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REACTIONS OF 1,3,5-TRIAZINYLNITROFORMALDOXIME 4.* SYNTHESIS OF (5-R-1,2,4-OXADIAZOL-3-YL)-1,3,5-TRIAZINES

V. V. Bakharev[1]*, A. A. Gidaspov[1], E. V. Selezneva[1], V. E. Parfenov[1], I. V. Ul'yankina[1], I. S. Nazarova[1], Yu. T. Palatova[1], and O. S. El'tsov[2]

Heating 4-R-methoxy-1,3,5-triazin-2-ylnitroformaldoximes with nitriles leads not to the formation of 1,2,4-oxadiazoles but rather to dimerization of the intermediate 1,3,5-triazinylnitrile oxides to give furoxanes. The reaction of 4-R-6-methoxy-1,3,5-triazin-2-ylnitroformaldoximes with ammonia and amines gives 1,3,5-triazinylamidoximes, which upon acylation and subsequent intramolecular cyclization yield (5-R-1,2,4-oxadiazol-3-yl)-1,3,5-triazines.

Keywords: (5-R-1,2,4-oxadiazol-3-yl)-1,3,5-triazines, 1,3,5-triazinylamidoximes, 1,3,5-triazinylnitrile oxides, 1,3,5-triazinylnitroformaldoximes, acylation, intramolecular cyclization.

The [3+2] cycloaddition of nitrile oxides to nitriles is one of the most commonly used methods for the synthesis of 1,2,4-oxadiazoles [2, 3]. In previous work [1], we have developed a synthesis of the 3,5-disubstituted isoxazoles using the reaction of acetylenes with 1,3,5-triazinylnitrile oxides generated by the thermolysis of the corresponding 1,3,5-triazin-6-ylnitroformaldoximes. In the present work, we have studied the possibility of obtaining (5-R-1,2,4-oxadiazol-3-yl)-1,3,5-triazines using the analogous [3+2] cycloaddition reactions of 1,3,5-triazinylnitrile oxides to nitriles. The reaction was carried out by heating a solution or suspension of nitroformaldoximes **1a-d** in various nitriles. Formation of nitrogen oxides was observed upon heating, indicating the release of nitrous acid and the formation of nitrile oxides. However, at the end of the reaction as indicated by thin-layer chromatographic monitoring of the starting compounds **1a-d**, 3,4-di-(4-R-6-methoxy-1,3,5-triazin-2-yl)-furoxanes **2a-d** were isolated instead of the expected 2-R-4-methoxy-6-(5-R-1,2,4-oxadiazol-3-yl)-1,3,5-triazines (Scheme 1).

Thus, under the conditions described above, nitrile does not participate in the reaction but rather acts as a solvent. Therefore, dimerization of the intermediate nitrile oxides occurs to give furoxanes **2a-d** exclusively analogous to the process described in our previous work [4] instead of formation of (5-R-1,2,4-oxadiazol-3-yl)-1,3,5-triazines.

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*For Communication 3, see [1].

**To whom correspondence should be addressed, e-mail: knil@sstu.smr.ru.

[1]Samara State Technical University, 244 Molodogvardeyskaya St., 443100 Samara, Russia.
[2]Ural Federal University named after the First President of Russia B. N. Yeltsin, 19 Mira St., Yekaterinburg 620002, Russia; oleg-eltsov@yandex.ru.

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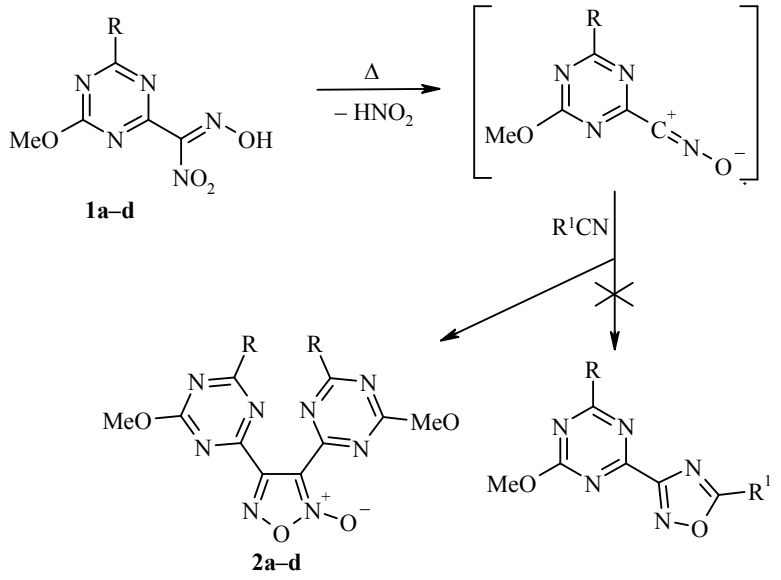
Another commonly used method for the synthesis of 1,2,4-oxadiazoles is the intramolecular cyclization of *O*-acylated amidoximes [1, 2]. In a series of 1,3,5-triazine derivatives, an example of such a synthesis was described for 1,3,5-triazinecarbonitriles [5].

Scheme 1

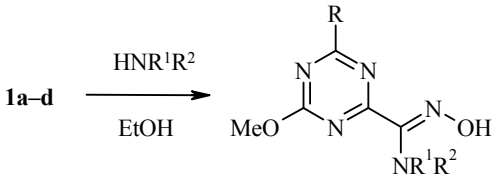


1a–d

1a, 2a R = NMe_2; **1b, 2b** R = $N(CH_2)_4$; **1c, 2c** R = $N(CH_2)_5$; **1d, 2d** R = $N(CH_2CH_2)_2O$;
R^1 = Me, Bn

In contrast to the reaction of nitriles with hydroxylamine [5], the method for synthesizing of 1,3,5-triazinylamidoximes using 1,3,5-triazinylnitroformaldoximes as starting materials is more general since it permits the preparation of amidoximes substituted at the amino group. The reaction of nitroformaldoximes **1a-d** with ammonia and various amines in ethanol at 20-25°C gives 1,3,5-triazinylamidoximes **3a-h**.

Scheme 2



3a–h

3a,b,c,d $R^1 = R^2$ = H; **a** R = NMe_2; **b** R = $N(CH_2)_4$; **c** R = $N(CH_2)_5$; **d** R = $N(CH_2CH_2)_2O$;
3e R = NMe_2, R^1 = H, R^2 = Pr; **3f** R = NMe_2, $R^1 + R^2 = (CH_2)_4$;
3g R = $N(CH_2CH_2)_2O$, R^1 = H, R^2 = Ph; **3h** R = $N(CH_2)_4$, R^1 = H, R^2 = Ad

