H), 7.65-7.62 (d, 2H, *J* = 9.4 Hz), 7.50-7.47 (d, 2H, *J* = 9.2 Hz), 7.35-7.32 (d, 2H, *J* = 7.7 Hz), 7.16-7.14 (d, 2H, *J* = 7.7 Hz), 6.94-6.91 (d, 2H, *J* = 9.2 Hz), 6.84-6.82 (d, 2H, *J* = 9.4 Hz), 3.85 (s, 3H), 3.83 (s, 3H), 3.44 (s, 2H), 3.03 (bs, 1H), 2.92-2.88 (m, 2H), 2.04-1.97 (m, 6H).

Mass (*m/z*) : 594.1 $[M+H]^+$.

5.1.78 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(2-chlorobenzyl)piperidine-4-carboxamide (162)

Compound (**162**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(2-chlorobenzyl)piperidine-4-carboxamide (**95**, 0.22 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**162**) was so obtained as a light yellow solid (0.36 gm, 75%); m.p. 181-183 ºC.

Analysis:

TLC : R_f 0.52 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3203, 3077, 2932, 1722, 1603, 1461, 1254, 1172, 954, 831, 753.

^{1}H-NMR ($CDCl_3$, δ) : 9.94 (s, 1H), 7.67-7.65 (d, 2H, *J* = 6.8 Hz), 7.51-7.49 (d, 2H, *J* = 6.8 Hz), 7.33-7.31 (dd, 1H, *J* = 1.4, 7.6 Hz), 7.25-7.14 (m, 3H), 6.94-6.92 (d, 2H, *J* = 6.8 Hz), 6.84-6.82 (d, 2H, *J* = 6.8 Hz), 3.84 (s, 3H), 3.82 (s, 3H), 3.56 (s, 2H), 2.96-2.91 (m, 3H), 1.99-1.94 (m, 6H).

Mass (*m/z*) : 544.4 $[M+H]^+$, 545.4 $[M+2]^+$.

5.1.79 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(4-(trifluoromethyl)benzyl)-piperidine-4-carboxamide (163)

Compound (**163**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(4-(trifluoromethyl)benzyl)piperidine-4-carboxamide (**96**, 0.25 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**163**) was so obtained as a off white solid (0.31 gm, 61%); m.p. 172-174 ºC.

Analysis:

TLC : R_f 0.49 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3215, 3080, 2939, 1720, 1606, 1468, 1255, 1175, 1061, 958, 833, 726.

^{1}H-NMR ($CDCl_3$, δ) : 8.59 (s, 1H), 7.63-7.56 (m, 4H), 7.50-7.44 (m, 4H), 6.93-6.91 (d, 2H, *J* = 6.6 Hz), 6.85-6.83 (d, 2H, *J* = 7.0 Hz), 3.85 (s, 3H)

3.83 (s, 3H), 3.55 (s, 2H), 3.03 (bs, 1H), 2.94 (bs, 1H), 2.92 (bs, 1H), 2.13-2.07 (m, 2H), 1.99-1.94 (m, 4H).

Mass (*m/z*) : 578.2 $[M+H]^+$.

5.1.80 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(4-chlorobenzyl)piperidine-4-carboxamide (164)

Compound (**164**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(4-chlorobenzyl)piperidine-4-carboxamide (**97**, 0.22 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**164**) was so obtained as a off white solid (0.34 gm, 71%); m.p. 121-124 ºC.

Analysis:

TLC : R_f 0.45 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3181, 3069, 1698, 1602, 1474, 1252, 1175, 1060, 961, 833.

^{1}H-NMR ($CDCl_3$, δ) : 8.88 (s, 1H), 7.63-7.61 (d, 2H, *J* = 8.8 Hz), 7.49-7.47 (d, 2H, *J* = 8.8 Hz), 7.29-7.27 (m, 4H), 6.93-6.91 (d, 2H, *J* = 8.8 Hz), 6.84-6.82 (d, 2H, *J* = 8.8 Hz), 3.85 (s, 3H), 3.83 (s, 3H), 3.46 (s, 2H), 3.01 (bs, 1H), 2.94-2.91 (bs, 2H), 2.07-2.04 (bs, 2H), 1.97-1.95 (m, 4H).

5.1.81 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(4-cyanobenzyl)piperidine-4-carboxamide (165)

Compound (**165**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(4-cyanobenzyl) piperidine-4-carboxamide (**98**, 0.21 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**165**) was so obtained as a off white solid (0.32 gm, 68%); m.p. 207-209 ºC.

Analysis:

TLC : R_f 0.37 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3198, 3075, 2944, 2225, 1721, 1605, 1465, 1256, 1175, 1021, 960, 831.

^{1}H-NMR ($CDCl_3$, δ) : 8.95 (s, 1H), 7.64-7.59 (m, 4H), 7.49-7.43 (m, 4H), 6.93-6.91 (d, 2H, *J* = 8.8 Hz), 6.85-6.83 (d, 2H, *J* = 8.8 Hz), 3.85 (s, 3H)

3.83 (s, 3H), 3.51 (s, 2H), 3.05 (bs, 1H), 2.90-2.87 (m, 2H), 2.03-1.93 (m, 6H).

Mass (*m/z*) : 535.2 $[M+H]^+$.

5.1.82 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(3-methoxybenzyl)-piperidine-4-carboxamides (166)

Compound (**166**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(3-methoxybenzyl)piperidine-4-carboxamide (**99**, 0.22 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**166**) was so obtained as a off white solid (0.27 gm, 58%); m.p. 123-125 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3194, 3073, 2933, 1691, 1602, 1469, 1256, 1175, 1030, 960, 830, 775.

^{1}H-NMR ($CDCl_3$, δ) : 8.97 (bs, 1H), 7.68-7.66 (d, 2H, *J* = 9.4 Hz), 7.54-7.52 (d, 2H, *J* = 9.4 Hz), 7.29-7.25 (t, 1H, *J* = 7.8 Hz), 6.99-6.94 (m, 4H), 6.90-6.83 (m, 3H), 3.90 (s, 3H), 3.88 (s, 3H), 3.86 (s, 3H), 3.53 (bs, 2H), 3.03-3.00 (bs, 3H), 2.13-1.99 (m, 6H).

Mass (*m/z*) : 540.2 $[M+H]^+$.

5.1.83 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(2-methylbenzyl)piperidine-4-carboxamide (167)

Compound (**167**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(2-methylbenzyl)piperidine-4-carboxamide (**100**, 0.20 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**167**) was so obtained as a off white solid (0.31 gm, 67%); m.p. 169-171 ºC.

Analysis:

TLC : R_f 0.54 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3204, 3076, 2922, 1713, 1605, 1464, 1254, 1175, 1028, 996, 834, 745.

^{1}H-NMR ($CDCl_3$, δ) : 8.54 (s, 1H), 7.62-7.60 (d, 2H, *J* = 6.8 Hz), 7.49-7.47 (d, 2H, *J* = 7.0 Hz), 7.27-7.16 (m, 4H), 6.92-6.91 (d, 2H, *J* = 7.0 Hz), 6.85-6.83 (d, 2H, *J* = 6.8 Hz), 3.85 (s, 3H), 3.83 (s, 3H), 3.47 (s, 2H), 2.97 (bs, 3H), 2.37 (s, 3H), 2.09-1.97 (m, 6H).

5.1.84 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(2-(trifluoromethyl)benzyl)-piperidine-4-carboxamide (168)

Compound (**168**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(2-(trifluoromethyl)benzyl)piperidine-4-carboxamide (**101**, 0.25 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**168**) was so obtained as a light yellow solid (0.35 gm, 69%); m.p. 219-221 ºC.

Analysis:

TLC : R_f 0.44 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3198, 3072, 2941, 1719, 1606, 1462, 1254, 1032, 956, 836, 772, 729.

^{1}H-NMR ($CDCl_3$, δ) : 9.07 (s, 1H), 7.85-7.84 (d, 1H, *J* = 7.6 Hz), 7.65-7.60 (m, 3H), 7.54-7.47 (m, 3H), 7.34-7.30 (t, 1H, *J* = 7.6 Hz), 6.93-6.91 (d, 2H, *J* = 8.8 Hz), 6.85-6.83 (d, 2H, *J* = 9.2 Hz), 3.85 (s, 3H), 3.83 (s, 3H), 3.64 (s, 2H), 3.07 (bs, 1H), 2.94-2.90 (m, 2H), 2.18-2.11 (m, 2H), 2.00-1.95 (m, 4H).

