Supplementary Information

Expeditious synthesis of highly substituted 3(2*H*)-furanone and quinoline by the microwave assisted reaction between aldonitrones and DBA

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General experimental techniques:

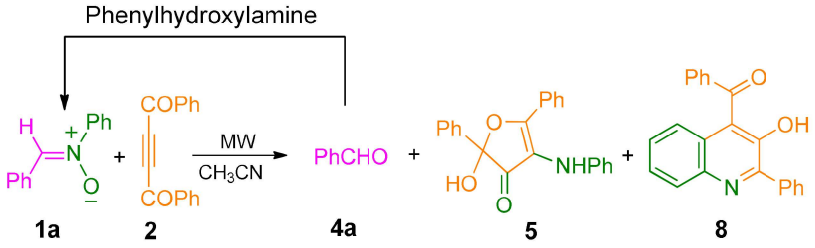
Unless otherwise noted, all commercial materials were used without purification. Oven dried glasswares were used for all reactions. Column chromatography using silica gel (Spectrochem Chemicals, 60–120 mesh) is used for the separation and purification of compounds. Further purification was done by recrystallization from appropriate solvent systems. Melting points were determined using a Neolab melting point apparatus and are uncorrected. Jasco 4100 and ABB Bomem (MB Series) FT-IR spectrometers were used for recording IR-spectra. Bruker Avance III FT-NMR spectrometer with TMS as internal standard was used to record the ^{1}H and ^{13}C NMR and the chemical shifts (δ) are reported in ppm. Vario EL III CHNS Elemental Analyser was used to perform the elemental analysis. Molecular mass was determined using a GC-MS (Agilent GC-7890A, Mass-5975C) mass spectrometer. Multi-wave Pro, Anton Paar 850W was used for microwave irradiation. Literature procedures were followed for the preparation of nitrones. Products formed were identified either by coinjection onto GC column (for liquids) or on the basis of mixture melting points recorded for compounds admixed with authentic samples (for solids) prepared through known methods.

Experimental section

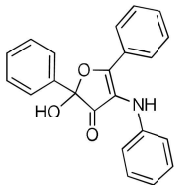
I) Optimization study of Microwave assisted reaction of nitrone 1a with DBA (2) in acetonitrile

To the solution of nitrone **1a** (1 mmol, 0.1970 g) in 5 mL of acetonitrile, DBA (**2**, 1 mmol, 0.2340 g) was added. The resulting reaction mixture was placed on a Pyrex tube with a cover and then irradiated in a microwave oven for at 60 °C to complete the reaction. Progress of the reaction was monitored regularly by GC. After 5 minutes, GC analysis shows the presence of 30% unreacted nitrone. The reaction was continued for another 5 minutes and the GC results shows a significant amount of unreacted nitrone. After 15 minutes of irradiation at 60 °C the reaction mixture still contains nearly10% unreacted nitrone. Another solution of nitrone **1a** (1 mmol) in 5 mL of acetonitrile, DBA (**2**, 1 mmol) was then irradiated at 90 °C to complete the reaction. After 5 minutes, GC analysis shows the presence of 20% unreacted nitrone. The reaction was continued for another 5 minutes and still it contains 10% of unreacted nitrone. The amount of unreacted nitrone was reduced to <3% after 15 minutes of irradiation at 90 °C, solvent was removed under reduced pressure and products were isolated and purified by a combination of column chromatography over silica gel and fractional crystallization from hexane-dichloromethane mixtures to give 2-hydroxy-2,5-diphenyl-4-(phenylamino)furan-3(2*H*)-one (**5**) in

68% yield; melting point 150-152 °C, (3-hydroxy-2-phenylquinolin-4-yl)(phenyl)methanone (**8**) in 24% yield; melting point 142-144 °C along with benzaldehyde (**4a**) in 92% yield.

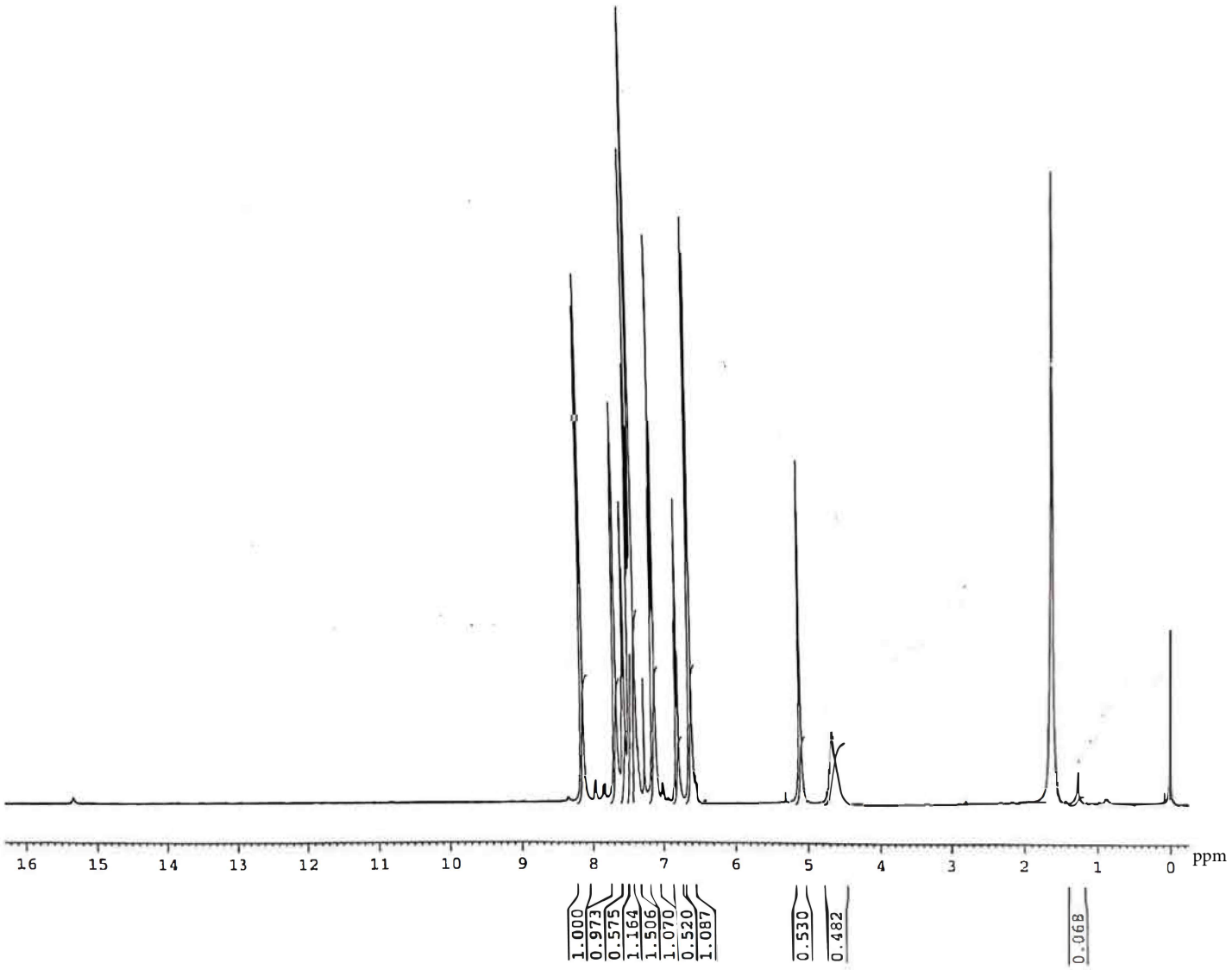


Spectral and analytical data of 2-hydroxy-2,5-diphenyl-4-(phenylamino)furan-3(2*H*)-one (5)

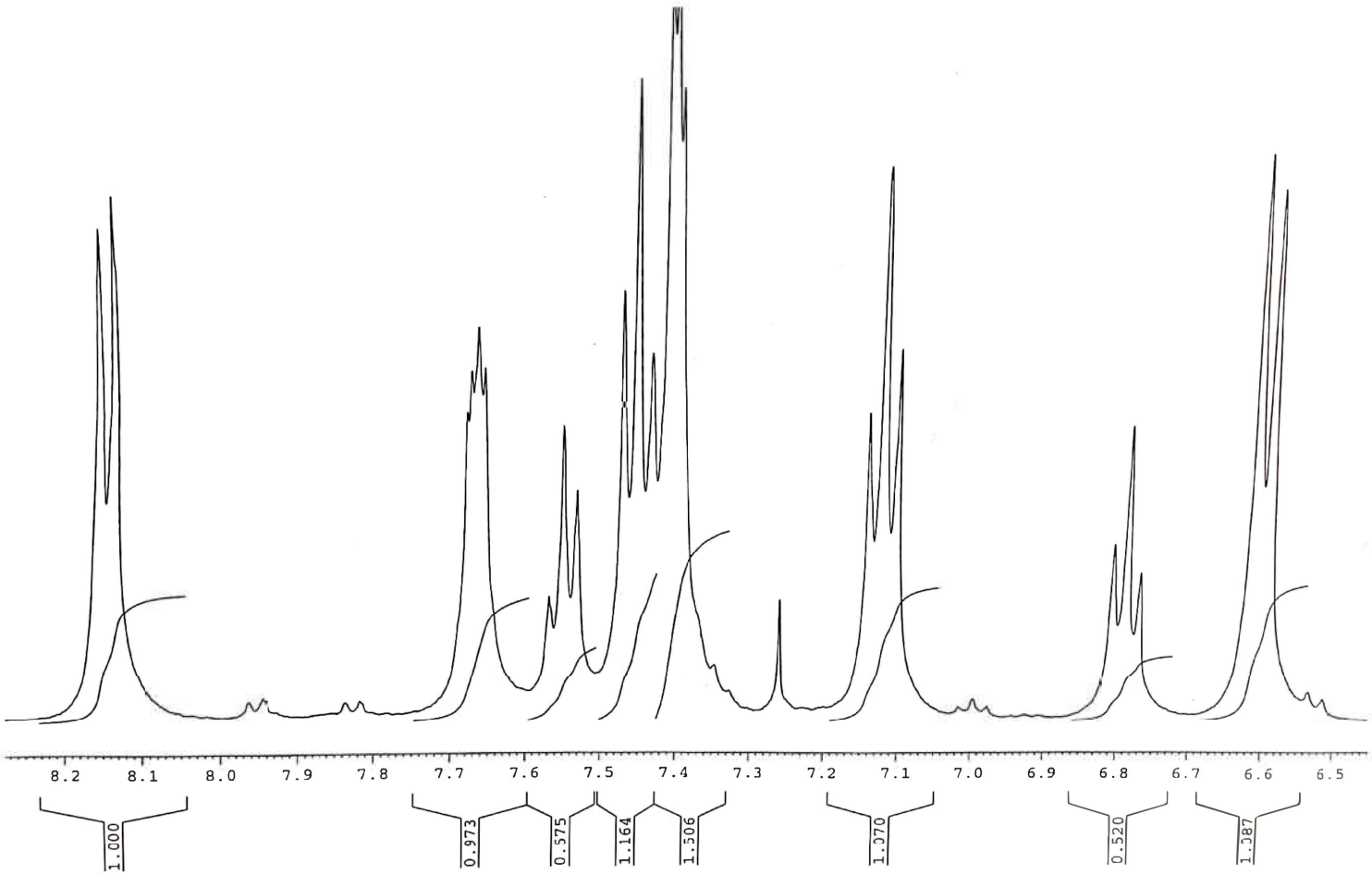


2-Hydroxy-2,5-diphenyl-4-(phenylamino)furan-3(2H)-one (**5**).