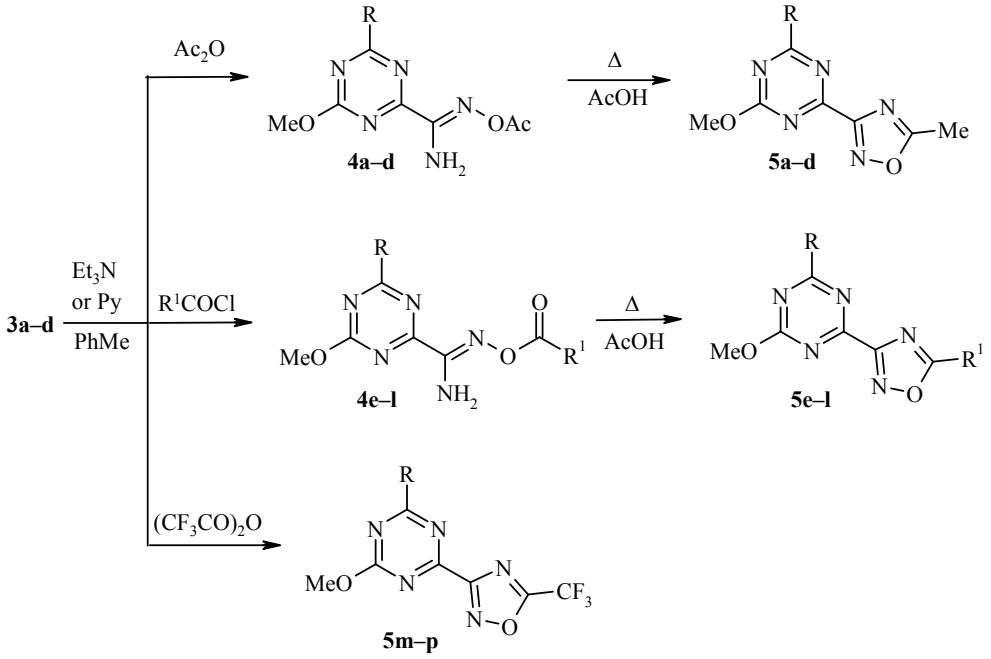
The resultant amidoximes **3a-d** were acylated using acid chloroanhydrides (of benzoic and adamantanecarboxylic acids) or acid anhydrides (of acetic and trifluoroacetic acids) in toluene at 20-25°C for the synthesis of (5-R^1-1,2,4-oxadiazol-3-yl)-1,3,5-triazines (Scheme 3). Triethylamine or pyridine were used as a base for binding the evolved hydrogen chloride or corresponding acids. Products of acylation at the oxime group oxygen atom **4a-l** were obtained as a result with derivatives of acetic, benzoic, and adamantanecarboxylic acids. The formation of *O*-acylated products was indicated by the position of the carbonyl group bands (1730-1770 cm^{-1}), which corresponds to the region for ester and not amide carbonyl groups, finding amino group bands at 3200-3500 cm^{-1}, and the presence of aminogroup signal in ^1H NMR spectra. A signal of the carbonyl

group carbon atom in the ^{13}C NMR spectra was observed at 153-155 ppm (Table 1). Heating *O*-acetylated amidoximes **4a-l** at reflux in acetic acid leads to intramolecular cyclization, the elimination of water, and formation of 2-R-4-methoxy-6-(5-R^1-1,2,4-oxadiazol-3-yl)-1,3,5-triazines **5a-l**.

In the case of trifluoroacetic anhydride, 1,3,5-triazin-2-yl-*O*-trifluoroacetoxyamidoximes were not obtained due to formation of 2-R-4-methoxy-6-(5-trifluoromethyl-1,2,4-oxadiazol-3-yl)-1,3,5-triazines **5m-p** as a result of intramolecular cyclization under the acylation reaction conditions (Scheme 3).

The IR spectra of cyclization products **5a-p** lack the characteristic bands for the carbonyl and free amino groups found in the spectra of the starting acylated amidoximes **4a-l**. At the same time, the ^{13}C NMR spectra given in Table 2 show signals for carbon atoms characteristic for the 1,2,4-oxadiazole ring [6, 7]. The presence of a trifluoromethyl group in compounds **5m-p** is confirmed by signals splitting of the trifluoromethyl group carbon atom and C-5 carbon atom of the 1,2,4-oxadiazole ring into quartets.

Scheme 3



4, 5 a,e,i,m R = NMe_2; **4, 5 b,f,j,n** R = $N(CH_2)_4$; **4, 5 c,g,k,o** R = $N(CH_2)_5$;
4, 5 d,h,l,p R = $N(CH_2CH_2)_2O$; **4, 5 e–h** R^1 = Ph, **i–l** R^1 = Ad

Thus, we have shown that the thermolysis of 1,3,5-triazin-6-ylnitroformaldoximes in nitriles does not lead to formation of (5-R-1,2,4-oxadiazol-3-yl)-1,3,5-triazines, but rather to dimerization of the 1,3,5-triazinylnitrile oxides to give furoxanes. A three-step method was developed for the synthesis of (5-R-1,2,4-oxadiazol-3-yl)-1,3,5-triazines using 1,3,5-triazin-6-ylnitroformaldoximes as the starting compounds.

EXPERIMENTAL

The IR spectra were taken on an Avatar 360ESP spectrophotometer using KBr pellets. The ^1H and ^{13}C NMR spectra were taken in DMSO-d_6 on a Bruker Avance II spectrometer at 400 and 100 MHz, respectively, with TMS as internal standard. The elemental analyses were carried out on a Eurovector EA 3000 instrument.

TABLE 1. ^{13}C NMR Spectra (δ, ppm (*J*, Hz)) of 1,3,5-Triazine-2-carboximidamides **4a-l**

Compound	1,3,5-Triazine ring			C=O	$(H_2N)C=N$	Other signals
	COMe	CR	C–C			
4a	171.7	169.4	167.5	154.3	166.7	20.9 ($CO\underline{C}H_3$); 37.0, 37.4 ($N(CH_3)_2$); 55.5 (OCH_3)
4b	171.5	169.4	167.4	154.3	164.5	20.9 ($CO\underline{C}H_3$); 25.7, 25.8 (CH_2); 47.3, 47.7 (CH_2N); 55.5 (OCH_3)
4c	171.9	169.3	167.8	154.4	165.8	20.9 ($CO\underline{C}H_3$); 25.1, 26.4, 26.6 (CH_2); 45.0, 45.4 (CH_2N); 55.5 (OCH_3)
4d	172.0	169.3	167.9	154.2	166.2	20.9 ($CO\underline{C}H_3$); 44.6, 45.0 (CH_2N); 55.7 (OCH_3); 66.9, 67.1 (OCH_2)
4e	171.1	167.0	166.3	154.3	163.9	36.4, 36.8 ($N(CH_3)_2$); 54.7 (OCH_3); 129.0, 130.0, 133.0, 133.5 (Ph)
4f	170.8	166.8	163.9	154.1	163.8	24.9, 25.0 (CH_2); 46.6, 46.9 (CH_2N); 54.7 (OCH_3); 129.0, 129.7, 130.0, 133.6 (Ph)
4g	171.3	167.3	165.2	154.2	163.8	24.4, 25.6, 25.8 (CH_2); 44.2, 44.8 (CH_2N); 54.8 (OCH_3); 129.0, 129.7, 130.0, 133.6 (Ph)
4h	171.3	167.3	165.6	154.0	163.8	43.9, 44.3 (CH_2N); 54.9 (OCH_3); 66.2 (OCH_2); 129.0, 129.6, 130.0, 133.6 (Ph)
4i	173.8	170.9	166.9	153.5	166.0	27.8, 27.9, 39.3, 40.7 (Ad); 36.3, 36.6 ($N(CH_3)_2$); 54.7 (OCH_3)
4j	173.8	170.8	166.8	153.6	163.9	27.9, 36.4, 38.7 (Ad); 24.9, 25.1 (CH_2); 46.6, 46.9 (CH_2N); 54.7 (OCH_3)
4k	173.8	171.2	167.3	153.5	165.1	27.8, 36.3, 38.6 (Ad); 24.2, 25.4, 25.7 (CH_2); 45.1, 45.3 (CH_2N); 54.7 (OCH_3)
4l	173.9	171.2	167.4	153.3	165.6	27.8, 36.3, 36.5, 38.0, 38.6 (Ad); 43.7, 44.2 (CH_2N); 54.9 (OCH_3); 66.1 (OCH_2)

Nitroformaldoximes **1a-d** were prepared by a procedure described in our previous work [4].