5.1.85 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(2-cyanobenzyl)piperidine-4-carboxamide (169)

Compound (**169**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(2-cyanobenzyl)piperidine-4-carboxamide (**102**, 0.21 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**169**) was so obtained as a light yellow solid (0.30 gm, 65%); m.p. 211-213 ºC.

Analysis:

TLC : R_f 0.41 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3197, 3070, 2939, 2221, 1717, 1605, 1462, 1254, 1056, 955, 837, 764.

^{1}H-NMR ($CDCl_3$, δ) : 8.79 (s, 1H), 7.64-7.55 (m, 5H), 7.50-7.46 (m, 2H), 7.39-7.33 (m, 1H), 6.93-6.91 (d, 2H, *J* = 7.7 Hz), 6.86-6.84 (d, 2H, *J* = 7.7 Hz), 3.85 (s, 3H), 3.84 (s, 3H), 3.71 (s, 2H), 3.07 (bs, 1H), 2.97-2.94 (bs, 2H), 2.23-2.17 (m, 2H), 1.99-1.93 (m, 4H).

Mass (*m/z*) : 535.3 $[M+H]^+$.

5.1.86 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(2,6-difluorobenzyl)-piperidine-4-carboxamide (170)

Compound (**170**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(2,6-difluorobenzyl)piperidine-4-carboxamide (**103**, 0.22 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**170**) was so obtained as a off white solid (0.28 gm, 58%); m.p. 200-202 ºC.

Analysis:

TLC : R_f 0.58 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3204, 3076, 2931, 1724, 1605, 1464, 1256, 1171, 1032, 956, 834, 790, 730.

^{1}H-NMR ($CDCl_3$, δ) : 9.05 (s, 1H), 7.61-7.59 (d, 2H, *J* = 7.2 Hz), 7.48-7.46 (d, 2H, *J* = 7.2 Hz), 7.27-7.21 (m, 1H), 6.92-6.88 (m, 4H), 6.82-6.80 (m, 2H), 3.84 (s, 3H), 3.83 (s, 3H), 3.70 (s, 2H), 3.03-2.99 (m, 3H), 1.97-1.89 (m, 6H).

5.1.87 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(3,5-difluorobenzyl)-piperidine-4-carboxamide (171)

Compound (**171**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(3,5-difluorobenzyl) piperidine-4-carboxamide (**104**, 0.22 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**171**) was so obtained as an off white solid (0.30 gm, 62%); m.p. 174-177 ºC.

Analysis:

TLC : R_f 0.55 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3211, 3088, 2937, 1724, 1602, 1465, 1254, 1175, 1028, 956, 837, 675.

^{1}H-NMR ($CDCl_3$, δ) : 8.95 (s, 1H), 7.65-7.63 (d, 2H), 7.51-7.49 (d, 2H), 6.95-6.93 (d, 2H), 6.89-6.84 (m, 4H), 6.73-6.67 (m, 1H), 3.87 (s, 3H), 3.85 (s, 3H), 3.45 (s, 2H), 3.03 (bs, 1H), 2.97-2.91 (bs, 2H), 2.10-1.92 (m, 6H).

5.1.88 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(4-methylbenzyl)piperidine-4-carboxamide (172)

Compound (**172**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(4-methylbenzyl)piperidine-4-carboxamide (**105**, 0.20 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**172**) was so obtained as an off white solid (0.30 gm, 66%); m.p. 168-170 ºC.

Analysis:

TLC : R_f 0.52 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3211, 3094, 2927, 1719, 1605, 1469, 1253, 1177, 1023, 813.

^{1}H-NMR ($CDCl_3$, δ) : 8.56 (s, 1H), 7.64-7.62 (d, 2H, *J* = 8.8 Hz), 7.51-7.49 (d, 2H, *J* = 8.8 Hz), 7.25-7.23 (d, 2H, *J* = 7.6 Hz), 7.16-7.15 (d, 2H, *J* = 7.6 Hz), 6.95-6.93 (d, 2H, *J* = 8.8 Hz), 6.87-6.85 (d, 2H, *J* = 8.8 Hz), 3.87 (s, 3H), 3.86 (s, 3H), 3.53 (s, 2H), 3.01-2.99 (bs, 3H), 2.36 (s, 3H), 2.01-1.99 (bs, 6H).

Mass (*m/z*) : 523.9 $[M+H]^+$.

5.1.89 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(2-fluorobenzyl)piperidine-4-carboxamide (173)

Compound (**173**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(2-fluorobenzyl)piperidine-4-carboxamide (**106**, 0.21 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**173**) was so obtained as a light yellow solid (0.32 gm, 68%); m.p. 181-183 ºC.

Analysis:

TLC : R_f 0.52 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3205, 3084, 2935, 1724, 1606, 1464, 1257, 1177, 1028, 955, 837, 764.

^{1}H-NMR ($CDCl_3$, δ) : 8.93 (bs, 1H), 7.67-7.65 (d, 2H, *J* = 8.8 Hz), 7.54-7.52 (d, 2H, *J* = 8.6 Hz), 7.48-7.42 (m, 1H), 7.29-7.26 (m, 1H), 7.18-7.14 (m, 1H), 7.10-7.05 (m, 1H), 6.98-6.96 (d, 2H, *J* = 8.6 Hz), 6.89-6.87 (d, 2H, *J* = 8.8 Hz), 3.90 (s, 3H), 3.88 (s, 3H), 3.64 (s, 2H), 3.05-3.01 (m, 3H), 2.05-1.99 (m, 6H).

5.1.90 *N*-(2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-yl)-1-(4-fluorobenzyl)piperidine-4-carboxamide (174)

Compound (**174**) was prepared from 5,6-bis(4-methoxyphenyl)- 3-(methylthio)-1,2,4-triazine (**89**, 0.30 gm, 0.88 mM) and 1-(4-fluorobenzyl)piperidine-4-carboxamide (**107**, 0.21 gm, 0.88 mM) using the procedure mentioned for the preparation of compound (**161**). The compound (**174**) was so obtained as an off white solid (0.36 gm, 76%); m.p. 182-184 ºC.

Analysis:

TLC : R_f 0.49 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3215, 3091, 2942, 1725, 1604, 1463, 1255, 1173, 1055, 957, 834, 672.

^{1}H-NMR ($CDCl_3$, δ) : 9.18 (bs, 1H), 7.69-7.67 (d, 2H, *J* = 9.0 Hz), 7.54-7.52 (d, 2H, *J* = 8.8 Hz), 7.33-7.29 (m, 2H), 7.06-7.02 (m, 2H), 6.98-6.96 (d, 2H, *J* = 8.8 Hz), 6.89-6.87 (d, 2H, *J* = 9.0 Hz), 3.90 (s, 3H) 3H), 3.88 (s, 3H), 3.47 (s, 2H), 3.06 (bs, 1H), 2.97-2.93 (m, 2H), 2.05-1.95 (m, 6H).

5.1.91 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-yl)-1-(4-(trifluoromethoxy)benzyl)-piperidine-4-carboxamide (175)

Compound (**175**) was prepared from 5,6-bis(4-chlorophenyl)-3-(methylthio)-1,2,4-triazine (**90**, 0.30 gm, 0.86 mM) and 1-(4-(trifluoromethoxy)benzyl)piperidine-4-carboxamide (**94**, 0.26 gm, 0.86 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**175**) was so obtained as an off white solid (0.31 gm, 60%); m.p. 190-192 ºC.

Analysis:

TLC : R_f 0.46 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3207, 3094, 2947, 1728, 1587, 1466, 1262, 1155, 1093, 954, 830.

^{1}H-NMR ($CDCl_3$, δ) : 8.81 (s, 1H), 7.55-7.53 (d, 2H, *J* = 6.8 Hz), 7.48-7.44 (m, 2H), 7.40-7.37 (m, 2H), 7.35-7.32 (d, 2H, *J* = 6.8 Hz), 7.25-7.22 (m, 2H), 7.18-7.16 (d, 2H, *J* = 7.0 Hz), 3.52 (s, 2H), 2.96 (bs, 3H), 1.99 (bs, 6H).

Mass (*m/z*) : 602.2 $[M+H]^+$.