Yield: 68%, (0.2340 g); M.p. 150-152 °C; Characteristics: Orange crystalline solid.; **IR** ($\tilde{\nu}$, KBr): 3354 cm^{-1}, 3297 cm^{-1} (OH, NH), 1673 cm^{-1} (C=O); **^{1}H NMR** (400 MHz, $CDCl_3$) δ_H 8.14 (d, J = 7.4 Hz, 2H), 7.59-7.75- (m, 2H), 7.55 (t, J = 7.4 Hz, 1H), 7.45 (t, J = 7.8 Hz, 2H), 7.33-7.43- (m, 3H), 7.12 (t, J = 8.0 Hz, 2H), 6.80 (d, J = 7.3 Hz, 1H), 6.60 (d, J = 7.8 Hz, 2H), 5.1 (s, 1H), 4.60 (bs, 1H); **^{13}C NMR** (100 MHz, $CDCl_3$) δ_C 198.7, 176.3, 144.2, 135.8, 132.9, 129.7, 129.3, 128.8, 128.5, 125.8, 119.8, 115.1, 114.7; **MS**: *m/z* 343.1218 (M^+). Elemental analysis calculated for $C_{22}H_{17}NO_3$: C, 76.95; H, 4.99; N, 4.08. Found: C, 76.72; H, 4.97; N, 4.09.



^{1}H NMR of 2-hydroxy-2,5-diphenyl-4-(phenylamino)furan-3(2*H*)-one (**5**)

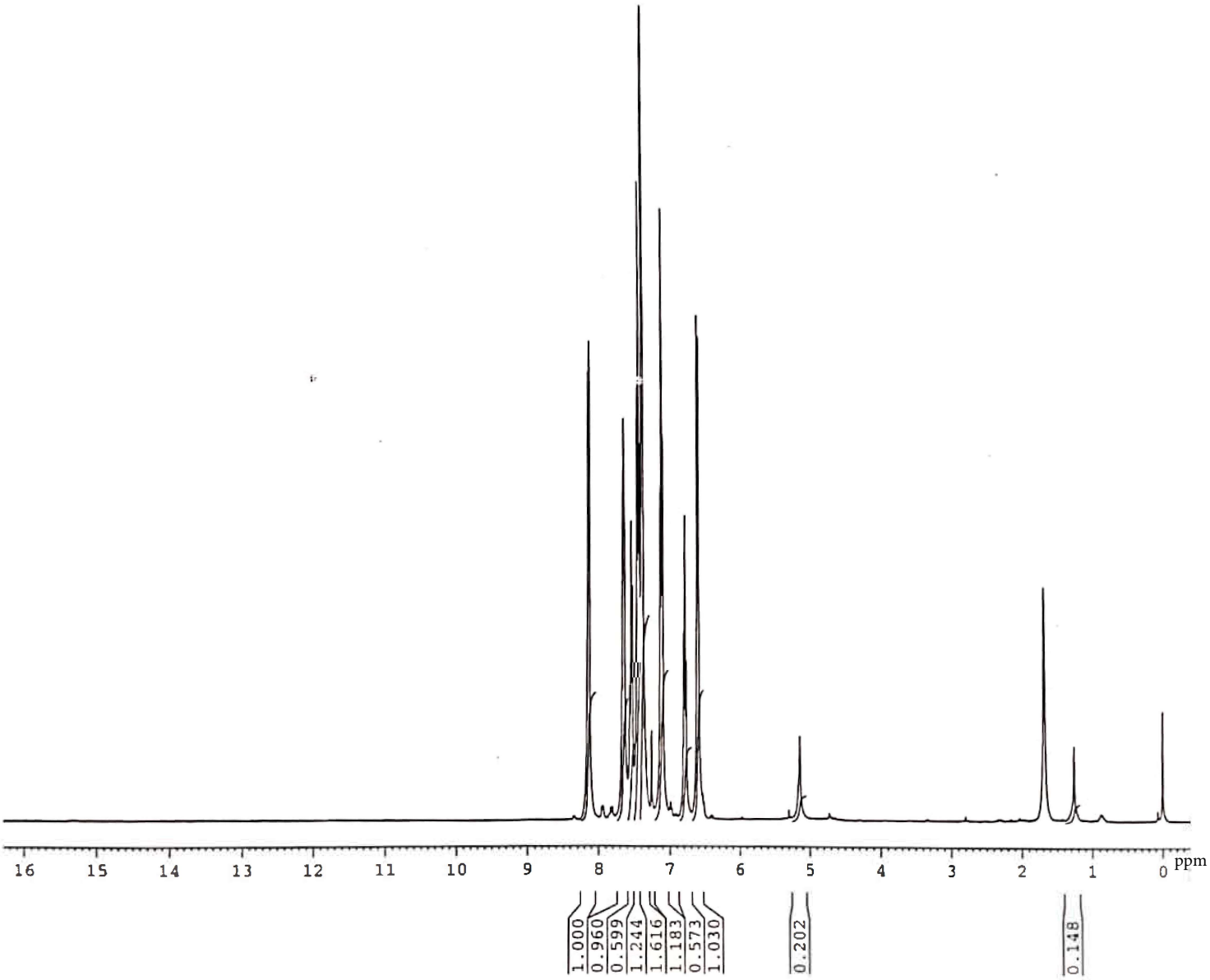


^{1}H NMR of 2-hydroxy-2,5-diphenyl-4-(phenylamino)furan-3(2*H*)-one (**5**): Expanded

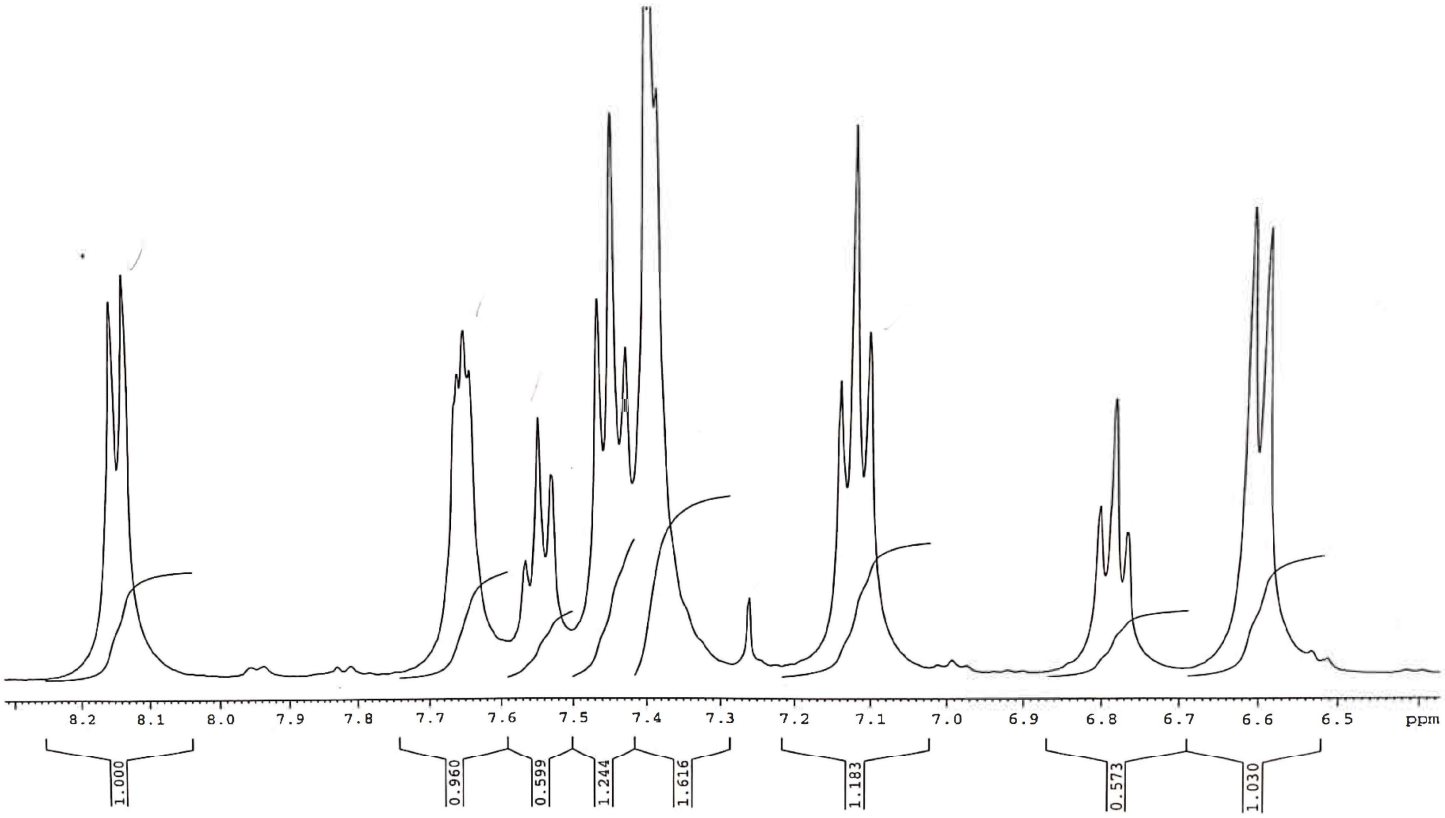
^{1}H NMR of 2-hydroxy-2,5-diphenyl-4-(phenylamino)furan-3(2*H*)-one (**5**)

#	ADDRESS	FREQUENCY [Hz]	[PPM]	INTENSITY
1	15573.0	3262.249	8.1529	14.37
2	15608.3	3254.864	8.1344	15.33
3	15936.4	3186.293	7.9631	0.55
4	15971.7	3178.908	7.9446	0.66
5	16180.7	3135.225	7.8354	0.51
6	16215.8	3127.876	7.8171	0.56
7	16481.4	3072.361	7.6783	9.16
8	16492.7	3070.004	7.6724	10.33
9	16509.8	3066.431	7.6635	11.65
10	16525.7	3063.104	7.6552	10.44
11	16612.9	3044.889	7.6097	0.93
12	16640.8	3039.059	7.5951	0.84
13	16691.0	3028.558	7.5689	3.66
14	16726.3	3021.169	7.5504	8.78
15	16761.6	3013.800	7.5320	6.84
16	16877.3	2989.625	7.4716	12.76
17	16914.6	2981.828	7.4521	18.79
18	16950.5	2974.322	7.4333	10.97
19	16993.0	2965.433	7.4111	22.33
20	17006.4	2962.628	7.4041	22.69
21	17022.7	2959.227	7.3956	18.54
22	17115.6	2939.795	7.3470	1.64
23	17152.9	2932.007	7.3276	0.85
24	17192.2	2923.804	7.3071	0.35
25	17201.7	2921.810	7.3021	0.34
26	17281.1	2905.214	7.2606	3.61
27	17337.2	2893.494	7.2313	0.35
28	17346.1	2891.625	7.2266	0.36
29	17357.8	2889.178	7.2205	0.34
30	17368.3	2886.989	7.2150	0.30
31	17385.7	2883.353	7.2060	0.37
32	17398.6	2880.642	7.1992	0.38
33	17504.5	2858.524	7.1439	9.23
34	17543.0	2850.471	7.1238	16.34
35	17579.8	2842.783	7.1046	11.09
36	17680.9	2821.642	7.0517	0.36
37	17686.3	2820.521	7.0489	0.32
38	17748.6	2807.488	7.0164	0.36
39	17787.6	2799.351	6.9960	0.59
40	17824.0	2791.742	6.9770	0.37
41	18145.1	2724.618	6.8093	5.30
42	18180.1	2717.304	6.7910	8.84
43	18215.1	2709.981	6.7727	4.43
44	18291.7	2693.976	6.7327	0.32
45	18515.6	2647.170	6.6157	16.86
46	18552.9	2639.383	6.5962	15.84
47	18671.5	2614.575	6.5342	0.80
48	18708.6	2606.820	6.5149	0.59
49	21037.6	2120.008	5.2982	0.32
50	21408.3	2042.536	5.1046	9.92
51	22248.8	1866.837	4.6655	2.13
52	22349.4	1845.803	4.6130	1.27
53	22396.8	1835.905	4.5882	0.88
54	22463.7	1821.921	4.5533	0.45