Reaction of Nitroformaldoximes 1a-d with Nitriles (General Method). A suspension of nitroformaldoxime **1a-d** (0.5 mmol) was heated at reflux in acetonitrile (20 ml) or heated at 100-110°C in benzyl cyanide until thin-layer chromatography indicated the disappearance of starting compounds **1a-d** (2-5 h). The excess nitrile was distilled off at reduced pressure. The residue was treated with 20 ml water. The precipitate was filtered off, washed twice with 10 ml water, and dried in the air. The furoxanes yields were: 91% compound **2a**, 88% compound **2b**, 86% compound **2c**, and 93% compound **2d**. The melting points, IR and ^1H NMR spectra were in accord with our previous data [4].

4-R-*N*'-Hydroxy-6-methoxy-1,3,5-triazine-2-carboximidamides 3a-h (General Method). 25% Ammonium hydroxide (7.5 ml, 10 mmol) or corresponding amine (2.2 mmol) was added to a stirred suspension of compounds **1a-d** (1 mmol) in ethanol (10 ml). The reaction mixture was maintained at 20-25°C until the starting compound disappeared as indicated by thin-layer chromatography. The oxime precipitate formed was filtered off, washed with 5 ml ethanol, then twice with 5 ml water, and dried in the air.

***N*'-Hydroxy-4-dimethylamino-6-methoxy-1,3,5-triazine-2-carboximidamide (3a)** was obtained from compound **1a** and ammonia in 89% yield (1.89 g); mp 210-212°C (decomp.). IR spectrum, ν, cm^{-1}: 3488, 3394, 3272, 3207, 3126, 3014, 2952, 2937, 2902, 2877, 2823, 2806, 1594, 1577, 1517, 1459, 1403, 1369, 1309, 1257, 1213, 1187, 1085, 1039, 948, 877, 813, 744, 680. ^1H NMR spectrum, δ, ppm: 3.11 (3H, s) and 3.19 (3H, s, $N(CH_3)_2$); 3.90 (3H, s, OCH_3); 5.67 (2H, s, NH_2); 10.26 (1H, s, NOH). Found, %: C 39.54; H 5.78; N 39.71. $C_7H_{12}N_6O_2$. Calculated, %: C 39.62; H 5.70; N 39.60.

***N*'-Hydroxy-4-methoxy-6-(pyrrolidin-1-yl)-1,3,5-triazine-2-carboximidamide (3b)** was obtained from compound **1b** and ammonia in 82% yield (1.95 g); mp 268-270 (decomp.). IR spectrum, ν, cm^{-1}: 3504, 3400, 3276, 3199, 3010, 2971, 2954, 2887, 1583, 1550, 1513, 1457, 1367, 1348, 1299, 1236, 1186, 1164, 1110, 1064, 962, 918, 873, 817, 784, 754, 698. ^{1}H NMR spectrum, δ, ppm (*J*, Hz): 1.91 (4H, s, $(CH_2)_2$); 3.49 (2H, t, *J* = 2.0) and 3.56 (2H, t, *J* = 2.0, $N(CH_2)_2$); 3.88 (3H, s, OCH_3); 5.65 (2H, s, NH_2); 10.25 (1H, s, NOH). Found, %: C 45.32; H 5.99; N, 35.32. $C_9H_{14}N_6O_2$. Calculated, %: C 45.37; H 5.92; N 35.27.

TABLE 2. ^{13}C NMR Spectra (δ, ppm (*J*, Hz)) of 6-Methoxy-4-(5-R^1-1,2,4-oxadiazol-3-yl)-1,3,5-triazin-2-amines **5a-p**

Compound	1,3,5-Triazine ring			1,2,4-Oxadiazole ring		Other signals
	COMe	CR	C–C	C-3	C-5	
5a	171.2	167.3	166.4	164.3	178.6	12.4 (CH_3); 36.4, 36.7 ($N(CH_3)_2$); 54.8 (OCH_3)
5b	170.6	167.0	163.8	163.3	178.3	12.2 (CH_3); 24.7, 24.8 (CH_2); 46.4, 46.7 (CH_2N); 54.5 (OCH_3)
5c	171.4	167.3	165.2	164.4	178.6	12.5 (CH_3); 24.3, 25.6, 25.7 (CH_2); 44.3, 44.7 (CH_2N); 54.8 (OCH_3)
5d	171.5	167.2	165.8	164.6	178.6	12.4 (CH_3); 43.9, 44.3 (CH_2N); 55.0 (OCH_3); 66.1 (OCH_2)
5e	171.3	168.0	166.5	164.3	176.6	36.4, 36.7 ($N(CH_3)_2$); 54.7 (OCH_3); 123.7, 128.4, 130.0, 133.8 (Ph)
5f	170.9	167.9	164.2	164.0	176.5	24.9 (CH_2); 46.8, 46.9 (CH_2N); 54.8 (OCH_3); 123.7, 128.4, 130.0, 133.9 (Ph)
5g	171.5	168.0	165.4	164.5	176.5	24.4, 25.6, 25.8 (CH_2); 44.4, 44.8 (CH_2N); 54.9 (OCH_3); 123.7, 128.4, 130.0, 133.9 (Ph)
5h	171.6	167.9	165.9	164.6	176.6	44.1 (CH_2N); 55.0 (OCH_3); 66.2 (OCH_2); 123.7, 128.4, 129.9, 133.8 (Ph)
5i	171.1	167.1	166.3	164.3	186.3	27.6, 27.8, 35.7, 35.9, 38.9 (Ad); 36.4, 36.5 ($N(CH_3)_2$); 54.8 (OCH_3)
5j	170.9	167.0	164.2	164.1	186.2	27.6, 27.8, 35.7, 35.9, 36.4, 38.9 (Ad); 24.9, 24.9 (CH_2); 46.7, 47.0 (CH_2N); 54.8 (OCH_3)
5k	171.4	167.1	165.2	164.6	186.3	27.6, 27.8, 35.7, 35.9, 36.5, 39.3 (Ad); 24.3, 25.6, 25.8 (CH_2); 44.3, 44.7 (CH_2N); 54.8 (OCH_3)
5l	171.4	167.0	165.7	164.7	186.4	27.5, 27.8, 35.9, 36.5, 38.9 (Ad); 43.9, 44.3 (CH_2N); 55.0 (OCH_3); 66.1, 66.2 (OCH_2)
5m	171.1	167.7	166.1	162.7	166.0 (q, $^2J_{C-F}$ = 44)	36.4, 36.6 ($N(CH_3)_2$); 55.0 (OCH_3); 116.0 (q, $^1J_{C-F}$ = 272, CF_3)
5n	170.9	167.7	163.9	162.6	166.0 (q, $^2J_{C-F}$ = 44)	24.9, 25.1 (CH_2); 46.8, 47.0 (CH_2N); 54.9 (OCH_3); 116.0 (q, $^1J_{C-F}$ = 272, CF_3)
5o	171.4	167.8	165.1	163.1	166.0 (q, $^2J_{C-F}$ = 44)	25.5, 25.6, 25.7 (CH_2); 44.4, 44.8 (CH_2N); 55.0 (OCH_3); 116.0 (q, $^1J_{C-F}$ = 272, CF_3)
5p	171.4	167.7	165.3	163.1	166.0 (q, $^2J_{C-F}$ = 44)	43.9, 44.4 (CH_2N); 55.2 (OCH_3); 66.0, 66.1, 66.2 (OCH_2);