5.1.92 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-yl)-1-(4-chlorobenzyl)piperidine-4-carboxamide (176)

Compound (**176**) was prepared from 5,6-bis(4-chlorophenyl)-3-(methylthio)-1,2,4-triazine (**90**, 0.30 gm, 0.86 mM) and 1-(4-chlorobenzyl)piperidine-4-carboxamide (**97**, 0.22 gm, 0.86 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**176**) was so obtained as an off white solid (0.28 gm, 59%); m.p. 170-172 ºC.

Analysis:

TLC : R_f 0.51 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3215, 3095, 2946, 1727, 1463, 1266, 1091, 957, 830.

^{1}H-NMR ($CDCl_3$, δ) : 9.00 (s, 1H), 7.61-7.59 (d, 2H, *J* = 8.8 Hz), 7.52-7.50 (d, 2H, *J* = 8.4 Hz), 7.45-7.43 (d, 2H, *J* = 8.4 Hz), 7.40-7.38 (d, 2H, *J* = 8.4 Hz), 7.35-7.29 (m, 4H), 3.50 (s, 2H), 3.00-2.96 (m, 3H), 2.07-1.99 (m, 6H).

5.1.93 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-yl)-1-(2-methylbenzyl)piperidine-4-carboxamide (177)

Compound (**177**) was prepared from 5,6-bis(4-chlorophenyl)-3-(methylthio)-1,2,4-triazine (**90**, 0.30 gm, 0.86 mM) and 1-(2-methylbenzyl)piperidine-4-carboxamide (**100**, 0.20 gm, 0.86 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**177**) was so obtained as a light yellow solid (0.28 gm, 61%); m.p. 165-167 ºC.

Analysis:

TLC : R_f 0.44 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3200, 3066, 2944, 1723, 1562, 1464, 1091, 957, 822, 750.

^{1}H-NMR ($CDCl_3$, δ) : 9.37 (s, 1H), 7.58-7.56 (d, 2H, *J* = 8.8 Hz), 7.48-7.46 (d, 2H, *J* = 8.8 Hz), 7.41-7.38 (m, 2H), 7.35-7.32 (m, 2H), 7.18-7.11 (m, 4H), 3.41 (s, 2H), 2.94-2.91 (m, 3H), 2.36 (s, 3H), 2.02-1.92 (m, 6H).

5.1.94 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-yl)-1-(2,6-difluorobenzyl)-piperidine-4-carboxamide (178)

Compound (**178**) was prepared from 5,6-bis(4-chlorophenyl)-3-(methylthio)-1,2,4-triazine (**90**, 0.30 gm, 0.86 mM) and 1-(2,6-difluorobenzyl)piperidine-4-carboxamide (**103**, 0.22 gm, 0.86 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**177**) was so obtained as am off white solid (0.32 gm, 67%); m.p. 132-134 ºC.

Analysis:

TLC : R_f 0.52 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3204, 3071, 2944, 1706, 1623, 1466, 1092, 958, 833, 794, 726.

^{1}H-NMR ($CDCl_3$, δ) : 8.75 (s, 1H), 7.58-7.48 (m, 4H), 7.44-7.40 (m, 3H), 7.37-7.34 (m, 2H), 6.99-6.92 (m, 2H), 3.82 (s, 2H), 3.13-3.08 (m, 3H), 2.08-1.96 (m, 6H).

5.1.95 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-yl)-1-(3,5-difluorobenzyl)-piperidine-4-carboxamide (179)

Compound (**179**) was prepared from 5,6-bis(4-chlorophenyl)-3-(methylthio)-1,2,4-triazine (**90**, 0.30 gm, 0.86 mM) and 1-(3,5-difluorobenzyl)piperidine-4-carboxamide (**104**, 0.22 gm, 0.86 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**179**) was so obtained as am off white solid (0.32 gm, 67%); m.p. 219-221 ºC.

Analysis:

TLC : R_f 0.48 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3202, 3088, 2949, 1724, 1624, 1462, 1094, 1048, 958, 842.

^{1}H-NMR ($CDCl_3$, δ) : 9.59 (s, 1H), 7.59-7.57 (d, 2H, *J* = 8.4 Hz), 7.48-7.46 (d, 2H, *J* = 8.8 Hz), 7.41-7.39 (d, 2H, *J* = 8.8 Hz), 7.34-7.32 (d, 2H, *J* =

8.4 Hz), 6.88-6.85 (m, 2H), 6.71-6.65 (m, 1H), 3.41 (s, 2H), 2.98 (bs, 1H), 2.91-2.88 (m, 2H), 2.05-1.93 (m, 6H).

Mass (*m/z*) : 554.1 $[M+H]^+$.

5.1.96 *N*-(2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-yl)-1-(4-fluorobenzyl)piperidine-4-carboxamide (180)

Compound (**180**) was prepared from 5,6-bis(4-chlorophenyl)-3-(methylthio)-1,2,4-triazine (**90**, 0.30 gm, 0.86 mM) and 1-(4-fluorobenzyl)piperidine-4-carboxamide (**107**, 0.20 gm, 0.86 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**180**) was so obtained as an off white solid (0.29 gm, 63%); m.p. 208-210 ºC.

Analysis:

TLC : R_f 0.52 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3206, 3088, 2942, 1719, 1592, 1462, 1264, 1047, 958, 832.

^{1}H-NMR ($CDCl_3$, δ) : 9.01 (bs, 1H), 7.61-7.59 (d, 2H, *J* = 8.4 Hz), 7.53-7.49 (m, 2H), 7.46-7.42 (m, 2H), 7.40-7.37 (m, 2H), 7.36-7.31 (m, 2H), 7.08-7.02 (m, 2H), 3.52 (s, 2H), 3.01-2.97 (m, 3H), 2.03-1.94 (m, 6H).

5.1.97 *N*-(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(4-(trifluoromethoxy)benzyl)piperidine-4-carboxamide (181)

Compound (**181**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(4-(trifluoromethoxy)benzyl)piperidine-4-carboxamide (**94**, 0.32 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**181**) was so obtained as an off white solid (0.42 gm, 73%); m.p. 192-194 ºC.

Analysis:

TLC : R_f 0.39 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3195, 3067, 2941, 1724, 1519, 1370, 1264, 1164, 1055, 952, 842.

^{1}H-NMR ($CDCl_3$, δ) : 9.57 (bs, 1H), 7.63-7.61 (d, 2H, *J* = 8.8 Hz), 7.53-7.51 (d, 2H, *J* = 8.4 Hz), 7.46-7.30 (m, 10H), 3.43 (s, 2H), 3.05 (bs, 1H), 2.92-2.87 (m, 2H), 2.05-1.95 (m, 6H).

Mass (*m/z*) : 534.3 $[M+H]^+$.

5.1.98 *N*-(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(2-chlorobenzyl)piperidine-4-carboxamide (182)

Compound (**182**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(2-chlorobenzyl)piperidine-4-carboxamide (**95**, 0.27 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**182**) was so obtained as a light yellow solid (0.36 gm, 69%); m.p. 195-197 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3215, 3088, 2934, 1725, 1559, 1468, 1363, 1264, 1156, 1048, 957.

^{1}H-NMR ($CDCl_3$, δ) : 8.84 (bs, 1H), 7.61-7.59 (d, 2H, *J* = 7.6 Hz), 7.53-7.51 (d, 2H, *J* = 7.6 Hz), 7.44-7.38 (m, 4H), 7.35-7.33 (d, 2H, *J* = 6.8 Hz), 7.27-7.17 (m, 4H), 3.63 (s, 2H), 3.01 (bs, 3H), 2.01 (bs, 6H).

5.1.99 *N*-(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(4-(trifluoromethyl)benzyl)piperidine-4-carboxamide (183)

Compound (**183**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(4-(trifluoromethyl)benzyl)piperidine-4-carboxamide (**96**, 0.30 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**183**) was so obtained as an off white solid (0.38 gm, 69%); m.p. 196-198 ºC.

Analysis:

TLC : R_f 0.49 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3199, 3073, 2935, 1724, 1558, 1470, 1368, 1323, 1165, 954, 835, 771.