55	27871.6	691.534	1.7283	0.31
56	28061.6	651.826	1.6290	17.89
57	28236.2	615.338	1.5378	0.43
58	28735.3	511.005	1.2771	0.33
59	28771.7	503.403	1.2581	0.93
60	31039.9	29.279	0.0732	0.32
61	31174.8	1.097	0.0027	5.04
62	31215.1	-7.344	-0.0184	0.31



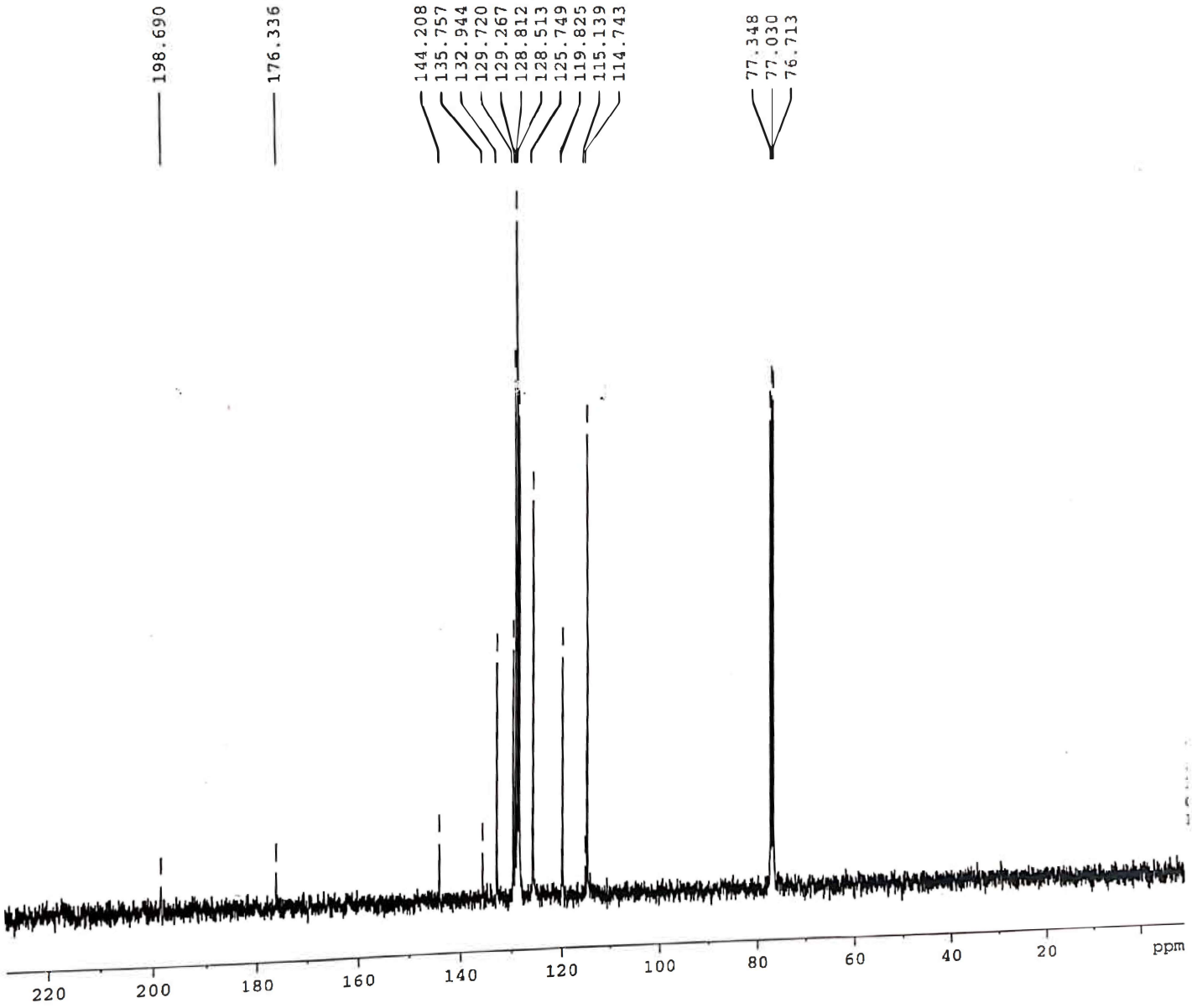
^{1}H NMR of 2-hydroxy-2,5-diphenyl-4-(phenylamino)furan-3(2*H*)-one (**5**) (D_2O exchanged)



^{1}H NMR of 2-hydroxy-2,5-diphenyl-4-(phenylamino)furan-3(2*H*)-one (**5**) (D_2O exchanged): Expanded

^{1}H NMR of 2-hydroxy-2,5-diphenyl-4-(phenylamino)furan-3(2*H*)-one (**5**) (D2O exchanged): Expanded

#	ADDRESS	FREQUENCY [Hz]	[PPM]	INTENSITY
1	15566.6	3263.589	8.1562	12.48
2	15603.5	3255.862	8.1369	13.35
3	15950.5	3183.349	7.9557	0.35
4	15983.8	3176.382	7.9383	0.38
5	16193.0	3132.656	7.8290	0.33
6	16229.8	3124.962	7.8098	0.36
7	16515.3	3065.280	7.6606	9.76
8	16532.7	3061.638	7.6515	11.15
9	16547.7	3058.513	7.6437	9.88
10	16649.4	3037.244	7.5906	1.12
11	16697.0	3027.309	7.5657	3.69
12	16731.0	3020.200	7.5480	8.28
13	16764.1	3013.274	7.5307	6.44
14	16766.7	3012.726	7.5293	6.40
15	16887.3	2987.518	7.4663	12.05
16	16924.0	2979.844	7.4471	17.76
17	16960.9	2972.137	7.4278	10.47
18	17015.7	2960.686	7.3992	22.44
19	17026.0	2958.532	7.3938	22.65
20	17042.7	2955.037	7.3851	18.46
21	17205.9	2920.923	7.2999	0.46
22	17221.9	2917.583	7.2915	0.40
23	17233.8	2915.094	7.2853	0.36
24	17282.8	2904.861	7.2597	2.45
25	17340.5	2892.793	7.2296	0.32
26	17348.1	2891.198	7.2256	0.34
27	17388.9	2882.670	7.2043	0.36
28	17393.8	2881.644	7.2017	0.36
29	17514.6	2856.403	7.1386	9.22
30	17550.8	2848.848	7.1197	17.03
31	17587.3	2841.214	7.1007	10.71
32	17759.9	2805.130	7.0105	0.32
33	17793.5	2798.109	6.9929	0.48
34	17830.9	2790.295	6.9734	0.31
35	18083.8	2737.434	6.8413	0.39
36	18155.7	2722.393	6.8037	5.16
37	18190.2	2715.191	6.7857	8.44
38	18223.1	2708.312	6.7685	4.37
39	18518.0	2646.674	6.6145	14.07
40	18557.6	2638.401	6.5938	13.50
41	18655.1	2618.011	6.5428	0.66
42	18671.5	2614.594	6.5343	0.71
43	18711.4	2606.244	6.5134	0.48
44	21345.6	2055.636	5.1374	2.33
45	27959.9	673.087	1.6822	6.46
46	28699.9	518.410	1.2956	0.33
47	28722.1	513.769	1.2840	0.46
48	28774.0	502.907	1.2568	2.06
49	28822.6	492.761	1.2315	0.36
50	31177.2	0.589	0.0015	3.04



^{13}C NMR of 2-hydroxy-2,5-diphenyl-4-(phenylamino)furan-3(2*H*)-one (**5**)

Single crystal XRD data of 2-hydroxy-2,5-diphenyl-4-(phenylamino)furan-3(2*H*)-one (**5**) **(CCDC number: 1469915)**

Table 1. Crystal data and structure refinement for p10208.

Identification code	p10208	
Empirical formula	C_{22} H_{17} N O_3	
Formula weight	343.37	
Temperature	100(2) K	
Wavelength	0.71073 Å	
Crystal system	Orthorhombic	
Space group	$Pna2_1$	
Unit cell dimensions	a = 27.608(2) Å	α= 90°.
	b = 5.5963(5) Å	β= 90°.
	c = 21.6736(19) Å	γ = 90°.
Volume	3348.6(5) $Å^3$	
Z	8	
Density (calculated)	1.362 Mg/m^3	
Absorption coefficient	0.091 mm^{-1}	
F(000)	1440	
Crystal size	0.47 x 0.39 x 0.37 mm^3	
Theta range for data collection	2.95 to 25.00°.	
Index ranges	-32≤h≤32, -6≤k≤6, -25≤l≤24	
Reflections collected	93166	
Independent reflections	5857 [R(int) = 0.0755]	
Completeness to theta = 25.00°	99.9 %	
Absorption correction	Semi-empirical from equivalents	
Max. and min. transmission	0.9671 and 0.9582	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	5857 / 1 / 439	
Goodness-of-fit on F^2	1.152	
Final R indices [I>2sigma(I)]	R1 = 0.0902, wR2 = 0.2349	
R indices (all data)	R1 = 0.0925, wR2 = 0.2365	
Absolute structure parameter	-0.2(19)	
Largest diff. peak and hole	0.934 and -0.546 e.$Å^{-3}$	

Table 2. Atomic coordinates (x 10^4) and equivalent isotropic displacement parameters ($Å^2$x 10^3) for sp10208. U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
O(1)	2946(1)	-216(6)	6528(2)	12(1)
O(2)	3882(1)	2689(6)	5736(2)	9(1)
O(3)	3682(1)	-2037(7)	6336(2)	17(1)
O(4)	336(1)	5724(7)	9247(2)	14(1)
N(1)	2929(2)	4218(7)	5294(2)	12(1)
C(1)	3469(2)	135(10)	6471(2)	12(1)
C(2)	3504(2)	1949(10)	5946(2)	13(1)
C(3)	3018(2)	2539(9)	5753(2)	11(1)
C(4)	2715(2)	1203(9)	6111(2)	11(1)
C(5)	3671(2)	1144(10)	7063(2)	14(1)
C(6)	3451(2)	3141(12)	7325(3)	23(1)
C(7)	3667(2)	4265(11)	7846(3)	25(1)
C(8)	4074(2)	3292(12)	8096(3)	22(1)
C(9)	4290(2)	1283(12)	7845(3)	23(1)
C(10)	4085(2)	228(12)	7320(3)	22(1)
C(11)	2730(2)	3736(10)	4708(2)	12(1)
C(12)	2784(2)	5489(11)	4255(3)	16(1)
C(13)	2581(2)	5152(10)	3676(3)	18(1)
C(14)	2329(2)	3084(12)	3544(3)	21(1)
C(15)	2289(2)	1332(10)	3981(3)	16(1)
C(16)	2492(2)	1650(10)	4584(3)	16(1)
C(17)	2185(2)	1007(9)	6134(3)	12(1)
C(18)	1888(2)	2732(10)	5871(2)	13(1)
C(19)	1391(2)	2497(10)	5914(2)	15(1)
C(20)	1190(2)	481(12)	6189(3)	22(1)
C(21)	1485(2)	-1266(12)	6432(3)	22(1)
C(22)	1983(2)	-997(10)	6412(3)	15(1)
N(2)	333(1)	1405(7)	10505(2)	8(1)
O(5)	1309(1)	2969(6)	10062(2)	10(1)
O(6)	1051(1)	7714(6)	9486(2)	14(1)
C(23)	868(2)	5508(9)	9325(2)	10(1)
C(24)	914(2)	3680(9)	9843(2)	10(1)

C(25)	438(2)	2989(9)	10031(2)	9(1)
C(26)	124(2)	4235(9)	9655(2)	10(1)
C(27)	1077(2)	4685(9)	8722(2)	11(1)
C(28)	917(2)	2612(10)	8444(3)	16(1)
C(29)	1128(2)	1856(11)	7896(3)	23(1)
C(30)	1493(2)	3165(12)	7628(3)	21(1)
C(31)	1652(2)	5249(11)	7906(3)	22(1)
C(32)	1447(2)	6007(12)	8455(3)	22(1)
C(33)	119(2)	2017(10)	11079(2)	13(1)
C(34)	160(2)	404(10)	11557(3)	17(1)
C(35)	-66(2)	920(10)	12124(3)	17(1)
C(36)	-322(2)	2992(11)	12204(3)	20(1)
C(37)	-351(2)	4629(11)	11729(3)	16(1)
C(38)	-131(2)	4140(10)	11162(2)	13(1)
C(39)	-410(2)	4245(9)	9621(2)	11(1)
C(40)	-672(2)	2397(10)	9849(2)	13(1)
C(41)	-1174(2)	2397(10)	9788(2)	13(1)
C(42)	-1410(2)	4292(11)	9492(3)	20(1)
C(43)	-1143(2)	6157(10)	9260(3)	19(1)
C(44)	-640(2)	6153(10)	9324(3)	16(1)

Table 3. Bond lengths [Å] and angles [°] for sp10208 .

