Electronic Supporting Information

One pot three component protocol for the synthesis of Indolyl-4*H*-chromene-3-carboxamides as antioxidant and antibacterial agents

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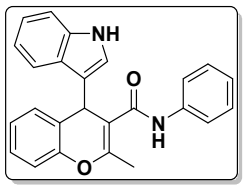
Table S1. Reactivity of alcohols to influence the reaction[a]

Entry	Solvent	Time	Yield[b] (%)
1	methanol	2.5	90
2	ethanol	3	78
3	n-propanol	5	72
4	isopropanol	5	75
5	n-butanol	5	70
6	isobutanol	5	76
7	2-ethoxy ethanol	5	53
8	2-methoxy ethanol	5	55
9	1-pentanol	10	—
10	1-hexanol	10	—
11	1-decanol	10	—

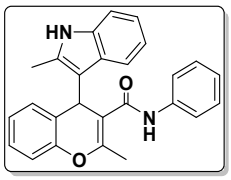
[a] Reaction conditions: 2-Hydroxy benzaldehyde (1 mmol), Acetoacetanilide (1 mmol), indole (a mmol) DABCO (30 mol %), TBAB (10 mol%) various alcohols (2 mL), RT. [b] Isolated yields

4-(1*H*-indol-3-yl)-2-methyl-*N*-phenyl-4*H*-chromene-3-carboxamide 4a



White solid; mp: 144-146 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.89 (s, 1H, NH), 9.79 (s, 1H, NH), 7.55 (d, J = 7.6 Hz, 2H, ArH), 7.46 (d, J = 8 Hz, 1H, ArH), 7.31 - 7.23 (m, 3H, ArH), 7.19 - 7.15 (m, 3H, ArH), 7.07 - 6.95 (m, 4H, ArH), 6.92 (t, J = 7.6 Hz, 1H, ArH), 5.47 (s, 1H, CH), 2.22 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.3, 149.4, 149.2, 139.0, 136.5, 129.2, 128.5, 127.4, 125.7, 124.3, 123.6, 123.2, 123.0, 120.9, 119.5, 118.6, 118.5, 115.6, 111.5, 110.5, 32.9, 17.8; HRMS: m/z calcd. For $C_{25}H_{20}N_2O_2$ 380.4470 found 380.4468.

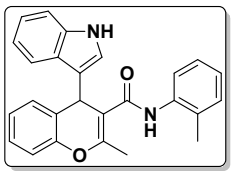
2-Methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-phenyl-4*H*-chromene-3-carboxamide 4b



White solid; mp: 140-142 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.75 (s, 1H, NH), 9.80 (s, 1H, NH), 7.53 (d, J = 8.0 Hz, 2H, ArH), 7.26 (t, J = 7.9 Hz, 2H, ArH), 7.20 – 7.14 (m, 3H, ArH), 7.07 (d, J = 8.1 Hz, 1H, ArH), 7.02 (t, J = 7.4 Hz, 1H, ArH), 6.94 (dd, J = 4.4, 8.0, 3H, ArH), 6.81 (t, J = 7.6 Hz,

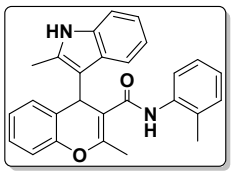
1H, ArH), 5.54 (s, 1H, CH), 2.36 (s, 3H, CH_3), 2.18 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.2, 149.5, 148.8, 139.0, 135.2, 131.9, 129.3, 128.5, 127.4, 126.9, 123.8, 123.7, 123.1, 119.8, 119.3, 118.2, 117.6, 115.4, 113.7, 110.4, 110.0, 31.9, 17.6, 11.2; HRMS: m/z calcd. For $C_{26}H_{22}N_2O_2$ 394.4740 found 394.4738.

4-(1*H*-indol-3-yl)-2-methyl-*N*-(*o*-tolyl)-4*H*-chromene-3-carboxamide 4c



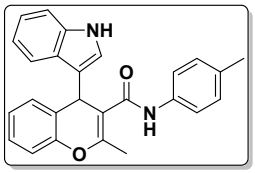
White solid; mp: 108-110 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.95 (s, 1H, NH), 9.10 (s, 1H, NH), 7.51 (d, J = 8 Hz, 1H, ArH), 7.34 (d, J = 8 Hz, 1H, ArH), 7.27 (d, J = 2.4 Hz, 1H, ArH), 7.16 – 7.14 (m, 3H, ArH), 7.11 – 7.01 (m, 6H, ArH), 6.95 (t, J = 3.2 Hz, 1H, ArH), 5.44 (s, 1H,CH), 2.28 (s, 3H, CH_3), 1.78 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.7, 149.8, 149.7, 137.1, 136.6, 132.8, 130.6, 129.7, 127.9, 126.2, 125.8, 125.7, 124.8, 124.1, 123.9, 123.8, 121.4, 119.2, 119.0, 118.9, 116.1, 111.9, 110.5, 33.4, 18.4, 17.8; HRMS: m/z calcd. For $C_{26}H_{22}N_2O_2$ 394.4740 found 394.4739.

2-Methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-(*o*-tolyl)-4*H*-chromene-3-carboxamide 4d



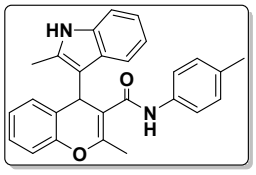
White solid; mp: 116-118 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.80 (s, 1H, NH), 9.11 (s, 1H, NH), 7.30 (d, J = 7.6 Hz, 1H, ArH), 7.22 (d, J = 8.0 Hz, 1H, ArH), 7.17 – 7.13 (m, 1H, ArH), 7.10 – 7.01 (m, 5H, ArH), 6.96 – 6.90 (m, 3H, ArH), 6.85 (t, J = 7.4 Hz, 1H, ArH), 5.46 (s, 1H, CH), 2.39 (s, 3H, CH_3), 2.23 (s, 3H, CH_3), 1.71 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.3, 149.5, 148.0, 136.1, 135.2, 132.7, 132.2, 130.1, 129.3, 127.3, 127.1, 125.7, 125.4, 123.9, 123.6, 119.8, 118.3, 117.7, 115.4, 113.7, 110.3, 109.7, 31.9, 17.7, 17.1, 11.4; HRMS: m/z calcd. For $C_{27}H_{24}N_2O_2$ 408.5010 found 408.5008.

4-(1*H*-indol-3-yl)-2-methyl-*N*-(*p*-tolyl)-4*H*-chromene-3-carboxamide 4e



White solid; mp: 122-124 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.87 (s, 1H, NH), 9.68 (s, 1H, NH), 7.45 – 7.40 (m, 3H, ArH), 7.30 (d, J = 8 Hz, 1H, ArH), 7.17 – 7.13 (m, 3H, ArH), 7.06 – 6.94 (m, 5H, ArH), 6.91 (t, J = 7.2 Hz, 1H, ArH), 5.45 (s, 1H, CH), 2.21 (s, 3H, CH_3), 2.21 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.5, 149.9, 149.6, 137.0, 132.6, 129.6, 129.3, 127.9, 126.2, 124.8, 124.1, 123.5, 121.3, 120.0, 119.1, 119.0, 116.1, 112.0, 111.0, 33.4, 20.8, 18.3; HRMS: m/z calcd. For $C_{26}H_{22}N_2O_2$ 394.4740 found 394.4738.

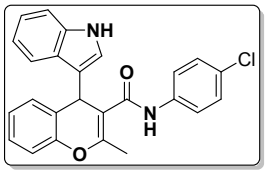
2-Methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-(*p*-tolyl)-4*H*-chromene-3-carboxamide 4f



White solid; mp: 122-124 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.73 (s, 1H, NH), 9.70 (s, 1H, NH), 7.40 (d, J = 8 Hz, 2H, ArH), 7.20 – 7.13 (m, 3H, ArH), 7.06 (t, J = 6 Hz, 3H, ArH), 6.94 – 6.88 (m, 3H, ArH), 6.81 (t, J = 7.6 Hz, 1H, ArH), 5.52 (s, 1H, CH), 2.35 (s, 3H, CH_3), 2.21 (s, 3H, CH_3), 2.17 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.5, 150.0, 149.2, 137.0, 135.7, 132.5, 132.4, 129.8, 129.3, 127.9, 127.4, 124.4, 124.1, 120.3, 119.9, 118.7,

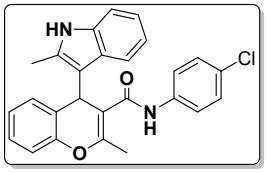
118.1, 115.9, 114.3, 110.9, 110.6, 32.4, 20.8, 18.1, 11.7; HRMS: m/z calcd. For $C_{27}H_{24}N_2O_2$ 408.5010 found 408.5008.

_N_-(4-Chlorophenyl)-4-(1_H_-indol-3-yl)-2-methyl-4_H_-chromene-3-carboxamide 4g



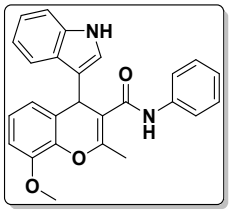
White solid; mp: 140-142 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.88 (s, 1H, NH), 9.93 (s, 1H, NH), 7.58 (d, J = 8.8 Hz, 2H, ArH), 7.43 (d, J = 8 Hz, 1H, ArH), 7.32 (t, J = 8.4 Hz, 3H, ArH), 7.19 – 7.13 (m, 3H, ArH), 7.07 (d, J = 8 Hz, 1H, ArH), 7.03 – 6.95 (m, 1H, ArH), 6.91 (t, J = 7.6 Hz, 1H, ArH), 5.46 (s, 1H, CH), 2.21 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.9, 150.0, 149.8, 138.5, 137.0, 129.6, 129.1, 128.9, 127.9, 127.3, 126.1, 124.7, 124.2, 123.5, 121.5, 121.4, 120.3, 119.0, 116.6, 112.0, 110.8, 33.3, 18.3; HRMS: m/z calcd. For $C_{25}H_{19}ClN_2O_2$ 414.8890 found 414.8897.

_N_-(4-Chlorophenyl)-2-methyl-4-(2-methyl-1_H_-indol-3-yl)-2-4_H_-chromene-3-carboxamide 4h



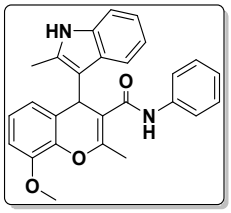
White solid; mp: 126-128 °C: ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.74 (s, 1H), 9.95 (s, 1H), 7.56 (d, J = 8.8 Hz, 2H), 7.31 (d, J = 8.8 Hz, 2H), 7.17 – 7.13 (m, 3H), 7.07 (d, J = 8.4 Hz, 1H), 6.94 – 6.88 (m, 3H), 6.80 (t, J = 7.6 Hz, 1H), 5.52 (s, 1H),2.34 (s, 3H), 2.17 (s, 3H); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.8, 150.0, 149.6, 138.5, 135.6, 132.4, 129.8, 128.9, 127.9, 127.4, 127.1, 124.2, 121.3, 120.3, 118.8, 118.0, 115.9, 114.1, 110.9, 110.3, 32.4, 18.1, 11.6; HRMS: : m/z calcd. For $C_{26}H_{21}ClN_2O_2$ 428.9160 found 428.9158.

4-(1_H_-indol-3-yl)-8-methoxy-2-methyl-_N_-phenyl-4_H_-chromene-3-carboxamide 4i



White solid; mp: 126-128 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.87 (s, 1H, NH), 9.76 (s, 1H, NH), 7.53 (d, J = 8 Hz, 2H, ArH), 7.45 (d, J = 8 Hz, 1H, ArH), 7.29 – 7.21 (m, 3H, ArH), 7.16 (d, J = 2.4 Hz, 1H, ArH), 7.02 (td, J = 7.6, 4.4 Hz, 2H, ArH), 6.91 – 6.82 (m, 3H, ArH), 6.70 (d, J = 7.6 Hz, 1H, ArH), 5.43 (s, 1H, CH), 3.82 (s, 3H, OCH_3), 2.21 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.32, 149.3, 147.0, 139.0, 138.9, 136.4, 128.5, 125.7, 125.0, 123.2, 123.0, 120.8, 120.3, 119.5, 118.6, 118.5, 111.5, 110.3, 109.7, 55.5, 32.9, 17.9; HRMS: m/z calcd. For $C_{26}H_{22}N_2O_3$ 410.4730 found 410.4726.

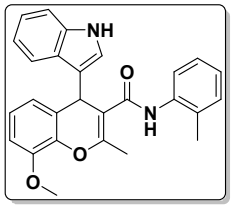
8-Methoxy-2-methyl-4-(2-methyl-1_H_-indol-3-yl)-_N_-phenyl-4_H_-chromene-3-carboxamide 4j



White solid; mp: 128-130 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.74 (s, 1H, NH), 9.80 (s, 1H, NH), 7.53 (d, J = 8 Hz, 2H, ArH), 7.26 – 7.16 (m, 4H, ArH), 7.00 (t, J = 7.3 Hz, 1H, ArH), 6.93 (t, J = 7.5 Hz, 1H, ArH), 6.86 (dt, J = 7.2, 7.2 Hz, 3H, ArH), 6.51 (dd, J = 7.0, 1.8, 1H, ArH), 5.53 (s, 1H, CH), 3.84 (s, 3H, OCH_3), 2.35 (s, 3H, CH_3), 2.19 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.2, 148.9, 146.8, 139.0, 139.0, 135.1, 131.8, 128.5,

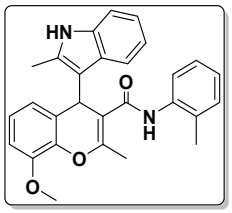
127.0, 124.5, 123.2, 123.1, 120.4, 119.8, 119.3, 118.3, 117.6, 113.7, 110.4, 109.8, 109.6, 55.5, 31.9, 17.6, 11.2; HRMS: m/z calcd. For $C_{27}H_{24}N_2O_3$ 424.5000 found 424.4999.

4-(1*H*-indol-3-yl)-8-methoxy-2-methyl-*N*-(*o*-tolyl)-4*H*-chromene-3-carboxamide 4k



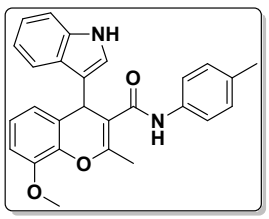
White solid; mp: 146-148 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.94 (s, 1H, NH), 9.08 (s, 1H, NH), 7.51 (d, J = 8 Hz, 1H, ArH), 7.34 (d, J = 8.4 Hz, 1H, ArH), 7.26 (d, J = 2.0 Hz, 1H, ArH), 7.16 (d, J = 7.3 Hz, 1H, ArH), 7.11 – 7.01 (m, 4H, ArH), 6.95 – 6.83 (m, 3H,ArH), 6.73 (d, J = 6.4 Hz, 1H, ArH), 5.42 (s, 1H, CH), 3.83 (s, 3H, OCH_3), 2.29 (s, 3H, CH_3), 1.77 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.2, 149.3, 147.0, 138.8, 136.5, 136.1, 132.3, 130.1, 125.7, 125.7, 125.3, 125.2, 125.0, 123.3, 123.1, 120.9, 120.4, 118.7, 118.5, 118.5, 111.4, 109.8, 109.7, 55.5, 33.0, 18.0, 17.3; HRMS: m/z calcd. For $C_{27}H_{24}N_2O_3$ 424.5000 found 424.4998.

8-Methoxy-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-(*o*-tolyl)-4*H*-chromene-3-carboxamide 4l



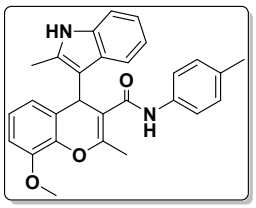
White solid; mp: 148-150 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.80 (s, 1H, NH), 9.13 (s, 1H, NH), 7.30 (d, J = 7.6 Hz, 1H, ArH), 7.22 (d, J = 8 Hz, 1H, ArH), 7.10-7.00 (m, 4H, ArH), 6.95 (t, J = 7.2 Hz, 1H, ArH), 6.87 (dd, J = 8, 7.2 Hz, 3H, ArH), 6.52 (dd, J = 2, 2 Hz, 1H, ArH), 5.44 (s, 1H, CH), 3.84 (s, 3H, OCH_3), 2.38 (s, 3H, CH_3), 2.23 (s, 3H, CH_3), 1.69 (s, 3H, CH_3), ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.3, 148.1, 146.8, 139.0, 136.1, 135.2, 132.8, 132.1, 130.1, 127.1, 125.7, 125.5, 125.4, 124.5, 123.1, 120.4, 119.8, 118.3, 117.7, 113.7, 110.3, 109.6, 109.5, 55.5, 31.9, 17.7, 17.1, 11.4; HRMS: m/z calcd. For $C_{28}H_{26}N_2O_3$ 438.5270 found 438.5267.