***N*'-Hydroxy-4-methoxy-6-(piperidin-1-yl)-1,3,5-triazine-2-carboximidamide (3c)** was obtained from compound **1c** and ammonia in 79% yield (1.99 g); mp 202-204 (decomp.). IR spectrum, ν, cm^{-1}: 3488, 3390, 3317, 3205, 3128, 3006, 2942, 2856, 1583, 1515, 1461, 1450, 1375, 1292, 1245, 1224, 1126, 1095, 1060, 1027, 997, 948, 931, 858, 815, 738, 675. ^{1}H NMR spectrum, δ, ppm (*J*, Hz): 1.50-1.61 (6H, m, $(CH_2)_3$); 3.76 (2H, t, *J* = 2.0) and 3.82 (2H, t, *J* = 2.0, $N(CH_2)_2$); 3.89 (3H, s, OCH_3); 5.80 (2H, s, NH_2); 10.31 (1H, br. s, NOH). Found, %: C 47.56; H 6.48; N 33.39. $C_{10}H_{16}N_6O_2$. Calculated, %: C 47.61; H 6.39; H 33.31.

***N*'-Hydroxy-4-methoxy-6-(morpholin-1-yl)-1,3,5-triazine-2-carboximidamide (3d)** was obtained from compound **1d** and ammonia in 84% yield (2.13 g); mp 207-209°C (decomp.). IR spectrum, ν, cm^{-1}: 3496, 3473, 3386, 3346, 3274, 3234, 3133, 2998, 2969, 2927, 2858, 1577, 1521, 1473, 1448, 1371, 1303, 1286, 1236, 1220, 1143, 1112, 1068, 1020, 962, 867, 815, 742. ^{1}H NMR spectrum, δ, ppm: 3.63-3.88 (8H, m, $2NCH_2CH_2O$); 3.90 (3H, s, OCH_3); 5.87 (2H, s, NH_2); 10.32 (1H, br. s, NOH). Found, %: C 42.49; H 5.61; N 33.12. $C_9H_{14}N_6O_3$. Calculated, %: C 42.52; H 5.55; N 33.05.

4-Dimethylamino-*N*'-hydroxy-6-methoxy-*N*-propyl-1,3,5-triazine-2-carboximidamide (3e) was obtained from compound **1a** and propylamine in 76% yield (1.93 g); mp 145-147°C. IR spectrum, ν, cm^{-1}: 3373, 3131, 3004, 2950, 2929, 2873, 2856, 1675, 1583, 1513, 1461, 1450, 1373, 1317, 1288, 1261, 1236, 1213, 1151, 1130, 1097, 1043, 1027, 993, 973, 929, 883, 819, 781, 752. ^{1}H NMR spectrum, δ, ppm (*J*, Hz): 0.80 (3H, t, *J* = 9.0, CH_3); 1.75 (2H, m, CH_2); 3.08 (3H, s) and 3.15 (3H, s, $N(CH_3)_2$); 3.34-3.44 (2H, m, NCH_2); 3.85 (3H, s, OCH_3); 5.63 (1H, m, NH); 10.25 (1H, s, NOH). Found, %: C 47.36; H 7.02; N 33.19. $C_{10}H_{18}N_6O_2$. Calculated, %: C 47.23; H 7.13; N 33.05.

4-Dimethylamino-*N*'-hydroxy-6-methoxy-*N*-(pyrrolidin-1-yl)-1,3,5-triazine-2-carboximidamide (3f) was obtained from compound **1a** and pyrrolidine in 70% yield (1.86 g); mp 119-120°C. IR spectrum, ν, cm^{-1}: 3245, 3197, 3128, 3004, 2929, 2883, 2861, 1654, 1573, 1517, 1457, 1375, 1349, 1292, 1220, 1141, 1130, 1081, 1025, 987, 946, 881, 856, 819, 779, 750, 742, 694. ^{1}H NMR spectrum, δ, ppm (*J*, Hz): 1.77-1.85 (4H, m, $(CH_2)_2$); 3.11 (3H, s) and 3.18 (3H, s, $N(CH_3)_2$); 3.55 (4H, t, *J* = 7.5, $N(CH_2)_2$); 3.82 (3H, s, OCH_3); 10.15 (1H, s, NOH). Found, %: C 49.49; H 6.93; N 31.54. $C_{11}H_{18}N_6O_2$. Calculated, %: C 49.61; H 6.81; N 31.56.

***N*'-Hydroxy-4-methoxy-6-(morpholin-1-yl)-*N*-phenyl-1,3,5-triazine-2-carboximidamide (3g)** was obtained from compound **1d** and aniline in 78% yield (2.57 g); mp 189-190°C. IR spectrum, ν, cm^{-1}: 3324, 3151, 2975, 2966, 2921, 2861, 1571, 1521, 1457, 1407, 1371, 1303, 1282, 1232, 1172, 1116, 1068, 1016, 987, 960, 902, 889, 848, 815, 777, 761, 694. ^{1}H NMR spectrum, δ, ppm: 3.52-3.80 (8H, m, $N(CH_2CH_2)_2O$); 3.86 (3H, s, OCH_3); 6.82-7.21 (5H, m, H Ph); 7.72 (1H, s, NH); 9.98 (1H, s, NOH). Found, %: C 54.39; H 5.40; N 25.60. $C_{15}H_{18}N_6O_3$. Calculated, %: C 54.54; H 5.49; N 25.44.

***N*-(1-Adamantyl)-*N*'-hydroxy-4-methoxy-6-(pyrrolidin-1-yl)-1,3,5-triazine-2-carboximidamide (3h)** was obtained from compound **1b** and adamantylamine in 72% yield (2.68 g); mp 214-216°C. IR spectrum, ν, cm^{-1}: 3321, 3112, 3197, 2908, 2848, 1585, 1540, 1511, 1457, 1411, 1375, 1340, 1290, 1272, 1238, 1182, 1116, 1095, 995, 977, 966, 819, 800. ^{1}H NMR spectrum, δ, ppm: 1.99 (4H, m, $(CH_2)_2$); 1.65 (6H, s) and 2.08 (9H, s, H Ad); 3.64-3.70 (4H, m, $N(CH_2)_2$); 4.02 (3H, s, OCH_3); 5.21 (0.6H, s) and 5.60 (0.4H, s, NH); 13.40 (1H, s, NOH). Found, %: C 61.15; H 7.63; N 22.71. $C_{19}H_{28}N_6O_2$. Calculated, %: C 61.27; H 7.58; N 22.56.

