Supporting Information

A Grignard mediated route to access 4-substituted-3-*E*-styryl-2*H*-chromenes: alternate Extrinsic FRET Probes to explore IIA and IIIA Subdomain of Serum Proteins

Soumyadipta Rakshit,*[†] Sanjay Bhar,[§] and Rimi Roy,*[‡]

[†] Department of Chemistry, Motilal Nehru National Institute of Technology Allahabad, Prayagraj – 211004, Uttar Pradesh, India

[§] Department of Chemistry, Jadavpur University, 188, Raja S.C. Mallick Road, Kolkata – 700032, West Bengal, India

[‡] Department of Chemistry, Presidency University (Main Campus), 86/1, College Street, Kolkata – 700073, West Bengal, India

*Corresponding author

*E-mail: srakshit@mnnit.ac.in; rimi.chem@presiuniv.ac.in

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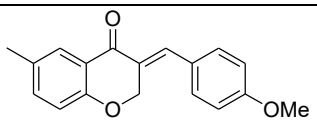
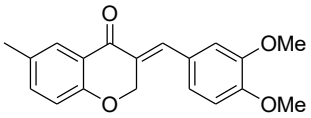
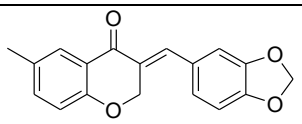
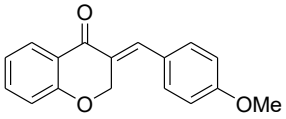
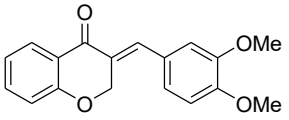
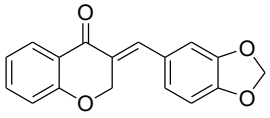
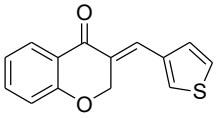
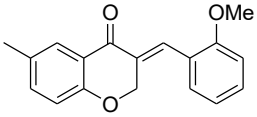
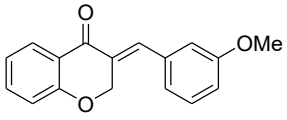
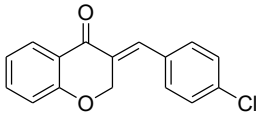
Experimental Section

As per the provided synthetic route, the *E*-3-arylidene-chroman-4-ones shown below were prepared.

Entry	Chromanochalcones	Isolated Yield (%)	Melting Point (ºC)
1.	 *E*-3-(4-methoxybenzylidene)-2,3-dihydro-6-methylchromen-4-one; Yellowish white solid	80	120–122
2.	 *E*-3-(3,4-dimethoxybenzylidene)-2,3-dihydro-6-methylchromen-4-one; Orange solid	75	132–134

3.	 *E*-3-((benzo[*d*][1,3]dioxol-5-yl)methylene)-2,3-dihydro-6-methylchromen-4-one; Light brown solid	78	128–130
4.	 *E*-3-(4-methoxybenzylidene)-2,3-dihydrochromen-4-one; Yellowish white solid	82	112–114
5.	 *E*-3-(3,4-dimethoxybenzylidene)-2,3-dihydrochromen-4-one; Orange solid	86	124–126
6.	 *E*-3-((benzo[*d*][1,3]dioxol-5-yl)methylene)-2,3-dihydrochromen-4-one; Yellow solid	80	120–122
7.	 *E*-2,3-dihydro-3-((thiophen-3-yl)methylene)chromen-4-one; Yellow solid	78	128–130
8.	 *E*-3-(2-methoxybenzylidene)-2,3-dihydro-6-methylchromen-4-one; Light brown solid	94	138–140
9.	 *E*-3-(3-methoxybenzylidene)-2,3-dihydrochromen-4-one; Orange solid	74	68–70
10.	 *E*-3-(4-chlorobenzylidene)-2,3-dihydrochromen-4-one; Yellowish white solid	82	168–170

According to the described procedure, chromanochalcones were converted to spiro-4-oxochroman-3,1'-cyclopropanes **(1a-1j)**.

(1a): Light yellow semi-solid, yield = 92% (0.541g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.73 (d, J = 1.5 Hz, 1H, aromatic–H), 7.29 (d, J = 2.2 Hz, 1H, aromatic–H), 7.18–7.16 (m, 2H, aromatic–Hs), 6.87–6.83 (m, 3H, aromatic–Hs), 4.30 (d, J = 12.0 Hz, 1H, –OCH_2–), 3.89 (d, J = 12.0 Hz, 1H, –OCH_2–), 3.79 (s, 3H, –OCH_3), 2.95 (t, J = 8.5 Hz, 1H, cyclopropyl-H), 2.32 (s, 3H, –CH_3), 2.00 (dd, J_1 = 8.9 Hz, J_2 = 4.7 Hz, 1H, cyclopropyl-H), 1.32 (dd, J_1 = 7.2 Hz, J_2 = 4.8 Hz, 1H, cyclopropyl-H); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 192.6, 159.9, 158.9, 136.6, 130.8, 130.3, 127.6, 126.6, 121.4, 117.9, 113.9, 69.0, 55.2, 33.5, 32.8, 20.4, 17.1.

(1b): Pale yellow semi-solid, yield = 94% (0.609 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.74 (d, J = 1.8 Hz, 1H, aromatic–H), 7.31–7.27 (m, 1H, aromatic–H), 6.87–6.77 (m, 4H, aromatic–Hs), 4.31 (d, J = 11.9 Hz, 1H, –OCH_2–), 3.94–3.90 (m, 1H, –OCH_2–), 3.88 and 3.85 (2s, 6H, –OCH_3s), 2.97 (t, J = 8.3 Hz, 1H, cyclopropyl-H), 2.33 (s, 3H, –CH_3), 2.00 (dd, J_1 = 8.8 Hz, J_2 = 4.7 Hz, 1H, cyclopropyl-H), 1.33 (dd, J_1 = 7.02 Hz, J_2 = 4.7 Hz, 1H, cyclopropyl-H); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 192.8, 159.8, 148.8, 148.4, 136.7, 130.8, 128.1, 126.6, 121.4, 121.0, 117.8, 112.8, 111.0, 69.0, 55.8, 33.9, 32.7, 20.4, 17.2.

(1c): Pale yellow semi-solid, yield = 96% (0.592 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.72 (s, 1H, aromatic–H), 7.30–7.27 (m, 1H, aromatic–H), 6.85 (d, J = 8.4 Hz, 1H, aromatic–H), 6.77–6.69 (m, 3H, aromatic–Hs), 5.95 (s, 2H, –OCH_2O–), 4.32 (d, J = 12.0 Hz, 1H, –OCH_2–), 3.92 (d, J = 12.0 Hz, 1H, –OCH_2–), 2.92 (t, J = 8.3 Hz, 1H, cyclopropyl-H), 2.32 (s, 3H, –CH_3), 1.99 (dd, J_1 = 8.8 Hz, J_2 = 4.8 Hz, 1H, cyclopropyl-H), 1.29 (dd, J_1 = 7.01 Hz, J_2 = 4.8 Hz, 1H, cyclopropyl-H); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 192.7, 159.8, 147.7, 146.9, 136.7, 130.9, 129.4, 126.6, 122.4, 121.3, 117.9, 109.7, 108.1, 101.1, 68.9, 34.0, 32.8, 20.4, 17.1.

(1d): Yellow semi-solid, yield = 95% (0.532 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.95 (d, J = 7.3 Hz, 1H, aromatic–H), 7.48–7.43 (m, 1H, aromatic–H), 7.17 (d, J = 8.4 Hz, 2H, aromatic–Hs), 7.03 (t, J = 7.7 Hz, 1H, aromatic–Hs), 6.94 (d, J = 8.3 Hz, 1H, aromatic–H), 6.86 (d, J = 8.6 Hz, 2H, aromatic–Hs), 4.33 (d, J = 12.0 Hz, 1H, –OCH_2–), 3.92 (d, J = 12.0 Hz, 1H, –OCH_2–), 3.79 (s, 3H, –OCH_3), 2.96 (t, J = 8.1 Hz, 1H, cyclopropyl-H), 2.04–2.00 (m, 1H, cyclopropyl-H), 1.36–1.32 (m, 1H, cyclopropyl-H); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 192.5, 161.8, 158.9, 135.6, 130.3, 127.4, 127.0, 121.7, 121.4, 118.1, 113.9, 69.0, 55.2, 33.7, 32.7, 17.0.

(1e): Yellow semi-solid, yield = 97% (0.602 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.88 (d, J = 7.9 Hz, 1H, aromatic–H), 7.39 (t, J = 8.0 Hz, 1H, aromatic–H), 6.97 (t, J = 7.7 Hz, 1H, aromatic–H), 6.87 (d, J = 8.3 Hz, 1H, aromatic–H), 6.77–6.70 (m, 3H, aromatic–Hs), 4.27 (d, J = 12.0 Hz, 1H, –OCH_2–), 3.88 (d, J = 12.6 Hz, 1H, –OCH_2–), 3.80 and 3.78 (2s, 6H, –OCH_3s), 2.91 (t, J = 8.4 Hz, 1H, cyclopropyl-H), 1.97–1.92 (m, 1H, cyclopropyl-H), 1.31–1.27 (m, 1H, cyclopropyl-H); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 192.2, 161.6, 148.7, 148.3, 135.5, 127.9, 126.8, 121.6, 121.3, 121.0, 117.9, 112.8, 110.9, 68.8, 55.7, 33.8, 32.6, 17.0.

(1f): Pale yellow semi-solid, yield = 96% (0.565 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.94 (d, J = 7.2 Hz, 1H, aromatic–H), 7.48 (t, J = 8.1 Hz, 1H, aromatic–H), 7.05 (t, J = 7.5 Hz, 1H, aromatic–H), 6.95 (d, J = 8.4 Hz, 1H, aromatic–H), 6.78–6.70 (m, 3H, aromatic–Hs), 5.96 (s, 2H, –OCH_2O–), 4.36 (d, J = 12.0 Hz, 1H, –OCH_2–), 3.96 (d, J = 12.0 Hz, 1H, –OCH_2–), 2.94 (t, J = 8.3 Hz, 1H, cyclopropyl-H), 2.01 (dd, J_1 = 8.8 Hz, J_2 = 4.8 Hz, 1H, cyclopropyl-H), 1.33–1.29 (m, 1H, cyclopropyl-H); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 192.5, 161.7, 147.7, 147.0, 135.7, 129.3, 127.0, 122.4, 121.7, 121.4, 118.1, 109.7, 108.2, 101.1, 68.9, 34.0, 32.8, 17.1.