O(1)-C(4)	1.363(6)
O(1)-C(1)	1.461(6)
O(2)-C(2)	1.211(6)
O(3)-C(1)	1.381(6)
O(3)-H(3A)	0.8400
O(4)-C(26)	1.347(6)
O(4)-C(23)	1.484(6)
N(1)-C(3)	1.391(7)
N(1)-C(11)	1.410(7)
N(1)-H(1A)	0.8800
C(1)-C(5)	1.510(7)
C(1)-C(2)	1.528(7)
C(2)-C(3)	1.444(7)
C(3)-C(4)	1.364(7)
C(4)-C(17)	1.466(7)
C(5)-C(10)	1.372(8)
C(5)-C(6)	1.393(8)
C(6)-C(7)	1.424(8)
C(6)-H(6A)	0.9500
C(7)-C(8)	1.361(9)
C(7)-H(7A)	0.9500
C(8)-C(9)	1.384(9)
C(8)-H(8A)	0.9500
C(9)-C(10)	1.400(9)
C(9)-H(9A)	0.9500
C(10)-H(10A)	0.9500
C(11)-C(16)	1.366(8)
C(11)-C(12)	1.396(8)
C(12)-C(13)	1.388(8)
C(12)-H(12A)	0.9500
C(13)-C(14)	1.380(9)
C(13)-H(13A)	0.9500
C(14)-C(15)	1.368(8)
C(14)-H(14A)	0.9500
C(15)-C(16)	1.433(8)
C(15)-H(15A)	0.9500

C(16)-H(16A)	0.9500
C(17)-C(18)	1.389(8)
C(17)-C(22)	1.390(8)
C(18)-C(19)	1.380(7)
C(18)-H(18A)	0.9500
C(19)-C(20)	1.391(9)
C(19)-H(19A)	0.9500
C(20)-C(21)	1.378(9)
C(20)-H(20A)	0.9500
C(21)-C(22)	1.383(8)
C(21)-H(21A)	0.9500
C(22)-H(22A)	0.9500
N(2)-C(25)	1.387(7)
N(2)-C(33)	1.418(7)
N(2)-H(2A)	0.8800
O(5)-C(24)	1.255(6)
O(6)-C(23)	1.379(6)
O(6)-H(6B)	0.8400
C(23)-C(27)	1.501(7)
C(23)-C(24)	1.524(7)
C(24)-C(25)	1.430(7)
C(25)-C(26)	1.377(7)
C(26)-C(39)	1.476(7)
C(27)-C(28)	1.380(8)
C(27)-C(32)	1.387(8)
C(28)-C(29)	1.388(8)
C(28)-H(28A)	0.9500
C(29)-C(30)	1.375(9)
C(29)-H(29A)	0.9500
C(30)-C(31)	1.384(9)
C(30)-H(30A)	0.9500
C(31)-C(32)	1.386(8)
C(31)-H(31A)	0.9500
C(32)-H(32A)	0.9500
C(33)-C(34)	1.379(8)
C(33)-C(38)	1.385(7)
C(34)-C(35)	1.409(8)
C(34)-H(34A)	0.9500
C(35)-C(36)	1.369(9)

C(35)-H(35A)	0.9500
C(36)-C(37)	1.381(8)
C(36)-H(36A)	0.9500
C(37)-C(38)	1.397(8)
C(37)-H(37A)	0.9500
C(38)-H(38A)	0.9500
C(39)-C(40)	1.356(8)
C(39)-C(44)	1.400(8)
C(40)-C(41)	1.391(7)
C(40)-H(40A)	0.9500
C(41)-C(42)	1.401(8)
C(41)-H(41A)	0.9500
C(42)-C(43)	1.373(9)
C(42)-H(42A)	0.9500
C(43)-C(44)	1.394(8)
C(43)-H(43A)	0.9500
C(44)-H(44A)	0.9500
C(4)-O(1)-C(1)	109.2(4)
C(1)-O(3)-H(3A)	109.5
C(26)-O(4)-C(23)	107.7(4)
C(3)-N(1)-C(11)	125.8(4)
C(3)-N(1)-H(1A)	117.1
C(11)-N(1)-H(1A)	117.1
O(3)-C(1)-O(1)	108.6(4)
O(3)-C(1)-C(5)	110.6(4)
O(1)-C(1)-C(5)	110.1(4)
O(3)-C(1)-C(2)	113.6(4)
O(1)-C(1)-C(2)	102.4(4)
C(5)-C(1)-C(2)	111.2(4)
O(2)-C(2)-C(3)	127.9(5)
O(2)-C(2)-C(1)	124.1(5)
C(3)-C(2)-C(1)	107.9(4)
C(4)-C(3)-N(1)	131.9(5)
C(4)-C(3)-C(2)	106.3(5)
N(1)-C(3)-C(2)	121.7(4)
O(1)-C(4)-C(3)	114.1(4)
O(1)-C(4)-C(17)	113.7(4)
C(3)-C(4)-C(17)	132.2(5)
C(10)-C(5)-C(6)	119.9(5)

C(10)-C(5)-C(1)	120.9(5)
C(6)-C(5)-C(1)	119.1(5)
C(5)-C(6)-C(7)	119.7(5)
C(5)-C(6)-H(6A)	120.2
C(7)-C(6)-H(6A)	120.2
C(8)-C(7)-C(6)	119.0(5)
C(8)-C(7)-H(7A)	120.5
C(6)-C(7)-H(7A)	120.5
C(7)-C(8)-C(9)	121.6(5)
C(7)-C(8)-H(8A)	119.2
C(9)-C(8)-H(8A)	119.2
C(8)-C(9)-C(10)	119.2(5)
C(8)-C(9)-H(9A)	120.4
C(10)-C(9)-H(9A)	120.4
C(5)-C(10)-C(9)	120.6(6)
C(5)-C(10)-H(10A)	119.7
C(9)-C(10)-H(10A)	119.7
C(16)-C(11)-C(12)	121.0(5)
C(16)-C(11)-N(1)	121.8(5)
C(12)-C(11)-N(1)	117.2(5)
C(13)-C(12)-C(11)	119.8(5)
C(13)-C(12)-H(12A)	120.1
C(11)-C(12)-H(12A)	120.1
C(14)-C(13)-C(12)	120.3(6)
C(14)-C(13)-H(13A)	119.9
C(12)-C(13)-H(13A)	119.9
C(15)-C(14)-C(13)	119.9(6)
C(15)-C(14)-H(14A)	120.1
C(13)-C(14)-H(14A)	120.1
C(14)-C(15)-C(16)	120.7(6)
C(14)-C(15)-H(15A)	119.6
C(16)-C(15)-H(15A)	119.6
C(11)-C(16)-C(15)	118.2(5)
C(11)-C(16)-H(16A)	120.9
C(15)-C(16)-H(16A)	120.9
C(18)-C(17)-C(22)	120.1(5)
C(18)-C(17)-C(4)	121.5(5)
C(22)-C(17)-C(4)	118.4(5)
C(19)-C(18)-C(17)	119.5(5)

C(19)-C(18)-H(18A)	120.2
C(17)-C(18)-H(18A)	120.2
C(18)-C(19)-C(20)	120.2(5)
C(18)-C(19)-H(19A)	119.9
C(20)-C(19)-H(19A)	119.9
C(21)-C(20)-C(19)	120.2(5)
C(21)-C(20)-H(20A)	119.9
C(19)-C(20)-H(20A)	119.9
C(20)-C(21)-C(22)	119.9(5)
C(20)-C(21)-H(21A)	120.0
C(22)-C(21)-H(21A)	120.0
C(21)-C(22)-C(17)	120.0(5)
C(21)-C(22)-H(22A)	120.0
C(17)-C(22)-H(22A)	120.0
C(25)-N(2)-C(33)	125.6(4)
C(25)-N(2)-H(2A)	117.2
C(33)-N(2)-H(2A)	117.2
C(23)-O(6)-H(6B)	109.5
O(6)-C(23)-O(4)	108.6(4)
O(6)-C(23)-C(27)	110.7(4)
O(4)-C(23)-C(27)	107.9(4)
O(6)-C(23)-C(24)	112.6(4)
O(4)-C(23)-C(24)	102.8(4)
C(27)-C(23)-C(24)	113.8(4)
O(5)-C(24)-C(25)	127.3(5)
O(5)-C(24)-C(23)	124.3(4)
C(25)-C(24)-C(23)	108.4(4)
C(26)-C(25)-N(2)	129.1(4)
C(26)-C(25)-C(24)	105.7(4)
N(2)-C(25)-C(24)	125.2(4)
O(4)-C(26)-C(25)	115.5(4)
O(4)-C(26)-C(39)	113.4(4)
C(25)-C(26)-C(39)	131.1(5)
C(28)-C(27)-C(32)	120.1(5)
C(28)-C(27)-C(23)	121.0(5)
C(32)-C(27)-C(23)	118.8(5)
C(27)-C(28)-C(29)	119.8(5)
C(27)-C(28)-H(28A)	120.1
C(29)-C(28)-H(28A)	120.1

C(30)-C(29)-C(28)	120.3(5)
C(30)-C(29)-H(29A)	119.8
C(28)-C(29)-H(29A)	119.8
C(29)-C(30)-C(31)	119.9(5)
C(29)-C(30)-H(30A)	120.1
C(31)-C(30)-H(30A)	120.1
C(30)-C(31)-C(32)	120.1(5)
C(30)-C(31)-H(31A)	119.9
C(32)-C(31)-H(31A)	119.9
C(31)-C(32)-C(27)	119.7(6)
C(31)-C(32)-H(32A)	120.1
C(27)-C(32)-H(32A)	120.1
C(34)-C(33)-C(38)	120.3(5)
C(34)-C(33)-N(2)	117.8(5)
C(38)-C(33)-N(2)	121.9(5)
C(33)-C(34)-C(35)	119.0(5)
C(33)-C(34)-H(34A)	120.5
C(35)-C(34)-H(34A)	120.5
C(36)-C(35)-C(34)	120.9(5)
C(36)-C(35)-H(35A)	119.5
C(34)-C(35)-H(35A)	119.5
C(35)-C(36)-C(37)	119.8(5)
C(35)-C(36)-H(36A)	120.1
C(37)-C(36)-H(36A)	120.1
C(36)-C(37)-C(38)	120.1(5)
C(36)-C(37)-H(37A)	119.9
C(38)-C(37)-H(37A)	119.9
C(33)-C(38)-C(37)	119.9(5)
C(33)-C(38)-H(38A)	120.0
C(37)-C(38)-H(38A)	120.0
C(40)-C(39)-C(44)	120.4(5)
C(40)-C(39)-C(26)	120.8(5)
C(44)-C(39)-C(26)	118.6(5)
C(39)-C(40)-C(41)	119.8(5)
C(39)-C(40)-H(40A)	120.1
C(41)-C(40)-H(40A)	120.1
C(40)-C(41)-C(42)	120.5(5)
C(40)-C(41)-H(41A)	119.8
C(42)-C(41)-H(41A)	119.8