^{1}H-NMR ($CDCl_3$, δ) : 9.49 (bs, 1H), 7.67-7.65 (d, 2H, *J* = 7.2 Hz), 7.62-7.56 (m, 4H), 7.48-7.35 (m, 8H), 3.53 (s, 2H), 3.13-3.09 (m, 1H), 2.96-2.92 (m, 2H), 2.10-2.01 (m, 6H).

5.1.100 *N*-(2-(5,6-Diphenyl-1,2,4-triazin-3-yl)-1-(4-chlorobenzyl)piperidine-4-carboxamide (184)

Compound (**184**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(4-chlorobenzyl)piperidine-4-carboxamide (**97**, 0.27 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**184**) was so obtained as an off white solid (0.41 gm, 79%); m.p. 191-193 ºC.

Analysis:

TLC : R_f 0.41 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3189, 3065, 2941, 1722, 1557, 1472, 1369, 1273, 1138, 1007, 772.

^{1}H-NMR ($CDCl_3$, δ) : 9.12 (bs, 1H), 7.61-7.59 (d, 2H, *J* = 8.0 Hz), 7.53-7.51 (m, 2H), 7.45-7.37 (m, 5H), 7.34-7.28 (m, 5H), 3.46 (s, 2H), 3.05-2.92 (m, 3H), 2.08-1.95 (m, 6H).

Mass (*m/z*) : 484.5 $[M+H]^+$.

5.1.101 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-yl)-1-(4-cyanobenzyl)piperidine-4-carboxamide (185)

Compound (**185**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(4-cyanobenzyl)piperidine-4-carboxamide (**98**, 0.26 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**185**) was so obtained as an off white solid (0.41 gm, 80%); m.p. 193-195 ºC.

Analysis:

TLC : R_f 0.38 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3197, 3076, 2941, 2227, 1722, 1555, 1468, 1268, 1138, 953, 840, 765.

^{1}H-NMR ($CDCl_3$, δ) : 9.35 (bs, 1H), 7.61-7.59 (dd, 2H, *J* = 1.6, 6.8 Hz), 7.53-7.51 (d, 2H, *J* = 5.4 Hz), 7.45-7.37 (m, 7H), 7.34-7.31 (m, 3H), 3.49 (s, 2H), 3.05 (bs, 1H), 2.89-2.87 (m, 2H), 2.09-2.05 (m, 2H), 1.97-1.92 (m, 4H).

5.1.102 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-yl)-1-(3-methoxybenzyl)piperidine-4-carboxamides (186)

Compound (**186**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(3-methoxybenzyl)piperidine-4-carboxamide (**99**, 0.27 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**186**) was so obtained as a light brown solid (0.32 gm, 62%); m.p. 170-172 ºC.

Analysis:

TLC : R_f 0.35 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3192, 3065, 2942, 1722, 1593, 1468, 1263, 1151, 1047, 952, 860, 773.

^{1}H-NMR ($CDCl_3$, δ) : 9.33 (bs, 1H), 7.62-7.60 (d, 2H, *J* = 7.8 Hz), 7.53-7.51 (d, 2H, *J* = 8.0 Hz), 7.43-7.38 (m, 4H), 7.34-7.31 (m, 2H), 7.24-7.20 (t, 1H), 6.93-6.88 (m, 2H), 6.81-6.79 (m, 1H), 3.81 (s, 3H), 3.48 (s, 2H), 3.05 (bs, 1H), 2.98-2.95 (m, 2H), 2.09-1.97 (m, 6H).

Mass (*m/z*) : 480.3 $[M+H]^+$.

5.1.103 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-yl)-1-(2-methylbenzyl)piperidine-4-carboxamide (187)

Compound (**187**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(2-methylbenzyl)piperidine-4-carboxamide (**100**, 0.25 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**187**) was so obtained as a light brown solid (0.28 gm, 56%); m.p. 197-199 ºC.

Analysis:

TLC : R_f 0.39 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3196, 3070, 2937, 1719, 1557, 1470, 1155, 1047, 766.

^{1}H-NMR ($CDCl_3$, δ) : 9.15 (bs, 1H), 7.54-7.52 (d, 2H, *J* = 7.6 Hz), 7.46-7.44 (d, 2H, *J* = 8.0 Hz), 7.38-7.30 (m, 6H), 7.28-7.21 (m, 4H), 3.41 (s, 2H), 2.98 (bs, 1H), 2.91 (bs, 2H), 2.29 (s, 3H), 2.04-1.92 (m, 6H).

Mass (*m/z*) : 464.5 $[M+H]^+$.

5.1.104 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-yl)-1-(2-(trifluoromethyl)benzyl)piperidine-4-carboxamide (188)

Compound (**188**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(2-(trifluoromethyl)benzyl)piperidine-4-carboxamide (**101**, 0.31 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**188**) was so obtained as a light yellow solid (0.46 gm, 83%); m.p. 200-202 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3215, 3085, 2946, 1729, 1561, 1470, 1363, 1311, 1154, 770, 698.

^{1}H-NMR ($CDCl_3$, δ) : 8.78 (bs, 1H), 7.68-7.64 (m, 3H), 7.59-7.56 (m, 3H), 7.51-7.35 (m, 8H), 3.70 (s, 2H), 3.10 (bs, 1H), 3.00 (bs, 1H), 2.97 (bs, 1H), 2.22 (bs, 2H), 2.04 (bs, 4H).

Mass (*m/z*) : 518.5 $[M+H]^+$.

5.1.105 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-yl)-1-(2-cyanobenzyl)piperidine-4-carboxamide (189)

Compound (**189**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(2-cyanobenzyl)piperidine-4-carboxamide (**102**, 0.26 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**189**) was so obtained as a light yellow solid (0.38 gm, 74%); m.p. 218-220 ºC.

Analysis:

TLC : R_f 0.41 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3197, 3078, 2931, 2225, 1718, 1555, 1467, 1258, 1154, 1045, 954.

^{1}H-NMR ($CDCl_3$, δ) : 9.32 (bs, 1H), 7.64-7.51 (m, 7H), 7.45-7.38 (m, 4H), 7.36-7.32 (m, 3H), 3.66 (s, 2H), 3.07 (bs, 1H), 2.94-2.91 (m, 2H), 2.19-2.14 (m, 2H), 2.02-1.92 (m, 4H).

5.1.106 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-yl)-1-(2,6-difluorobenzyl)piperidine-4-carboxamide (190)

Compound (**190**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(2,6-difluorobenzyl)piperidine-4-carboxamide (**103**, 0.27 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**190**) was so obtained as a light yellow solid (0.37 gm, 71%); m.p. 172-174 ºC.

Analysis:

TLC : R_f 0.38 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3213, 3093, 2944, 1724, 1468, 1158, 1037, 771, 698.

^{1}H-NMR ($CDCl_3$, δ) : 9.19 (bs, 1H), 7.61-7.59 (d, 2H, *J* = 7.6 Hz), 7.54-7.51 (dd, 2H, *J* = 1.6, 8.0 Hz), 7.47-7.37 (m, 4H), 7.34-7.31 (t, 2H, *J* = 7.6 Hz), 7.27-7.22 (m, 1H), 6.94-6.87 (m, 2H), 3.70 (s, 2H), 3.04-2.90 (m, 3H), 2.19-2.14 (t, 2H), 2.03-1.90 (m, 4H).

5.1.107 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-yl)-1-(3,5-difluorobenzyl)piperidine-4-carboxamide (191)

Compound (**191**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(3,5-difluorobenzyl)piperidine-4-carboxamide (**104**, 0.27 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**191**) was so obtained as a light yellow solid (0.42 gm, 80%); m.p. 185-187 ºC.

Analysis:

TLC : R_f 0.48 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3212, 3095, 2943, 1724, 1593, 1469, 1257, 1111, 1046, 954, 770.

^{1}H-NMR ($CDCl_3$, δ) : 9.11 (bs, 1H), 7.66-7.64 (d, 2H, *J* = 7.6 Hz), 7.58-7.56 (dd, 2H, *J* = 1.4, 8.2 Hz), 7.49-7.43 (m, 3H), 7.40-7.35 (m, 3H), 6.93-6.89 (m, 2H), 6.75-6.70 (m, 1H), 3.48 (s, 2H), 3.09 (bs, 1H), 2.97-2.93 (m, 2H), 2.05-1.95 (m, 6H).