(1g): Orange semi-solid, yield = 93% (0.476 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.94 (d, J = 7.9 Hz, 1H, aromatic–H), 7.48 (t, J = 7.8 Hz, 1H, aromatic–H), 7.22 (d, J = 5.1 Hz, 1H, aromatic–H), 7.08–6.90 (m, 4H, aromatic–Hs), 4.42 (d, J = 12.1 Hz, 1H, –OCH_2–), 4.12 (d, J = 12.1 Hz, 1H, –OCH_2–), 3.04 (t, J = 8.3 Hz, 1H, cyclopropyl-H), 2.13 (dd, J_1 = 8.9 Hz, J_2 = 4.7 Hz, 1H, cyclopropyl-H), 1.39–1.35 (m, 1H, cyclopropyl-H); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 191.8, 161.8, 139.5, 135.9, 127.1, 126.9, 125.3, 121.7, 121.6, 118.2, 68.9, 33.4, 28.1, 19.1.

(1h): Yellow semi-solid, yield = 95% (0.559 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.76 (s, 1H, aromatic–H), 7.30–7.26 (m, 2H, aromatic–Hs), 7.10 (d, J = 7.4 Hz, 1H, aromatic–H), 6.94–6.79 (m, 3H, aromatic–Hs), 4.21 (d, J = 11.9 Hz, 1H, –OCH_2–), 3.77 (d, J = 11.9 Hz, 1H, –OCH_2–), 3.62 (s, 3H, –OCH_3), 2.91 (t, J = 8.1 Hz, 1H, cyclopropyl-H), 2.33 (s, 3H, –CH_3), 2.03–1.98 (m, 1H, cyclopropyl-H), 1.38–1.34 (m, 1H, cyclopropyl-H); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 193.1, 159.8, 159.5, 136.4, 130.4, 129.0, 128.6, 126.7, 124.6, 121.3, 120.0, 117.6, 110.2, 69.0, 55.1, 31.9, 29.8, 20.4, 16.5.

(1i): Yellow semi-solid, yield = 96% (0.538 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.95 (d, J = 7.9 Hz, 1H, aromatic–H), 7.47 (t, J = 7.8 Hz, 1H, aromatic–H), 7.24 (t, J = 7.9 Hz, 1H, aromatic–H), 7.05 (t, J = 7.5 Hz, 1H, aromatic–H), 6.94 (d, J = 8.3 Hz, 1H, aromatic–H), 6.85–6.81 (m, 3H, aromatic–Hs), 4.32 (d, J = 12.0 Hz, 1H, –OCH_2–), 3.99 (d, J = 12.0 Hz, 1H, –OCH_2–), 3.79 (s, 3H, –OCH_3), 3.03 (t, J = 8.1 Hz, 1H, cyclopropyl-H), 2.00 (dd, J_1 = 8.9 Hz, J_2 = 4.8 Hz, 1H, cyclopropyl-H), 1.43–1.39 (m, 1H, cyclopropyl-H); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 192.4, 161.9, 159.7, 137.2, 135.8, 129.6, 129.5, 127.1, 121.8, 121.5, 118.2, 115.2, 112.8, 69.0, 55.1, 33.8, 32.7, 17.2.

(1j): Yellow semi-solid, yield = 98% (0.557 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.94 (d, J = 7.9 Hz, 1H, aromatic–H), 7.47 (t, J = 8.4 Hz, 1H, aromatic–H), 7.31–7.17 (m, 4H, aromatic–Hs), 7.04 (t, J = 7.3 Hz, 1H, aromatic–H), 6.94 (d, J = 8.3 Hz, 1H, aromatic–H), 4.33 (d, J = 12.1 Hz, 1H, –OCH_2–), 3.89 (d, J = 12.1 Hz, 1H, –OCH_2–), 2.96 (t, J = 8.2 Hz, 1H, cyclopropyl-H), 2.04 (dd, J_1 = 8.8 Hz, J_2 = 4.9 Hz, 1H, cyclopropyl-H), 1.37–1.33 (m, 1H, cyclopropyl-H);

$^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$): δ_C 192.0, 161.7, 135.8, 134.2, 133.2, 130.6, 128.6, 127.0, 121.6, 121.5, 118.1, 68.8, 33.1, 32.7, 16.7.

3-(4-methoxystyryl)-4,6-dimethyl-2*H*-chromene (2a):
Brownish yellow solid, yield = 91% (0.27 g), mp: 158–160 °C; ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.42 (d, J = 8.8 Hz, 2H, aromatic–Hs *meta* to –OMe), 7.14 (d, J = 16.4 Hz, 1H, olefinic–H), 7.09–6.77 (m, 5H, aromatic–Hs), 6.45 (d, J = 16.4 Hz, 1H, olefinic–H), 4.94 (s, 2H, –OCH_2–), 3.83 (s, 3H, –OCH_3), 2.32 (s, 3H, –CH_3), 2.21 (s, 3H, –CH_3); $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$): δ_C 159.4, 151.8, 130.5, 130.4, 129.0, 127.6, 127.4, 126.6, 126.0, 125.2, 124.5, 121.6, 115.4, 114.2, 65.6, 55.3, 20.9, 12.8; HRMS (ESI-TOF, *m/z*): calcd for $C_{20}H_{21}O_2$ $[M+H]^+$ 293.1542, found 293.1546.

3-(3,4-dimethoxystyryl)-4,6-dimethyl-2*H*-chromene (2b):
Light yellow solid, yield = 88% (0.29 g), mp: 138–140 °C; ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.15–7.01 (m, 4H, aromatic–Hs and olefinic–H), 6.95 (d, J = 8.2 Hz, 1H, aromatic–H), 6.85 (d, J = 8.2 Hz, 1H, aromatic–H), 6.77 (d, J = 8.1 Hz, 1H, aromatic–H), 6.44 (d, J = 16.3 Hz, 1H, olefinic–H), 4.93 (s, 2H, –OCH_2–), 3.94 (s, 3H, –OCH_3), 3.90 (s, 3H, –OCH_3), 2.31 (s, 3H, –CH_3), 2.22 (s, 3H, –CH_3); $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$): δ_C 151.7, 149.1, 149.0, 130.7, 130.5, 129.0, 127.6, 126.8, 125.8, 125.1, 124.5, 121.7, 119.5, 115.3, 111.2, 108.8, 65.5, 55.9 (2), 20.9, 12.8; HRMS (ESI-TOF, *m/z*): calcd for $C_{21}H_{23}O_3$ $[M+H]^+$ 323.1648, found 323.1643.

3-((*E*)-2-(benzo[*d*][1,3]dioxol-5-yl)vinyl)-4,6-dimethyl-2*H*-chromene (2c):
Brownish yellow semi-solid, yield = 89% (0.27 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.12–6.75 (m, 7H, aromatic–Hs and olefinic–H), 6.40 (d, J = 16.2 Hz, 1H, olefinic–H), 5.98 (s, 2H, –OCH_2O–), 4.91 (s, 2H, –OCH_2–), 2.31 (s, 3H, –CH_3), 2.21 (s, 3H, –CH_3); $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$): δ_C 151.7, 148.2, 147.3, 132.1, 130.5, 129.0, 127.4, 127.0, 125.7, 125.1, 124.5, 121.9, 121.4, 115.3, 108.5, 105.2, 101.1, 65.5, 20.9, 12.7; HRMS (ESI-TOF, *m/z*): calcd for $C_{20}H_{19}O_3$ $[M+H]^+$ 307.1335, found 307.1328.

3-(4-methoxystyryl)-4-methyl-2*H*-chromene (2d):
Yellow semi-solid, yield = 96% (0.27 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.42 (d, J = 8.7 Hz, 2H, aromatic–Hs *meta* to –OMe), 7.30–6.85 (m, 7H, aromatic–Hs and olefinic–H), 6.45 (d, J = 16.4 Hz, 1H, olefinic–H), 4.98 (s, 2H, –OCH_2–), 3.83 (s, 3H, –OCH_3), 2.22 (s, 3H, –CH_3); $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$): δ_C 159.5, 154.0, 130.4, 128.6, 128.5, 128.0, 127.7 (2), 126.5, 125.9, 125.5, 124.1, 121.5, 115.7, 114.3, 65.7, 55.4, 55.3 12.8; HRMS (ESI-TOF, *m/z*): calcd for $C_{19}H_{19}O_2$ $[M+H]^+$ 279.1386, found 279.1381.

3-(3,4-dimethoxystyryl)-4-methyl-2*H*-chromene (2e):
Yellow solid, yield = 94% (0.29 g), mp: 158–160 °C; ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.30–6.82 (m, 8H, aromatic–Hs and olefinic–H), 6.43 (d, J = 16.3 Hz, 1H, olefinic–H), 4.97 (s, 2H,

–OC$\underline{H}_2$–), 3.94 (s, 3H, –OC$\underline{H}_3$), 3.89 (s, 3H, –OC$\underline{H}_3$), 2.22 (s, 3H, –C$\underline{H}_3$); $^{13}C\{^1H\}$ NMR (75 MHz, $CDCl_3$): δ_C 153.9, 149.2, 149.1, 130.7, 128.6, 127.9, 126.6, 125.8, 125.4, 124.0, 121.7, 121.4, 119.7, 115.7, 111.4, 109.0, 65.6, 56.0, 55.9, 12.8; HRMS (ESI-TOF, *m/z*): calcd for $C_{20}H_{21}O_3$ $[M+H]^+$ 309.1491, found 309.1484.

3-((*E*)-2-(benzo[*d*][1,3]dioxol-5-yl)vinyl)-4-methyl-2*H*-chromene (2f):
Yellow solid, yield = 92% (0.27 g), mp: 136–138 °C; ^1H NMR (300 MHz, $CDCl_3$): δ_H 7.30–6.78 (m, 8H, aromatic–Hs and olefinic–H), 6.41 (d, J = 16.3 Hz, 1H, olefinic–H), 5.98 (s, 2H, –OC$\underline{H}_2$O–), 4.96 (s, 2H, –OC$\underline{H}_2$–), 2.22 (s, 3H, –C$\underline{H}_3$); $^{13}C\{^1H\}$ NMR (75 MHz, $CDCl_3$): δ_C 154.0, 148.4, 147.5, 132.2, 128.7, 127.8, 126.9, 125.7, 125.4, 124.1, 121.9, 121.6 (2), 115.8, 108.6, 105.4, 101.3, 65.6, 12.9; HRMS (ESI-TOF, *m/z*): calcd for $C_{19}H_{17}O_3$ $[M+H]^+$ 293.1178, found 293.1173.