C(43)-C(42)-C(41)	119.5(5)
C(43)-C(42)-H(42A)	120.2
C(41)-C(42)-H(42A)	120.2
C(42)-C(43)-C(44)	119.8(5)
C(42)-C(43)-H(43A)	120.1
C(44)-C(43)-H(43A)	120.1
C(43)-C(44)-C(39)	119.9(5)
C(43)-C(44)-H(44A)	120.0
C(39)-C(44)-H(44A)	120.0

Table 4. Anisotropic displacement parameters ($Å^2 x\ 10^3$) for sp10208. The anisotropic displacement factor exponent takes the form: $-2\pi^2[\ h^2\ a^{*2}U^{11} + ... + 2\ h\ k\ a^*\ b^*\ U^{12}\ ]$

	U^{11}	U^{22}	U^{33}	U^{23}	U^{13}	U^{12}
O(1)	4(2)	13(2)	18(2)	5(2)	-2(1)	1(1)
O(2)	13(2)	8(2)	8(2)	0(1)	0(1)	-1(1)
O(3)	18(2)	19(2)	16(2)	3(2)	7(2)	10(2)
O(4)	13(2)	16(2)	13(2)	6(2)	2(1)	4(2)
N(1)	16(2)	7(2)	11(2)	2(2)	-3(2)	-1(2)
C(1)	3(2)	19(3)	15(3)	0(2)	-2(2)	2(2)
C(2)	13(2)	19(3)	8(2)	-3(2)	-3(2)	2(2)
C(3)	8(2)	20(3)	6(2)	2(2)	1(2)	-6(2)
C(4)	11(2)	11(2)	12(2)	-5(2)	3(2)	3(2)
C(5)	12(3)	24(3)	8(3)	5(2)	0(2)	-1(2)
C(6)	18(3)	35(4)	15(3)	-11(3)	-4(2)	4(3)
C(7)	26(3)	26(3)	23(3)	-9(3)	-1(3)	10(3)
C(8)	20(3)	31(3)	14(3)	-8(2)	-8(2)	0(3)
C(9)	15(3)	37(3)	18(3)	8(3)	-7(2)	4(3)
C(10)	20(3)	32(3)	13(3)	5(2)	-2(2)	9(3)
C(11)	5(2)	19(3)	12(3)	0(2)	-2(2)	7(2)
C(12)	6(2)	26(3)	17(3)	5(2)	-1(2)	0(2)
C(13)	16(3)	20(3)	19(3)	-3(2)	5(2)	0(2)
C(14)	17(3)	38(3)	9(3)	4(2)	3(2)	13(3)
C(15)	10(2)	19(2)	19(2)	-1(2)	5(2)	3(2)
C(16)	10(2)	19(2)	19(2)	-1(2)	5(2)	3(2)
C(17)	9(2)	11(2)	15(3)	-4(2)	4(2)	-7(2)
C(18)	11(2)	26(3)	3(2)	-4(2)	1(2)	3(2)
C(19)	13(3)	23(3)	10(3)	-4(2)	-2(2)	0(2)
C(20)	8(2)	42(4)	17(3)	-11(3)	2(2)	-6(2)
C(21)	14(3)	34(3)	17(3)	-6(3)	5(2)	-14(2)
C(22)	14(3)	16(3)	16(3)	-7(2)	-2(2)	-4(2)
N(2)	11(2)	2(2)	11(2)	-3(2)	-2(2)	1(2)
O(5)	8(2)	18(2)	5(2)	-3(1)	1(1)	-3(1)
O(6)	27(2)	9(2)	6(2)	2(1)	-3(2)	-3(2)
C(23)	7(2)	11(2)	11(2)	-1(2)	-2(1)	-2(1)
C(24)	7(2)	11(2)	11(2)	-1(2)	-2(1)	-2(1)
C(25)	6(2)	10(2)	12(3)	5(2)	0(2)	-2(2)
C(26)	7(2)	7(2)	16(3)	-4(2)	1(2)	2(2)

C(27)	11(2)	13(2)	8(2)	3(2)	-5(2)	3(2)
C(28)	15(3)	24(3)	10(3)	-1(2)	2(2)	-2(2)
C(29)	32(3)	26(3)	10(3)	-4(2)	-10(2)	-1(3)
C(30)	21(3)	36(3)	8(3)	-5(2)	-1(2)	0(3)
C(31)	17(3)	31(3)	19(3)	-1(3)	6(2)	-6(3)
C(32)	14(3)	34(3)	17(3)	-2(3)	-4(2)	-3(2)
C(33)	6(2)	21(2)	11(2)	-4(2)	-4(1)	2(1)
C(34)	10(2)	22(2)	18(2)	7(2)	0(2)	-10(2)
C(35)	10(2)	22(2)	18(2)	7(2)	0(2)	-10(2)
C(36)	19(3)	31(3)	10(3)	-4(2)	4(2)	-9(2)
C(37)	5(2)	23(3)	21(3)	-3(2)	3(2)	-4(2)
C(38)	6(2)	21(2)	11(2)	-4(2)	-4(1)	2(1)
C(39)	8(2)	17(3)	8(2)	-8(2)	-2(2)	4(2)
C(40)	13(2)	18(2)	9(2)	-1(2)	2(1)	5(2)
C(41)	13(2)	18(2)	9(2)	-1(2)	2(1)	5(2)
C(42)	12(3)	32(3)	17(3)	0(2)	0(2)	7(2)
C(43)	20(3)	20(3)	17(3)	2(2)	-6(2)	12(2)
C(44)	10(3)	23(3)	16(3)	-4(2)	-2(2)	5(2)

Table 5. Hydrogen coordinates (x 10^4) and isotropic displacement parameters ($Å^2$x 10^3) for sp10208.

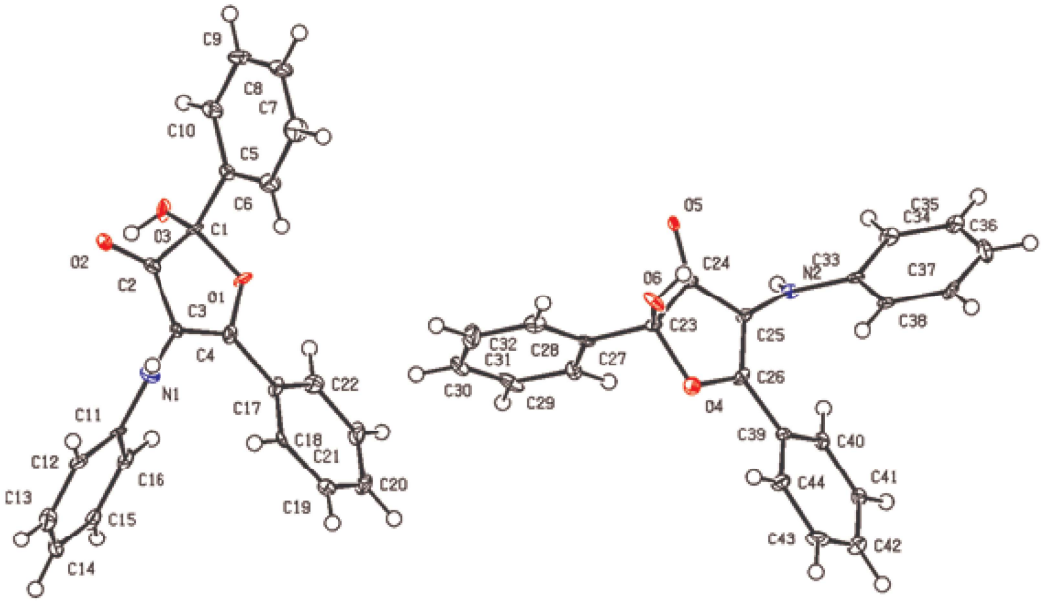
	x	y	z	U(eq)
H(3A)	3701	-2202	5952	26
H(1A)	3003	5713	5377	14
H(6A)	3158	3749	7157	27
H(7A)	3529	5674	8017	30
H(8A)	4213	4008	8452	26
H(9A)	4574	628	8026	28
H(10A)	4235	-1134	7141	26
H(12A)	2960	6908	4343	20
H(13A)	2616	6351	3368	22
H(14A)	2184	2877	3150	25
H(15A)	2125	-111	3884	19
H(16A)	2463	441	4890	19
H(18A)	2025	4062	5662	16
H(19A)	1187	3716	5756	18
H(20A)	848	309	6209	27
H(21A)	1347	-2653	6613	26
H(22A)	2187	-2183	6588	18
H(2A)	405	-108	10445	10
H(6B)	1077	7798	9872	21
H(28A)	665	1705	8627	19
H(29A)	1018	428	7704	27
H(30A)	1636	2639	7254	26
H(31A)	1902	6163	7719	27
H(32A)	1559	7427	8649	26
H(34A)	339	-1034	11504	20
H(35A)	-40	-184	12455	20
H(36A)	-480	3302	12586	24
H(37A)	-520	6089	11787	20
H(38A)	-153	5261	10834	15
H(40A)	-514	1105	10050	16
H(41A)	-1357	1103	9949	16
H(42A)	-1752	4286	9451	24
H(43A)	-1300	7447	9058	23
H(44A)	-454	7444	9166	20

Table 6. Torsion angles [°] for sp10208.

C(4)-O(1)-C(1)-O(3)	-121.5(4)
C(4)-O(1)-C(1)-C(5)	117.3(5)
C(4)-O(1)-C(1)-C(2)	-1.0(5)
O(3)-C(1)-C(2)-O(2)	-60.9(7)
O(1)-C(1)-C(2)-O(2)	-177.8(5)
C(5)-C(1)-C(2)-O(2)	64.7(7)
O(3)-C(1)-C(2)-C(3)	118.2(5)
O(1)-C(1)-C(2)-C(3)	1.3(5)
C(5)-C(1)-C(2)-C(3)	-116.2(5)
C(11)-N(1)-C(3)-C(4)	-68.3(8)
C(11)-N(1)-C(3)-C(2)	113.2(6)
O(2)-C(2)-C(3)-C(4)	178.0(5)
C(1)-C(2)-C(3)-C(4)	-1.1(6)
O(2)-C(2)-C(3)-N(1)	-3.2(9)
C(1)-C(2)-C(3)-N(1)	177.8(5)
C(1)-O(1)-C(4)-C(3)	0.5(6)
C(1)-O(1)-C(4)-C(17)	-179.4(4)
N(1)-C(3)-C(4)-O(1)	-178.3(5)
C(2)-C(3)-C(4)-O(1)	0.4(6)
N(1)-C(3)-C(4)-C(17)	1.5(10)
C(2)-C(3)-C(4)-C(17)	-179.8(5)
O(3)-C(1)-C(5)-C(10)	14.3(7)
O(1)-C(1)-C(5)-C(10)	134.3(5)
C(2)-C(1)-C(5)-C(10)	-112.9(6)
O(3)-C(1)-C(5)-C(6)	-170.4(5)
O(1)-C(1)-C(5)-C(6)	-50.4(7)
C(2)-C(1)-C(5)-C(6)	62.4(6)
C(10)-C(5)-C(6)-C(7)	2.1(9)
C(1)-C(5)-C(6)-C(7)	-173.3(5)
C(5)-C(6)-C(7)-C(8)	-3.1(10)
C(6)-C(7)-C(8)-C(9)	2.0(10)
C(7)-C(8)-C(9)-C(10)	0.1(10)
C(6)-C(5)-C(10)-C(9)	0.0(9)
C(1)-C(5)-C(10)-C(9)	175.3(5)
C(8)-C(9)-C(10)-C(5)	-1.2(9)
C(3)-N(1)-C(11)-C(16)	16.6(8)
C(3)-N(1)-C(11)-C(12)	-163.5(5)