5.1.108 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-yl)-1-(4-methylbenzyl)piperidine-4-carboxamide (192)

Compound (**192**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(4-methylbenzyl)piperidine-4-carboxamide (**105**, 0.25 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**192**) was so obtained as a light yellow solid (0.39 gm, 78%); m.p. 166-168 ºC.

Analysis:

TLC : R_f 0.43 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3210, 3060, 2945, 1724, 1559, 1469, 1261, 1149, 1048, 955, 810, 769, 696.

^{1}H-NMR ($CDCl_3$, δ) : 8.92 (bs, 1H), 7.66-7.63 (m, 2H), 7.58-7.55 (m, 2H), 7.48-7.35 (m, 6H), 7.26-7.24 (d, 2H, *J* = 7.8 Hz), 7.18-7.16 (d, 2H, *J* = 7.8 Hz), 3.50 (s, 2H), 3.02-2.98 (m, 3H), 2.38 (s 3H), 2.05-1.97 (m, 6H).

Mass (*m/z*) : 464.5 $[M+H]^+$.

5.1.109 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-yl)-1-(2-fluorobenzyl)piperidine-4-carboxamide (193)

Compound (**193**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(2-fluorobenzyl)piperidine-4-carboxamide (**106**, 0.25 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**193**) was so obtained as a light yellow solid (0.35 gm, 70%); m.p. 215-217 ºC.

Analysis:

TLC : R_f 0.56 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3200, 3086, 2939, 1720, 1559, 1472, 1357, 1262, 1156, 1047, 956, 767, 696.

^{1}H-NMR ($CDCl_3$, δ) : 9.51 (bs, 1H), 7.63-7.61 (d, 2H, *J* = 8.0 Hz), 7.53-7.52 (d, 2H, *J* = 8.4 Hz), 7.42-7.30 (m, 7H), 7.25-7.20 (m, 1H), 7.12-7.08 (m, 1H), 7.04-6.99 (m, 1H), 3.53 (s, 2H), 3.04-3.00 (m, 1H), 2.97-2.93 (m, 2H), 2.01-1.90 (m, 6H).

5.1.110 *N*-(2-(5,6-Diphenyl)-1,2,4-triazin-3-yl)-1-(4-fluorobenzyl)piperidine-4-carboxamide (194)

Compound (**194**) was prepared from 3-(methylthio)-5,6-diphenyl-1,2,4-triazine (**91**, 0.30 gm, 1.07 mM) and 1-(4-fluorobenzyl)piperidine-4-carboxamide (**107**, 0.25 gm, 1.07 mM) using the procedure mentioned for the synthesis of compound (**161**). The compound (**194**) was so obtained as a light yellow solid (0.38 gm, 76%); m.p. 200-202 ºC.

Analysis:

TLC : R_f 0.54 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3205, 3089, 2919, 1721, 1562, 1470, 1356, 1265, 1045, 957, 843, 770, 695.

^{1}H-NMR ($CDCl_3$, δ) : 8.87 (bs, 1H), 7.60-7.58 (d, 2H, *J* = 8.4 Hz), 7.52-7.50 (d, 2H, *J* = 8.0 Hz), 7.45-7.27 (m, 8H), 7.02-6.97 (m, 2H), 3.46 (s, 2H), 2.99-2.91 (m, 3H), 2.05-1.95 (m, 6H).

5.1.111 3-(Dimethylamino)-1,2-bis(4-methoxyphenyl)prop-2-en-1-one (196)

In a 10 ml RBF, 1,2-bis(4-methoxyphenyl)ethanone (**81**, 1.00 gm, 3.9 mM) was reacted neat with DMF.DMA (**195**, 1.39 gm, 11.7 mM) at 80 ºC for 16 hrs. After completion, the reaction mixture was cooled and *n*-hexane was added to get a yellow precipitate of product (**196**) which was further washed with pet. ether and used in the next step without purification (1.19 gm, 98%); m.p. 117-119**º**C (Lit.[9] 116-118).

Analysis:

TLC : R_f 0.25 (*n*-Heaxane: EtOAc, 7:3).

IR (KBr, cm^{-1}) : 3029, 2963, 1653, 1598, 1246, 1024, 881.

5.1.112 *t*.Butyl 2-guanidinylethylcarbamate (197)

In a 10 ml RBF, *t*.butyl 2-aminoethylcarbamate (**O**) (2.3 gm, 14.4 mM) was slowly added to *S*-methylisothiourea hemisulphate (**P**) (1.00 gm, 7.18 mM). To this reaction mixture, water (0.5 ml) was added. Progression of the reaction was marked by foaming and evolution of methyl mercaptan (characteristic smell of rotten eggs). The reaction mixture was then allowed to stir overnight at room temperature. After 18-20 hrs of stirring, chloroform (20 ml) was added to the reaction mixture (to remove an excess of unreacted *t*.butyl 2-aminoethyl

carbamate) and stirred for 3-4 hrs to get a white precipitate. The precipitate so obtained was filtered and dried to get the desired product (**197**, 1.77 gm, 98%); m.p. 78-80 ºC, which was used as such in the next step without purification/analysis.

Analysis:

IR (KBr, cm^{-1}) : 3334, 3172, 2980, 1667, 1168, 863.

Mass (*m/z*) : 203.16 $[M+H]^+$.

5.1.113 *t*.Butyl 2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethylcarbamate (198)

In a 100 ml RBF, *t*.butyl 2-guanidinylethylcarbamate (**197**, 0.97 gm, 3.85 mM) and potassium carbonate (1.33 gm, 9.63 mM) were taken in methanol (40 ml) and stirred. To this, 3-(dimethylamino)-1,2-bis(4-methoxyphenyl)prop-2-en-1-one (**196**, 1.00 gm, 3.21 mM) was added and the reaction mixture was refluxed for 16 hrs. After completion of reaction, excess of methanol was removed on rota evaporator and the reaction mixture was poured into the ice cold water (30-40 ml) to get a precipitate. The precipitate so obtained was further purified by column chromatography using Pet. ether: EtOAc (30%) as mobile phase to get the desired product as a white solid (**198**, 1.21 gm, 84%); m.p. 132-135 **º**C.

Analysis:

TLC : R_f 0.46 (*n*-Heaxane: EtOAc, 6:4).

IR (KBr, cm^{-1}) : 3358, 3254, 3119, 2968, 2836, 1698, 1590, 1246, 1032, 835, 797.

Mass (*m/z*) : 451.2 $[M+H]^+$.

5.1.114 *N*-(2-Aminoethyl)-4,5-bis(4-methoxyphenyl)pyrimidin-2-amine (199)

In a 25 ml RBF, *t*.butyl 2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl-carbamate (**198**, 1.00 gm, 2.22 mM) was dissolved in DCM (5 ml) and a mixture of trifluoroacetic acid and DCM (70:30) (5 ml) was added and stirred for 2 hrs. DCM was removed and diethyl ether was added slowly to the reaction mixture in cold conditions with continuous stirring to get a solid which was filtered and dried to obtain the desired product as a white solid (**199**, 0.94 gm); m.p. 158-162 ºC, which was used as such in the next step without purification.

Analysis:

TLC : R_f 0.15 ($CHCl_3$: MeOH, 19:1).

IR (KBr, cm^{-1}) : 3080, 2960, 1689, 1258, 1030, 829.

5.1.115 *t*.Butyl 4-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethylcarbamoyl-piperidine-1-carboxylate (200)

In a two necked RBF, 1-(*t*.butoxycarbonyl)piperidine-4-carboxylic acid (**112**, 0.55 gm, 2.40 mM) was dissolved in dry DCM (25 ml) at 0-4 ^oC under a stream of nitrogen gas. To this, 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide hydrochloride (EDC.HCl) (0.55 gm, 2.88 mM) and hydroxybenzotriazole (HOBt) (0.39 gm, 2.88 mM) were added and stirred the reaction mixture at 0-4 ^oC for 30 min. Anhydrous triethylamine (0.29 gm, 2.88 mM) was then added to the reaction mixture followed by *N*-(2-aminoethyl)-4,5-bis(4-methoxyphenyl)pyrimidin-2-amine (**199**, 1.00 gm, 2.88 mM). The reaction mixture was allowed to stir for 12 hrs at rt. After completion of the reaction, excess of DCM was evaporated on rota evaporator and the reaction mixture was poured in ice cold water to get a solid. The solid was filtered, washed with water and dried to afford the desired product as a pale yellow solid (**200**, 1.42 gm, 88%); m.p. 120-122 ^oC.