4-methyl-3-((*E*)-2-(thiophen-2-yl)vinyl)-2*H*-chromene (2g):
Orange yellow semi-solid, yield = 90% (0.23 g); ^1H NMR (300 MHz, $CDCl_3$): δ_H 7.31–6.70 (m, 8H, aromatic–Hs and olefinic–H), 6.63 (d, J = 16.1 Hz, 1H, olefinic–H), 4.94 (s, 2H, –OC$\underline{H}_2$–), 2.22 (s, 3H, –C$\underline{H}_3$); $^{13}C\{^1H\}$ NMR (75 MHz, $CDCl_3$): δ_C 153.9, 143.2, 128.7, 127.7, 127.4, 126.1, 125.2, 125.1, 124.5, 124.1, 123.0, 121.4, 121.1, 115.6, 65.2, 12.8; HRMS (ESI-TOF, *m/z*): calcd for $C_{16}H_{15}OS$ $[M+H]^+$ 255.0845, found 255.0840.

3-(4-methoxystyryl)-4-ethyl-2*H*-chromene (2h):
Light yellow semi-solid, yield = 90% (0.26 g); ^1H NMR (300 MHz, $CDCl_3$): δ_H 7.44 (d, J = 8.8 Hz, 2H, aromatic–Hs *meta* to –OMe), 7.35–6.90 (m, 7H, aromatic–Hs and olefinic–H), 6.49 (d, J = 16.4 Hz, 1H, olefinic–H), 5.00 (s, 2H, –OC$\underline{H}_2$–), 3.84 (s, 3H, –OC$\underline{H}_3$), 2.80–2.73 (m, 2H, –C$\underline{H}_2$–), 1.27–1.21 (m, 3H, –C$\underline{H}_3$); $^{13}C\{^1H\}$ NMR (75 MHz, $CDCl_3$): δ_C 159.5, 154.4, 132.6, 130.4, 128.5, 127.8, 127.7, 125.1, 124.1, 123.7, 121.5, 121.1, 116.0, 114.3, 65.5, 55.3, 19.8, 14.2; HRMS (ESI-TOF, *m/z*): calcd for $C_{20}H_{21}O_2$ $[M+H]^+$ 293.1542, found 293.1541.

3-((*E*)-2-(benzo[*d*][1,3]dioxol-5-yl)vinyl)-4-ethyl-2*H*-chromene (2i):
Light yellow semi-solid, yield = 92% (0.29 g); ^1H NMR (300 MHz, $CDCl_3$): δ_H 7.34–6.72 (m, 8H, aromatic–Hs and olefinic–H), 6.43 (d, J = 16.3 Hz, 1H, olefinic–H), 5.98 (s, 2H, –OC$\underline{H}_2$O–), 4.97 (s, 2H, –OC$\underline{H}_2$–), 2.78–2.71 (m, 2H, –C$\underline{H}_2$–), 1.21 (t, J = 7.6 Hz, 3H, –C$\underline{H}_3$); $^{13}C\{^1H\}$ NMR (75 MHz, $CDCl_3$): δ_C 154.4, 148.3, 147.5, 133.0, 132.2, 128.5, 127.8, 124.8, 124.0, 123.9, 123.8, 121.5 (2), 116.0, 108.5, 105.3, 101.2, 65.4, 19.8, 14.2; HRMS (ESI-TOF, *m/z*): calcd for $C_{20}H_{19}O_3$ $[M+H]^+$ 307.1335, found 307.1330.

3-(4-methoxystyryl)-4-phenyl-2*H*-chromene (2j):
Deep yellow semi-solid, yield = 91% (0.31 g); ^1H NMR (300 MHz, $CDCl_3$): δ_H 7.56–6.74 (m, 14H, aromatic–Hs and olefinic–H), 6.52 (d, J = 16.5 Hz, 1H, olefinic–H), 5.24 (s, 2H, –OC$\underline{H}_2$–), 3.82 (s, 3H, –OC$\underline{H}_3$); $^{13}C\{^1H\}$ NMR (75 MHz, $CDCl_3$): δ_C 159.5, 154.1, 136.6, 133.6, 130.7,

130.1, 128.9, 128.6, 128.0, 127.8 (2), 126.7, 126.6, 125.3, 124.1, 122.9, 121.5, 121.4, 115.8, 114.3 (2), 65.9, 55.4, 55.3; HRMS (ESI-TOF, *m/z*): calcd for $C_{24}H_{21}O_2$ $[M+H]^+$ 341.1542, found 341.1544.

3-(3,4-dimethoxystyryl)-4-phenyl-2*H*-chromene (2k):
Yellow semi-solid, yield = 89% (0.33 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.51–6.65 (m, 13H, aromatic–Hs and olefinic–H), 6.45 (d, J = 16.5 Hz, 1H, olefinic–Hs), 5.19 (s, 2H, –OCH_2–), 3.86 and 3.82 (m, 6H, 2 –OCH_3s); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 153.9, 149.1, 136.4, 133.7, 130.6, 130.5, 130.0, 129.6, 128.8, 128.4, 128.0, 127.7, 126.6, 126.5, 125.1, 123.3, 121.4, 119.5, 115.7, 111.4, 109.3, 65.9, 65.7, 55.9, 55.8; HRMS (ESI-TOF, *m/z*): calcd for $C_{25}H_{22}NaO_3$ $[M+Na]^+$ 393.1467, found 393.1468.

3-((*E*)-2-(benzo[*d*][1,3]dioxol-5-yl)vinyl)-4-phenyl-2*H*-chromene (2l):
Orange yellow semi-solid, yield = 90% (0.33 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.53–6.74 (m, 12H, aromatic–Hs), 6.68 (d, J = 16.5 Hz, 1H, olefinic–H), 6.45 (d, J =16.5 Hz, 1H, olefinic–H), 5.93 (s, 2H, –OCH_2O–), 5.20 (s, 2H, –OCH_2–); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 154.0, 148.2, 147.5, 136.4, 133.9, 131.9, 130.6, 128.9, 128.5, 128.0, 127.8, 126.7, 126.4, 125.2, 123.3, 121.7, 121.4, 115.8, 108.5, 105.4, 101.2, 65.9; HRMS (ESI-TOF, *m/z*): calcd for $C_{24}H_{19}O_3$ $[M+H]^+$ 355.1335, found 355.1336.

3-(4-methoxystyryl)-4-allyl-2*H*-chromene (2m):
Deep yellow semi-solid, yield = 89% (0.27 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.45 (d, J = 8.6 Hz, 2H, aromatic–Hs *meta* to –OMe), 7.34 (d, J = 6.7 Hz, 2H, aromatic–Hs), 7.29–6.89 (m, 5H, aromatic–Hs and olefinic–H), 6.54 (d, J = 16.3 Hz, 1H, olefinic–H), 6.07–5.98 (m, 1H, olefinic–H), 5.25–5.14 (m, 2H, olefinic–Hs), 5.05 (s, 2H, –OCH_2–), 3.85 (s, 3H, –OCH_3), 3.52–3.50 (m, 2H, –CH_2–); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 159.6, 154.3, 135.4, 130.3, 128.6, 128.4, 128.0, 127.8, 127.3, 127.1, 124.5, 124.2, 121.5, 121.1, 116.2, 115.9, 114.3, 114.2, 65.5, 55.4, 30.8; HRMS (ESI-TOF, *m/z*): calcd for $C_{21}H_{21}O_2$ $[M+H]^+$ 305.1542, found 305.1544.

4-allyl-3-((*E*)-2-(benzo[*d*][1,3]dioxol-5-yl)vinyl)-2*H*-chromene (2n):
Light yellow semi-solid, yield = 91% (0.30 g); ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.33 (d, J = 7.7 Hz, 1H, aromatic–H), 7.21–6.81 (m, 7H, aromatic–Hs and olefinic–H), 6.48 (d, J = 16.3 Hz, 1H, olefinic–H), 6.06–5.95 (m, 3H, –OCH_2O– and olefinic–H), 5.24–5.14 (m, 2H, olefinic–Hs), 5.03 (s, 2H, –OCH_2–), 3.50–3.48 (m, 2H, –CH_2–); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 154.3, 148.3, 147.6, 135.4, 132.0, 128.7, 128.5, 128.4, 126.9, 124.4, 124.3, 121.7, 121.6, 121.5, 116.3, 116.0, 108.6, 105.4, 101.3, 65.5, 30.8; HRMS (ESI-TOF, *m/z*): calcd for $C_{21}H_{19}O_3$ $[M+H]^+$ 319.1335, found 319.1335.

Compound 3a: [X = O, G^1 = 4-Me, G^2 = 2-OMe, R = Me]
Light yellow solid, yield = 93% (0.29 g), mp: 90–92 °C; ^{1}H NMR (300 MHz, $CDCl_3$): δ_H 7.38 (d, *J* = 1.6 Hz, 1H, aromatic–H *ortho* to –C(Me)OH), 7.28–7.23 (m, 1H, aromatic–H), 7.16 (d, *J* = 7.2 Hz, 1H, aromatic–H), 6.99–6.93 (m, 2H, aromatic–Hs), 6.84 (d, *J* = 8.1 Hz, 1H, aromatic–H), 6.70 (d, *J* = 8.3 Hz, 1H, aromatic–H *ortho* to –OMe), 3.86 (d, *J* = 11.5 Hz, 1H, –OCH_2–), 3.70 (s, 3H, –OCH_3), 3.35 (d, *J* = 11.4 Hz, 1H, –OCH_2–), 3.23 (s, 1H, –OH), 2.48 (t, *J* = 7.7 Hz, 1H, –CH– of cyclopropane), 2.32 (s, 3H, –CH_3), 1.48 (s, 3H, –CH_3), 1.32–1.21 (m, 2H, –CH_2– of cyclopropane); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 158.6, 152.2, 130.0, 129.5, 129.2, 128.8, 128.1, 127.4, 125.8, 120.8, 116.9, 109.8, 68.7, 68.0, 55.3, 30.9, 25.6, 20.8, 19.0, 13.3; HRMS (ESI-TOF, *m/z*): calcd for $C_{20}H_{22}O_3Na$ $[M+Na]^+$ 333.1467, found 333.1468.