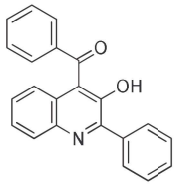
C(16)-C(11)-C(12)-C(13)	2.2(8)
N(1)-C(11)-C(12)-C(13)	-177.7(5)
C(11)-C(12)-C(13)-C(14)	-0.6(8)
C(12)-C(13)-C(14)-C(15)	-1.5(8)
C(13)-C(14)-C(15)-C(16)	2.1(8)
C(12)-C(11)-C(16)-C(15)	-1.6(8)
N(1)-C(11)-C(16)-C(15)	178.3(5)
C(14)-C(15)-C(16)-C(11)	-0.5(8)
O(1)-C(4)-C(17)-C(18)	162.5(5)
C(3)-C(4)-C(17)-C(18)	-17.2(9)
O(1)-C(4)-C(17)-C(22)	-19.4(7)
C(3)-C(4)-C(17)-C(22)	160.8(6)
C(22)-C(17)-C(18)-C(19)	3.2(8)
C(4)-C(17)-C(18)-C(19)	-178.8(5)
C(17)-C(18)-C(19)-C(20)	-3.6(8)
C(18)-C(19)-C(20)-C(21)	1.6(8)
C(19)-C(20)-C(21)-C(22)	1.0(8)
C(20)-C(21)-C(22)-C(17)	-1.4(8)
C(18)-C(17)-C(22)-C(21)	-0.7(8)
C(4)-C(17)-C(22)-C(21)	-178.8(5)
C(26)-O(4)-C(23)-O(6)	-119.9(4)
C(26)-O(4)-C(23)-C(27)	120.1(4)
C(26)-O(4)-C(23)-C(24)	-0.4(5)
O(6)-C(23)-C(24)-O(5)	-62.9(7)
O(4)-C(23)-C(24)-O(5)	-179.5(5)
C(27)-C(23)-C(24)-O(5)	64.1(6)
O(6)-C(23)-C(24)-C(25)	116.1(5)
O(4)-C(23)-C(24)-C(25)	-0.5(5)
C(27)-C(23)-C(24)-C(25)	-116.9(5)
C(33)-N(2)-C(25)-C(26)	-68.5(7)
C(33)-N(2)-C(25)-C(24)	110.5(6)
O(5)-C(24)-C(25)-C(26)	-179.8(5)
C(23)-C(24)-C(25)-C(26)	1.2(6)
O(5)-C(24)-C(25)-N(2)	1.0(9)
C(23)-C(24)-C(25)-N(2)	-178.0(5)
C(23)-O(4)-C(26)-C(25)	1.3(6)
C(23)-O(4)-C(26)-C(39)	-179.2(4)
N(2)-C(25)-C(26)-O(4)	177.5(5)
C(24)-C(25)-C(26)-O(4)	-1.6(6)

N(2)-C(25)-C(26)-C(39)	-1.9(10)
C(24)-C(25)-C(26)-C(39)	178.9(5)
O(6)-C(23)-C(27)-C(28)	-174.7(4)
O(4)-C(23)-C(27)-C(28)	-56.0(6)
C(24)-C(23)-C(27)-C(28)	57.3(6)
O(6)-C(23)-C(27)-C(32)	7.3(6)
O(4)-C(23)-C(27)-C(32)	126.0(5)
C(24)-C(23)-C(27)-C(32)	-120.7(5)
C(32)-C(27)-C(28)-C(29)	-0.1(8)
C(23)-C(27)-C(28)-C(29)	-178.1(5)
C(27)-C(28)-C(29)-C(30)	-0.1(9)
C(28)-C(29)-C(30)-C(31)	-0.1(9)
C(29)-C(30)-C(31)-C(32)	0.6(9)
C(30)-C(31)-C(32)-C(27)	-0.8(9)
C(28)-C(27)-C(32)-C(31)	0.6(8)
C(23)-C(27)-C(32)-C(31)	178.6(5)
C(25)-N(2)-C(33)-C(34)	-162.5(5)
C(25)-N(2)-C(33)-C(38)	18.5(7)
C(38)-C(33)-C(34)-C(35)	1.6(7)
N(2)-C(33)-C(34)-C(35)	-177.4(4)
C(33)-C(34)-C(35)-C(36)	-0.2(8)
C(34)-C(35)-C(36)-C(37)	-1.5(8)
C(35)-C(36)-C(37)-C(38)	1.9(8)
C(34)-C(33)-C(38)-C(37)	-1.3(7)
N(2)-C(33)-C(38)-C(37)	177.7(5)
C(36)-C(37)-C(38)-C(33)	-0.5(7)
O(4)-C(26)-C(39)-C(40)	159.5(5)
C(25)-C(26)-C(39)-C(40)	-21.0(9)
O(4)-C(26)-C(39)-C(44)	-17.6(7)
C(25)-C(26)-C(39)-C(44)	161.8(6)
C(44)-C(39)-C(40)-C(41)	-0.1(8)
C(26)-C(39)-C(40)-C(41)	-177.2(5)
C(39)-C(40)-C(41)-C(42)	0.2(8)
C(40)-C(41)-C(42)-C(43)	0.0(8)
C(41)-C(42)-C(43)-C(44)	-0.2(9)
C(42)-C(43)-C(44)-C(39)	0.2(8)
C(40)-C(39)-C(44)-C(43)	-0.1(8)
C(26)-C(39)-C(44)-C(43)	177.1(5)



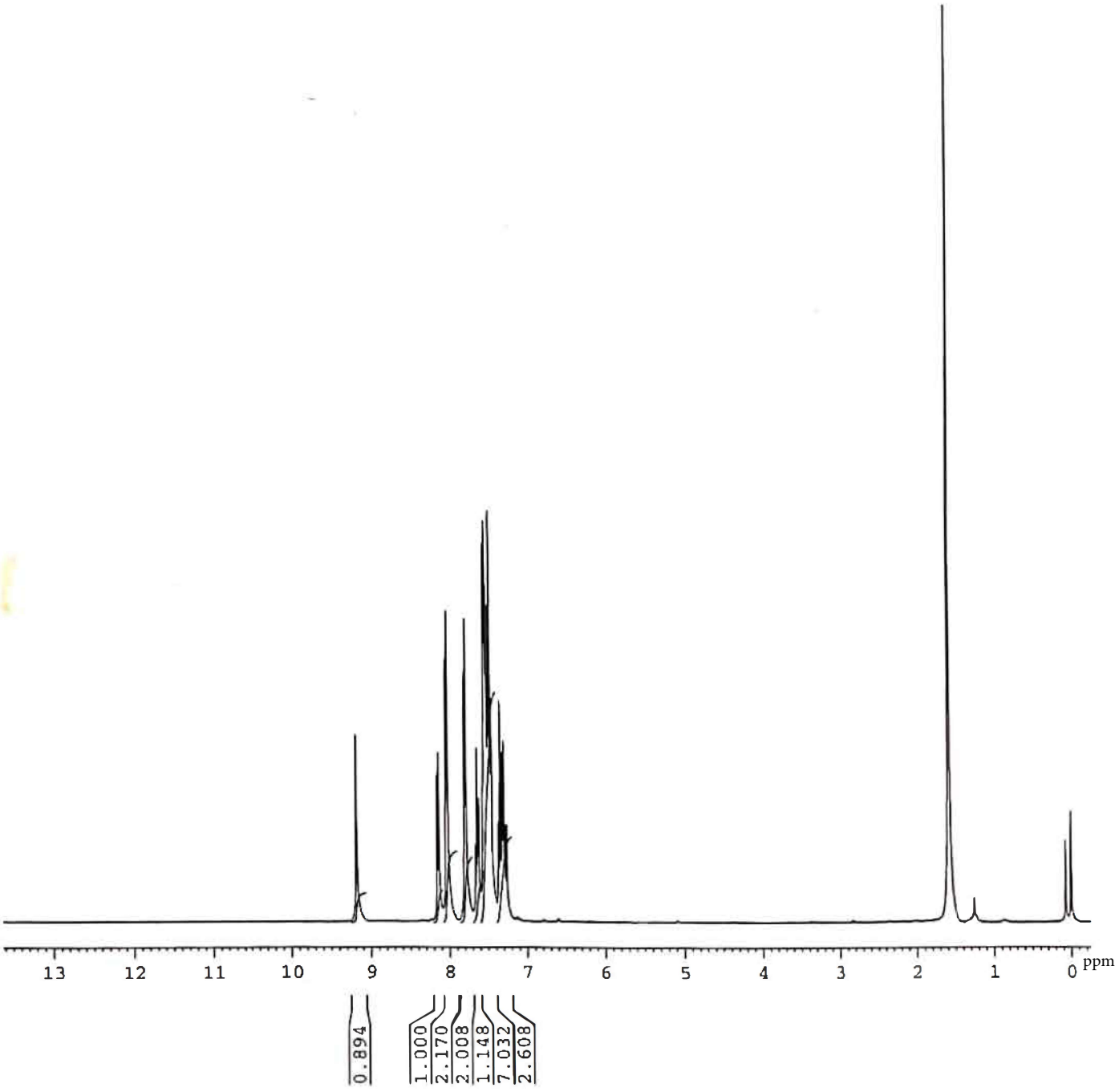
Projection of view of 2-hydroxy-2,5-diphenyl-4-(phenylamino)furan-3(2*H*)-one (**5**) with 50% thermal ellipsoids

Spectral and analytical data of 3-hydroxy-2-phenylquinolin-4-yl)(phenyl)methanone (8)