4-(1*H*-indol-3-yl)-8-methoxy-2-methyl-*N*-(*p*-tolyl)-4*H*-chromene-3-carboxamide 4m



White solid; mp: 128-130 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.87 (d, J = 1.6 Hz, 1H, NH), 9.67 (s, 1H, NH), 7.45 – 7.39 (m, 3H, ArH), 7.30 (d, J = 8 Hz, 1H, ArH), 7.16 (d, J = 2.4 Hz, 1H, ArH), 7.05 – 6.99 (m, 3H, ArH), 6.92 – 6.83 (m, 3H, ArH), 6.71 (t, J = 1.2 Hz, 1H, ArH), 5.43 (s, 1H, CH), 3.82 (s, 3H, OCH_3), 2.21 (s, 6H, $(CH_3)_2$); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.6, 149.7, 147.4, 139.4, 137.0, 136.9, 132.6, 129.3, 126.2, 125.5, 123.7, 123.5, 121.3, 120.8, 120.7, 119.1, 119.1, 119.0, 110.9, 110.2, 56.0, 33.4, 20.8, 18.4; HRMS: m/z calcd. For $C_{27}H_{24}N_2O_3$ 424.5000 found 424.4998.

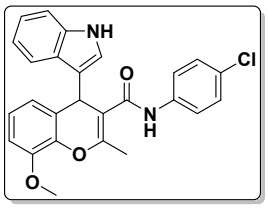
8-Methoxy-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-(*p*-tolyl)-4*H*-chromene-3-carboxamide 4n



White solid; mp:140-142 °C; ^{1}H NMR (400 MHz, DMSO-d_6): δ 10.72 (s, 1H, NH), 9.69 (s, 1H, NH), 7.39 (d, J = 8.4 Hz, 2H, ArH), 7.20 (t, J = 11.2 Hz, 2H, ArH), 7.04 (d, J = 8 Hz, 2H, ArH), 6.92 (t, J = 7.6 Hz, 1H, ArH), 6.85 – 6.78 (m, 3H, ArH), 6.50 (dd, J = 2, 2 Hz, 1H, ArH), 5.50 (s, 1H,

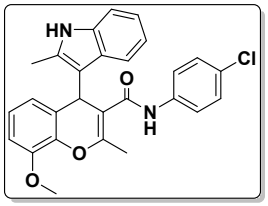
CH), 3.83 (s, 3H, OCH_3), 2.34 (s, 3H, CH_3), 2.21 (s, 3H, CH_3), 2.17 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.5, 149.3, 147.2, 139.5, 137.0, 135.6, 132.5, 132.3, 129.3, 127.5, 125.0, 123.6, 120.9, 120.3, 119.9, 118.7, 118.3, 114.2, 110.9, 110.3, 110.1, 56.0, 32.4, 20.8, 18.1, 11.7; HRMS: m/z calcd. For $C_{28}H_{26}N_2O_3$ 438.5270 found 438.5267.

_N_-(4-Chlorophenyl)-4-(1_H_-indol-3-yl)-8-methoxy-2-methyl-4_H_-chromene-3-carboxamide 4o

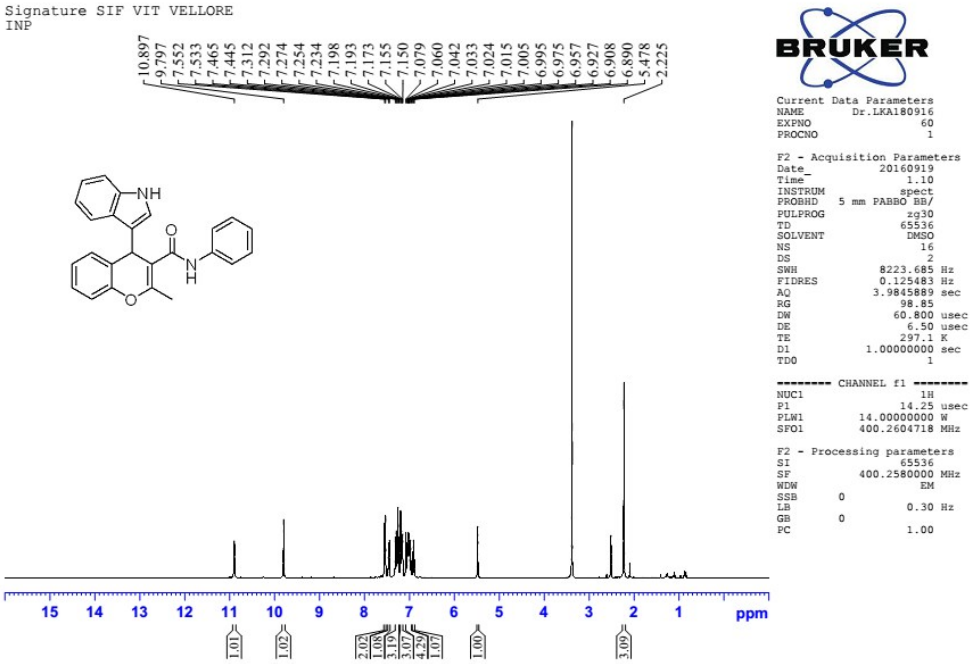


White solid; mp: 118-120 °C; ^1H NMR (400 MHz, DMSO-d_6): δ 10.87 (s, 1H, NH), 9.92 (s, 1H, NH), 7.58 (d, J = 8.0 Hz, 2H, ArH), 7.44 (d, J = 7.6 Hz, 1H, ArH), 7.31 (d, J = 7.6 Hz, 3H, ArH), 7.15 (s, 1H, ArH), 7.03 (t, J = 7.2 Hz, 1H, ArH). 6.91 – 6.84 (m, 3H, ArH), 6.71 (d, J = 6.8 Hz, 1H, ArH), 5.44 (s, 1H, CH), 3.83 (s, 3H, OCH_3), 2.22 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.9, 150.1, 147.5, 139.4, 138.5, 136.9, 129.1, 128.9, 127.2, 126.1, 125.4, 123.8, 123.5, 121.5, 121.4, 120.8, 120.3, 119.0, 112.0, 110.7, 110.3, 56.0, 33.4, 18.4; HRMS: m/z calcd. For $C_{26}H_{21}ClN_2O_3$ 444.9150 found 444.9148.

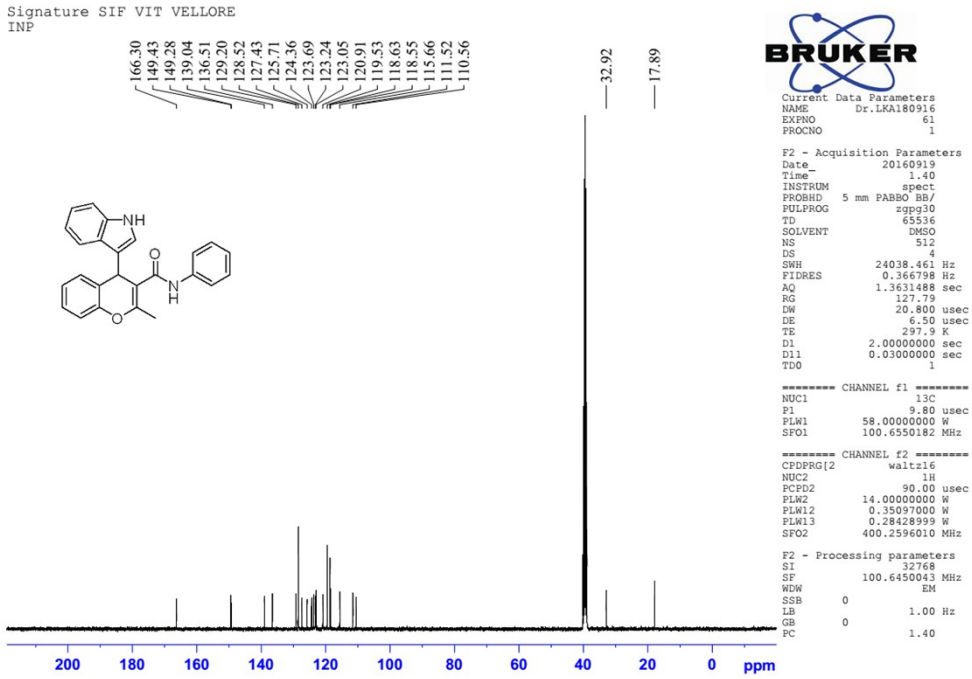
_N_-(4-Chlorophenyl)-8-methoxy-2-methyl-4-(2-methyl-1_H_-indol-3-yl)-4_H_-chromene-3-carboxamide 4p



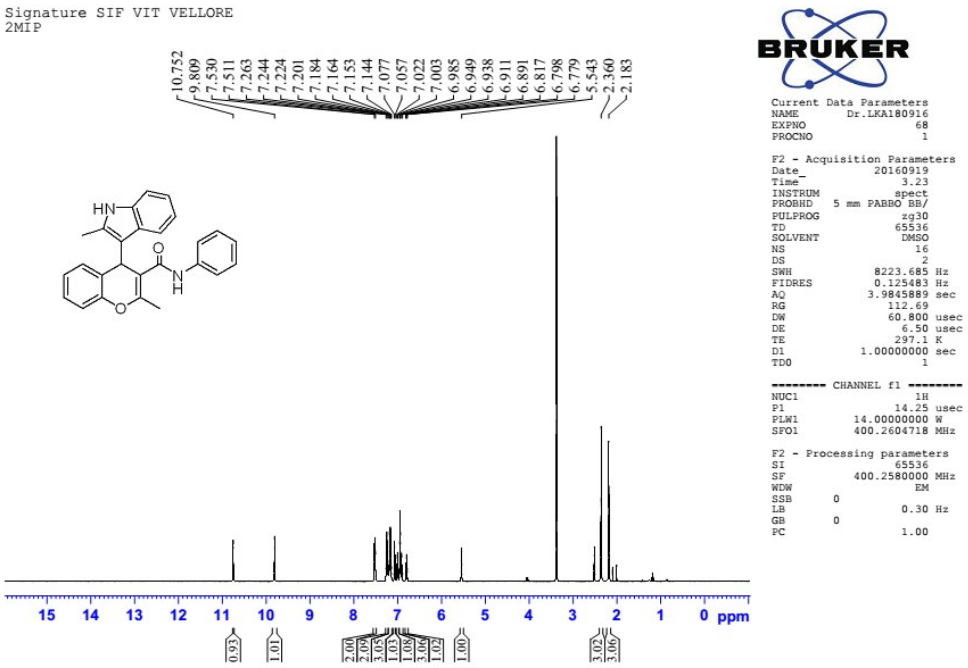
White solid; mp: 136-138 °C; ^1H NMR (400 MHz, DMSO-d_6): δ 10.73 (s, 1H, NH), 9.95 (s, 1H, NH), 7.56 (d, J = 8.8 Hz, 2H, ArH), 7.30 (d, J = 9.2 Hz, 2H, ArH), 7.19 (t, J = 8.4 Hz, 2H, ArH), 6.92 – 7.78 (m, 4H, ArH), 6.50 (dd, J = 1.6, 1.6 Hz, 1H, ArH), 5.51 (s, 1H, CH), 3.83 (s, 3H, OCH_3), 2.33 (s, 3H, CH_3), 2.18 (s, 3H, CH_3); ^{13}C NMR (100 MHz, DMSO-d_6) δ 166.9, 149.7, 147.2, 139.5, 138.5, 135.6, 132.3, 128.9, 127.4, 127.1, 124.8, 123.8, 121.3, 120.9, 120.3, 118.8, 118.0, 114.1, 110.9, 110.2, 110.1, 56.0, 32.4, 18.1, 11.6; HRMS: m/z calcd. For $C_{27}H_{23}ClN_2O_3$ 458.1397 found 458.1395.



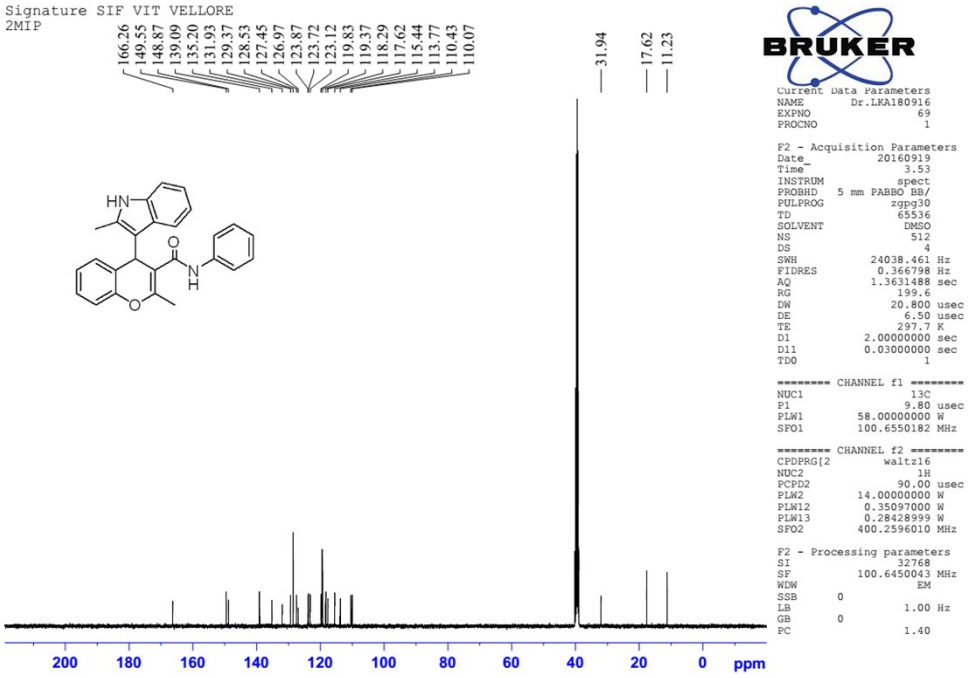
^{1}H NMR Spectra of 4-(1*H*-indol-3-yl)-2-methyl-*N*-phenyl-4*H*-chromene-3-carboxamide 4a



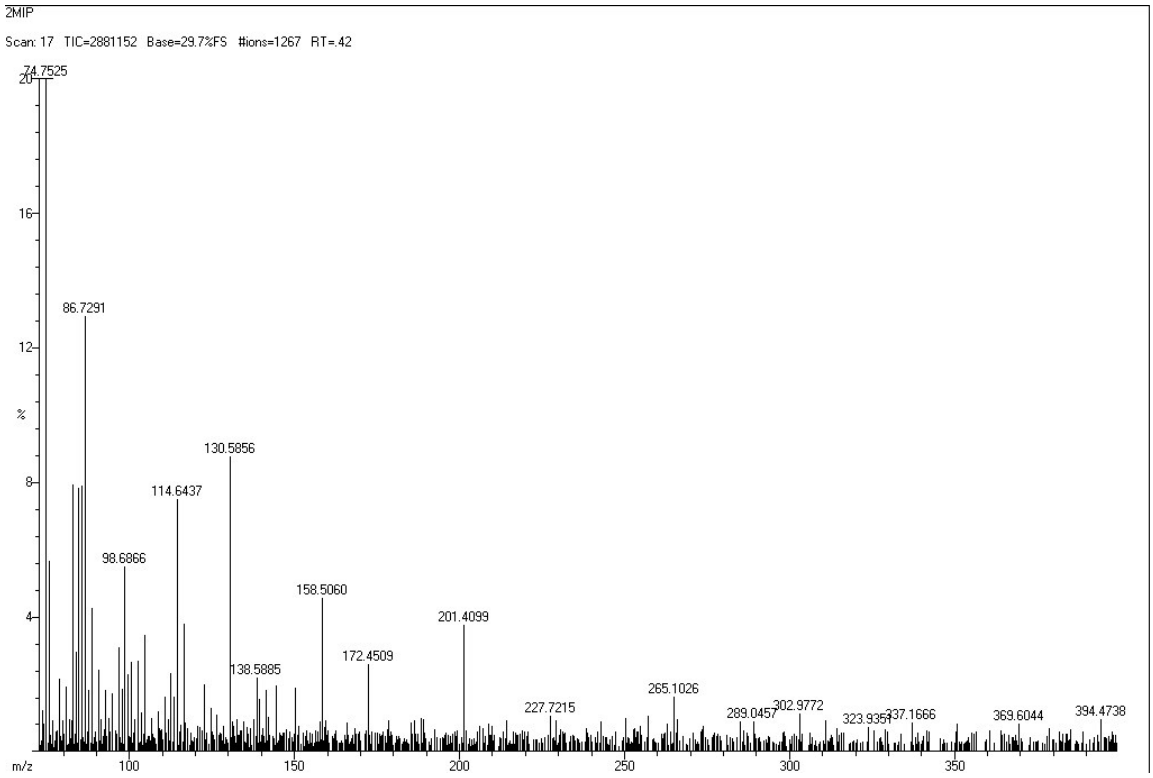
^{13}C NMR Spectra of 4-(1*H*-indol-3-yl)-2-methyl-*N*-phenyl-4*H*-chromene-3-carboxamide 4a