Compound 3b: [X = O, G^1 = H, G^2 = 3-OMe, R = Me]
Pale yellow semi-solid, yield = 94% (0.28 g); ^{I}H NMR (300 MHz, $CDCl_3$): δ_H 7.57–7.54 (m, 2H, aromatic–Hs *ortho* to –C(Me)OH), 7.21–7.16 (m, 4H, aromatic–Hs), 6.99–6.94 (m, 2H, aromatic–Hs), 6.85–6.75 (m, 8H, aromatic–Hs), 4.17–4.07 (m, 2H, –OCH_2–), 3.81 & 3.75 (2s, 6H, –OCH_3s), 3.59 (d, *J* = 11.9 Hz, 1H, –OCH_2–), 3.46 (d, *J* = 11.8 Hz, 1H, –OCH_2–), 2.64–2.53 (m, 2H, –CH– of cyclopropane), 2.05 (broad s, 1H, –OH), 1.74 & 1.61 (2s, 6H, –CH_3s), 1.21–1.02 (m, 4H, –CH_2– of cyclopropane); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 159.7, 159.4, 154.3 (2), 139.6, 139.3, 130.3, 130.1, 129.5, 129.4, 129.1, 129.0, 126.7, 126.4, 121.9, 121.3, 120.9, 120.7, 116.9, 115.2, 114.9, 112.2, 111.7, 69.5, 68.7, 68.6, 67.9, 55.2 (2), 30.9, 30.7, 29.8, 29.1, 28.6, 24.5, 23.2, 12.7, 10.4; HRMS (ESI-TOF, *m/z*): calcd for $C_{19}H_{20}O_3Na$ $[M+Na]^+$ 319.1311, found 319.1310.

Compound 3c: [X = O, G^1 = H, G^2 = 4-Cl, R = Me]
Pale yellow semi-solid, yield = 95% (0.29 g); ^{I}H NMR (300 MHz, $CDCl_3$): δ_H 7.56–7.52 (m, 2H, aromatic–Hs *ortho* to –C(Me)OH), 7.30–7.11 (m, 10H, aromatic–Hs), 7.01–6.95 (m, 2H, aromatic–Hs), 6.81–6.77 (m, 2H, aromatic–Hs), 4.17 (d, *J* = 12.0 Hz, 1H, –OCH_2–), 4.04 (d, *J* = 12.0 Hz, 1H, –OCH_2–), 3.49 (d, *J* = 12.0 Hz, 1H, –OCH_2–), 3.43 (d, *J* = 12.0 Hz, 1H, –OCH_2–), 2.62–2.48 (m, 2H, –CH– of cyclopropane), 2.06 (broad s, 1H, –OH), 1.73 & 1.61 (2s, 6H, –CH_3s), 1.16–0.99 (m, 4H, –CH_2– of cyclopropane); ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$): δ_C 154.2 (2), 136.5, 136.2, 132.4 (2), 130.9, 130.3, 130.1 (2), 129.2, 128.8, 128.6, 128.4, 126.4, 121.0, 120.9, 117.0, 69.2, 68.7, 68.6, 67.8, 32.3, 31.0, 30.9, 29.8, 28.9, 26.5, 23.8, 22.7, 12.8, 10.3; HRMS (ESI-TOF, *m/z*): calcd for $C_{18}H_{17}O_2ClK$ $[M+K]^+$ 341.0888, found 341.0831.