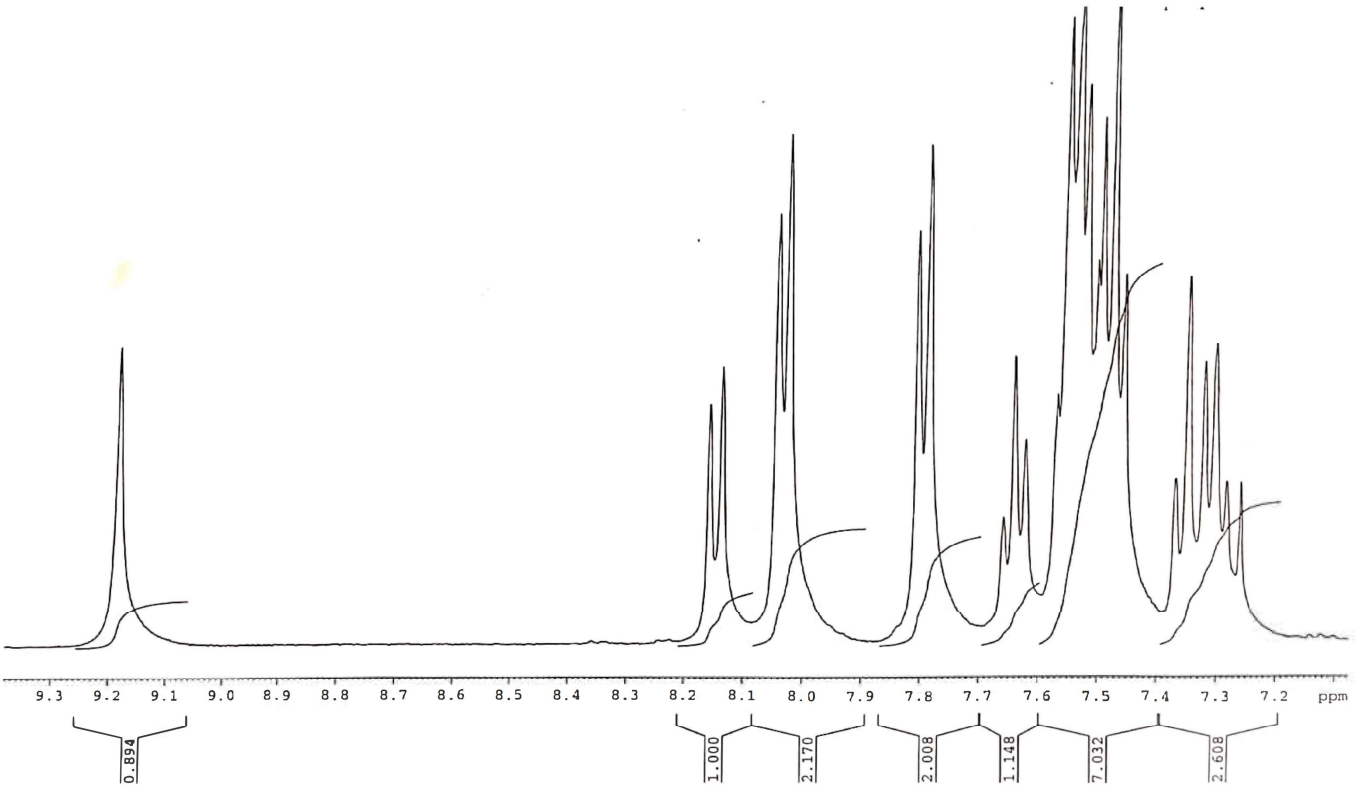


(3-Hydroxy-2-phenylquinolin-4-yl)(phenyl)methanone (**8**)

Yield: 24%, (0.0780 g); M.p. 142-144 ^{o}C; Characteristics: Pale yellow crystalline solid.;
IR ($\tilde{\nu}$, KBr): 3448 cm^{-1} (OH), 1667 cm^{-1} (C=O); **^{1}H NMR** (400 MHz, $CDCl_3$) δ_H 9.19 (s, 1H), 8.14 (d, J = 8.3 Hz,1H), 8.03 (d, J = 7.0 Hz, 2H), 7.80 (d, J = 7.5 Hz, 2H), 7.64 (t, J = 7.4 Hz, 1H),7.62-7.28 (m, 8H); **^{13}C NMR** (100 MHz, $CDCl_3$) δ_C 198.7, 151.8, 148.6, 143.1, 138.4, 136.6, 134.0, 130.1, 129.8, 129.5, 128.9, 128.6, 127.2, 127.0, 125.3, 124.9, 122.5; **MS**: m/z 325.112 (M^+). Elemental analysis calculated for $C_{22}H_{15}NO_2$: C, 81.21; H, 4.65; N, 4.30. Found: C, 81.14; H, 4.63; N, 4.28.



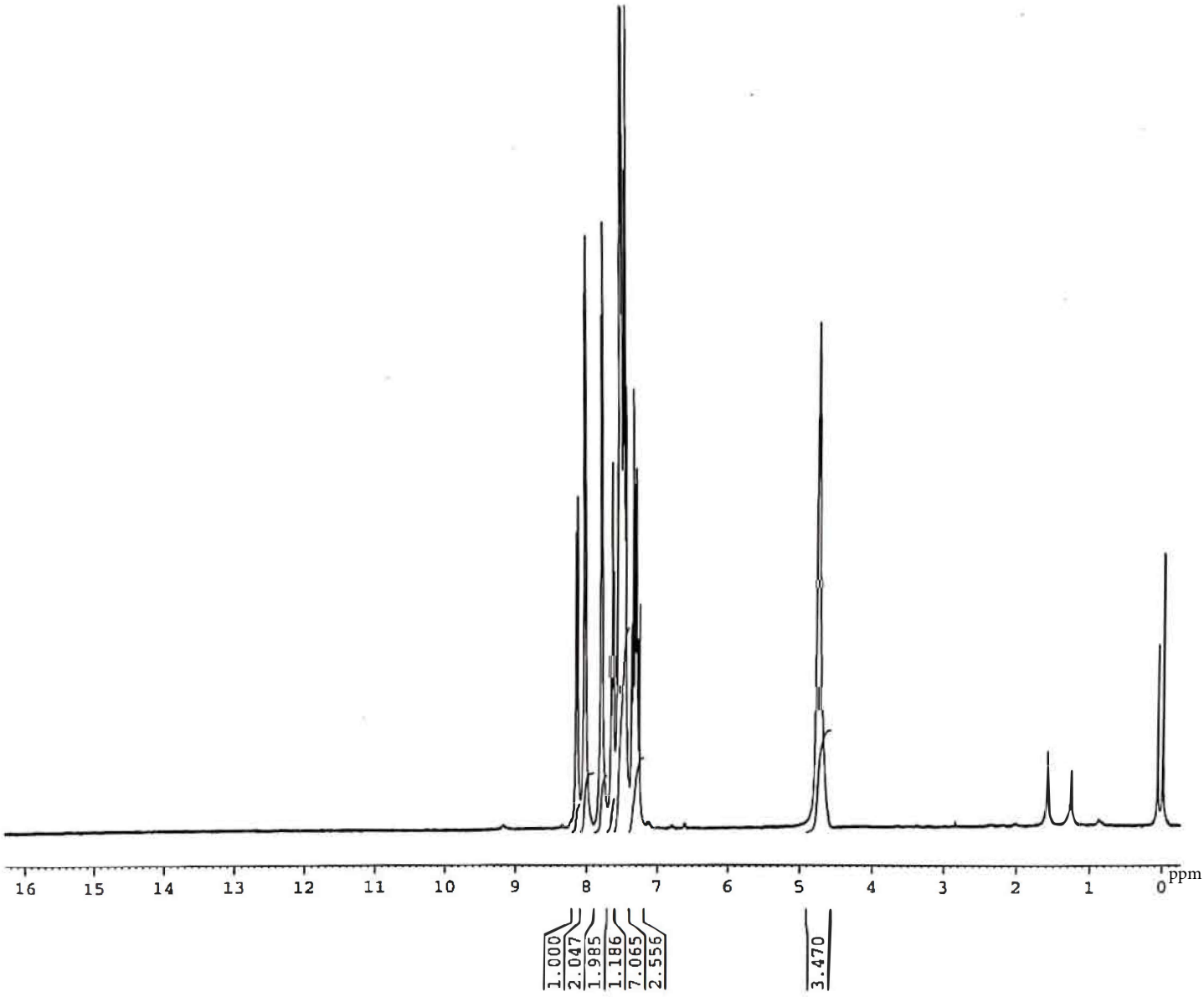
^{1}H NMR of (3-hydroxy-2-phenylquinolin-4-yl)(phenyl)methanone (**8**)



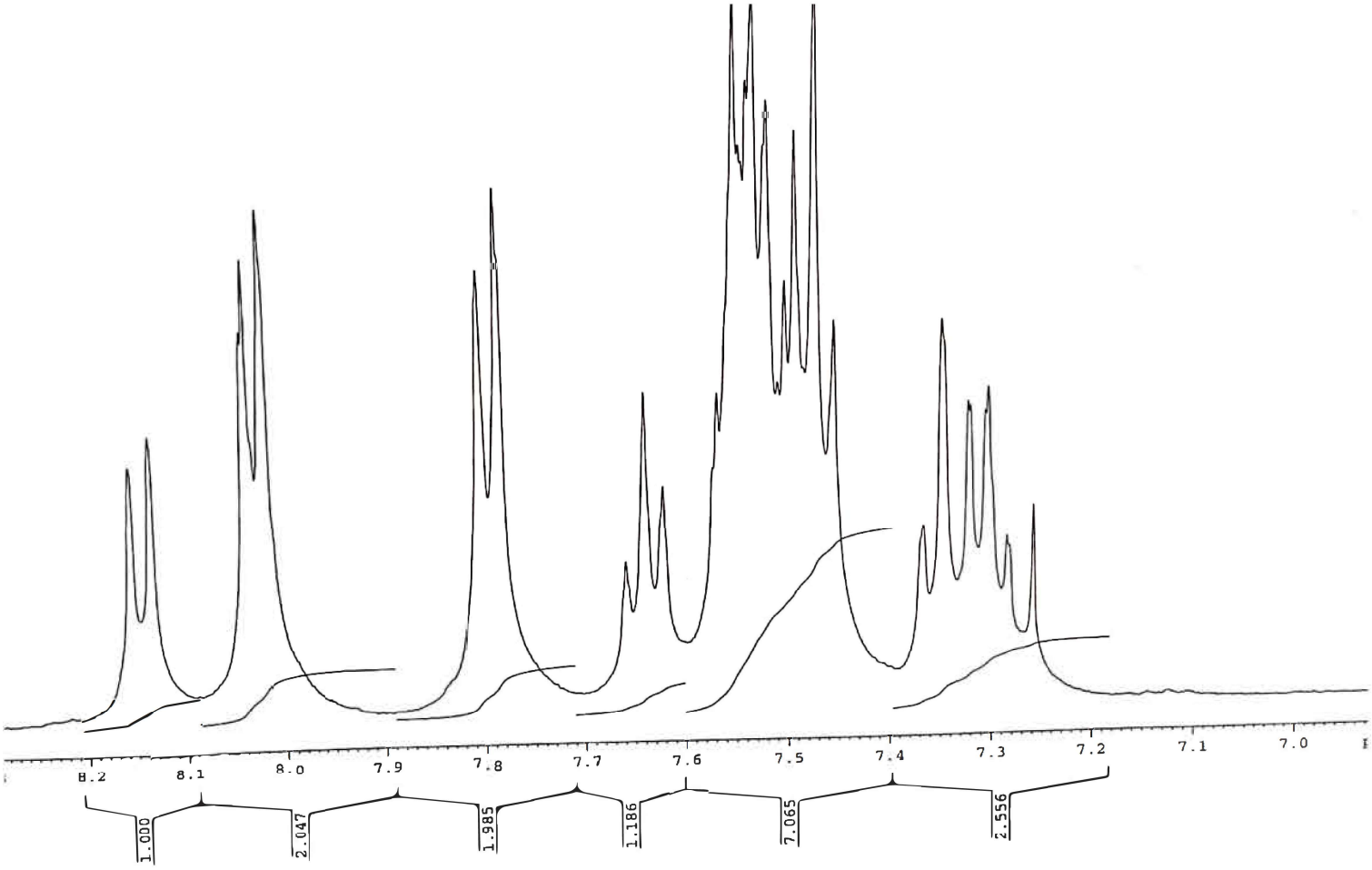
^{1}H NMR of (3-hydroxy-2-phenylquinolin-4-yl)(phenyl)methanone **(8):** Expanded

^{1}H NMR of (3-hydroxy-2-phenylquinolin-4-yl)(phenyl)methanone (**8**)