4-R-*N*-Acyloxy-6-methoxy-1,3,5-triazine-2-carboximidamides 4a-l (General Method). Triethylamine (1.46 ml, 1.05 mmol) (for compounds **4a-d**) or pyridine (0.85 ml, 1.05 mmol) (for compounds **4e-l)** was added to a stirred suspension of compound **3a-d** (1 mmol) in toluene (30 ml) followed by the corresponding acid anhydride (1.05 mmol). The reaction mixture was maintained at 20-25°C until starting carboximidamide **3** disappeared as indicated by thin-layer chromatography. Toluene was evaporated off at reduced pressure and the residue was treated with 40 ml water. The precipitate was filtered off, washed twice with 10 ml water, and dried in the air.

***N*-Acetoxy-4-dimethylamino-6-methoxy-1,3,5-triazine-2-carboximidamide (4a)** was obtained from compound **3a** and acetic anhydride in 74% yield (1.88 g); mp 135-138°C. IR spectrum, ν, cm^{-1}: 3494, 3388, 3265, 3205, 3139, 3023, 2937, 2879, 1762, 1648, 1616, 1577, 1521, 1473, 1417, 1375, 1309, 1209, 1081, 1041, 1001, 900, 817, 702, 642. ^{1}H NMR spectrum, δ, ppm: 2.14 (3H, s, $COCH_3$); 3.10 (3H, s) and 3.17 (3H, s, $N(CH_3)_2$); 3.88 (3H, s, OCH_3); 6.81 (2H, s, NH_2). Found, %: C 42.65; H 5.68; N 32.96. $C_9H_{14}N_6O_3$. Calculated, %: C 42.52; H 5.55; N 33.05.

***N*-Acetoxy-4-methoxy-6-(pyrrolidin-1-yl)-1,3,5-triazine-2-carboximidamide (4b)** was obtained from compound **3b** and acetic anhydride in 70% yield (1.96 g); mp 172-174°C. IR spectrum, ν, cm^{-1}: 3538, 3482, 3398, 3266, 3137, 2981, 2958, 2887, 1756, 1648, 1600, 1571, 1515, 1457, 1375, 1342, 1307, 1222, 1046, 1006, 896, 817, 676. ^{1}H NMR spectrum, δ, ppm (*J*, Hz): 1.89 (4H, t, *J* = 2.8, $(CH_2)_2$); 2.14 (3H, s, $COCH_3$); 3.48 (2H, t, *J* = 2.8) and 3.56 (2H, t, *J* = 2.8, $N(CH_2)_2$); 3.89 (3H, s, OCH_3); 6.78 (2H, s, NH_2). Found, %: C 47.30; H 5.58; N 30.12. $C_{11}H_{16}N_6O_3$. Calculated, %: C 47.14; H 5.75; N 29.98.

***N*-Acetoxy-4-methoxy-6-(piperidin-1-yl)-1,3,5-triazine-2-carboximidamide (4c)** was obtained from compound **3c** and acetic anhydride in 64% yield (1.88 g); mp 139-141°C. IR spectrum, ν, cm^{-1}: 3531, 3490, 3403, 3303, 3282, 2944, 2919, 2858, 1766, 1652, 1591, 1571, 1513, 1467, 1375, 1294, 1220, 1197, 1097, 1064, 1006, 896, 819, 700. ^{1}H NMR spectrum, δ, ppm (*J*, Hz): 1.51-1.61 (6H, m, $(CH_2)_3$); 2.13 (3H, s, $COCH_3$); 3.75 (2H, t, *J* = 2.0) and 3.84 (2H, t, *J* = 2.0, $N(CH_2)_2$); 3.88 (3H, s, OCH_3); 6.82 (2H, s, NH_2). Found, %: C 49.13; H 6.01; N 28.37. $C_{12}H_{18}N_6O_3$. Calculated, %: C 48.97; H 6.16; N 28.55.

***N*-Acetoxy-4-methoxy-6-(morpholin-1-yl)-1,3,5-triazine-2-carboximidamide (4d)** was obtained from compound **3d** and acetic anhydride in 65% yield (1.92 g); mp 164-166°C. IR spectrum, ν, cm^{-1}: 3432, 3320, 2160, 2979, 2914, 2888, 2852, 1741, 1631, 1558, 1521, 1467, 1371, 1297, 1284, 1222, 1114, 1054, 1018, 1002, 958, 896, 821, 707. ^{1}H NMR spectrum, δ, ppm: 2.13 (3H, s, $COCH_3$); 3.65-3.76 (8H, m, $N(CH_2CH_2)_2O$); 3.90 (3H, s, OCH_3); 6.87 (2H, s, NH_2). Found, %: C 44.56; H 5.62; N 28.41. $C_{11}H_{16}N_6O_4$. Calculated, %: C 44.59; H 5.44; N 28.36.

***N*-Benzoyloxy-4-dimethylamino-6-methoxy-1,3,5-triazine-2-carboximidamide (4e)** was obtained from compound **3a** and benzoyl chloride in 75% yield (2.37 g); mp 170-172°C. IR spectrum, ν, cm^{-1}: 3417, 3320, 3062, 2954, 2927, 2807, 1731, 1635, 1585, 1569, 1521, 1467, 1417, 1313, 1259, 1247, 1211, 1087, 1066, 1037, 1025, 918, 885, 819, 711. ^{1}H NMR spectrum, δ, ppm: 3.14 (3H, s) and 3.22 (3H, s, $N(CH_3)_2$); 3.92 (3H, s, OCH_3); 6.99 (2H, s, NH_2); 7.53-8.18 (5H, m, H Ph). Found, %: C 53.02; H 5.19; N 26.68. $C_{14}H_{16}N_6O_3$. Calculated, %: C 53.16; H 5.10; N 26.57.

***N*-Benzoyloxy-4-methoxy-6-(pyrrolidin-1-yl)-1,3,5-triazine-2-carboximidamide (4f)** was obtained from compound **3b** and benzoyl chloride in 68% yield (2.33 g); mp 160-163°C. IR spectrum, ν, cm^{-1}: 3485, 3347, 3025, 2975, 2950, 2875, 1734, 1625, 1560, 1517, 1465, 1456, 1373, 1342, 1294, 1259, 1240, 1105, 1091, 1068, 1025, 912, 819, 703. ^{1}H NMR spectrum, δ, ppm: 1.91 (4H, s, $(CH_2)_2$); 3.50 (2H, s) and 3.60 (2H, s, $N(CH_2)_2$); 3.92 (3H, s, OCH_3); 6.89 (2H, s, NH_2); 7.54-8.17 (5H, m, Ph). Found, %: C 56.29; H 5.45; N 24.50. $C_{16}H_{18}N_6O_3$. Calculated, %: C 56.13; H 5.30; N 24.55.