Analysis:

TLC : R_f 0.59 ($CHCl_3$: MeOH, 9.5:0.5).

IR (KBr, cm^{-1}) : 3252, 3118, 2930, 2843, 1687, 1652, 1252, 1176, 1030, 833, 804.

Mass (*m/z*) : 563.31 $[M+2H]^+$.

5.1.116 *N*-(2-(4,5-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)piperidine-4-carboxamide (201)

In a 25 ml RBF, *t*.butyl 4-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl-carbamoyl)piperidine-1-carboxylate (**200**, 1 gm, 1.77 mM) was dissolved in DCM (4 ml) and a mixture of trifluoroacetic acid and DCM (70:30) (6 ml) was added and stirred for 2 hrs. DCM was removed and diethyl ether was added slowly to the reaction mixture at cold conditions with continuous stirring to get solid which was filtered and dried to obtain desired product as a yellow semisolid (**201**, 0.88 gm, 86%).

Analysis:

TLC : R_f 0.15 ($CHCl_3$: MeOH, 19:1).

IR (KBr, cm^{-1}) : 3372, 3276, 2970, 2848, 1683, 1599, 1255, 1179, 1025, 838, 798, 718.

Mass (*m/z*) : 463.09 $[M+2H]^+$.

5.1.117 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(4-(trifluoro-methoxy)benzyl)piperidine-4-carboxamide (202)

In 25 ml RBF, *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)piperidine -4-carboxamide (**201**, 0.5 gm, 1.08 mM) was dissolved in dry DMF (5 ml). Potassium carbonate (0.45 gm, 3.25 mM) and 4-(trifluoromethoxy)benzyl bromide (**93a**, 0.33 gm, 1.29 mM) were added to the reaction mixture and stirred at 60 ^oC for 1-2 hrs. After completion of reaction, the reaction mixture was poured into cold water. The precipitated solid was filtered, dried and purified through column chromatography using $CHCl_3$: CH_3OH (10%) as mobile phase to obtain the desired product as a white solid (**202**, 0.41 gm, 59%); m.p. 127-129 ^oC.

Analysis:

TLC : R_f 0.37 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3262, 3095, 2938, 2837, 1640, 1253, 1174, 1033, 833, 801.

^{1}H-NMR ($CDCl_3$, δ) : 8.22 (s, 1H), 7.38-7.34 (m, 4H), 7.14-7.12 (d, 2H, *J* = 8.0 Hz), 7.05-7.02 (m, 3H), 6.84-6.82 (d, 2H, *J* = 8.8 Hz), 6.76-6.74 (d, 2H, *J* = 8.8 Hz), 5.61-5.58 (t, 1H), 3.81 (s, 3H), 3.78 (s, 3H), 3.70-3.66 (m, 2H), 3.51-3.47 (m, 4H), 2.82 (bs, 2H), 1.85-1.66 (m, 7H).

Mass (*m/z*) : 637.14 $[M+2H]^+$.

5.1.118 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(2-chlorobenzyl) piperidine-4-carboxamide (203)

Compound (**203**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-yl-amino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 2-chlorobenzyl bromide (**93b**, 0.26 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound (**202**). The compound (**203**) was so obtained as a white solid (0.37 gm, 58%); m.p. 151-153 ^oC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3274, 3067, 2930, 2853, 1647, 1248, 1174, 1033, 832, 800, 751.

^{1}H-NMR ($CDCl_3$, δ) : 8.23 (s, 1H), 7.57 (bs, 1H), 7.38-7.31 (m, 4H), 7.23-7.17 (m, 2H), 7.05-7.03 (d, 2H, *J* = 8.8 Hz), 6.84-6.82 (d, 2H, *J* = 8.8 Hz), 6.77-6.75 (d, 2H, *J* = 8.4 Hz), 5.63-5.60 (t, 1H), 3.81 (s, 3H), 3.78 (s, 3H), 3.70-3.64 (m, 4H), 3.51-3.47 (m, 2H), 2.90 (bs, 2H), 1.86-1.70 (bs, 7H).

5.1.119 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(4-(trifluoromethyl)benzyl)piperidine-4-carboxamide (204)

Compound (**204**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 4-(trifluoromethyl)benzyl bromide (**93c**, 0.31 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound (**202**). The compound (**204**) was so obtained as a white solid (0.44 gm, 65%); m.p. 107-110 ºC.

Analysis:

TLC : R_f 0.38 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3250, 2921, 2851, 1649, 1249, 1033, 832, 679.

^{1}H-NMR ($CDCl_3$, δ) : 8.24 (s, 1H), 7.57-7.55 (m, 4H), 7.38-7.36 (d, 2H, *J* = 8.8 Hz), 7.04-7.02 (d, 2H, *J* = 8.4 Hz), 6.84-6.82 (d, 2H, *J* = 8.4 Hz), 6.76-6.74 (d, 2H, *J* = 8.8 Hz), 5.63 (bs, 1H), 3.81 (s, 3H), 3.78 (s, 3H), 3.70-3.63 (m, 4H), 3.51-3.47 (q, 2H), 2.87 (bs, 2H), 1.95-1.84 (m, 7H).

Mass (*m/z*) : 621.20 $[M+2H]^+$.

5.1.120 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(4-chlorobenzyl)-piperidine-4-carboxamide (205)

Compound (**205**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 4-chlorobenzyl bromide (**93d**, 0.26 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound

(**202**). The compound (**205**) was so obtained as a white solid (0.39 gm, 61%); m.p. 111-114 ^{o}C.

Analysis:

TLC : R_f 0.47 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3255, 3098, 2937, 2835, 1639, 1249, 1143, 1033, 832.

^{1}H-NMR ($CDCl_3$, δ) : 8.25 (s, 1H), 7.40-7.38 (d, 2H, *J* = 8.6 Hz), 6.78-6.76 (d, 2H, *J* = 8.6 Hz), 7.28-7.19 (m, 5H), 7.07-7.05 (d, 2H, *J* = 8.8 Hz), 6.87-6.85 (d, 2H, *J* = 8.8 Hz), 5.63-5.60 (t, NH_l, *J* = 8.6 Hz), 3.84 (s, 3H), 3.80 (s, 3H), 3.70-3.67 (m, 2H), 3.52-3.48 (m, 2H), 3.36 (s, 2H), 2.97-2.73 (m, 2H), 1.85 (bs, 3H), 1.59 (bs, 4H).

Mass (*m/z*) : 587.00 $[M+2H]^+$.

5.1.121 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(4-cyanobenzyl)-piperidine-4-carboxamide (206)

Compound (**206**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-yl-amino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 4-cyanobenzyl bromide (**93e**, 0.25 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound (**202**). The compound (**206**) was so obtained as a white solid (0.42 gm, 67%); m.p. 138-140 ^{o}C.

Analysis:

TLC : R_f 0.39 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3385, 3069, 2936, 2227, 1643, 1249, 1141, 1032, 834.

^{1}H-NMR ($CDCl_3$, δ) : 8.25 (s, 1H), 7.57-7.55 (d, 2H, *J* = 7.6 Hz), 7.40-7.36 (m, 4H), 7.05-7.03 (d, 2H, *J* = 8.2 Hz), 7.00 (bs, 1H) 6.85-6.83 (d, 2H, *J* = 8.2 Hz), 6.77-6.75 (d, 2H, *J* = 8.8 Hz), 5.58 (bs, 1H), 3.82 (s, 3H), 3.78 (s, 3H), 3.70-3.66 (m, 2H), 3.51-3.47 (m, 2H), 3.44 (s, 2H), 2.72-2.69 (bs, 2H), 1.79 (bs, 7H).

5.1.122 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(3-methoxybenzyl)piperidine-4-carboxamides (207)

Compound (**207**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 3-methoxybenzyl chloride (**93f**, 0.20 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound (**202**). The compound (**207**) was so obtained as a white solid (0.39 gm, 62%); m.p. 116-119 ºC.

Analysis:

TLC : R_f 0.32 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3294, 3071, 2934, 2832, 1648, 1249, 1175, 1033, 833, 799.