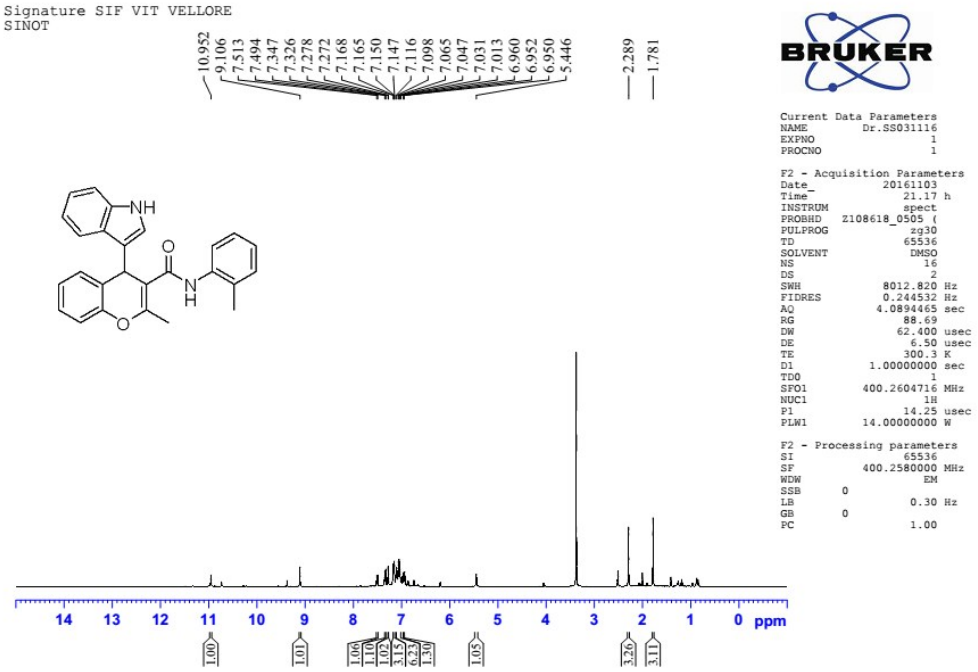
[1]H NMR Spectra of 2-Methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-phenyl-4*H*-chromene-3-carboxamide 4b



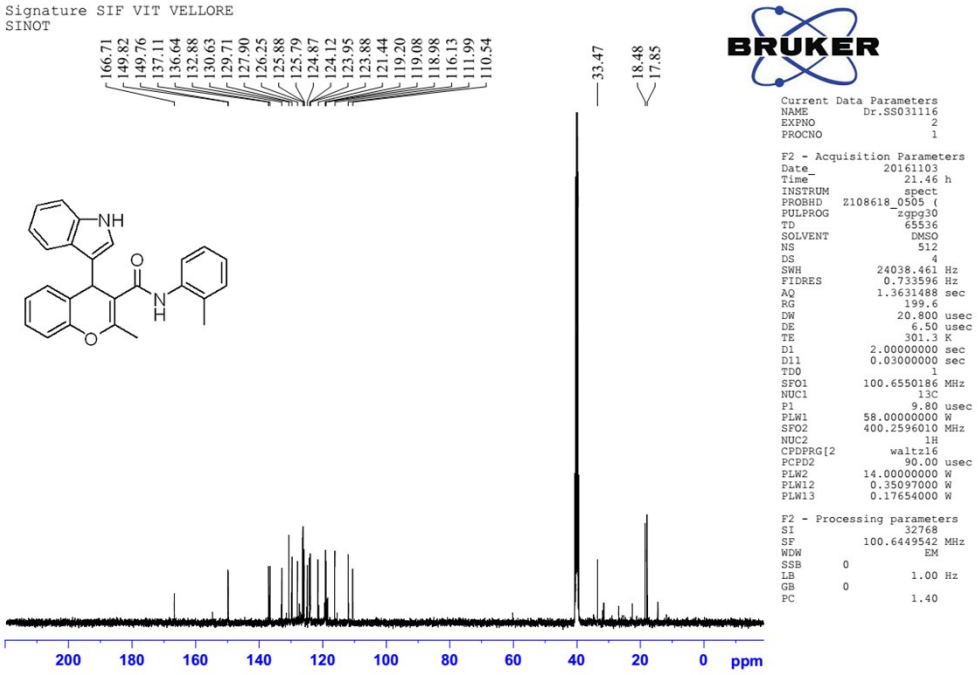
[13]C NMR Spectra of 2-Methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-phenyl-4*H*-chromene-3-carboxamide 4b



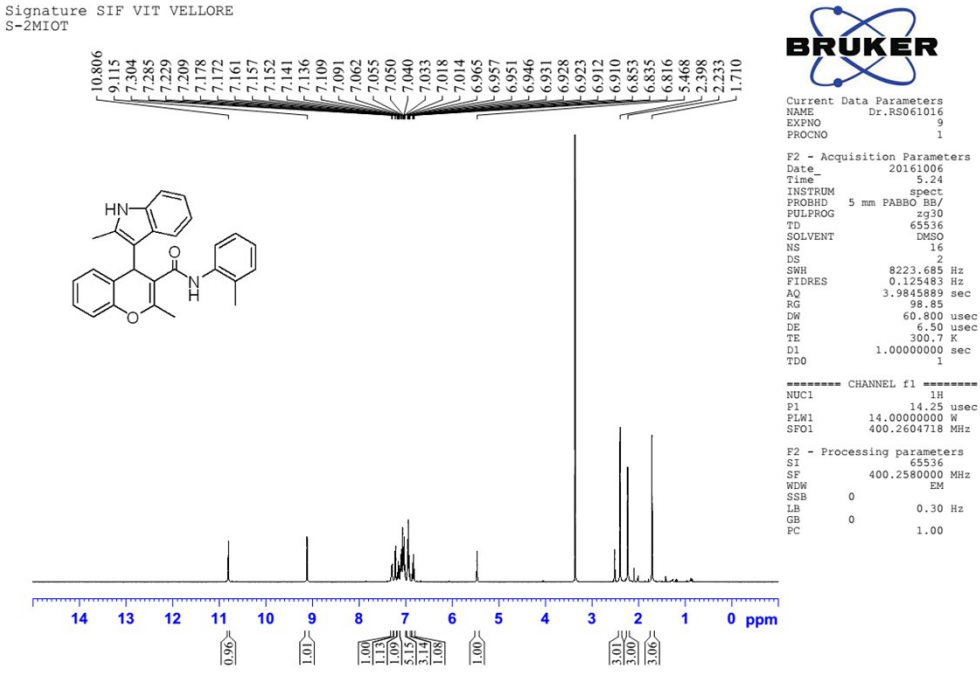
HRMS Spectra of 2-Methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-phenyl-4*H*-chromene-3-carboxamide 4b



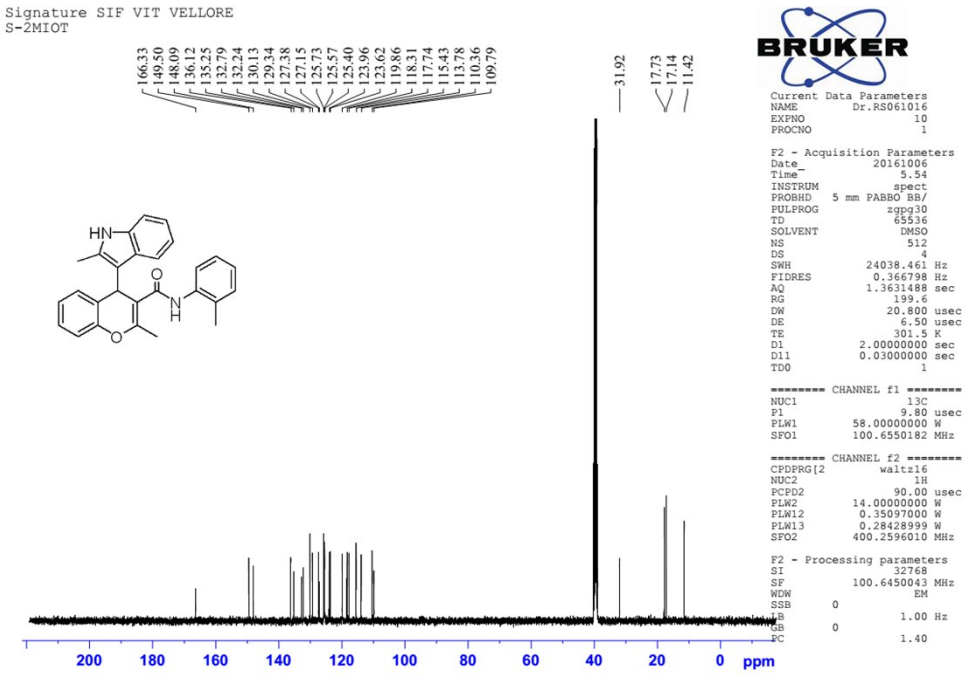
^{1}H NMR Spectra of 4-(1*H*-indol-3-yl)-2-methyl-*N*-(*o*-tolyl)-4*H*-chromene-3-carboxamide 4c



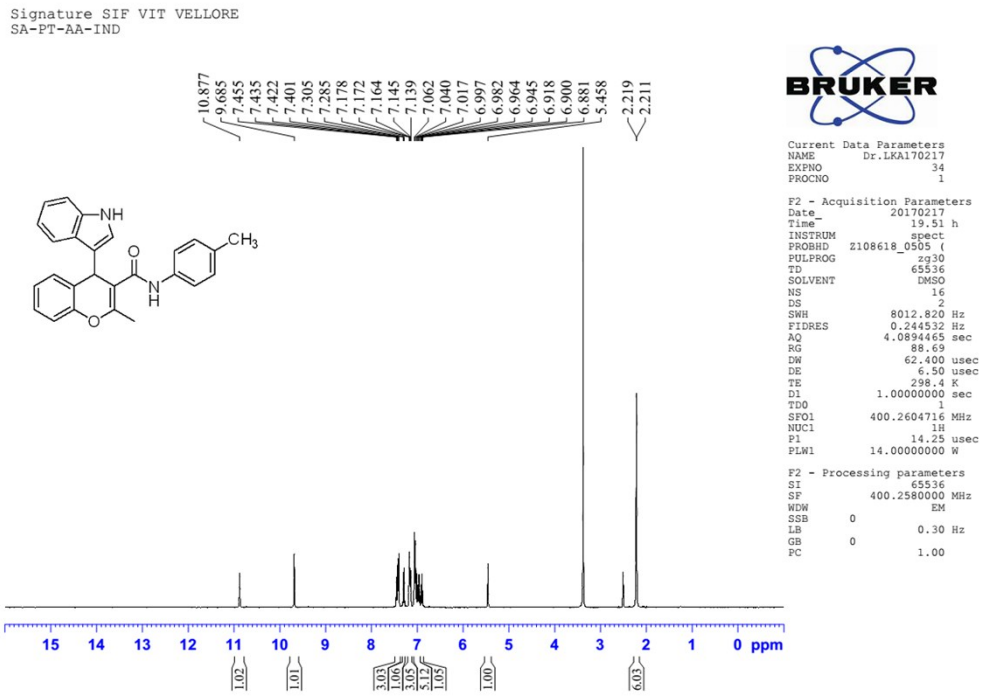
^{13}C NMR Spectra of 4-(1*H*-indol-3-yl)-2-methyl-*N*-(*o*-tolyl)-4*H*-chromene-3-carboxamide 4c



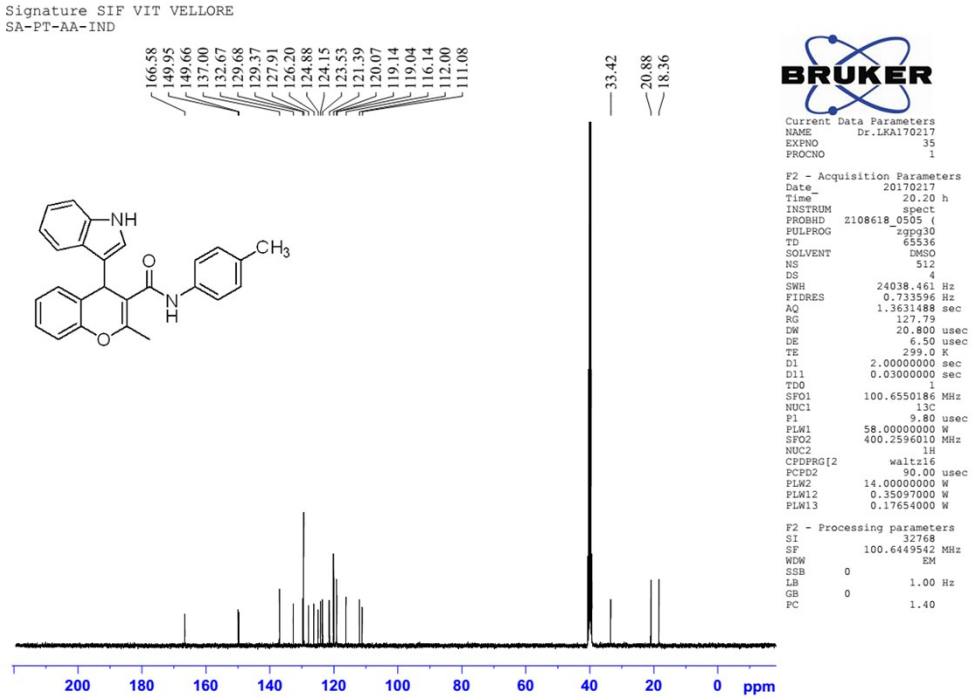
^{1}H NMR Spectra of 2-Methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-(*o*-tolyl)-4*H*-chromene-3-carboxamide 4d



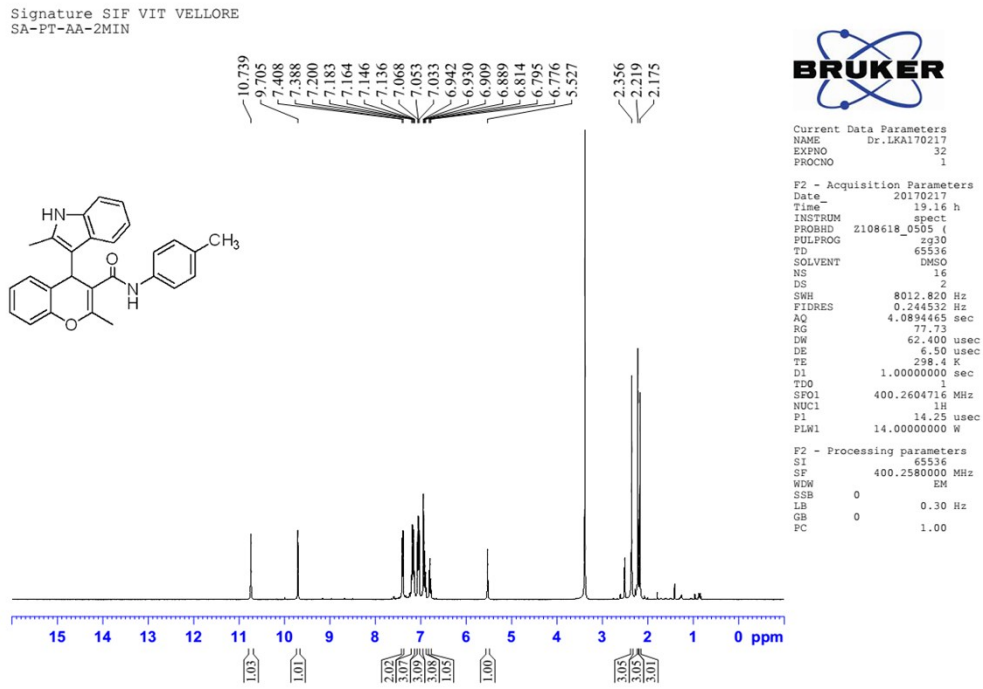
^{13}C NMR Spectra of 2-Methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-(*o*-tolyl)-4*H*-chromene-3-carboxamide 4d