***N*-Benzoyloxy-4-methoxy-6-(piperidin-1-yl)-1,3,5-triazine-2-carboximidamide (4g)** was obtained from compound **3c** and benzoyl chloride in 64% yield (2.28 g); mp 174-176°C. IR spectrum, ν, cm^{-1}: 3425, 3269, 3060, 3018, 2931, 2854, 1733, 1635, 1577, 1519, 1461, 1448, 1371, 1288, 1261, 1218, 1091, 1066, 1025, 1001, 919, 817, 705. ^{1}H NMR spectrum, δ, ppm: 1.55-1.64 (6H, m, $(CH_2)_3$); 2.13 (3H, s, $COCH_3$); 3.78 (2H, s) and 3.87 (2H, s, $N(CH_2CH_2)_2$); 3.82 (3H, s, OCH_3); 6.92 (2H, s, NH_2); 7.53-8.17 (5H, m, H Ph). Found, %: C 57.36; H 5.73; N 23.69. $C_{17}H_{20}N_6O_3$. Calculated, %: C 58.29; H 5.66; N 23.58.

***N*-Benzoyloxy-4-methoxy-6-(morpholin-1-yl)-1,3,5-triazine-2-carboximidamide (4h)** was obtained from compound **3d** and benzoyl chloride in 72% yield (2.58 g); mp 170-173°C. IR spectrum, ν, cm^{-1}: 3433, 3288, 3072, 2966, 2917, 2854, 1735, 1637, 1575, 1523, 1469, 1448, 1371, 1317, 1280, 1257, 1230, 1116, 1066, 1024, 1010, 916, 877, 817, 705. ^{1}H NMR spectrum, δ, ppm: 3.67-3.83 (8H, m, $N(CH_2CH_2)_2O$); 3.93 (3H, s, OCH_3); 6.97 (2H, s, NH_2); 7.53-8.18 (5H, m, Ph). Found, %: C 53.51; H 4.98; N 23.55. $C_{16}H_{18}N_6O_4$. Calculated, %: C 53.63; H 5.06; N 23.45.

***N*-(Adamantane-1-carbonyl)oxy-4-dimethylamino-6-methoxy-1,3,5-triazine-2-carboximidamide (4i)** was obtained from compound **3a** and andamantane-1-carbonyl chloride in 78% yield (2.92 g); mp 150-152°C. IR spectrum, ν, cm^{-1}: 3461, 3347, 2904, 2888, 1732, 1623, 1597, 1577, 1519, 1473, 1413, 1369, 1307, 1213, 1097, 1066, 952, 898, 819. ^{1}H NMR spectrum, δ, ppm: 1.68 (6H, s) and 1.94 (9H, s, H Ad); 3.12 (3H, s) and 3.18 (3H, s, $N(CH_3)_2$); 3.89 (3H, s, OCH_3); 6.58 (2H, s, NH_2). Found, %: C 57.60; H 7.06; N 22.56. $C_{18}H_{26}N_6O_3$. Calculated, %: C 57.74; H 7.00; N 22.44.

***N*-(Adamantane-1-carbonyl)oxy-4-methoxy-6-(pyrrolidin-1-yl)-1,3,5-triazine-2-carboximidamide (4j)** was obtained from compound **3b** and adamantane-1-carbonyl chloride in 66% yield (2.64 g); mp 169-171°C. IR spectrum, ν, cm^{-1}: 3463, 3365, 2906, 2850, 1735, 1627, 1585, 1560, 1517, 1457, 1369, 1340, 1222, 1066, 892, 819. ^{1}H NMR spectrum, δ, ppm (*J*, Hz): 1.70 (6H, s) and 1.95 (9H, s, H Ad); 1.92 (2H, s) and 1.98 (2H, s, $(CH_2)_2$); 3.50 (2H, t, *J* = 4.0) and 3.57 (2H, t, *J* = 4.0, $N(CH_2)_2$); 3.91 (3H, s, OCH_3); 6.47 (2H, s, NH_2). Found, %: C 60.12; H 7.12; N 20.83. $C_{20}H_{28}N_6O_3$. Calculated, %: C 59.98; H 7.05; N 20.98.

***N*-(Adamantane-1-carbonyl)oxy-4-methoxy-6-(piperidin-1-yl)-1,3,5-triazine-2-carboximidamide (4k)** was obtained from compound **3c** and adamantane-1-carbonyl chloride in 73% yield (3.03 g); mp 164-167°C. IR spectrum, ν, cm^{-1}: 3430, 3336, 3010, 2929, 2904, 2854, 1731, 1631, 1577, 1517, 1448, 1369, 1290, 1214, 1095, 1062, 907, 887, 819. ^{1}H NMR spectrum, δ, ppm: 1.53 (2H, s) and 1.65 (4H, s, $(CH_2)_3$); 1.69 (6H, s) and 1.98 (9H, s, H Ad); 3.76 and 3.82 (4H, two s, NCH_2); 3.89 (3H, s, OCH_3); 6.57 (2H, s, NH_2). Found, %: C 60.92; H 7.44; N 20.19. $C_{21}H_{30}N_6O_3$. Calculated, %: C 60.85; H 7.30; N 20.27.

***N*-(Adamantane-1-carbonyl)oxy-4-methoxy-6-(morpholin-1-yl)-1,3,5-triazine-2-carboximidamide (4l)** was obtained from compound **3d** and adamantane-1-carbonyl chloride in 65% yield (2.71 g); mp 141-143°C. IR spectrum, δ, ppm: 3454, 3346, 2965, 2906, 2850, 1735, 1625, 1581, 1521, 1467, 1448, 1375, 1286, 1238, 1216, 1118, 1066, 999, 898, 819. ^{1}H NMR spectrum, δ, ppm: 1.65 (6H, s) and 1.97 (9H, m, H Ad); 3.65-3.87 (8H, m, $N(CH_2CH_2)_2O$); 3.91 (3H, s, OCH_3); 6.61 (2H, s, NH_2). Found, %: C 57.80; H 6.70; N 20.06. $C_{21}H_{30}N_6O_3$. Calculated, %: C 57.68; H 6.78; N 20.18.

6-Methoxy-4-(5-R^1-1,2,4-oxadiazol-3-yl)-1,3,5-triazine-2-amines 5a-l (General Method). A suspension of compound **4a-l** (0.5 mmol) in acetic acid (20 ml) was heated at reflux until disappearance of the starting compound as indicated by thin-layer chromatography. At the end of the reaction, acetic acid was distilled off at reduced pressure. The residue was treated with 20 ml water. The precipitate was filtered off, washed twice with 10 ml water, and dried in the air.

***N,N*-Dimethylamino-6-methoxy-4-(5-methyl-1,2,4-oxadiazol-3-yl)-1,3,5-triazin-2-amine (5a)** was obtained in 82% yield (0.97 g); mp 157-160°C. IR spectrum, ν, cm^{-1}: 3012, 2956, 2873, 1594, 1571, 1521, 1508, 1467, 1409, 1365, 1245, 1205, 1079, 1031, 991, 904, 821, 777. ^{1}H NMR spectrum, δ, ppm: 2.65 (3H, s, CH_3); 3.14 (3H, s) and 3.17 (3H, s, $N(CH_3)_2$); 3.91 (3H, s, OCH_3). Found, %: C 45.84; H 5.02; N 35.61. $C_9H_{12}N_6O_2$. Calculated, %: C 45.76; H 5.12; N 35.57.