^{1}H-NMR ($CDCl_3$, δ) : 8.22 (s, 1H), 7.38-7.36 (d, 2H, *J* = 8.8 Hz), 7.22-7.18 (t, 1H, *J* = 7.8 Hz), 7.04-7.02 (d, 2H, *J* = 8.8 Hz), 6.92 (bs, 1H), 6.85-6.74 (m, 7H), 5.67-5.64 (t, 1H), 3.81 (s, 3H), 3.78 (s, 6H), 3.70-3.65 (m, 2H), 3.53-3.47 (m, 4H), 2.89-2.86 (m, 2H), 1.68 (bs, 7H).

Mass (*m/z*) : 583.04 $[M+2H]^+$.

5.1.123 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(2-methylbenzyl)-piperidine-4-carboxamide (208)

Compound (**208**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 4-methylbenzyl chloride (**93g**, 0.18 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound (**202**). The compound (**208**) was so obtained as a white solid (0.37 gm, 60%); m.p. 154-156 ºC.

Analysis:

TLC : R_f 0.39 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3379, 3333, 2937, 2837, 1641, 1250, 1174, 1032, 971, 839, 802.

^{1}H-NMR ($CDCl_3$, δ) : 8.23 (s, 1H), 7.38-7.36 (d, 2H, *J* = 8.8 Hz), 7.20-7.08 (m, 4H), 7.05-7.03 (d, 2H, *J* = 8.8 Hz), 6.90 (bs, 1H), 6.85-6.83 (d, 2H,

J = 8.8 Hz), 6.76-6.74 (d, 2H, *J* = 8.8 Hz), 5.54-5.51 (t, 1H) 3.82 (s, 3H), 3.78 (s, 3H), 3.70-3.65 (m, 2H), 3.51-3.47 (m, 2H), 3.55 (s, 2H), 2.75-2.73 (bs, 2H), 2.30 (s, 3H), 1.57 (m, 7H).

Mass (*m/z*) : 566.98 $[M+2H]^+$.

5.1.124 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(2-(trifluoromethyl)benzyl)piperidine-4-carboxamide (209)

Compound (**209**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 2-(trifluoromethyl)-benzyl chloride (**93h**, 0.25 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound (**202**). The compound (**209**) was so obtained as a white solid (0.41 gm, 61%); m.p. 106-108 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3344, 3276, 3080, 2940, 2838, 1643, 1584, 1250, 1034, 835, 802, 772.

^{1}H-NMR ($CDCl_3$, δ) : 8.24 (s, 1H), 7.76-7.74 (d, 1H, *J* = 7.6 Hz), 7.59-7.57 (d, 1H, *J* = 7.7 Hz), 7.47-7.43 (t, 1H, *J* = 7.6 Hz), 7.39-7.37 (d, 2H, *J* = 9.2 Hz), 7.30-7.27 (t, 1H, *J* = 7.6 Hz), 7.05-7.03 (d, 2H, *J* = 8.6 Hz), 6.84-6.82 (d, 2H, *J* = 8.6 Hz), 6.77-6.75 (d, 2H, *J* = 9.2 Hz), 3.81 (s, 3H), 3.77 (s, 3H), 3.69-3.66 (m, 2H), 3.54 (s, 1H), 3.52-3.48 (m, 2H), 2.74 (bs, 1H), 2.71 (bs, 1H), 1.65-1.59 (m, 7H).

5.1.125 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(2-cyanobenzyl)-piperidine-4-carboxamide (210)

Compound (**210**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 2-cyanobenzyl bromide (**93i**, 0.25 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound (**202**). The compound (**210**) was so obtained as a white solid (0.39 gm, 62%); m.p. 143-146 ºC.

Analysis:

TLC : R_f 0.42 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3379, 3332, 2948, 2225, 1650, 1251, 1140, 1032, 970, 842, 831.

^{1}H-NMR ($CDCl_3$, δ) : 8.24 (s, 1H), 7.61-7.59 (d, 1H, *J* = 8.4 Hz), 7.55-7.51 (m, 2H), 7.39-7.37 (d, 2H, *J* = 8.8 Hz), 7.34-7.30 (m, 1H), 7.06-7.04 (d, 2H, *J* = 8.6 Hz), 6.85-6.83 (d, 2H, *J* = 8.6 Hz), 6.78-6.76 (d, 2H, *J* = 8.8 Hz), 5.53 (bs, 1H), 3.82 (s, 3H), 3.80 (s, 3H), 3.69 -3.66 (m, 2H), 3.60 (s, 2H), 3.51-3.47 (m, 2H), 2.76-2.73 (bs, 2H), 1.86-1.72 (bs, 7H).

Mass (*m/z*) : 578.00 $[M+2H]^+$.

5.1.126 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(2,6-difluoro-benzyl)piperidine-4-carboxamide (211)

Compound (**211**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-yl-amino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 2,6-(difluoro)benzyl bromide (**93j**, 0.27 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound (**202**). The compound (**211**) was so obtained as a white solid (0.36 gm, 57%); m.p. 145-147 ºC.

Analysis:

TLC : R_f 0.45 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3379, 3075, 2937, 2836, 1640, 1249, 1174, 1035, 834, 800, 776.

^{1}H-NMR ($CDCl_3$, δ) : 8.22 (s, 1H), 7.37-7.35 (d, 2H, *J* = 8.8 Hz), 7.28-7.20 (m, 1H), 7.05-7.03 (d, 2H, *J* = 8.8 Hz), 6.95 (bs, 1H), 6.90-6.82 (m, 4H), 6.76-6.74 (d, 2H, *J* = 8.8 Hz), 5.58-5.54 (t, 1H), 3.81 (s, 3H), 3.79 (s, 3H), 3.68-3.64 (m, 4H), 3.48-3.44 (q, 2H), 2.87 (bs, 1H), 2.84 (bs, 1H), 1.74-1.63 (bs, 7H).

Mass (*m/z*) : 589.30 $[M+2H]^+$.

5.1.127 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(3,5-difluoro-benzyl)piperidine-4-carboxamide (212)

Compound (**212**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-yl-amino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 3,5-(difluoro)benzyl bromide (**93k**, 0.27 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound (**202**). The compound (**212**) was so obtained as a white solid (0.39 gm, 62%); m.p. 108-110 ºC.

Analysis:

TLC : R_f 0.43 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3470, 3261, 3112, 2936, 1643, 1590, 1248, 1031, 838, 800.

^{1}H-NMR ($CDCl_3$, δ) : 8.23 (s, 1H), 7.38-7.36 (d, 2H, *J* = 9.0 Hz), 7.04-7.02 (d, 2H, *J* = 8.8 Hz), 6.86-6.81 (m, 5H), 6.77-6.75 (d, 2H, *J* = 9.0 Hz), 6.70-6.65 (m, 1H), 5.59-5.56 (t, 1H), 3.81 (s, 3H), 3.78 (s, 3H) 3.70-3.66 (m, 2H), 3.51-3.47 (m, 2H), 3.42 (s, 2H), 2.77 (bs, 1H), 2.75 (bs, 1H), 1.90-1.82 (bs, 7H).

5.1.128 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(4-methylbenzyl)-piperidine-4-carboxamide (213)

Compound (**213**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-yl-amino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 4-methylbenzyl bromide (**93l**, 0.24 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound (**202**). The compound (**213**) was so obtained as a white solid (0.42 gm, 68%); m.p. 161-163 ºC.

Analysis:

TLC : R_f 0.48 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3290, 2999, 2934, 2835, 1648, 1249, 1175, 1032, 833, 803.

^{1}H-NMR ($CDCl_3$, δ) : 8.23 (s, 1H), 7.39-7.37 (d, 2H, *J* = 9.0 Hz), 7.21-7.19 (d, 2H, *J* = 7.8 Hz), 7.14-7.12 (d, 2H, *J* = 7.8 Hz), 7.07-7.05 (d, 2H, *J* = 8.8 Hz), 6.87-6.84 (d, 2H, *J* = 8.8 Hz), 6.79-6.76 (d, 2H, *J* = 9.0 Hz), 3.83 (s, 3H), 3.81 (s, 3H), 3.71-3.67 (m, 2H), 3.55 (s, 2H), 3.51-3.48 (m, 2H), 2.89 (bs, 2H), 2.34 (s, 3H), 2.06 (s, 2H), 1.69 (m, 5H).

5.1.129 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(2-fluorobenzyl)-piperidine-4-carboxamide (214)

Compound (**214**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-yl-amino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 2-fluorobenzyl bromide (**93m**, 0.24 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound (**202**). The compound (**214**) was so obtained as a white solid (0.42 gm, 69%); m.p. 150-153 ^{o}C.