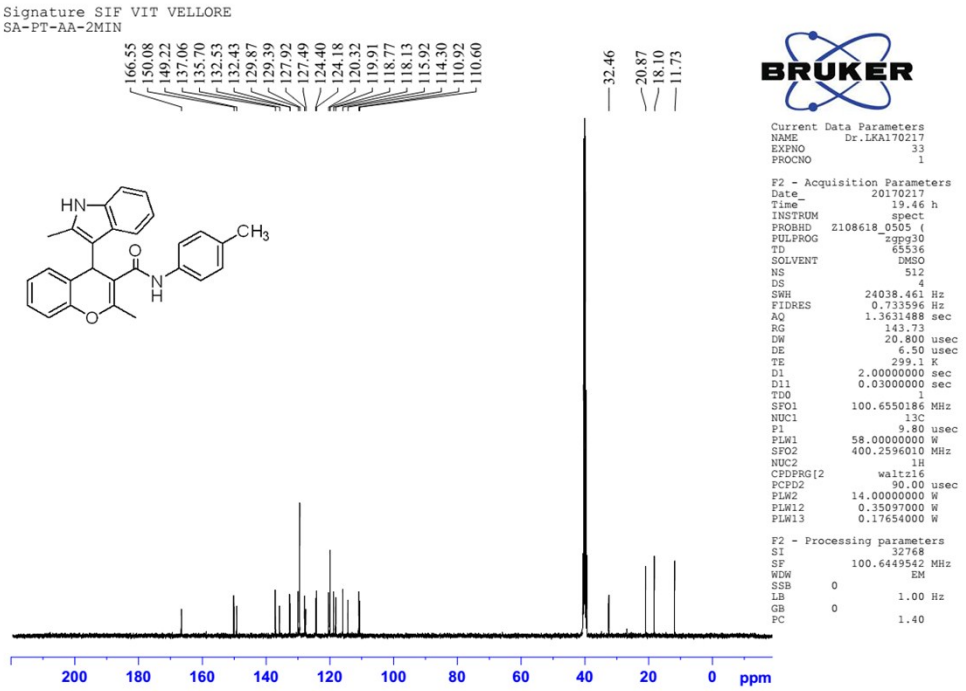
^{1}H NMR Spectra of 4-(1*H*-indol-3-yl)-2-methyl-*N*-(*p*-tolyl)-4*H*-chromene-3-carboxamide 4e



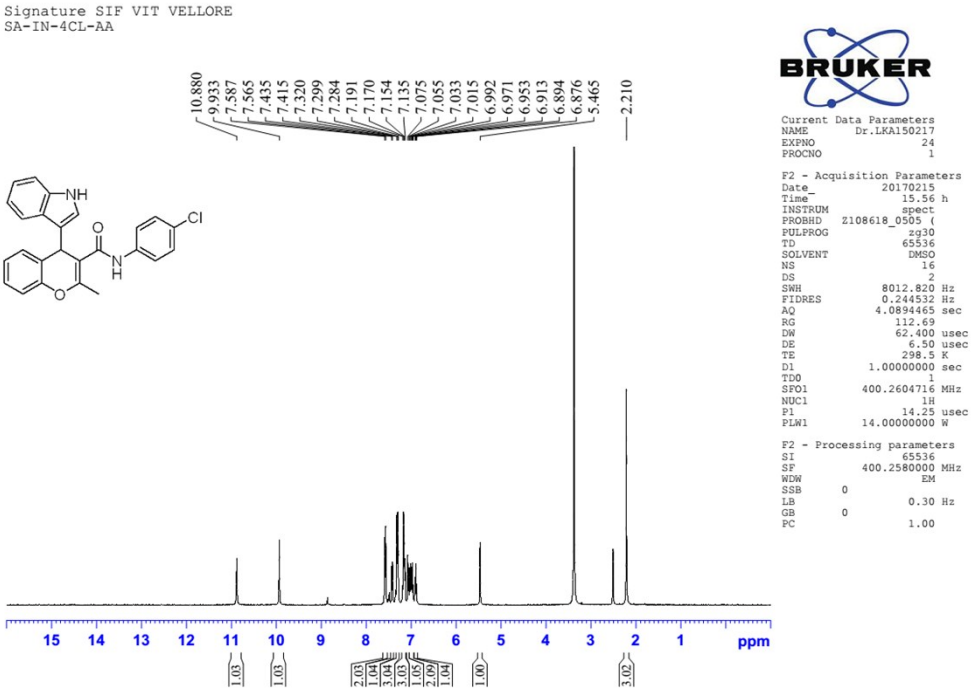
^{13}C NMR Spectra of 4-(1*H*-indol-3-yl)-2-methyl-*N*-(*p*-tolyl)-4*H*-chromene-3-carboxamide 4e



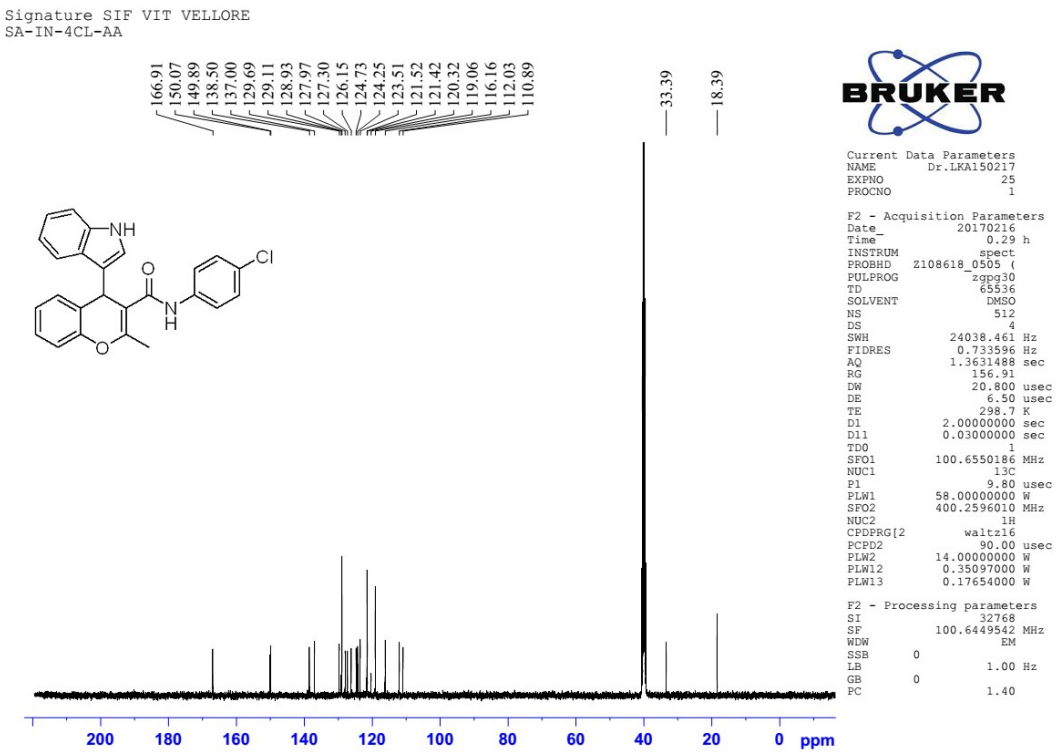
^{1}H NMR Spectra of 2-Methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-(*p*-tolyl)-4*H*-chromene-3-carboxamide 4f



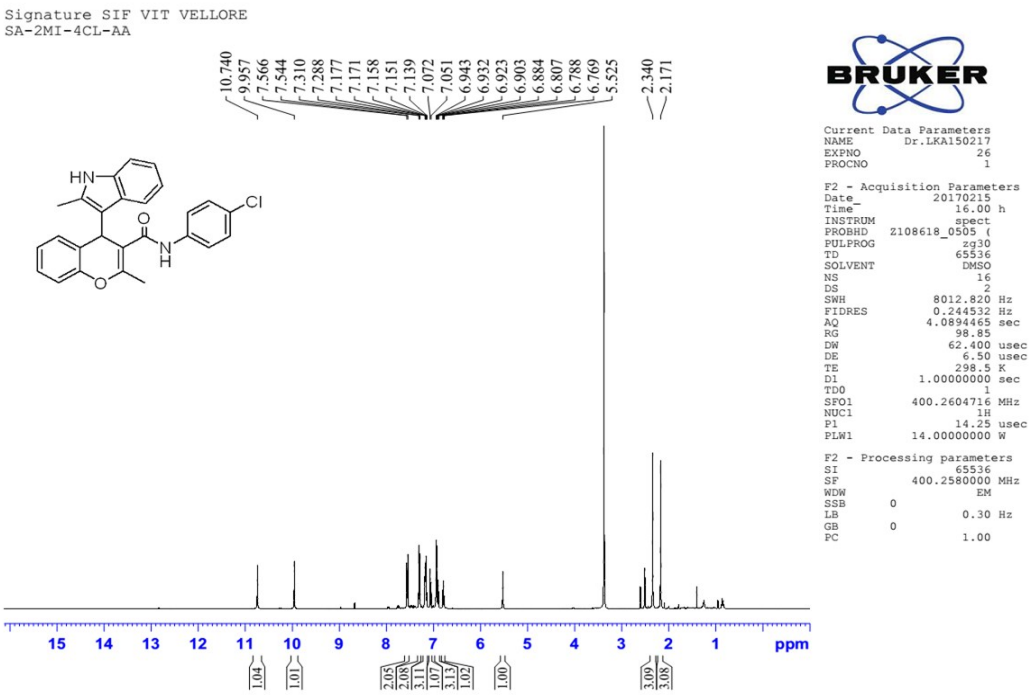
^{13}C NMR Spectra of 2-Methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-(*p*-tolyl)-4*H*-chromene-3-carboxamide 4f



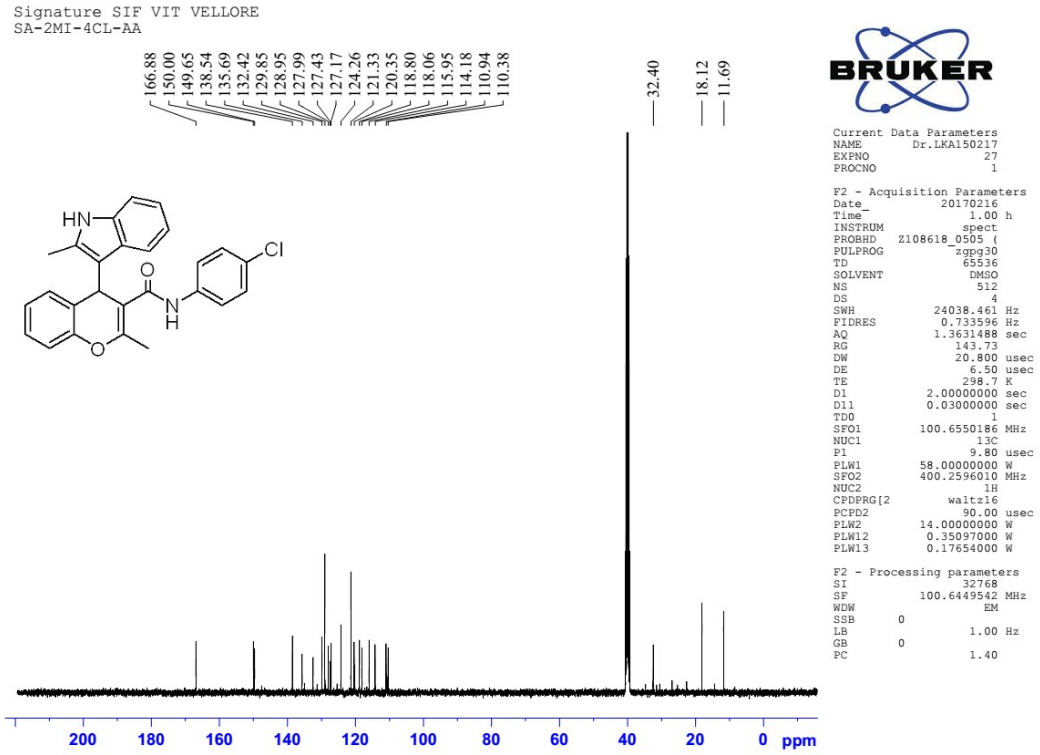
^{1}H NMR Spectra of *N*-(4-Chlorophenyl)-4-(1*H*-indol-3-yl)-2-methyl-4*H*-chromene-3-carboxamide 4g



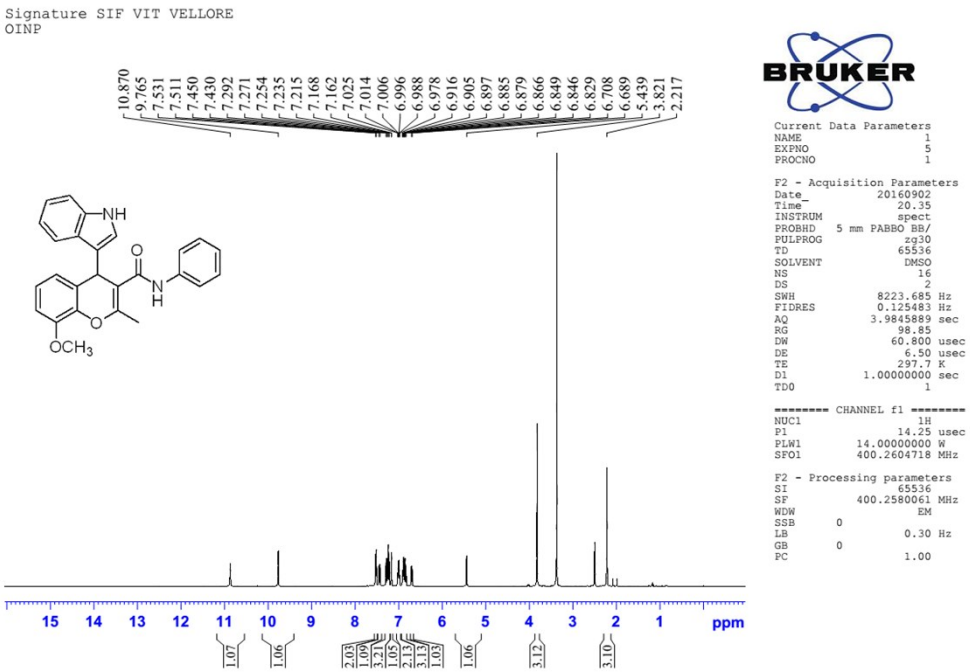
^{13}C NMR Spectra of *N*-(4-Chlorophenyl)-4-(1*H*-indol-3-yl)-2-methyl-4*H*-chromene-3-carboxamide 4g