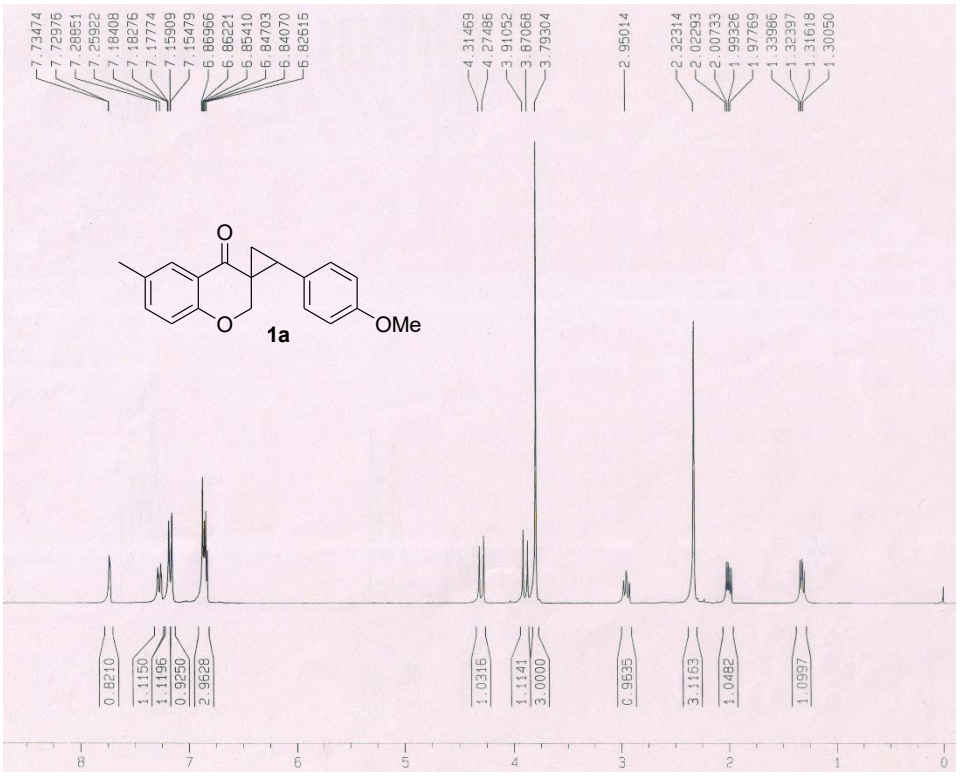


Fig. S1 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **1a**

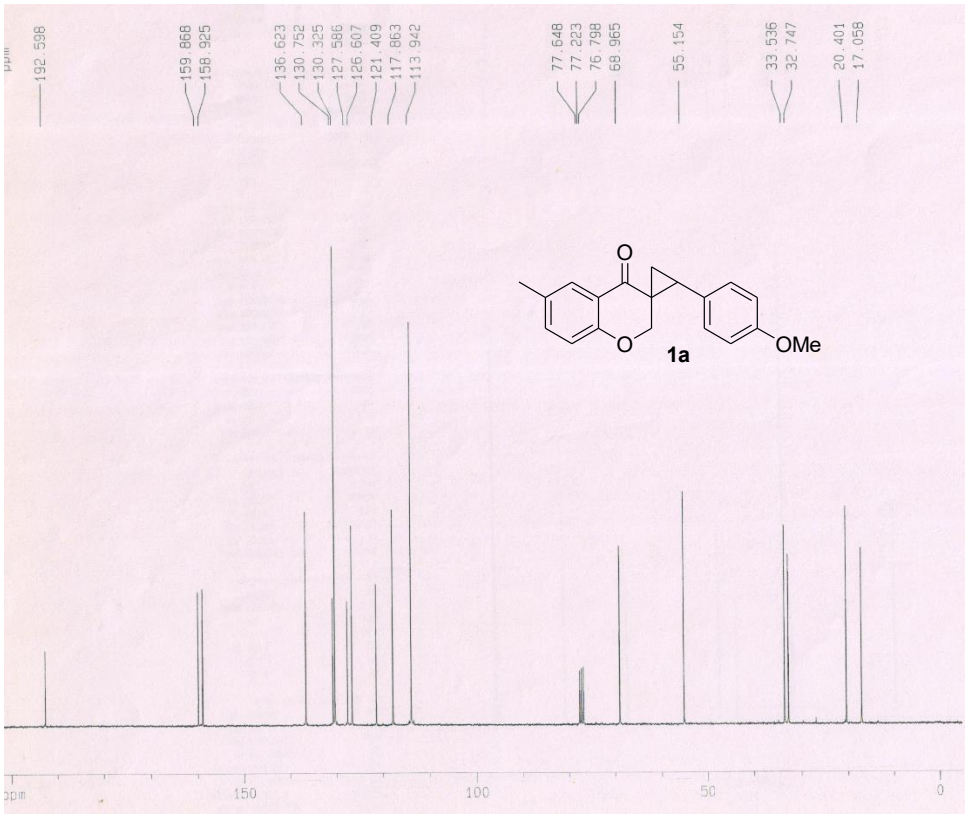


Fig. S2 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **1a**

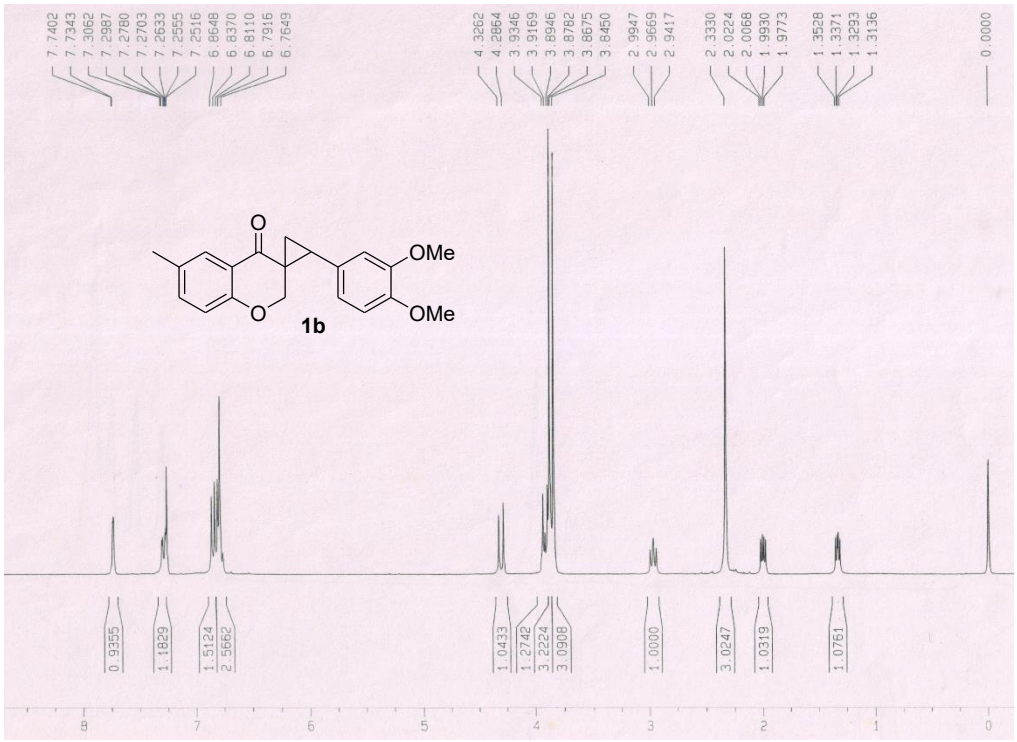


Fig. S3 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **1b**

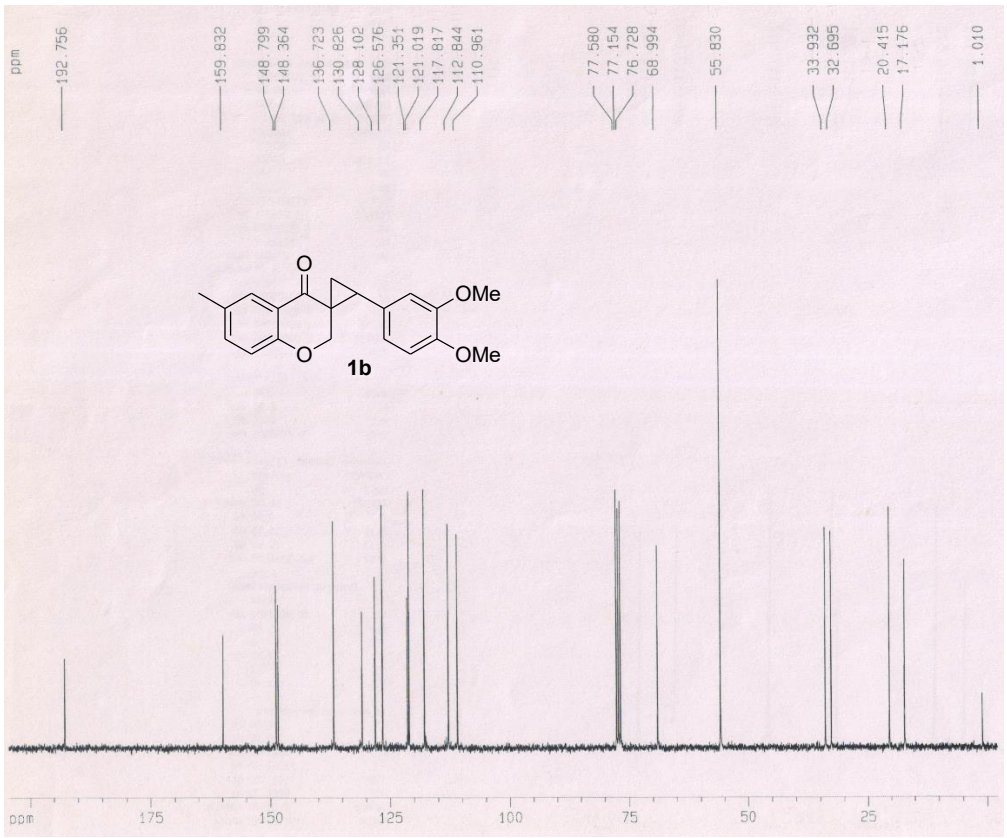


Fig. S4 ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$) spectrum of **1b**