Analysis:

TLC : R_f 0.32 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3379, 2935, 2836, 1643, 1582, 1247, 1031, 836, 800, 763.

^{1}H-NMR ($CDCl_3$, δ) : 8.23 (s, 1H), 7.39-7.30 (m, 3H), 7.25-7.18 (m, 1H), 7.08-6.96 (m, 5H), 6.85-6.83 (d, 2H, *J* = 8.8 Hz), 6.76-6.74 (d, 2H, *J* = 8.8 Hz), 5.57-5.54 (t, 1H), 3.81 (s, 3H), 3.78 (s, 3H), 3.69-3.64 (m, 2H), 3.50-3.46 (m, 4H), 2.79 (bs, 1H), 2.76 (bs, 1H), 1.80-1.59 (bs, 7H).

5.1.130 *N*-(2-(5,6-Bis(4-methoxyphenyl)pyrimidin-2-ylamino)ethyl)-1-(4-fluorobenzyl)-piperidine-4-carboxamide (215)

Compound (**215**) was prepared from *N*-(2-(4,5-bis(4-methoxyphenyl)pyrimidin-2-yl-amino)ethyl)piperidine-4-carboxamide (**201**, 0.5 gm, 1.08 mM) and 4-fluorobenzyl bromide (**93n**, 0.24 gm, 1.29 mM) using the procedure mentioned for the synthesis of compound (**202**). The compound (**215**) was so obtained as a white solid (0.38 gm, 62%); m.p. 133-135 ^{o}C.

Analysis:

TLC : R_f 0.36 ($CHCl_3$: CH_3OH, 9:1).

IR (KBr, cm^{-1}) : 3278, 3069, 2934, 2835, 1646, 1249, 1175, 1032, 832, 801.

^{1}H-NMR ($CDCl_3$, δ) : 8.22 (s, 1H), 7.38-7.36 (d, 2H, *J* = 9.0 Hz), 7.30 (bs, 1H), 7.05-6.96 (m, 6H), 6.84-6.82 (d, 2H, *J* = 8.8 Hz), 6.77-6.75 (d, 2H, *J* = 9.0 Hz), 5.56-5.53 (t, 1H), 3.81 (s, 3H), 3.78 (s, 3H), 3.70-3.66 (m, 2H), 3.51-3.47 (m, 4H), 2.83 (bs, 2H), 1.87-1.69 (bs, 7H).

Mass (*m/z*) : 571.30 $[M+2H]^+$

5.1.131 2-Bromo-2,3-dihydro-5,6-dimethoxyinden-1-one (217)

To a solution of 5,6-dimethoxyindan-1-one (**216**, 1.00 gm, 0.52 mM) in ACN (25 ml), *N*-bromosuccinimide (0.92 gm, 2.50 mM) was added, color of the solution changed from colorless to brown. Then *p*-toluenesulphonic acid (0.09 gm, 0.052 mM) was added to the reaction mixture upon which color of the solution changed from brown to blue. The reaction mixture was then allowed to reflux for 2-3 hrs. The reaction was monitored by TLC. After completion of the reaction, excess of solvent was removed on rota evaporator and the reaction mixture was poured into ice-cold water and stirred for 30-60 mins. The precipitated solid was then filtered, dried and purified through column chromatography using Pet. ether: EtOAc (40%) as mobile phase to obtain the desired product as a light brown solid (**217**, 1.22 gm, 87%); m.p. 160-162 **º**C (Lit.[10] 160-161).

Analysis:

TLC : R_f 0.28 (*n*-Hexane: EtOAc, 6:4).

IR (KBr, cm^{-1}) : 3008, 2959, 2869, 1694, 1590, 1265, 1110, 1026, 885, 848, 729, 659

5.1.132 2-(5,6-Bis(4-methoxyphenyl)-1,2,4-triazin-3-ylthio)-5,6-dimethoxyindan-1-one (218)

To a solution of 5,6-bis(4-methoxyphenyl)-1,2,4-triazine-3-thiol (**86**, 0.5 gm, 1.55 mM) in methanol (10 ml), triethylamine (0.25 gm, 2.50 mM) was added. After stirring for 10-15 mins, 2-bromo-5,6-dimethoxyinden-1-one (**217**, 0.35 gm, 1.29 mM) was added and the reaction mixture was stirred at R.T. for 1 hr. After completion of the reaction, excess of methanol was removed on rota evaporator and the reaction mixture was poured into ice-cold water and stirred for 30-60 mins. The precipitated solid was then filtered, dried and purified through column chromatography using Pet. ether: EtOAc (30%) as mobile phase to obtain the desired product as a pale yellow solid (**218**, 0.59 gm, 74%); m.p. 151-153 **º**C.

Analysis:

TLC : R_f 0.34 (*n*-Heaxane: EtOAc, 6:4).

IR (KBr, cm^{-1}) : 3074, 2934, 2835, 1704, 1603, 1252, 1085, 1028, 836.

^{1}H-NMR ($CDCl_3$, δ) : 7.45-7.43 (d, 2H, *J* = 8.8 Hz), 6.65-6.63 (d, 2H, *J* = 8.8 Hz), 7.25 (s, 1H), 7.20-7.18 (d, 2H, *J* = 8.8 Hz), 6.90-6.86 (m, 3H) 4.48-4.45 (dd, 1H, *J* = 4.5, 7.8 Hz), 4.00 (s, 3H), 3.95 (s, 3H), 3.84-3.78 (m, 7H), 3.42-3.37 (dd, 1H, *J* = 4.5, 17.2 Hz).

5.1.133 2-(5,6-Bis(4-chlorophenyl)-1,2,4-triazin-3-ylthio)-5,6-dimethoxyindan-1-one (219)

Compound (**219**) was synthesized from 5,6-bis(4-chlorophenyl)-1,2,4-triazine-3-thiol (**87**, 0.5 gm, 1.50 mM) and 2-bromo-5,6-dimethoxyindan-1-one (**217**, 0.34 gm, 1.25 mM) following the procedure used for the preparation of compound (**218**). Compound (**219**) was so obtained as a pale yellow solid (0.61 gm, 78%); m.p. 169-172 ^{o}C.

Analysis:

TLC : R_f 0.38 (*n*-Heaxane: EtOAc, 6:4).

IR (KBr, cm^{-1}) : 3083, 2946, 2834, 1715, 1590, 1267, 1243, 1083, 1033, 838, 749.

^{1}H-NMR ($CDCl_3$, δ) : 7.45-7.43 (d, 2H), 7.38-7.36 (d, 2H), 7.26 (s 1H), 7.18-7.17 (d, 4H), 6.92 (s, 1H), 4.53-4.50 (dd, 1H), 4.02 (s, 3H), 3.95 (s, 3H), 3.86-3.80 (dd, 1H), 3.42-3.37 (dd, 1H).

5.1.134 2-(5,6-Diphenyl-1,2,4-triazin-3-ylthio)-5,6-dimethoxyindan-1-one (220)

Compound (**220**) was synthesized from 5,6-diphenyl-1,2,4-triazine-3-thiol (**88**, 0.5 gm, 1.50 mM) and 2-bromo-5,6-dimethoxyindan-1-one (**217**, 0.34 gm, 1.25 mM) following the procedure used for the preparation of compound (**218**). Compound (**220**) was so obtained as a pale yellow solid (0.58 gm, 68%); m.p. 145-148 ^{o}C.

Analysis:

TLC : R_f 0.42 (*n*-Heaxane: EtOAc, 6:4).

IR (KBr, cm^{-1}) : 3060, 2958, 2869, 1702, 1591, 1270, 1244, 1151, 1026, 850.

^{1}H-NMR ($CDCl_3$, δ) : 7.48-7.45 (m, 2H), 7.42-7.31 (m, 4H), 7.24 (s 1H), 7.20-7.12 (m, 4H), 6.90 (s, 1H), 4.49-4.46 (dd, 1H, *J* = 4.7, 7.8 Hz), 4.00 (s, 3H), 3.93 (s, 3H), 3.85-3.79 (dd, 1H, *J* = 7.8, 17.1 Hz), 3.44-3.39 (dd, 1H, *J* = 4.7, 17.1 Hz).

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