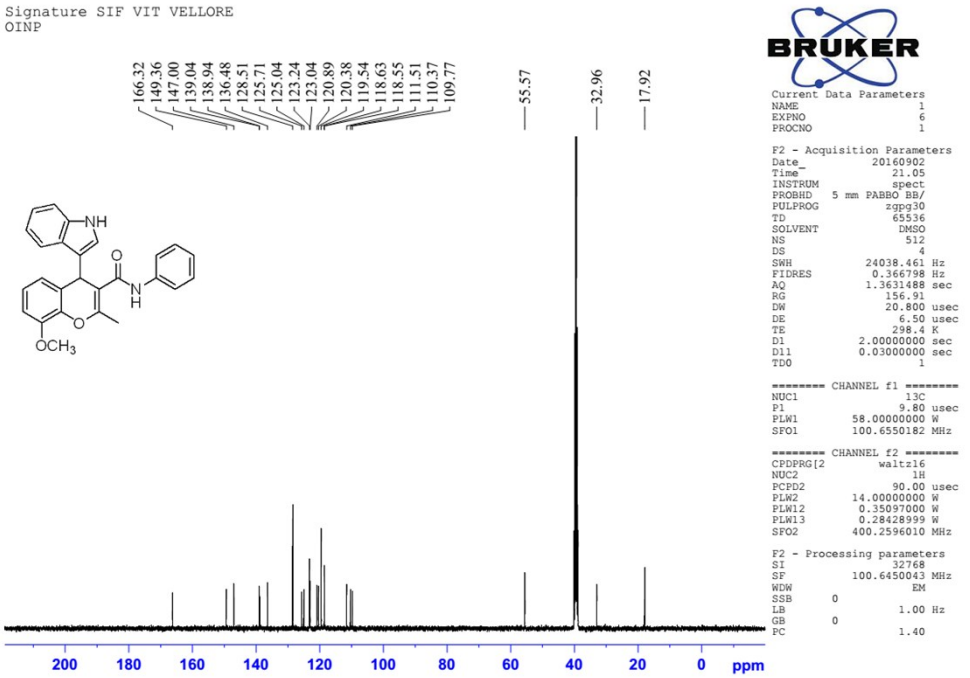
^{1}H NMR Spectra of *N*-(4-Chlorophenyl)-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-2-4*H*-chromene-3-carboxamide 4h



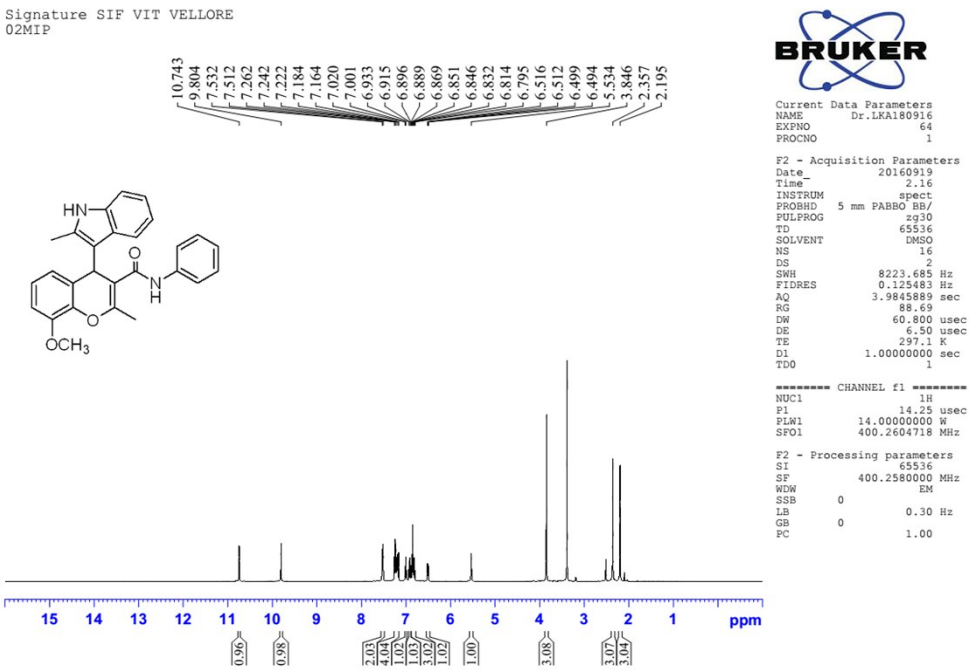
^{13}C NMR Spectra of *N*-(4-Chlorophenyl)-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-2-4*H*-chromene-3-carboxamide 4h



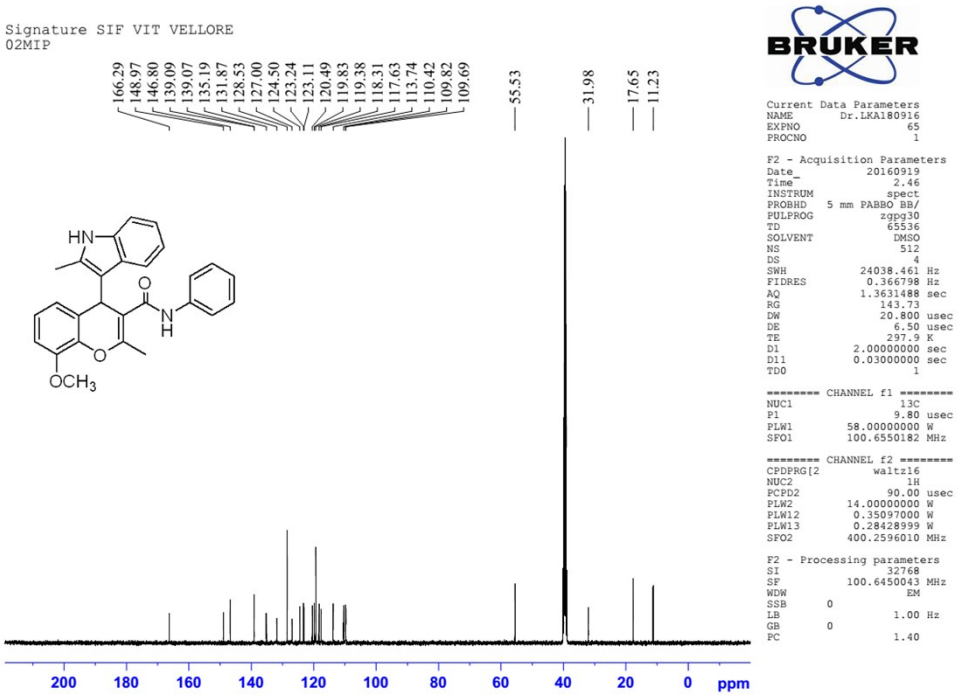
[1]HNMR Spectra of 4-(1*H*-indol-3-yl)-8-methoxy-2-methyl-*N*-phenyl-4*H*-chromene-3-carboxamide 4i



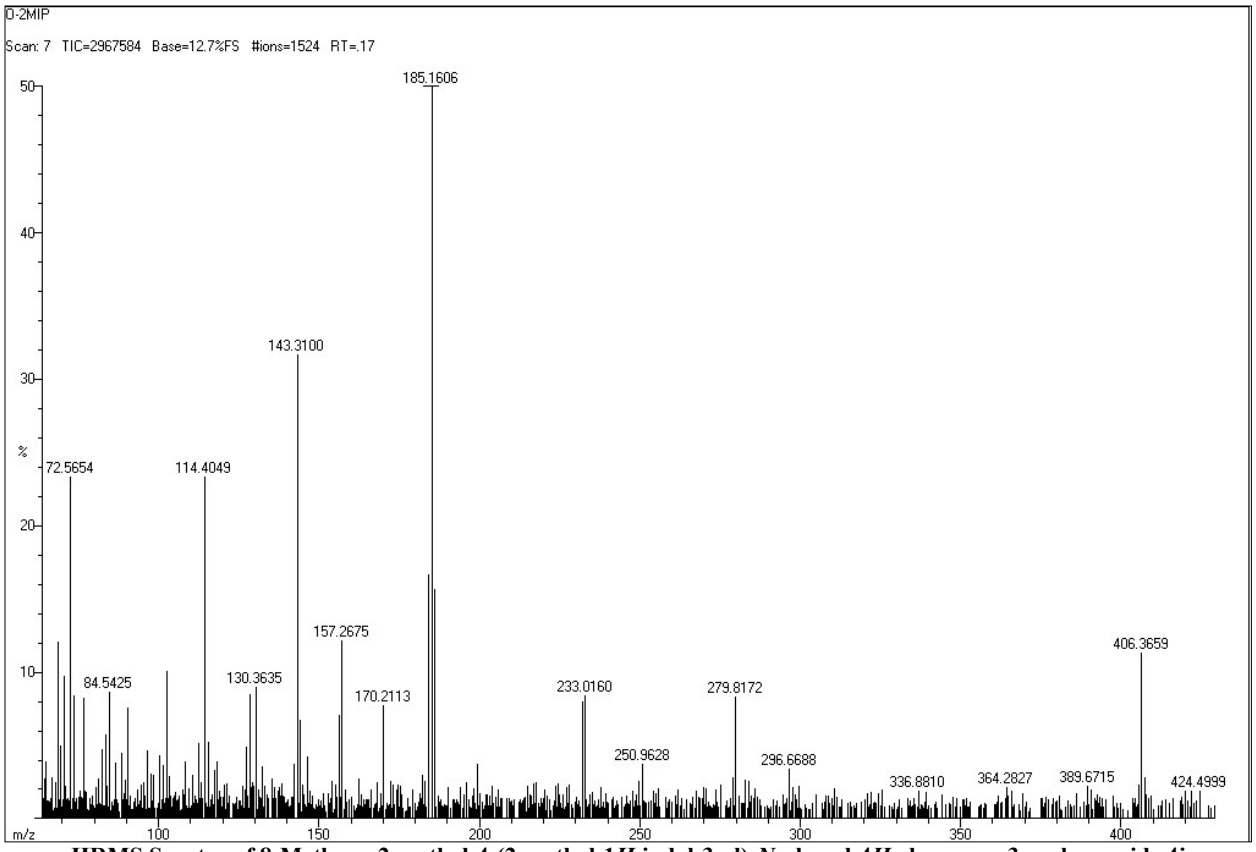
[13]C NMR Spectra of 4-(1*H*-indol-3-yl)-8-methoxy-2-methyl-*N*-phenyl-4*H*-chromene-3-carboxamide 4i



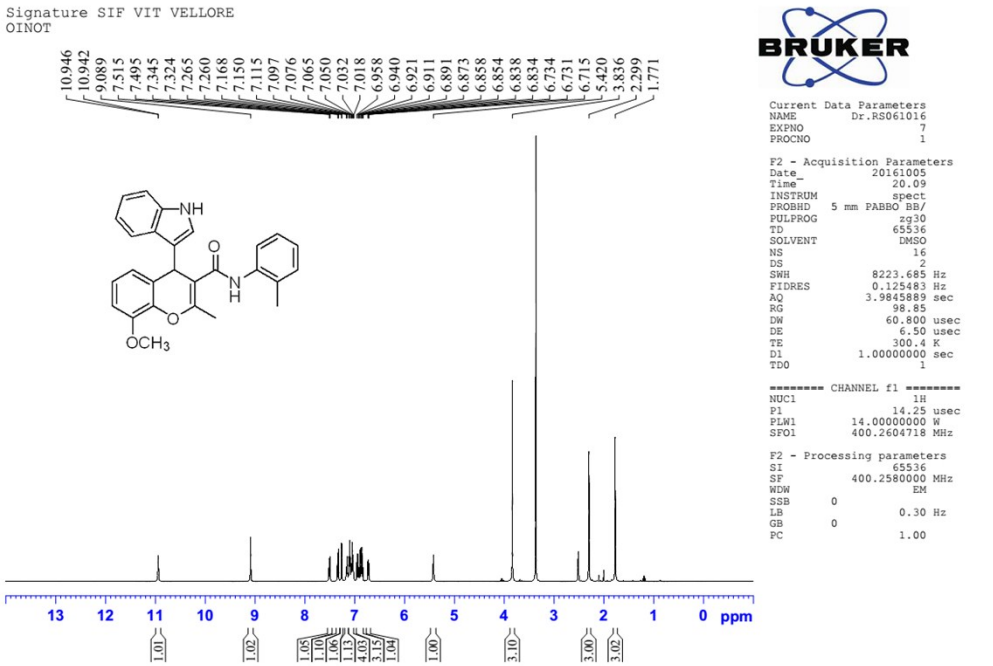
[1]H NMR Spectra of 8-Methoxy-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-phenyl-4*H*-chromene-3-carboxamide 4j



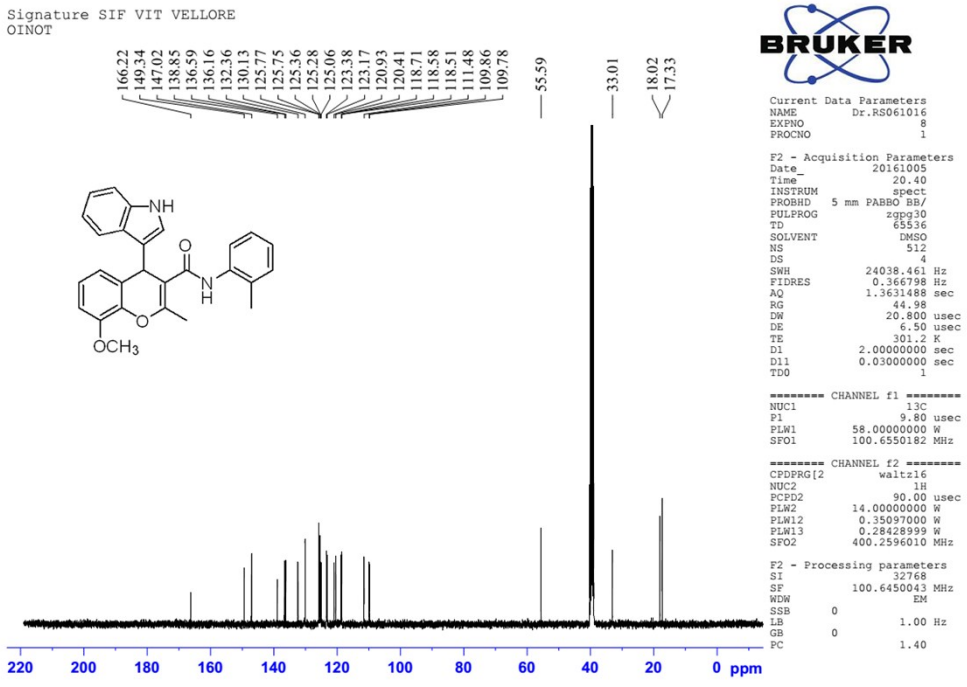
[13]C NMR Spectra of 8-Methoxy-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-phenyl-4*H*-chromene-3-carboxamide 4j



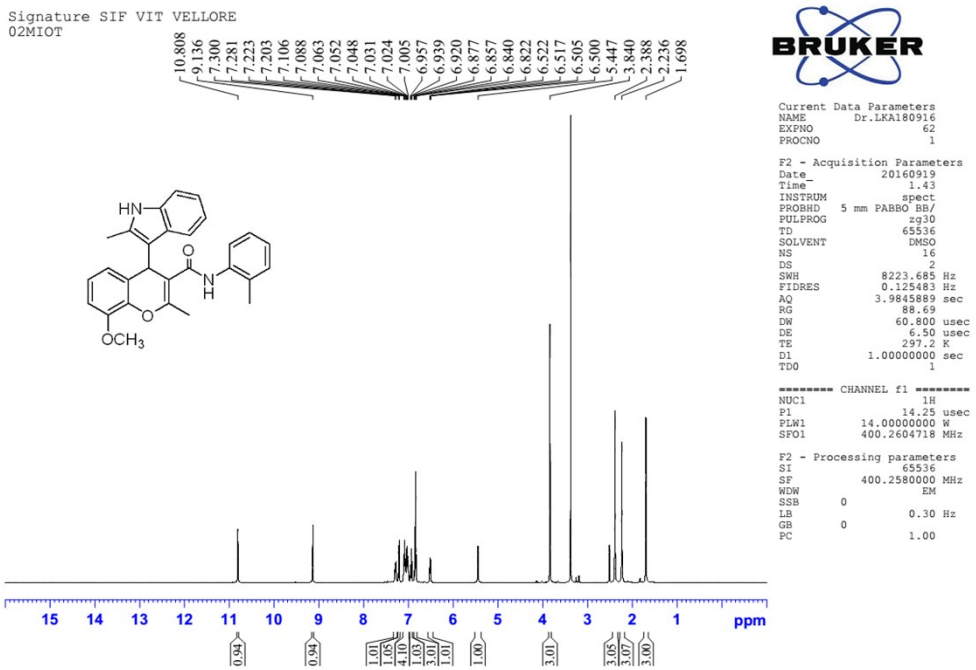
HRMS Spectra of 8-Methoxy-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-phenyl-4*H*-chromene-3-carboxamide 4j