2-Methoxy-4-(5-methyl-1,2,4-oxadiazol-3-yl)-6-(pyrrolidin-1-yl)-1,3,5-triazine (5b) was obtained in 76% yield (1.00 g); mp 127-128°C (decomp.). IR spectrum, ν, cm^{-1}: 2979, 2956, 2885, 1570, 1517, 1457, 1407, 1376, 1336, 1284, 1247, 1230, 1068, 991, 914, 898, 817, 777. ^{1}H NMR spectrum, δ, ppm (*J*, Hz): 1.89-1.92 (4H, m, $(CH_2)_2$); 2.67 (3H, s, CH_3); 3.49 (2H, t, *J* = 2.4) and 3.53 (2H, t, *J* = 2.4, $N(CH_2)_2$); 3.90 (3H, s, OCH_3). Found, %: C 50.56; H 5.47; N 31.90. $C_{11}H_{14}N_6O_2$. Calculated, %: C 50.38; H 5.38; N 32.04.

2-Methoxy-4-(5-methyl-1,2,4-oxadiazol-3-yl)-6-(piperidin-1-yl)-1,3,5-triazine (5c) was obtained in 71% yield (0.98 g); mp 134-136°C. IR spectrum, ν, cm^{-1}: 3014, 3001, 2943, 2862, 1592, 1573, 1521, 1473, 1448, 1419, 1373, 1336, 1284, 1253, 1216, 1126, 1091, 1066, 1035, 987, 914, 891, 852, 819, 777. ^{1}H NMR spectrum, δ, ppm: 1.54-1.63 (6H, m, $N(CH_2)_3$); 2.67 (3H, s, CH_3); 3.77 (2H, s) and 3.83 (2H, s, $N(CH_2)_2$); 3.90 (3H, s, OCH_3). Found, %: C 52.04; H 5.79; N 30.53. $C_{12}H_{16}N_6O_2$. Calculated, %: C 52.17; H 5.84; N 30.42.

2-Methoxy-4-(5-methyl-1,2,4-oxadiazol-3-yl)-6-(morpholin-1-yl)-1,3,5-triazine (5d) was obtained in 80% yield (1.11 g); mp 163-165°C. IR spectrum, ν, cm^{-1}: 2998, 2958, 2869, 1596, 1577, 1531, 1467, 1419, 1373, 1278, 1251, 1216, 1108, 1070, 1022, 991, 896, 813, 775. ^{1}H NMR spectrum, δ, ppm: 2.67 (3H, s, CH_3); 3.66-3.83 (8H, m, $N(CH_2CH_2)_2O$); 3.92 (3H, s, OCH_3). Found, %: C 47.57; H 4.99; N 30.31. $C_{11}H_{14}N_6O_3$. Calculated, %: C 47.48; H 5.07; N 30.20.

***N,N*-Dimethylamino-4-methoxy-6-(5-phenyl-1,2,4-oxadiazol-3-yl)-1,3,5-triazin-2-amine (5e)** was obtained in 79% yield (1.18 g); mp 196-198°C. IR spectrum, ν, cm^{-1}: 3076, 3010, 2929, 2871, 1598, 1560, 1525, 1471, 1409, 1371, 1255, 1207, 1076, 1045, 991, 904, 825, 815, 771, 715, 688. ^{1}H NMR spectrum, δ, ppm: 3.16 (3H, s) and 3.23 (3H, s, $N(CH_3)_2$); 3.96 (3H, s, OCH_3); 7.64-8.14 (5H, m, H Ar). Found, %: C 56.48; H 4.79; N 28.04. $C_{14}H_{14}N_6O_2$. Calculated, %: C 56.37; H 4.73; N 28.17.

2-Methoxy-6-(5-phenyl-1,2,4-oxadiazol-3-yl)-4-(pyrrolidin-1-yl)-1,3,5-triazine (5f) was obtained in 72% yield (1.17 g); mp 184-186°C. IR spectrum, ν, cm^{-1}: 3052, 2966, 2887, 1589, 1531, 1498, 1459, 1450, 1405, 1361, 1342, 1278, 1238, 1224, 1159, 1058, 989, 815, 773, 719, 692. ^{1}H NMR spectrum, δ, cm^{-1} (*J*, Hz) : 1.95 (4H, t, *J* = 6.8, $N(CH_2)_2$); 3.57 (2H, t, *J* = 6.8) and 3.61 (2H, t, *J* = 6.8, $N(CH_2)_2$); 3.96 (3H, s, OCH_3); 7.65- 8.16 (5H, m, H Ar). Found, %: C 59.13; H 4.95; N 26.04. $C_{16}H_{16}N_6O_2$. Calculated, %: C 59.25; H 4.97; N 25.91.

2-Methoxy-6-(5-phenyl-1,2,4-oxadiazol-3-yl)-4-(piperidin-1-yl)-1,3,5-triazine (5g) was obtained in 75% yield (1.27 g); mp 163-165°C. IR spectrum, ν, cm^{-1}: 3068, 3010, 2939, 2858, 1610, 1579, 1560, 1525, 1465, 1448, 1411, 1284, 1218, 1099, 1058, 987, 817, 771, 717, 692. ^{1}H NMR spectrum, δ, ppm: 1.58-1.66 (6H, m, CH_2); 3.81 (2H, s) and 3.88 (2H, s, $N(CH_2)_2$); 3.94 (3H, s, OCH_3); 7.64-8.16 (5H, m, H Ar). Found, %: C 60.22; H 5.26; N 24.90. $C_{17}H_{18}N_6O_2$. Calculated, %: C 60.34; H 5.36; N 24.84.

2-Methoxy-4-(morpholin-1-yl)-6-(5-phenyl-1,2,4-oxadiazol-3-yl)-1,3,5-triazine (5h) was obtained in 81% yield (1.38 g); mp 198-200°C. IR spectrum, ν, cm^{-1}: 3002, 2962, 2906, 2856, 1610, 1571, 1533, 1502, 1459, 1411, 1373, 1288, 1228, 1112, 1058, 1008, 987, 892, 819, 771, 715, 686. ^{1}H NMR spectrum, δ, ppm: 3.70-3.85 (8H, m, $N(CH_2CH_2)_2O$); 3.97 (3H, s, OCH_3); 7.65-8.15 (5H, m, H Ph). Found, %: C 56.58; H 4.67; N 24.53. $C_{16}H_{16}N_6O_3$. Calculated, %: C 56.47; H 4.74; N 24.69.

4-[5-(1-Adamantyl)-1,2,4-oxadiazol-3-yl]-*N,N*-dimethylamino-6-methoxy-1,3,5-triazin-2-amine (5i) was obtained in 64% yield (1.14 g); mp 144-145°C. IR spectrum, ν, cm^{-1}: 3023, 2931, 2912, 2852, 1581, 1560, 1535, 1508, 1450, 1413, 1363, 1292, 1251, 1203, 1087, 1072, 999, 783. ^{1}H NMR spectrum, δ, ppm: 1.63 (6H, s) and 2.05 (9H, s, H Ad); 3.15 (3H, s) and 3.19 (3H, s, $N(CH_3)_2$); 3.92 (3H, s, OCH_3). Found, %: C 60.49; H 6.83; N 23.49. $C_{18}H_{24}N_6O_2$. Calculated, %: C 60.66; H 6.79; N 23.58.