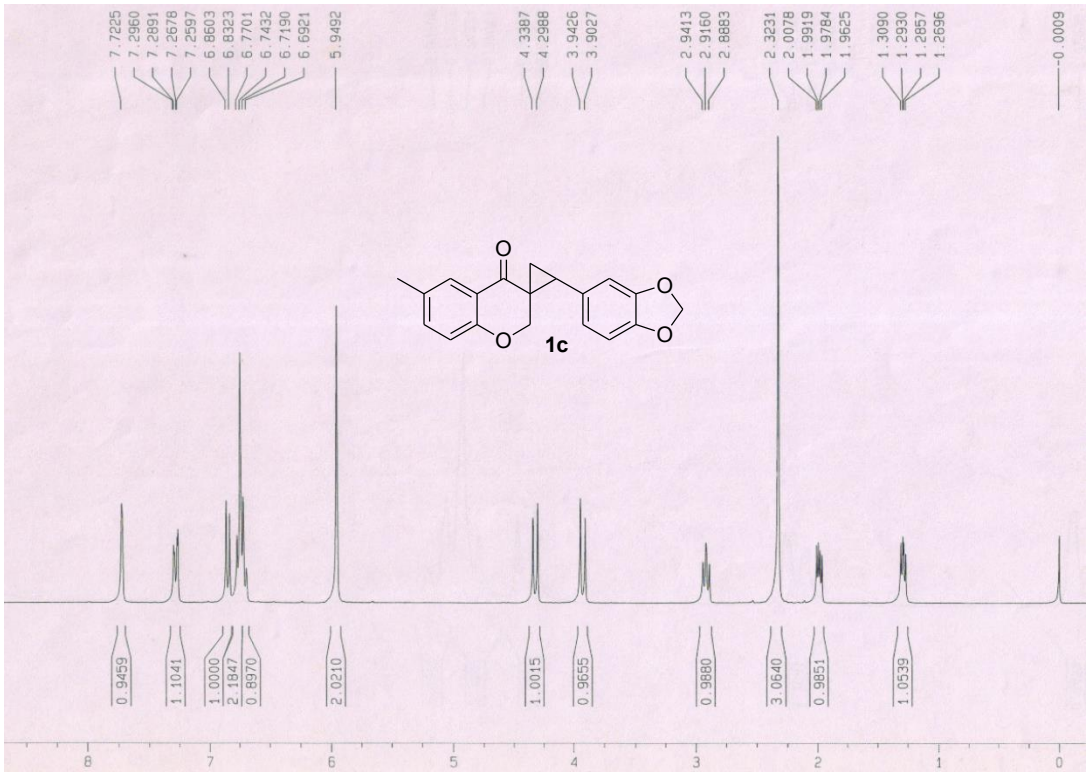


Fig. S5 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **1c**

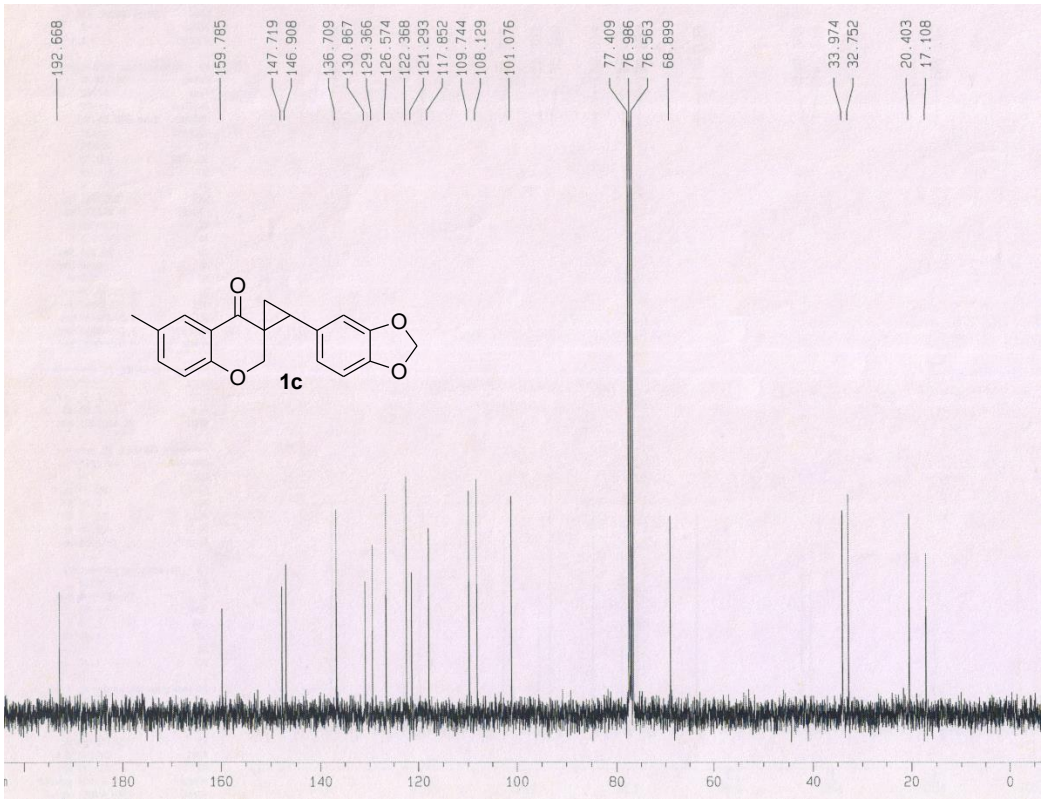


Fig. S6 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **1c**

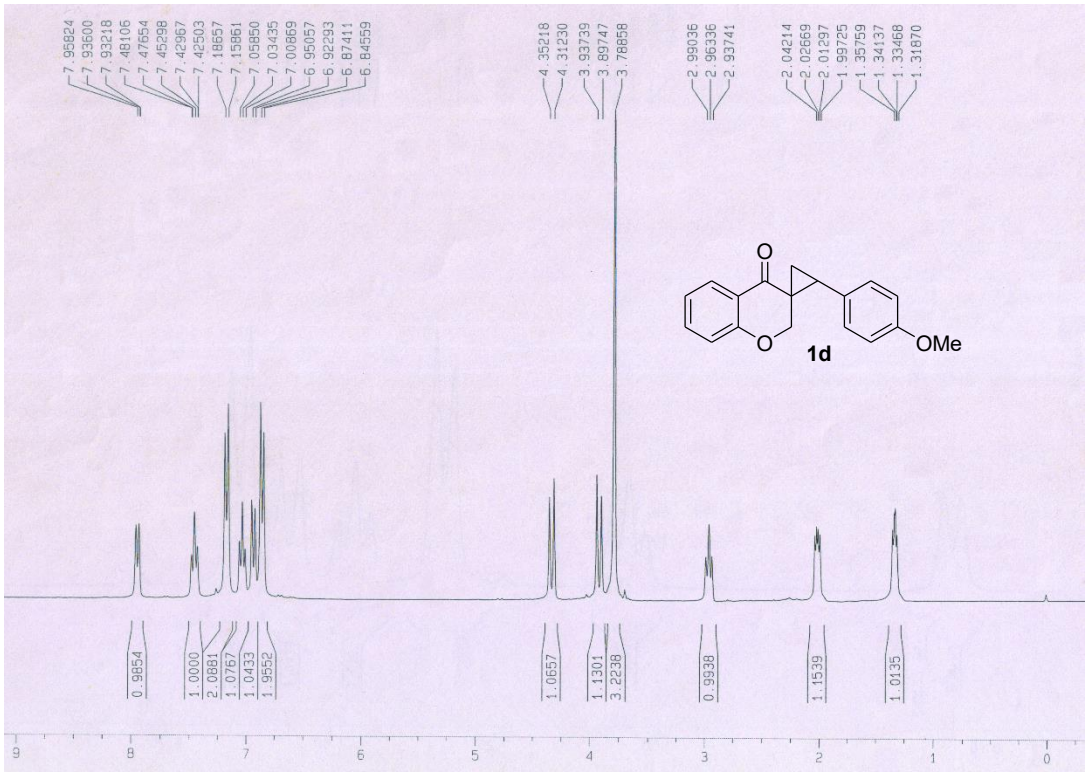


Fig. S7 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **1d**

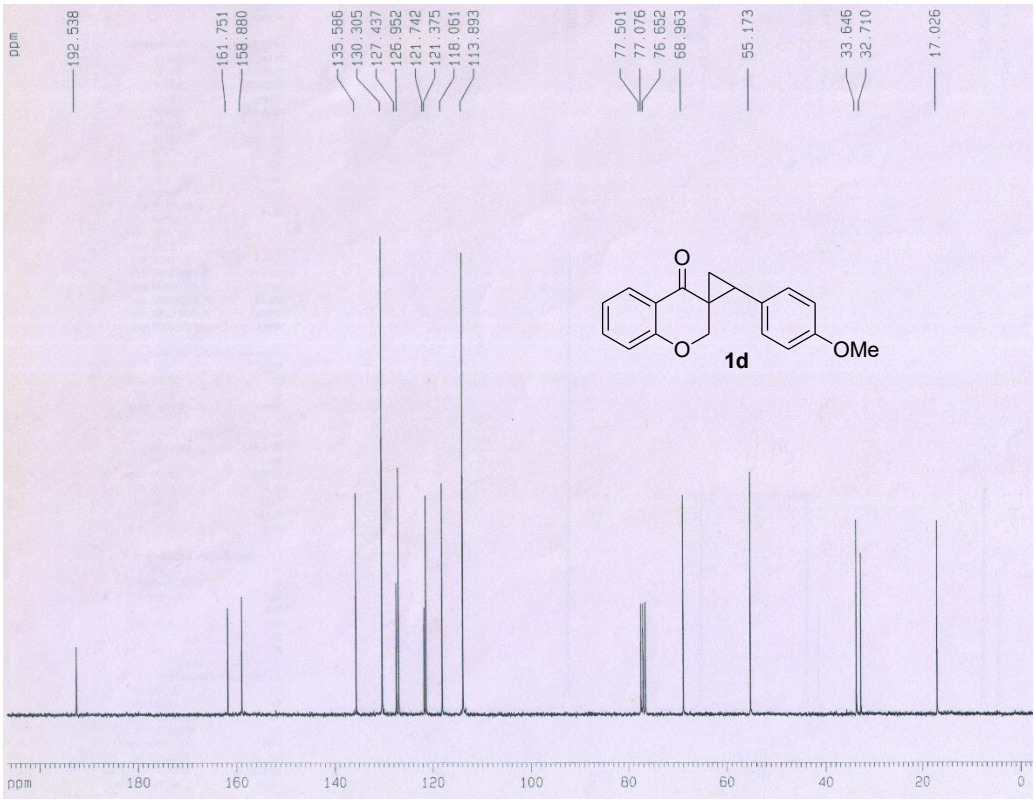


Fig. S8 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **1d**

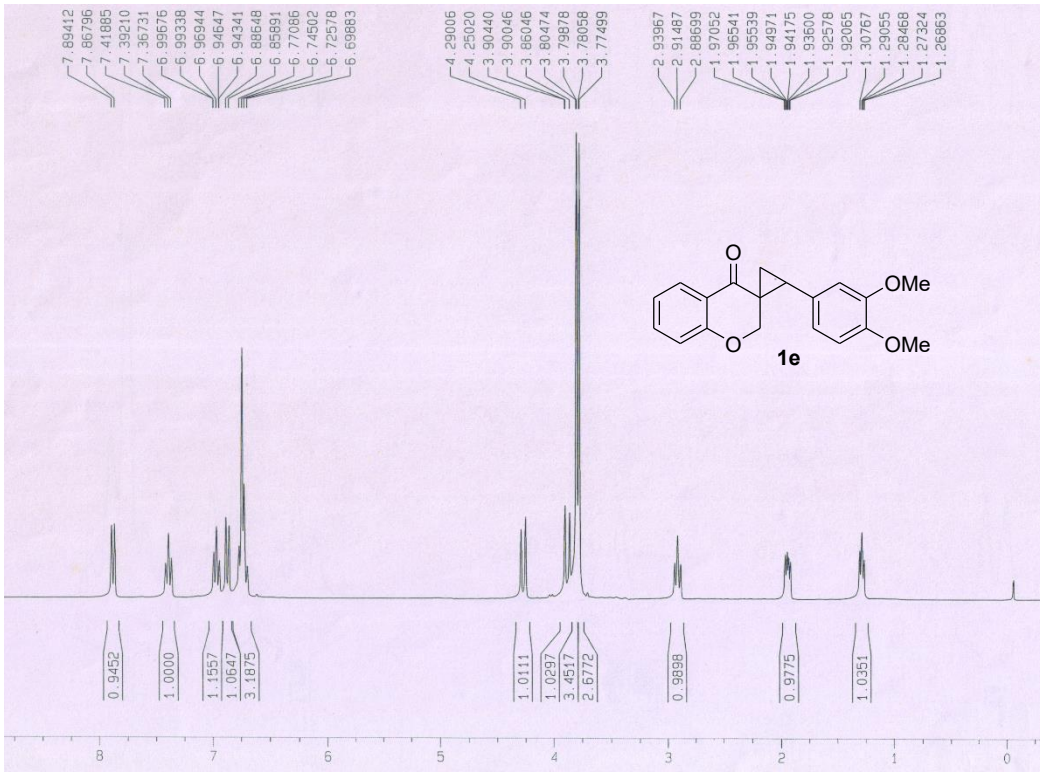


Fig. S9 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **1e**