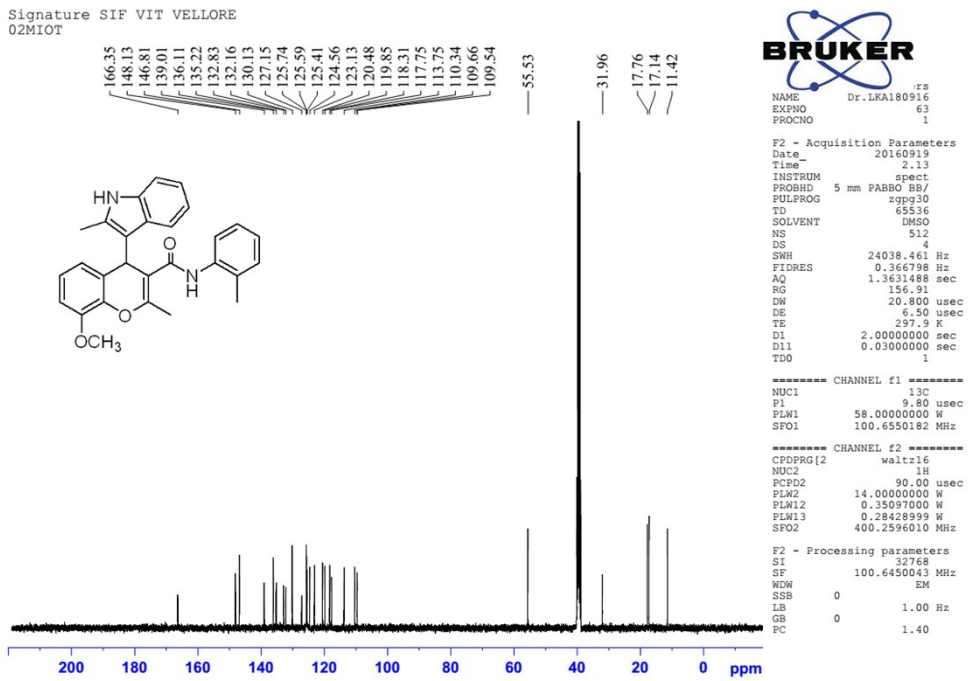
[1]H NMR Spectra of 4-(1*H*-indol-3-yl)-8-methoxy-2-methyl-*N*-(*o*-tolyl)-4*H*-chromene-3-carboxamide 4k



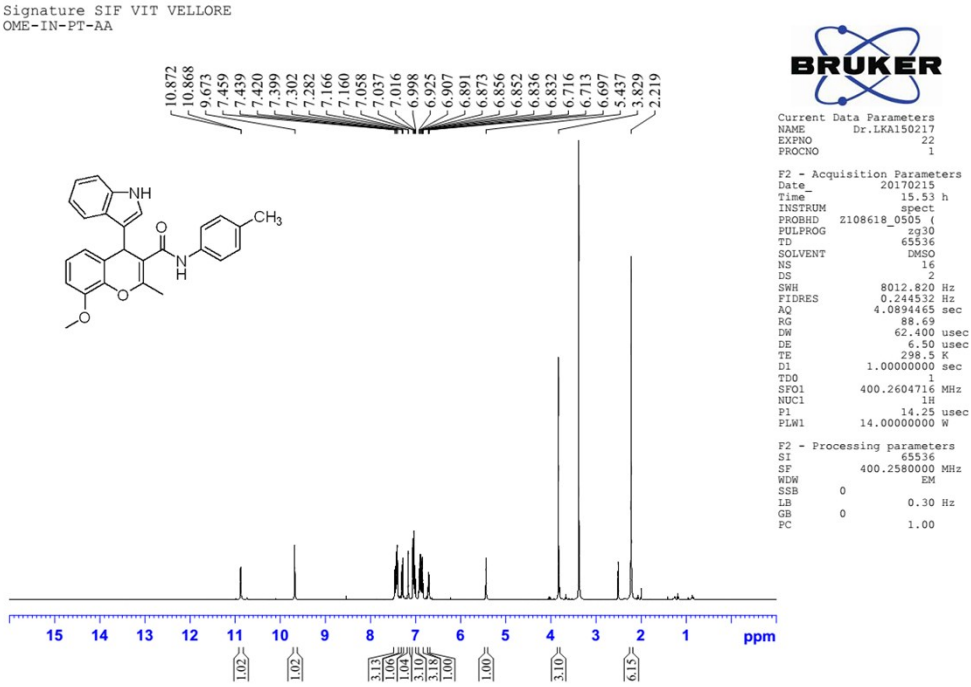
[13]C NMR Spectra of 4-(1*H*-indol-3-yl)-8-methoxy-2-methyl-*N*-(*o*-tolyl)-4*H*-chromene-3-carboxamide 4k



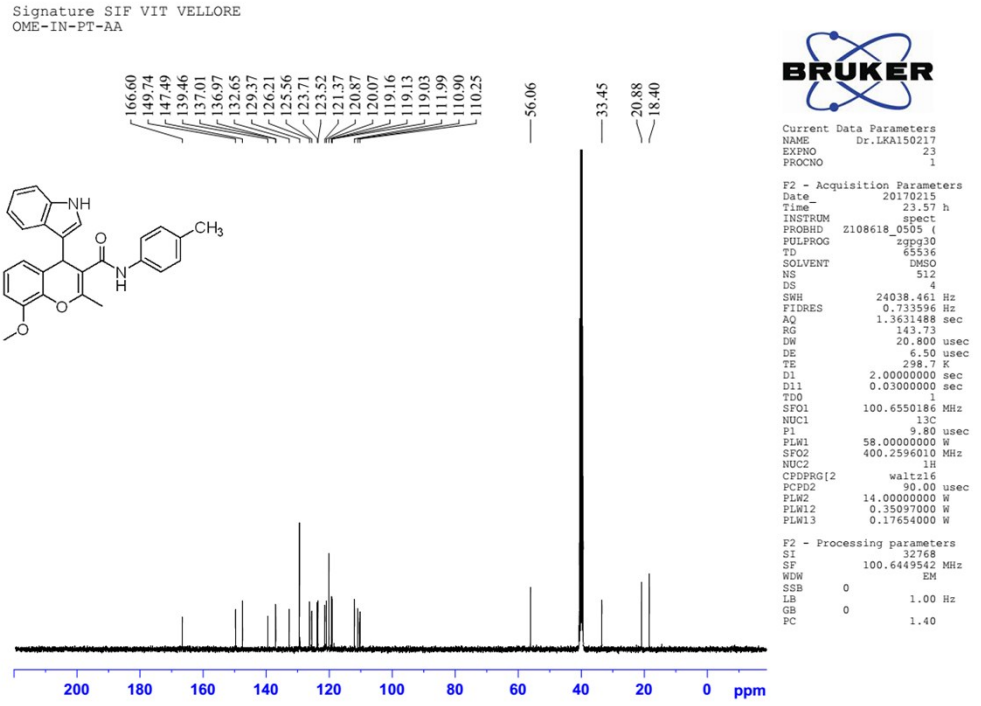
[1]H NMR Spectra of 8-Methoxy-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-(*o*-tolyl)-4*H*-chromene-3-carboxamide 4l



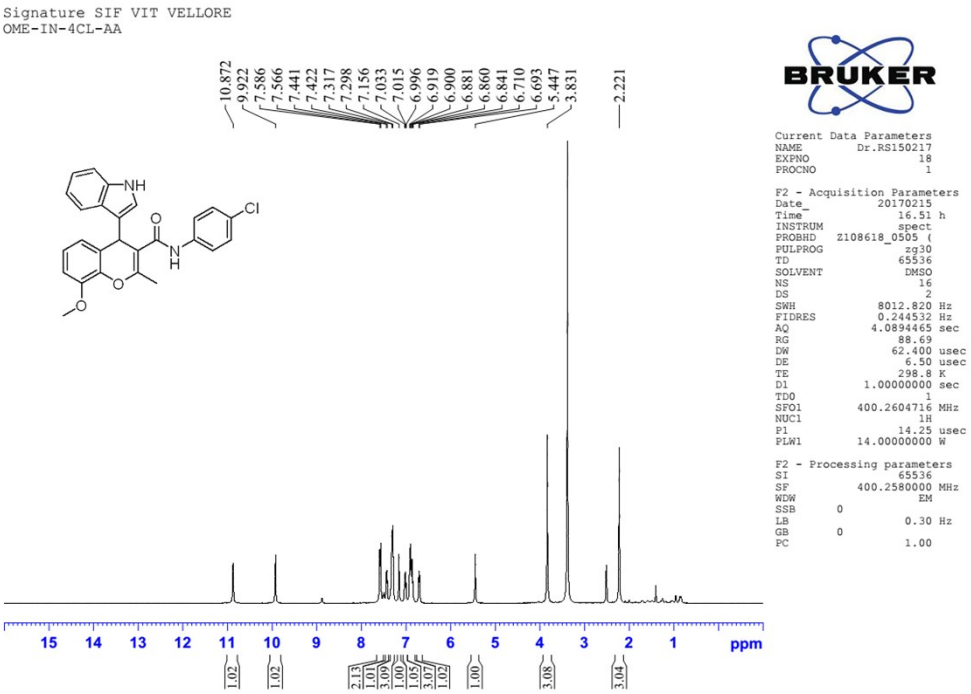
[13]C NMR Spectra of 8-Methoxy-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-(*o*-tolyl)-4*H*-chromene-3-carboxamide 4l



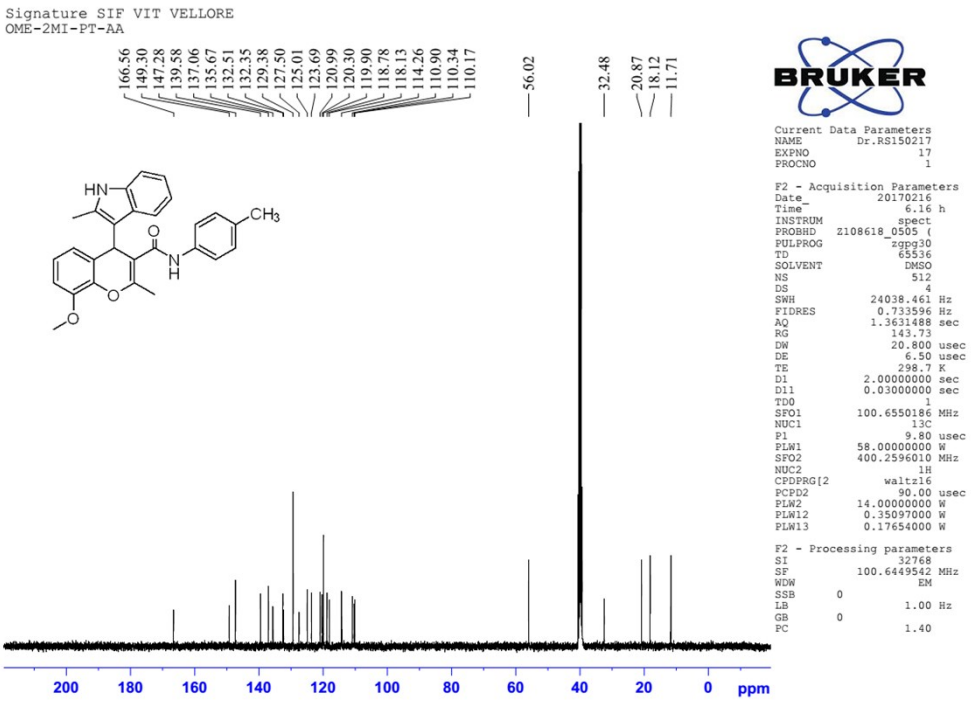
[1]H NMR Spectra of 4-(1*H*-indol-3-yl)-8-methoxy-2-methyl-*N*-(*p*-tolyl)-4*H*-chromene-3-carboxamide 4m



[13]C NMR Spectra of 4-(1*H*-indol-3-yl)-8-methoxy-2-methyl-*N*-(*p*-tolyl)-4*H*-chromene-3-carboxamide 4m

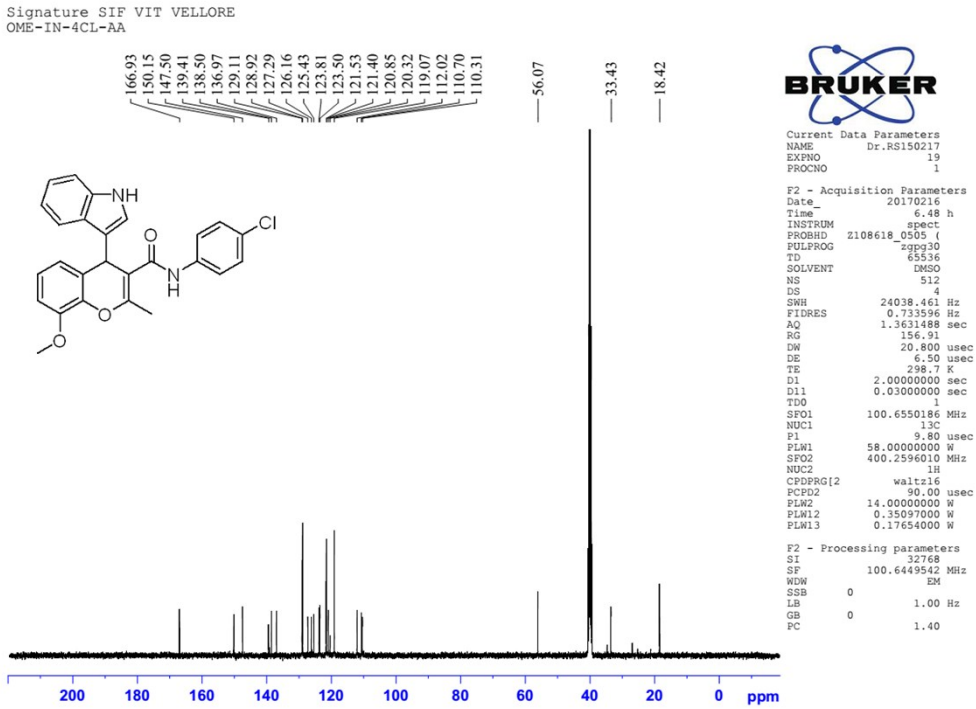


[1]H NMR Spectra of 8-Methoxy-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-(*p*-tolyl)-4*H*-chromene-3-carboxamide 4n

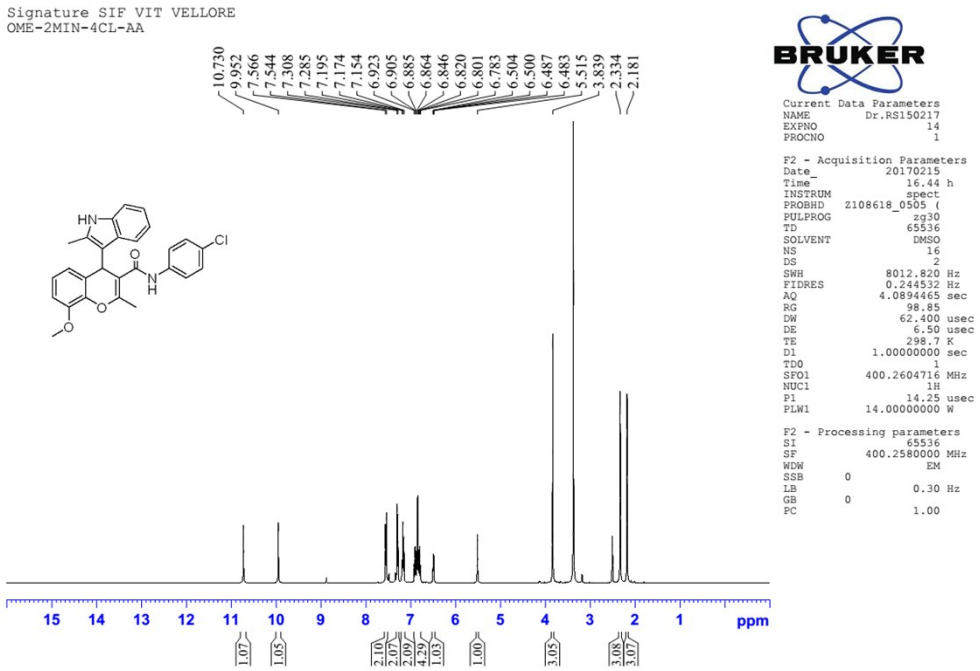


[13]CNMR Spectra of 8-Methoxy-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-*N*-(*p*-tolyl)-4*H*-chromene-3-carboxamide 4n