2-[5-(1-Adamantyl)-1,2,4-oxadiazol-3-yl]-4-methoxy-6-(pyrrolidin-1-yl)-1,3,5-triazine (5j) was obtained in 68% yield (1.30 g); mp 136-138°C. IR spectrum, ν, cm^{-1}: 2904, 2854, 1587, 1548, 1521, 1457, 1411, 1369, 1340, 1282, 1232, 1182, 1083, 1054, 999, 900, 817, 781. ^{1}H NMR spectrum, δ, ppm: 1.65 (5H, s) and 2.06 (9H, s, H Ad); 1.93 (4H, s, CH_2); 3.54 (2H, s) and 3.57 (2H, s, $N(CH_2)_2$); 3.93 (3H, s, OCH_3). Found, %: C 62.76; H 6.97; N 22.07. $C_{20}H_{26}N_6O_2$. Calculated, %: C 62.81; H 6.85; N 21.97.

2-[5-(1-Adamantyl)-1,2,4-oxadiazol-3-yl]-4-methoxy-6-(piperidin-1-yl)-1,3,5-triazine (5k) was obtained in 70% yield (1.38 g); mp 145-148°C. IR spectrum, ν, cm^{-1}: 3010, 2921, 2854, 1592, 1533, 1511, 1450, 1407, 1378, 1348, 1284, 1220, 1083, 1052, 997, 985, 892, 856, 813, 781. ^{1}H NMR spectrum, δ, ppm: 1.55-1.64 (6H, m, $3CH_2$); 1.75 (6H, s) and 2.05 (9H, s, H Ad); 3.78 (2H, s) and 3.83 (2H, s, $N(CH_2)_2$); 3.91 (3H, s, OCH_3). Found, %: C 63.54; H 7.25; N 21.02. $C_{21}H_{28}N_6O_2$. Calculated, %: C 63.62; H 7.12; N 21.20.

2-[5-(1-Adamantyl)-1,2,4-oxadiazol-3-yl]-4-methoxy-6-(morpholin-1-yl)-1,3,5-triazine (5l) was obtained in 69% yield (1.37 g); mp 154-156°C. IR spectrum, ν, cm^{-1}: 2912, 2854, 1587, 1535, 1508, 1473, 1450, 1378, 1284, 1257, 1228, 1108, 1083, 1054, 997, 985, 894, 815, 783. ^{1}H NMR spectrum, δ, ppm: 1.64 (6H, s) and 2.05 (9H, s, H Ad); 3.67-3.83 (8H, m, $N(CH_2CH_2)_2O$); 3.93 (3H, s, OCH_3). Found, %: C 60.16; H 6.70; N 21.21. $C_{20}H_{26}N_6O_3$. Calculated, %: C 60.29; H 6.58; N 21.09.

4-Methoxy-6-(5-trifluoromethyl-1,2,4-oxadiazol-3-yl)-1,3,5-triazin-2-amines 5m-p (General Method). Triethylamine (1.46 ml, 1.05 mmol) or pyridine (0.85 ml, 1.05 mmol) was added to a stirred suspension of compounds **3a-d** (1 mmol) in toluene (30 ml) followed by the addition of trifluoroacetic acid anhydride (1.47 ml, 1.05 mmol). The reaction mixture was maintained at 20-25°C until the starting compound disappeared as indicated by thin-layer chromatography. Toluene was evaporated off at reduced pressure and the residue was treated with 40 ml water. The precipitate was filtered off, washed twice with 10 ml water, and dried in the air.

***N,N*-Dimethylamino-4-methoxy-6-(5-trifluoromethyl-1,2,4-oxadiazol-3-yl)-1,3,5-triazin-2-amine (5m)** was obtained from compound **3a** in 70% yield (2.03 g); mp 101-103°C. IR spectrum, ν, cm^{-1}: 3000, 2937, 2881, 1592, 1535, 1508, 1471, 1407, 1369, 1340, 1286, 1220, 1170, 1149, 1079, 992, 983, 896, 813, 783, 757. ^{1}H NMR spectrum, δ, ppm: 3.18 (3H, s) and 3.22 (3H, s, $N(CH_3)_2$); 3.96 (3H, s, OCH_3). Found, %: C 37.34; H 3.19; N 28.82. $C_9H_9F_3N_6O_2$. Calculated for, %: C, 37.25; H 3.13; N 28.96.

2-Methoxy-4-(pyrrolidin-1-yl)-6-(5-trifluoromethyl-1,2,4-oxadiazol-3-yl)-1,3,5-triazine (5n) was obtained from compound **3b** in 63% yield (1.99 g); mp 105-107°C. IR spectrum, ν, cm^{-1}: 2981, 2960, 2887,

1616, 1587, 1575, 1521, 1473, 1405, 1369, 1338, 1267, 1230, 1186, 1172, 1149, 1058, 993, 892, 813, 781, 756. ^{1}H NMR spectrum, δ, ppm (*J*, Hz): 1.95 (4H, t, *J* = 6.4, $(CH_2)_2$); 3.54 (2H, t, *J* = 6.4) and 3.57 (2H, t, *J* = 6.4, $N(CH_2)_2$); 3.95 (3H, s, OCH_3). Found, %: C 41.65; H 3.39; N 26.66. $C_{11}H_{11}F_3N_6O_2$. Calculated, %: C 41.78; H 3.51; N 26.57.

2-Methoxy-4-(piperidin-1-yl)-6-(5-trifluoromethyl-1,2,4-oxadiazol-3-yl)-1,3,5-triazine (5o) was obtained from compound **3c** in 75% yield (2.48 g); mp 99-101°C. IR spectrum, ν, cm^{-1}: 3010, 2944, 2933, 2860, 1591, 1500, 1473, 1452, 1415, 1378, 1340, 1286, 1272, 1213, 1170, 1157, 1105, 1029, 991, 894, 810, 779, 756. ^{1}H NMR spectrum, δ, ppm (*J*, Hz): 1.58-1.67 (6H, m, $(CH_2)_3$); 3.77 (2H, t, *J* = 4.0) and 3.85 (2H, t, *J* = 4.0, $N(CH_2)_2$); 3.95 (3H, s, OCH_3). Found, %: C 43.49; H 3.90; N 25.61. $C_{12}H_{13}F_3N_6O_2$. Calculated, %: C 43.64; H 3.97; N 25.45.

2-Methoxy-4-(morpholin-1-yl)-6-(5-trifluoromethyl-1,2,4-oxadiazol-3-yl)-1,3,5-triazine (5p) was obtained from compound **3d** in 76% yield (2.52 g); mp 100-102°C. IR spectrum, ν, cm^{-1}: 3014, 2971, 2906, 2858, 1579, 1506, 1463, 1415, 1371, 1340, 1276, 1261, 1230, 1174, 1147, 1110, 1045, 993, 898, 854, 813, 781, 757. ^{1}H NMR spectrum, δ, ppm: 3.71-3.87 (8H, m, $N(CH_2CH_2)_2O$); 3.97 (3H, s, OCH_3). Found, %: C 39.72; H 3.50, N 25.20. $C_{11}H_{11}F_3N_6O_3$. Calculated, %: C 39.77; H 3.34; N 25.29.

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