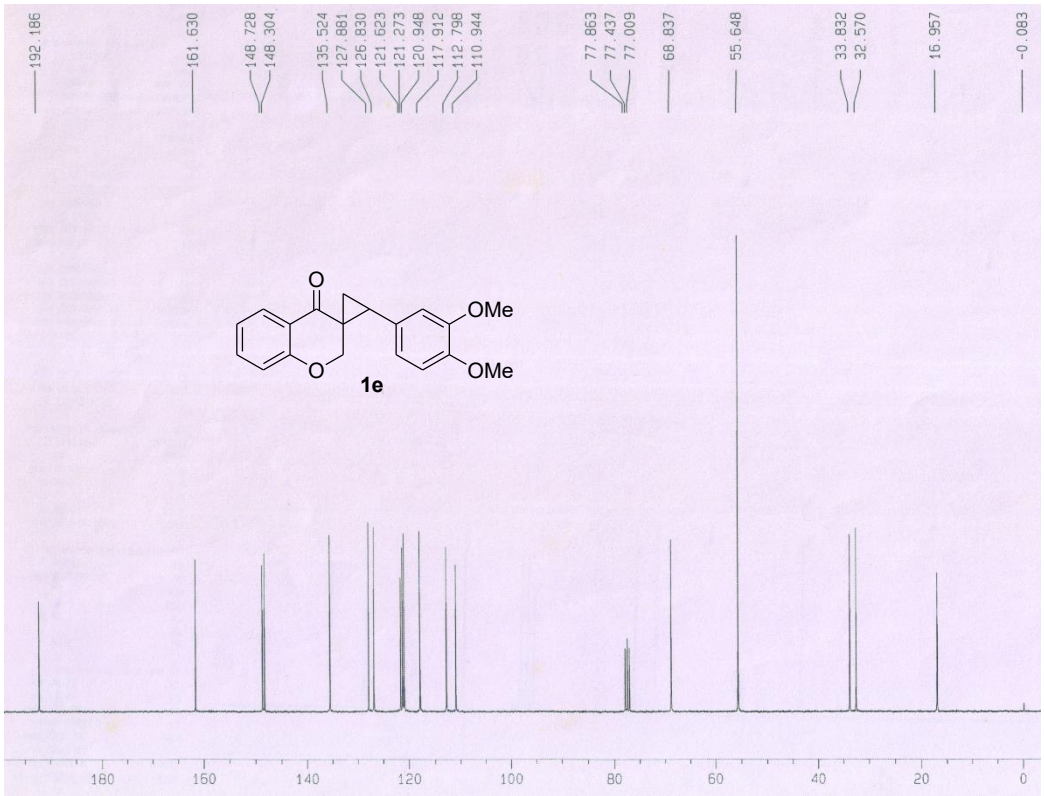


Fig. S10 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **1e**

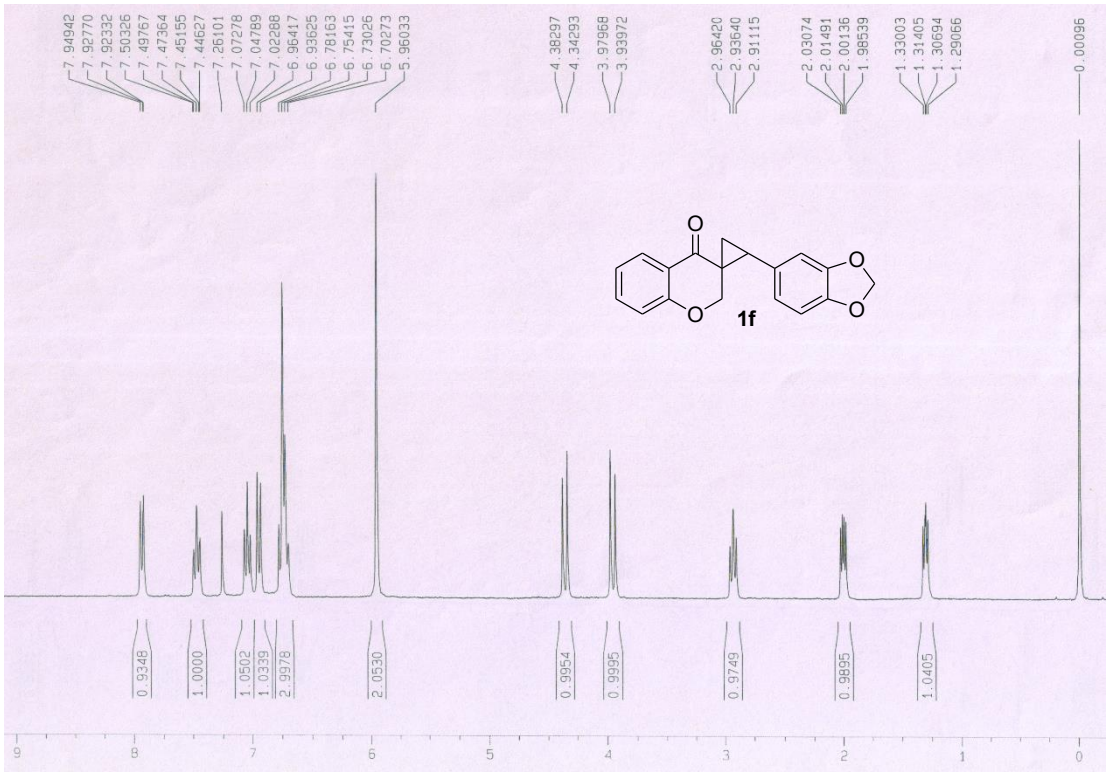


Fig. S11 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **1f**

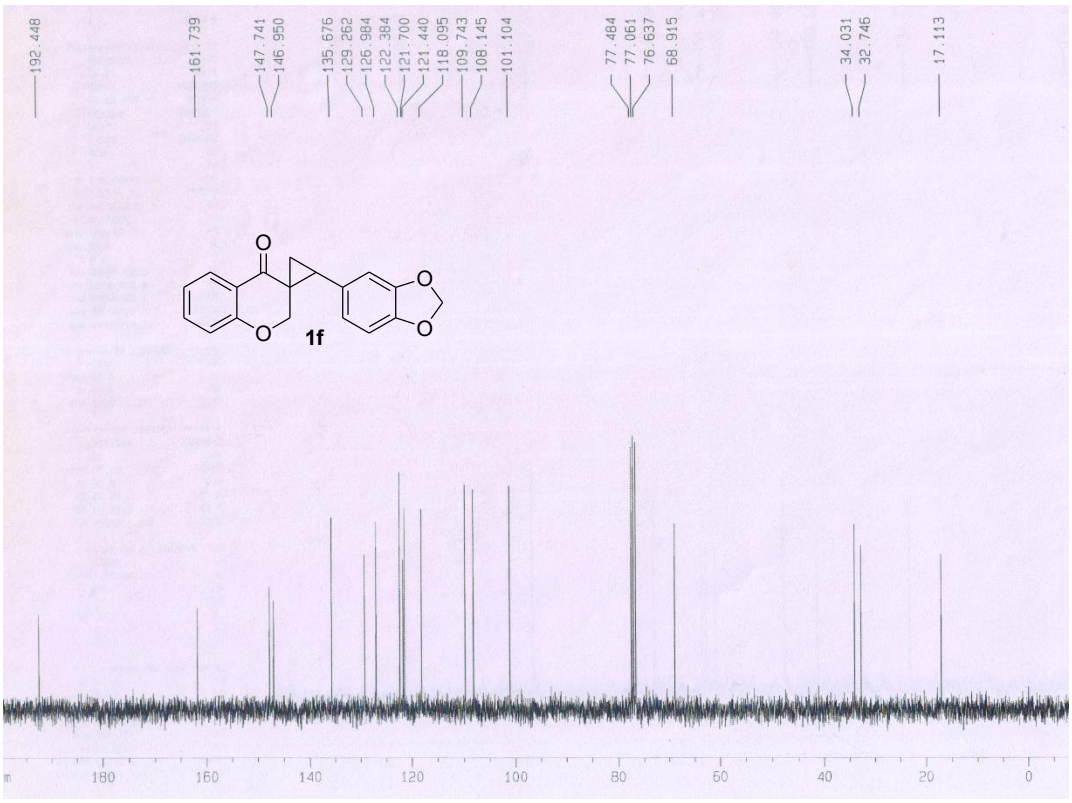


Fig. S12 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **1f**

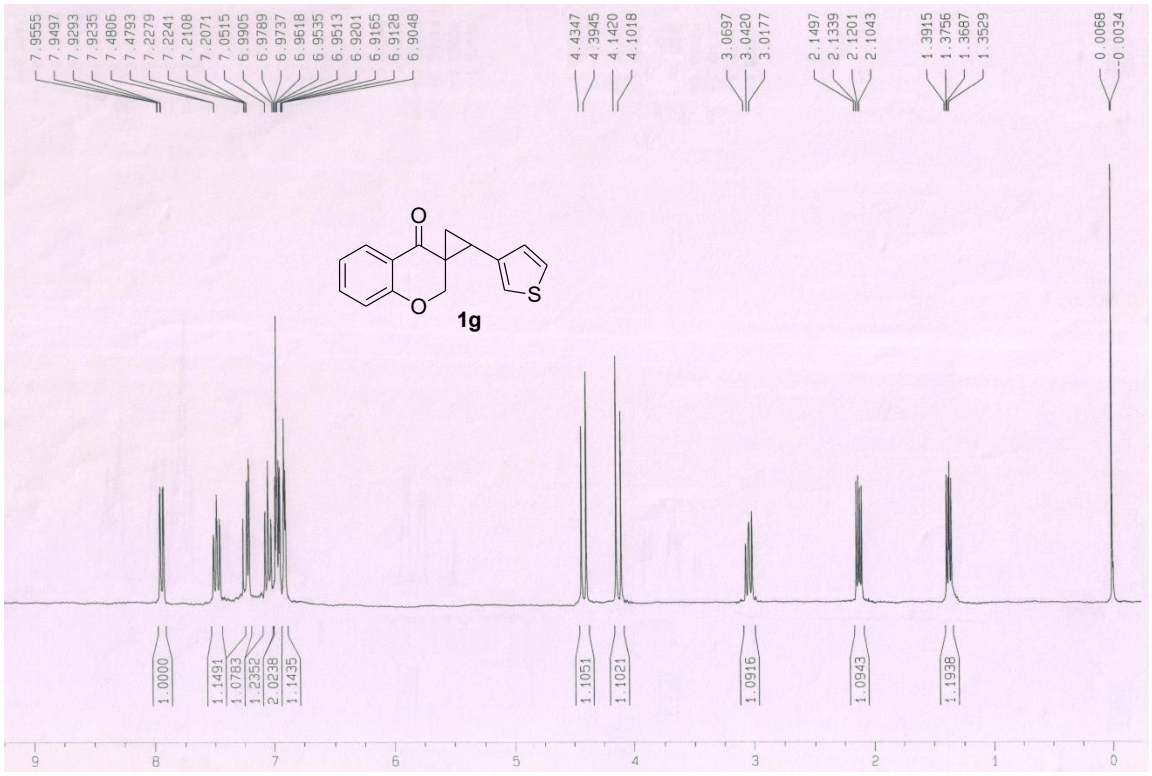


Fig. S13 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **1g**

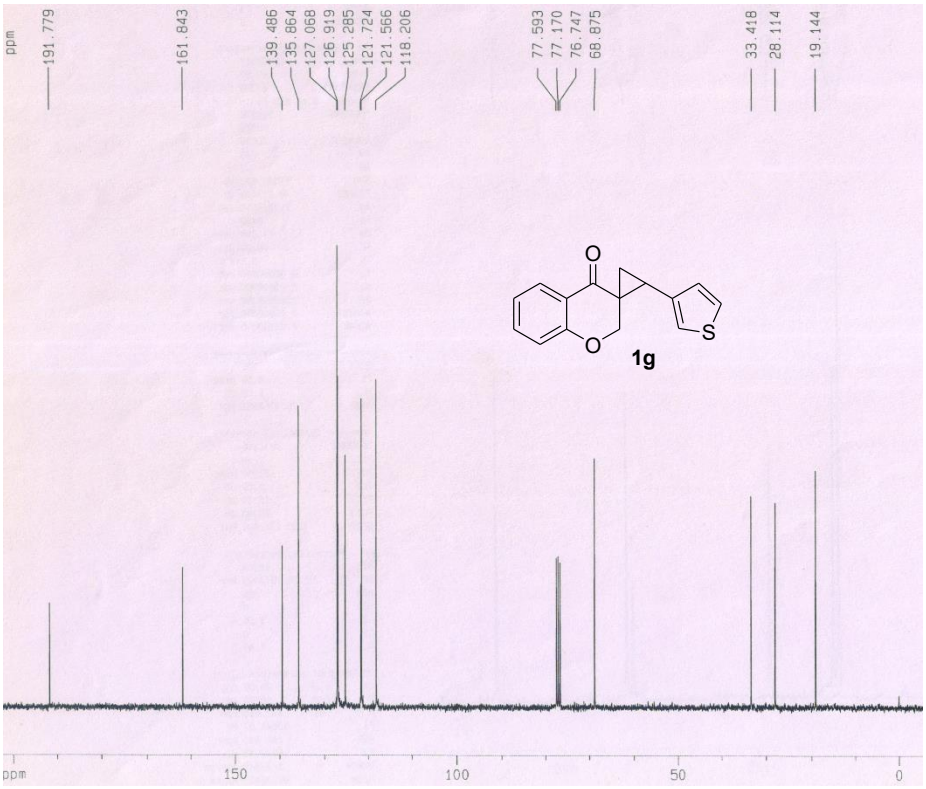


Fig. S14 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **1g**