#	ADDRESS	FREQUENCY [Hz]	FREQUENCY [PPM]	INTENSITY
1	13595.4	3675.085	9.1846	5.85
2	13674.7	3658.504	9.1432	0.50
3	15562.0	3264.010	8.1573	4.60
4	15601.9	3255.678	8.1365	5.32
5	15666.0	3242.277	8.1030	0.54
6	15689.9	3237.273	8.0905	0.42
7	15706.4	3233.824	8.0818	0.42
8	15714.2	3232.195	8.0778	0.43
9	15783.3	3217.752	8.0417	8.28
10	15816.5	3210.812	8.0243	9.80
11	16237.3	3122.864	7.8045	7.89
12	16273.1	3115.381	7.7858	9.52
13	16395.8	3089.714	7.7217	0.47
14	16470.9	3074.033	7.6825	0.41
15	16513.9	3065.034	7.6600	2.41
16	16549.3	3057.632	7.6415	5.46
17	16584.6	3050.259	7.6231	3.87
18	16631.1	3040.541	7.5988	0.95
19	16689.4	3028.364	7.5684	4.74
20	16720.8	3021.785	7.5519	11.90
21	16755.5	3014.545	7.5338	12.66
22	16781.2	3009.172	7.5204	10.61
23	16815.7	3001.964	7.5024	7.29
24	16831.7	2998.609	7.4940	9.99
25	16868.6	2990.907	7.4748	12.99
26	16905.4	2983.213	7.4555	7.02
27	16989.0	2965.723	7.4118	0.88
28	17004.5	2962.500	7.4038	0.75
29	17025.3	2958.136	7.3929	0.60
30	17037.4	2955.624	7.3866	0.63
31	17073.7	2948.032	7.3676	3.11
32	17111.1	2940.206	7.3480	6.94
33	17163.4	2929.281	7.3207	5.32
34	17198.8	2921.876	7.3022	5.67
35	17234.9	2914.324	7.2834	3.05
36	17280.7	2904.750	7.2594	3.03
37	28138.0	635.318	1.5878	28.92
38	28307.2	599.952	1.4994	0.44
39	28776.2	501.919	1.2544	0.75
40	31042.7	28.156	0.0704	2.57
41	31059.9	24.567	0.0614	0.50
42	31179.1	-0.357	-0.0009	3.49



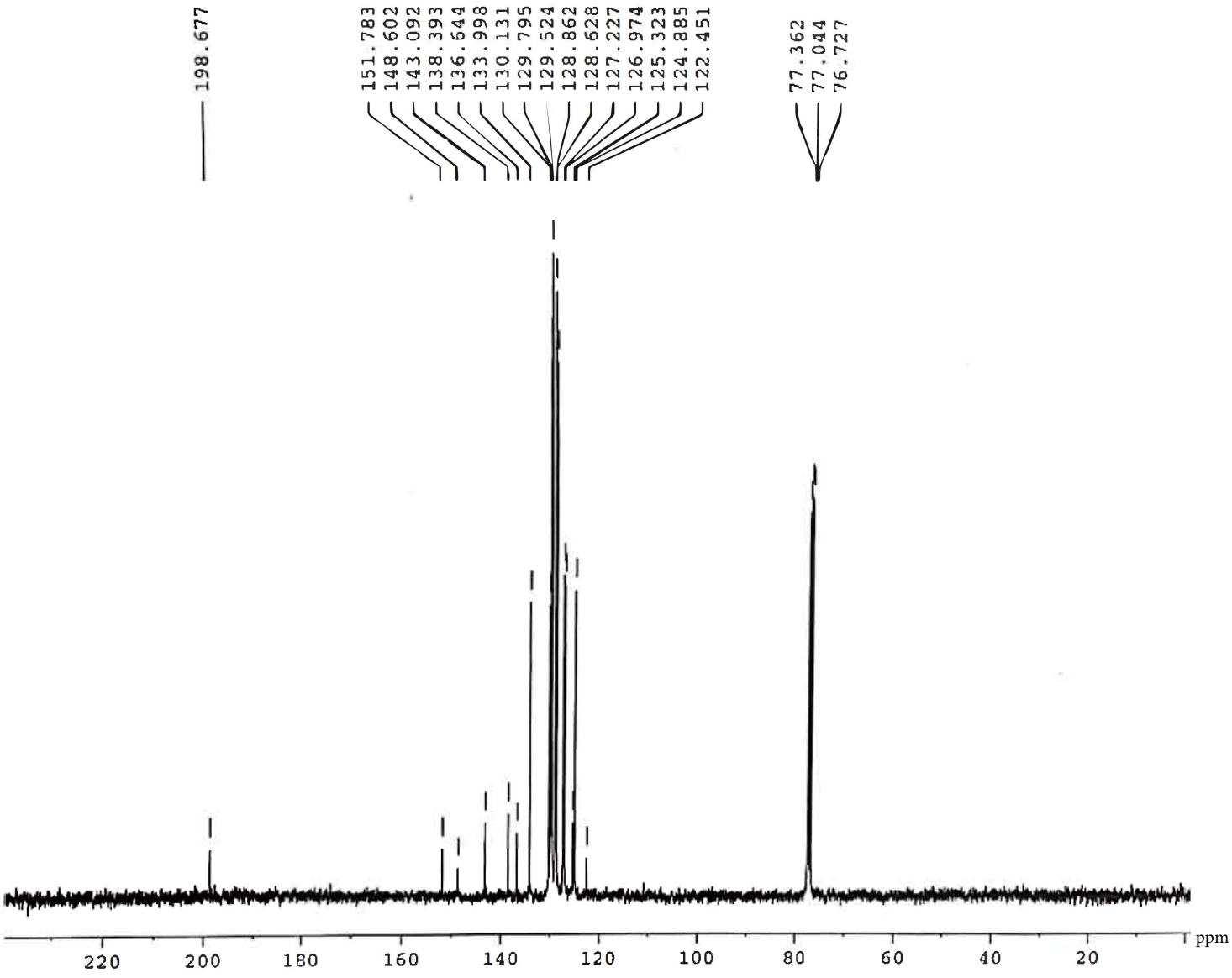
^{1}H NMR of (3-hydroxy-2-phenylquinolin-4-yl)(phenyl)methanone (**8**) (D_2O exchanged)



^{1}H NMR of (3-hydroxy-2-phenylquinolin-4-yl)(phenyl)methanone (**8**) (D_2O exchanged): Expanded

^{1}H NMR of (3-hydroxy-2-phenylquinolin-4-yl)(phenyl)methanone (**8**) (D_2O exchanged)

#	ADDRESS	FREQUENCY [Hz]	FREQUENCY [PPM]	INTENSITY
1	15561.6	3264.103	8.1575	8.22
2	15601.2	3255.824	8.1368	9.19
3	15784.0	3217.604	8.0413	12.49
4	15791.2	3216.111	8.0376	14.75
5	15823.5	3209.352	8.0207	16.37
6	16237.1	3122.905	7.8046	14.16
7	16271.5	3115.702	7.7866	16.72
8	16276.8	3114.597	7.7839	14.60
9	16515.7	3064.663	7.6591	4.72
10	16551.1	3057.264	7.6406	10.10
11	16586.7	3049.818	7.6220	7.09
12	16689.1	3028.410	7.5685	10.02
13	16721.2	3021.699	7.5517	22.44
14	16730.3	3019.802	7.5470	17.70
15	16735.3	3018.760	7.5444	17.20
16	16744.8	3016.781	7.5394	19.66
17	16756.2	3014.396	7.5335	22.38
18	16782.1	3008.978	7.5199	19.02
19	16802.0	3004.812	7.5095	10.30
20	16815.2	3002.067	7.5026	13.49
21	16833.5	2998.226	7.4930	18.10
22	16870.9	2990.408	7.4735	22.65
23	16907.8	2982.696	7.4542	12.20
24	17075.1	2947.740	7.3669	5.63
25	17110.0	2940.432	7.3486	12.12
26	17159.3	2930.135	7.3229	9.52
27	17163.8	2929.193	7.3205	9.39
28	17191.3	2923.442	7.3061	9.23
29	17196.9	2922.265	7.3032	9.94
30	17231.3	2915.080	7.2853	5.22
31	17281.0	2904.686	7.2593	6.16
32	22090.7	1899.346	4.7468	13.86
33	22247.6	1866.549	4.6648	2.10
34	28158.3	631.082	1.5772	2.09
35	28778.7	501.402	1.2531	1.56
36	31044.6	27.758	0.0694	4.99
37	31181.3	-0.798	-0.0020	7.46



^{13}C NMR of (3-hydroxy-2-phenylquinolin-4-yl)(phenyl)methanone (**8**)

II) General procedure for the microwave assisted reaction of nitrone 1a-j with DBA (2) in acetonitrile.

To the solution of nitrone **1a-j** (1 mmol) in 5 mL of acetonitrile, DBA (**2**, 1 mmol) was added. The resulting reaction mixture was placed on a Pyrex tube with a cover and then irradiated in a microwave oven for 15 min at 90 °C to complete the reaction. Progress of the reaction was monitored by GC. At the end of the reaction, solvent was removed under reduced pressure and products were isolated and purified by a combination of column chromatography over silica gel using hexane-dichloromethane mixtures to give furanone **5** in 19-80% yield; melting point 150-152 °C, quinoline **8** in 0-35% yield; melting point 142-144 °C along with the corresponding aldehyde 4**a-j** 78-96% yield.

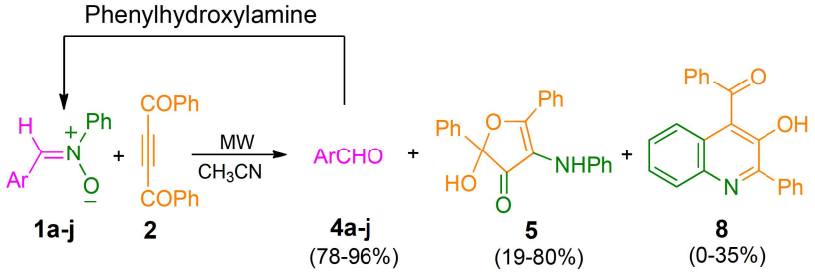


Table 2 Product distribution in the reaction of nitrones **1a-j** with DBA (**2**) under microwave irradiation at 90 °C for 15 min.

Entry	Ar	**5** (%)	**8** (%)	**4a-j** (%)
1	phenyl (**1a**)	68	24	92
2	4-methylphenyl (**1b**)	57	30	92
3	4-methoxyphenyl (**1c**)	52	**35**	96
4	4-*N,N*-dimethylaminophenyl (**1d**)	19	-	78
5	4-nitrophenyl (**1e**)	78	18	94
6	4-cyanophenyl (**1f**)	**80**	15	95
7	4-chlorophenyl(**1g**)	58	18	78
8	2-pyrrolyl (**1h**)	50	18	80
9	2-thienyl (**1i**)	63	16	88
10	2-naphthyl (**1j**)	54	22	90

III) General procedure for the reaction of nitrone 1a,c,f with DBA (15) in acetonitrile (under conventional heating)

Mixtures of nitrone **1a** (1 mmol, 0.1970 g) and DBA (**2**, 1 mmol, 0.2340 g) , **1c** (1 mmol, 0.2270 g) and DBA (**2**, 1 mmol, 0.2340 g) and **1f** (1 mmol, 0.2220 g) and DBA (**2**, 1 mmol, 0.2340 g) in 5 mL acetonitrile were prepared separately and stirred at reflux. Progress of the reaction was monitored by GC. After 15 minutes, the analysis shows most of the nitrones remained unchanged in the reaction mixture (55-60%). After 1h refluxing nitrones were reacted near-quantitatively. The solvent was removed under reduced pressure and products were isolated and purified by a combination of column chromatography over silica gel using hexane-dichloromethane mixtures to give furanone **5** in 50-77% yield; melting point 150-152 °C, quinoline **8** in 17-38% yield; melting point 142-144 °C along with the corresponding aldehyde 4**a,c,f** in 90-94% yield (Table 3).

Table 3 Product distribution in the reaction of nitrones **1a,c,f** with DBA (**2**) in acetonitrile at reflux for 1hour.

Entry	Ar	**5** (%)	**8** (%)	**4a,c,f** (%)
1	phenyl (**1a**)	65	25	90
2	4-methoxyphenyl (**1c**)	50	38	94
3	4-cyanophenyl (**1f**)	77	17	92