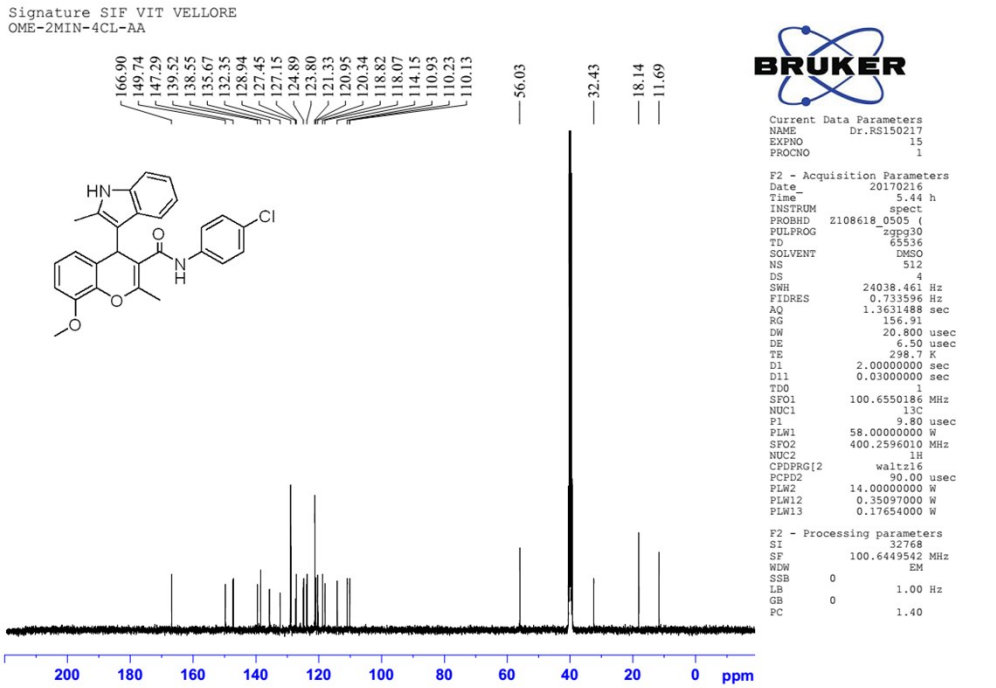
^{1}H NMR Spectra of *N*-(4-Chlorophenyl)-4-(1*H*-indol-3-yl)-8-methoxy-2-methyl-4*H*-chromene-3-carboxamide 4o



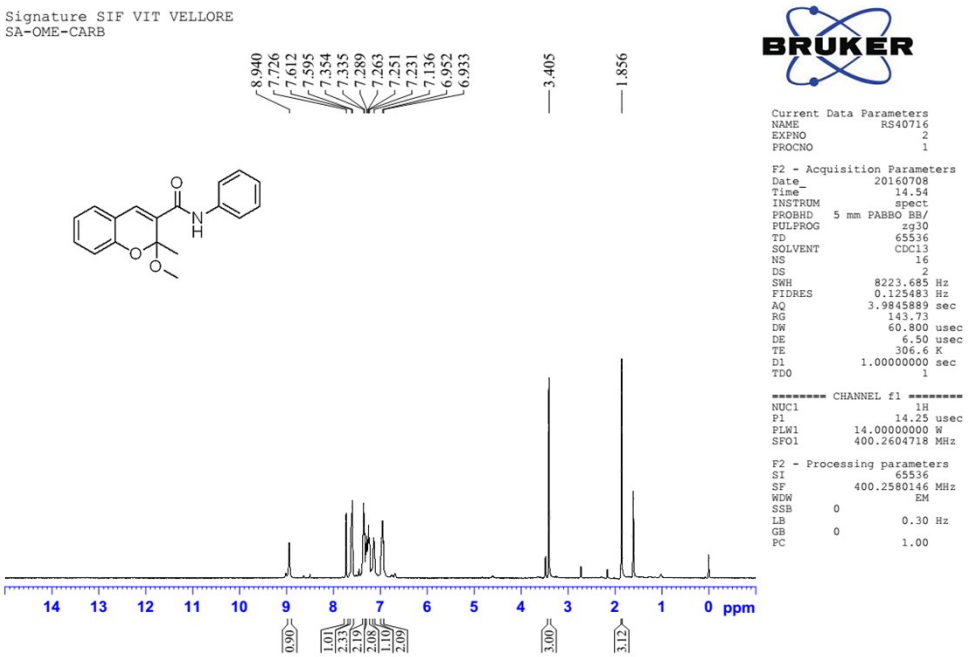
^{13} C NMR Spectra of *N*-(4-Chlorophenyl)-4-(1*H*-indol-3-yl)-8-methoxy-2-methyl-4*H*-chromene-3-carboxamide 4o



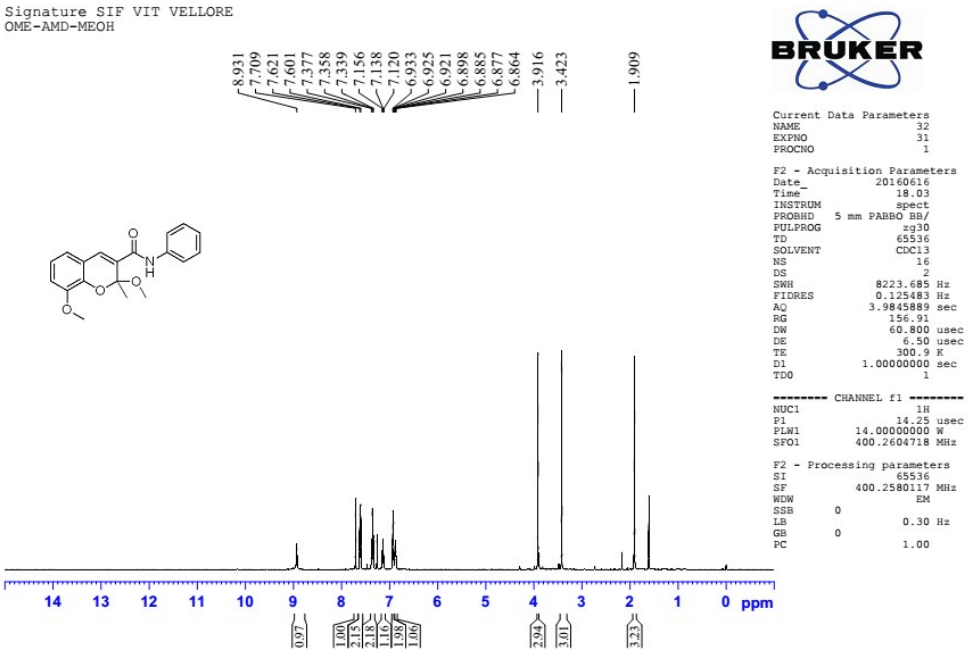
[1]H NMR Spectra of *N*-(4-Chlorophenyl)-8-methoxy-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-4*H*-chromene-3-carboxamide 4p



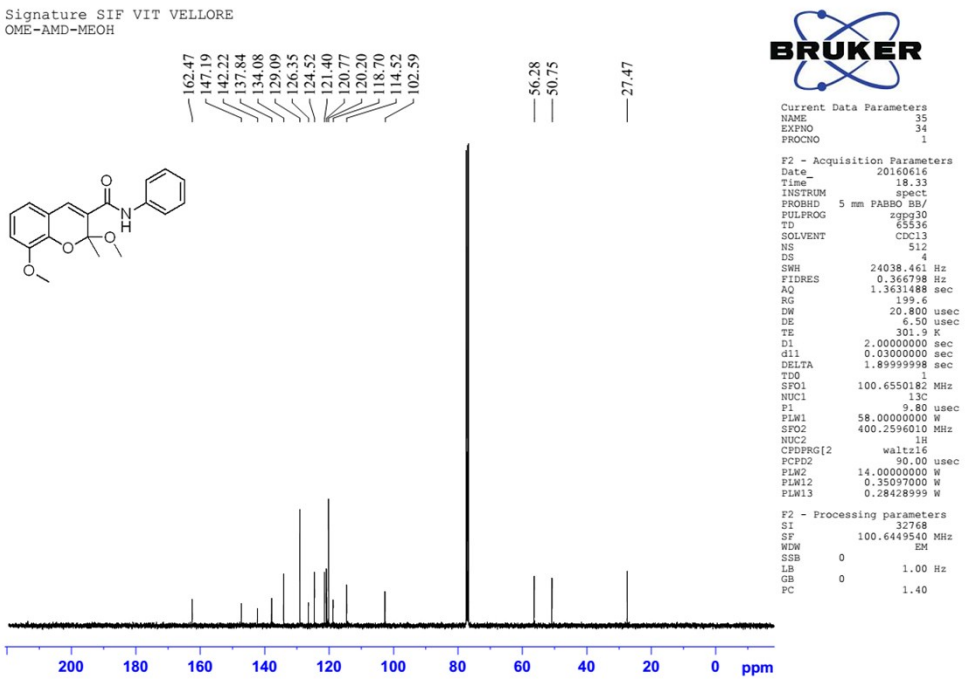
[13]C NMR Spectra of *N*-(4-Chlorophenyl)-8-methoxy-2-methyl-4-(2-methyl-1*H*-indol-3-yl)-4*H*-chromene-3-carboxamide 4p



[1]H NMR Spectra of 2-Methoxy-2-methyl-*N*-phenyl-2*H*-chromene-3-carboxamide



[1]H NMR Spectra of 2,8-Dimethoxy-2-methyl-*N*-phenyl-2*H*-chromene-3-carboxamide



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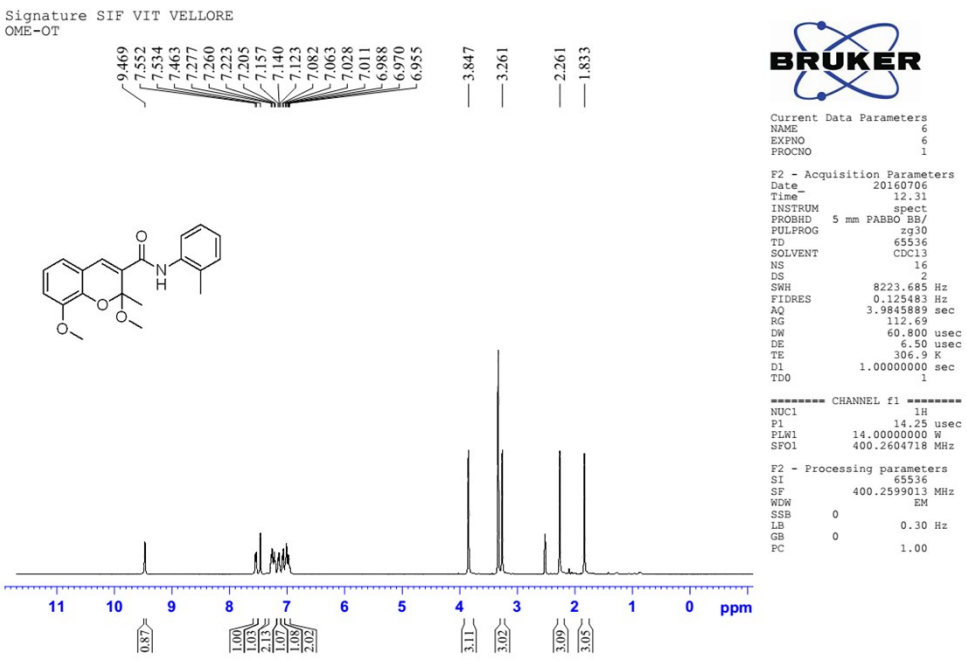
^{13}C NMR Spectra of 2,8-Dimethoxy-2-methyl-*N*-phenyl-2*H*-chromene-3-carboxamide



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PROCNO 1

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Time 12.31
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RG 112.69
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F2 - Processing parameters
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SF 400.2599013 MHz
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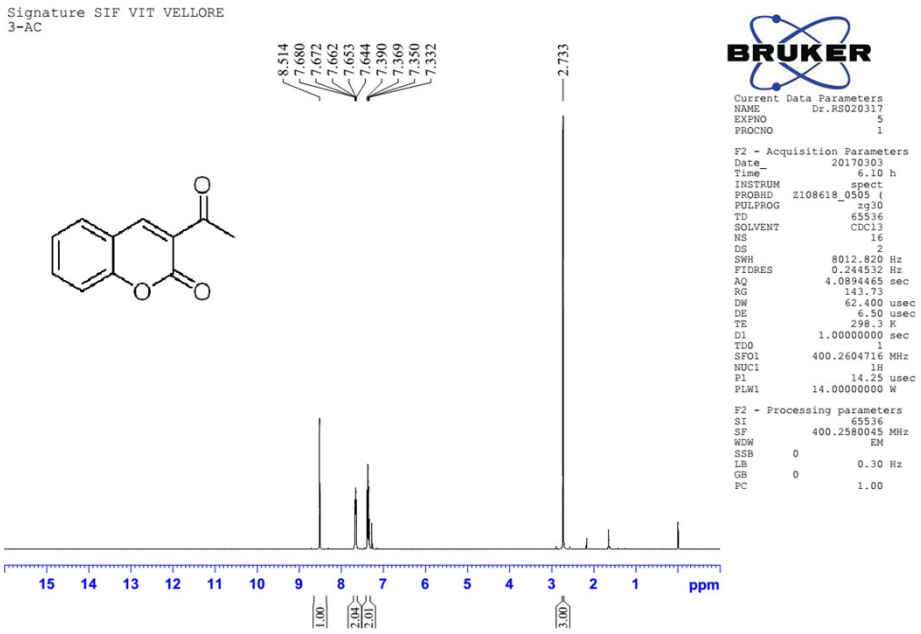
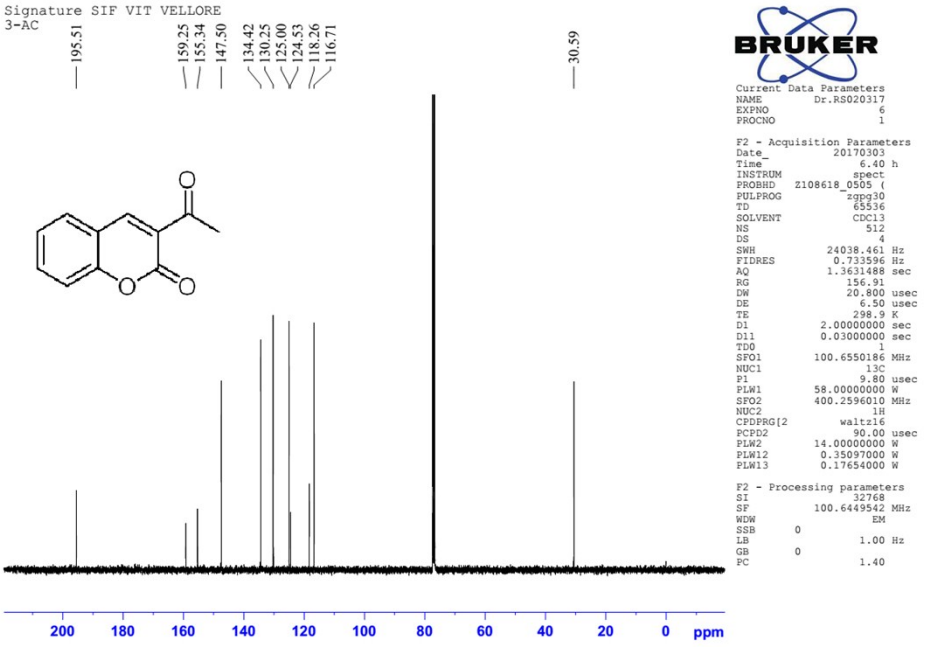
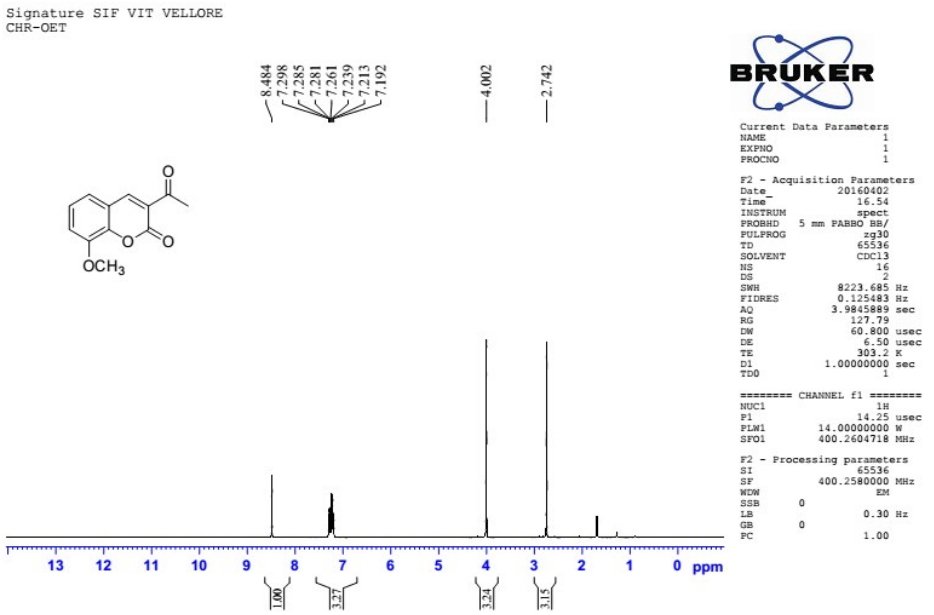
^{1}H NMR Spectra of 2,8-Dimethoxy-2-methyl-*N*- (*o*-tolyl)-2*H*-chromene-3-carboxamide



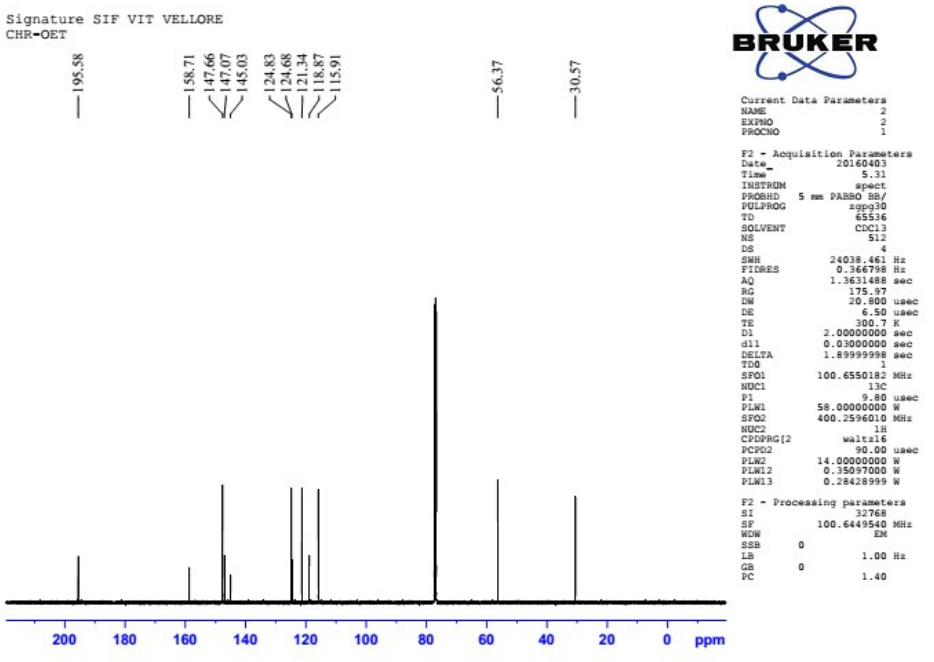
[1]H NMR Spectra of 3-Acetyl-2H-chromen-2-one 6a



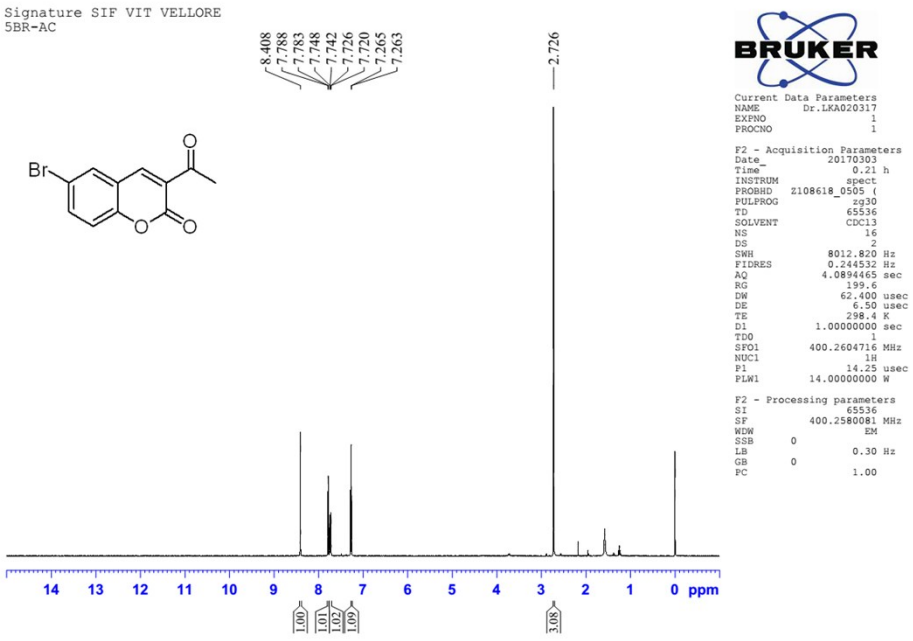
[13]C NMR Spectra of 3-Acetyl-2H-chromen-2-one 6a



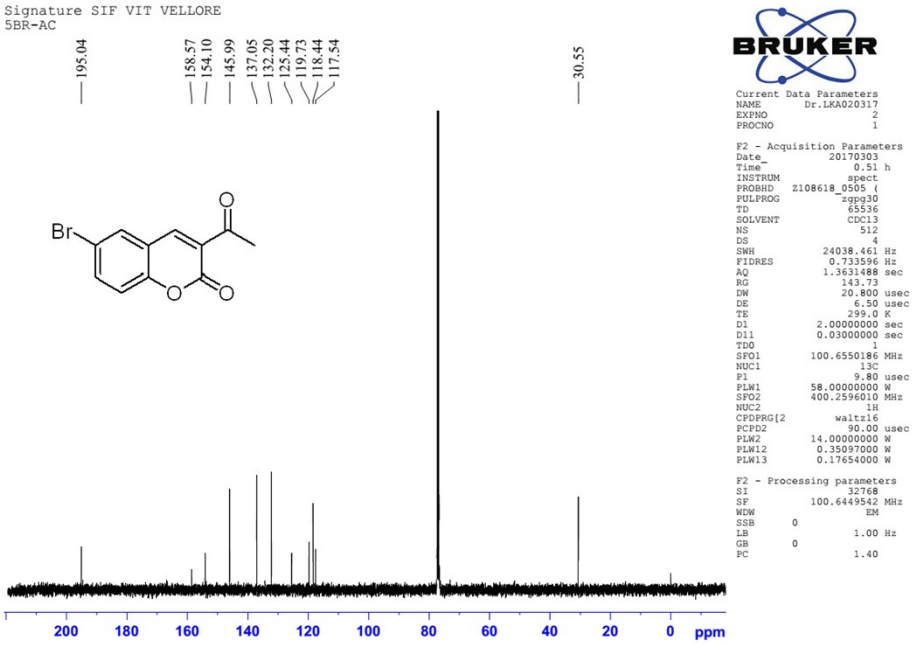
[1]H NMR Spectra of 3-Acetyl-8-methoxy-2*H*-chromen-2-one 6b



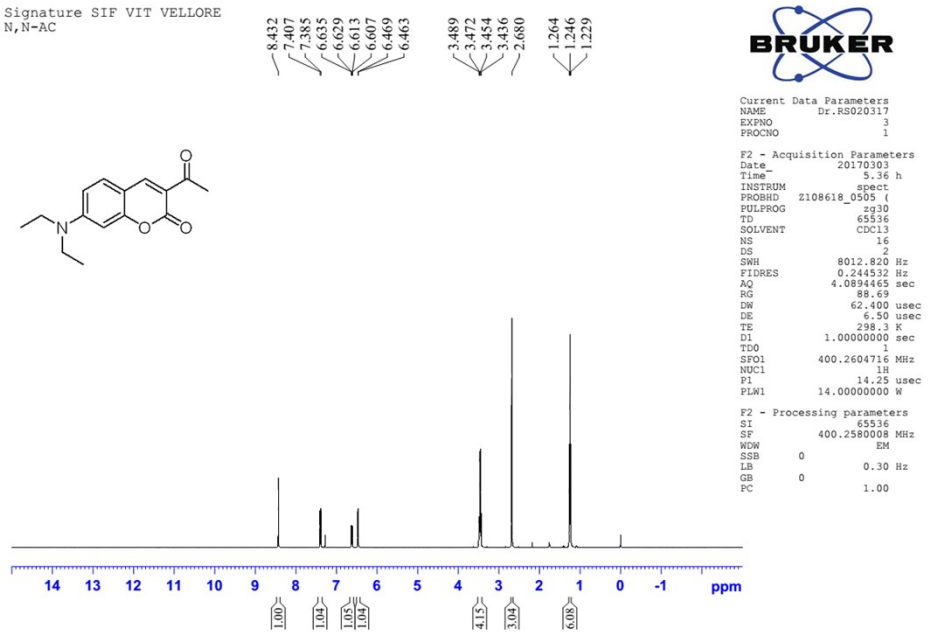
[13]C NMR Spectra of 3-Acetyl-8-methoxy-2*H*-chromen-2-one 6b



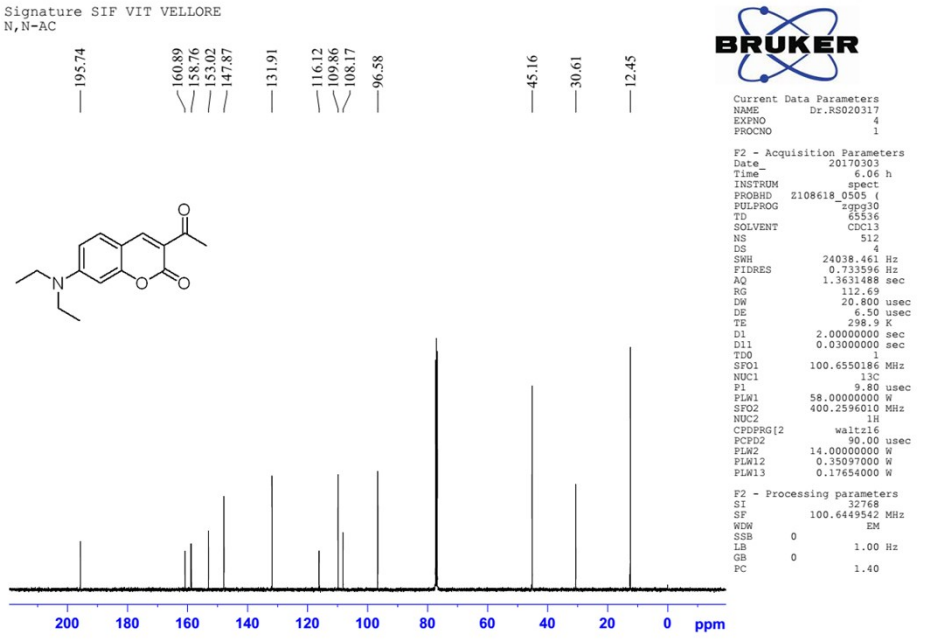
[1]H NMR Spectra of 3-Acetyl-6-bromo-2H-chromen-2-one 6c



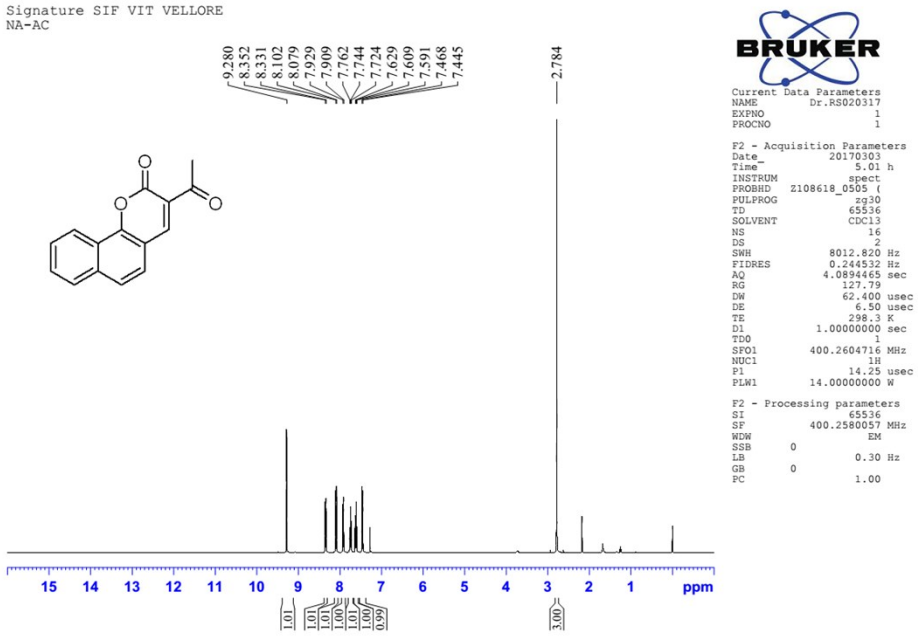
[13]C NMR Spectra of 3-Acetyl-6-bromo-2H-chromen-2-one 6c



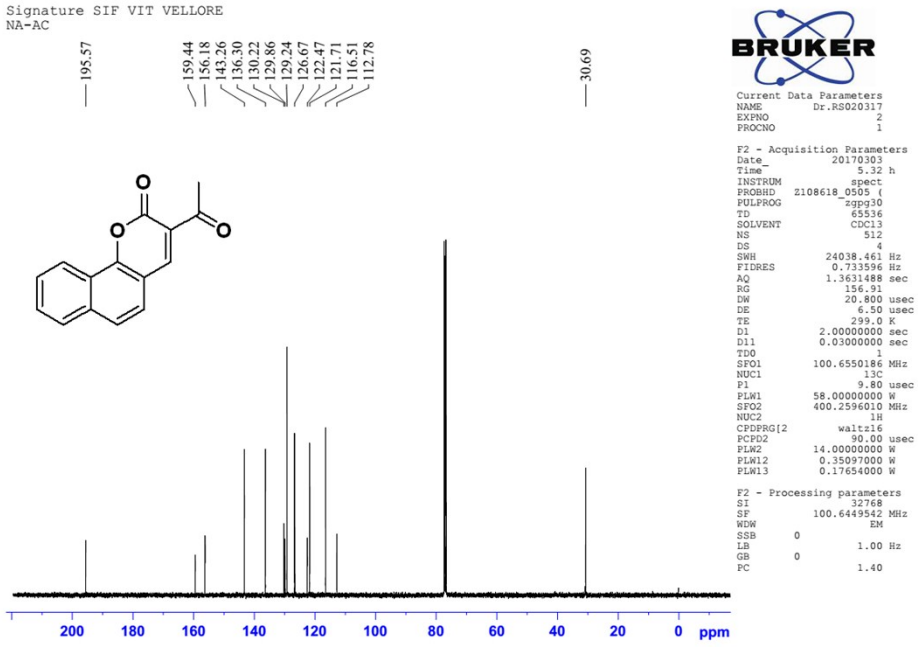
[1]H NMR Spectra of 3-Acetyl-7-(diethylamino)-2H-chromen-2-one 6d



[13]C NMR Spectra of 3-Acetyl-7-(diethylamino)-2H-chromen-2-one 6d



[1]H NMR Spectra of 3-Acetyl-2H-benzo[h]chromen-2-one 6e



[13]C NMR Spectra of 3-Acetyl-2H-benzo[h]chromen-2-one 6e