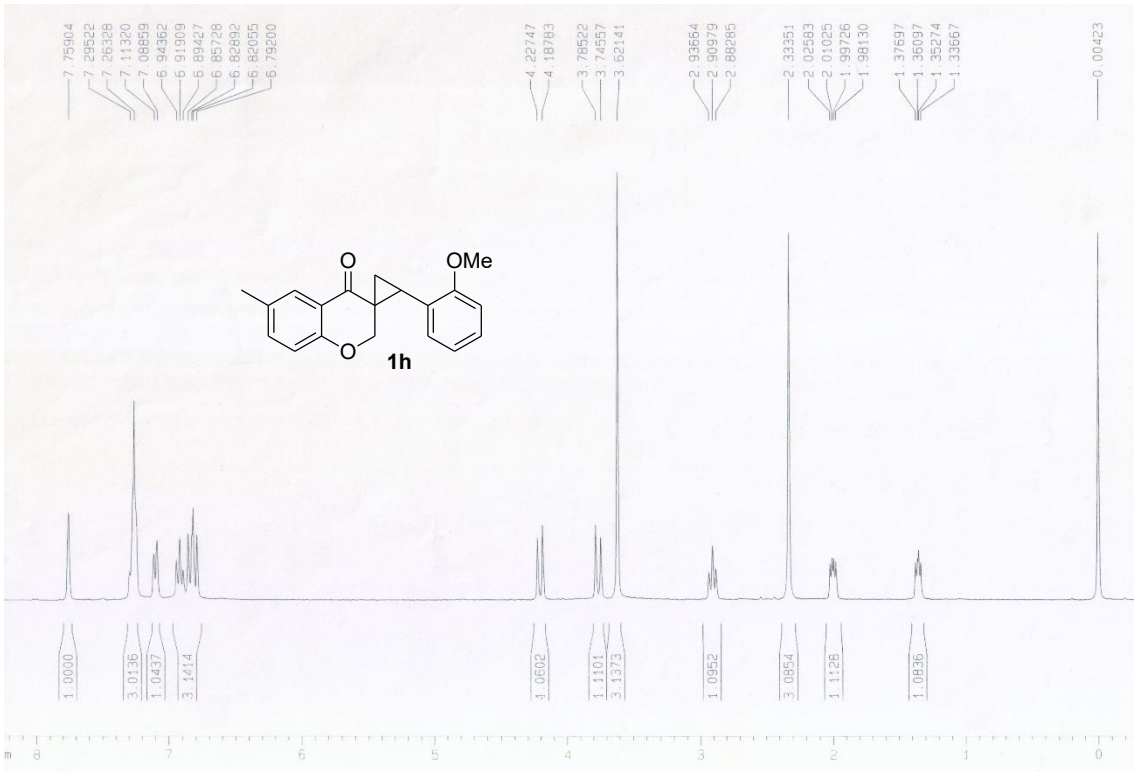


Fig. S15 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **1h**

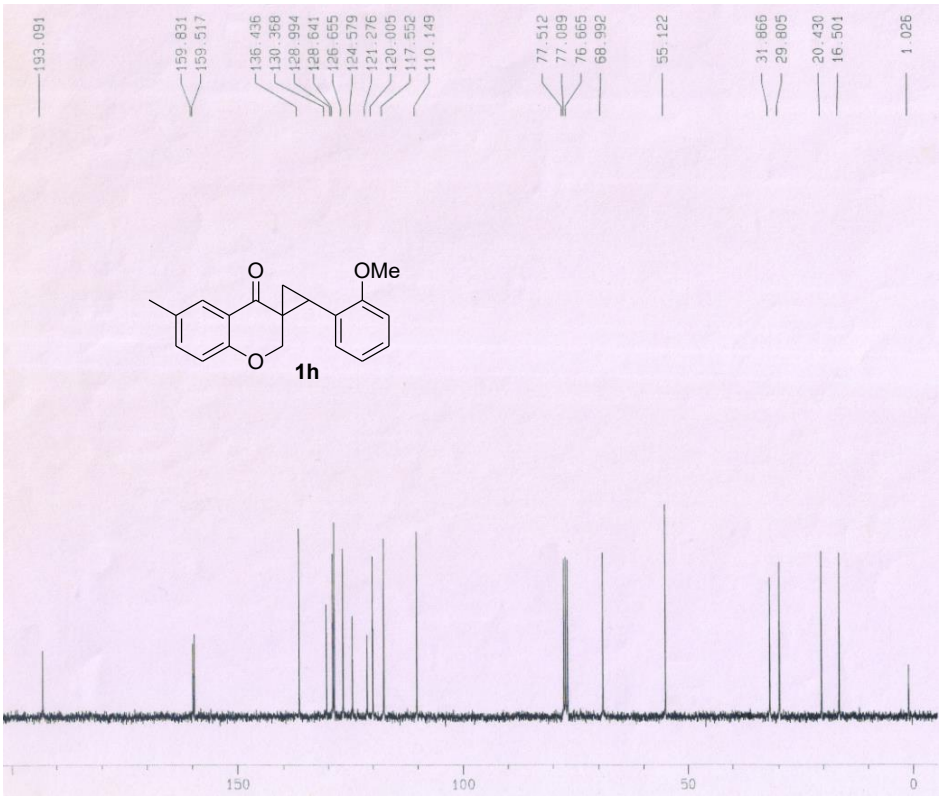


Fig. S16 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **1h**

Fig. S17 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **1i**

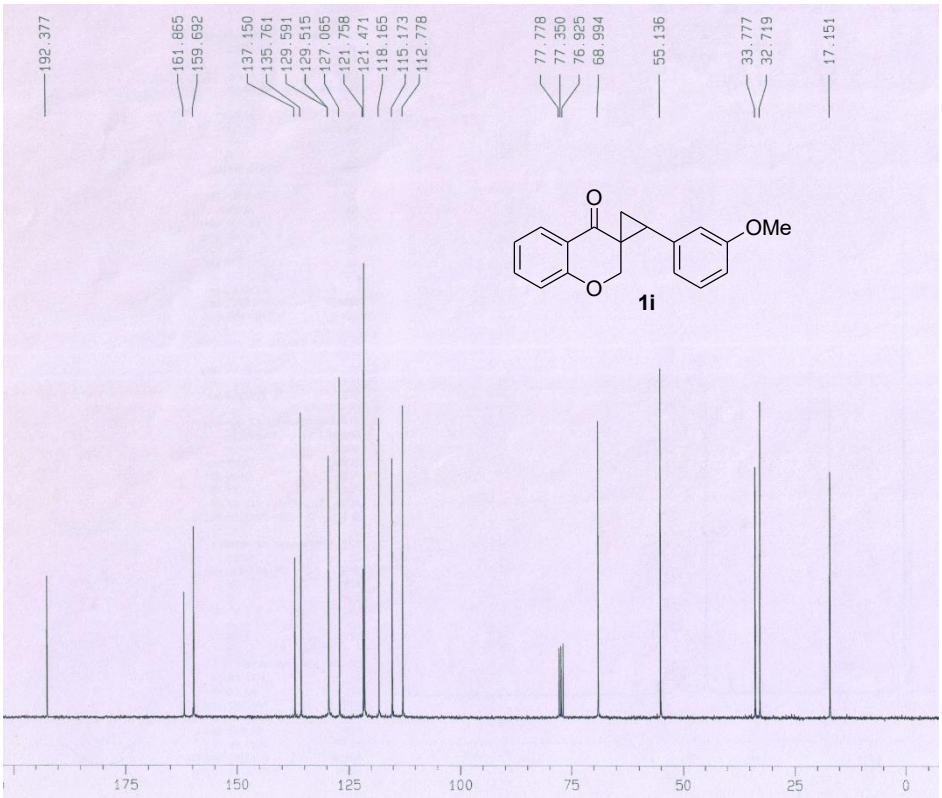


Fig. S18 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **1i**

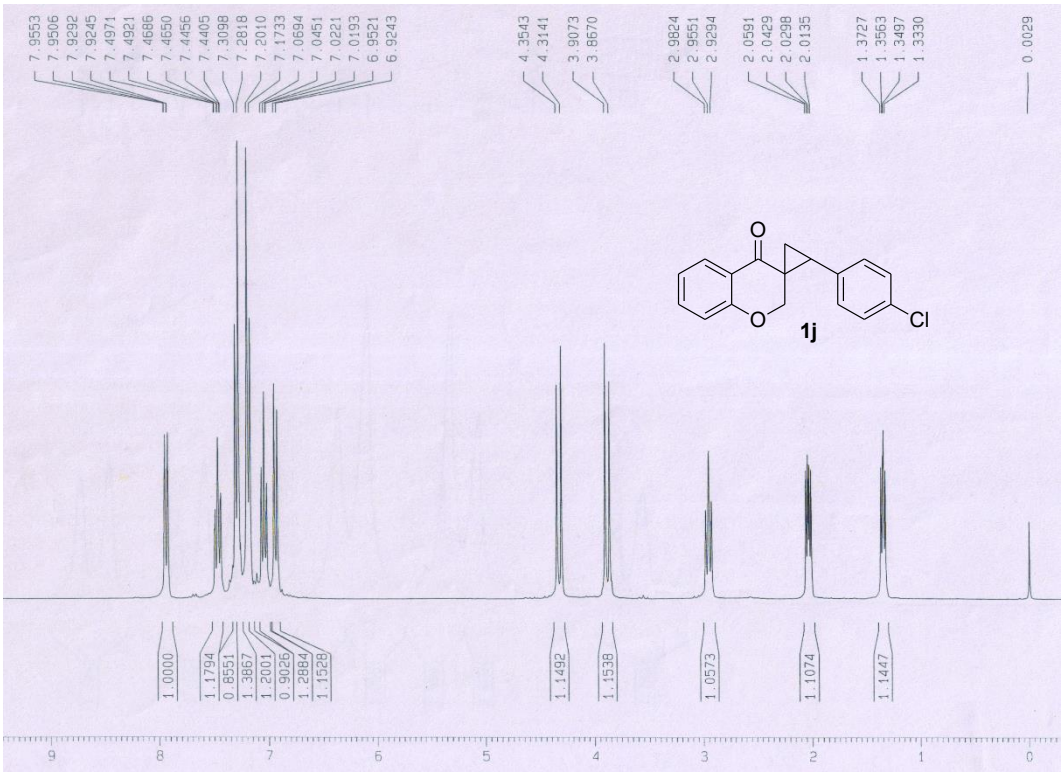


Fig. S19 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **1j**

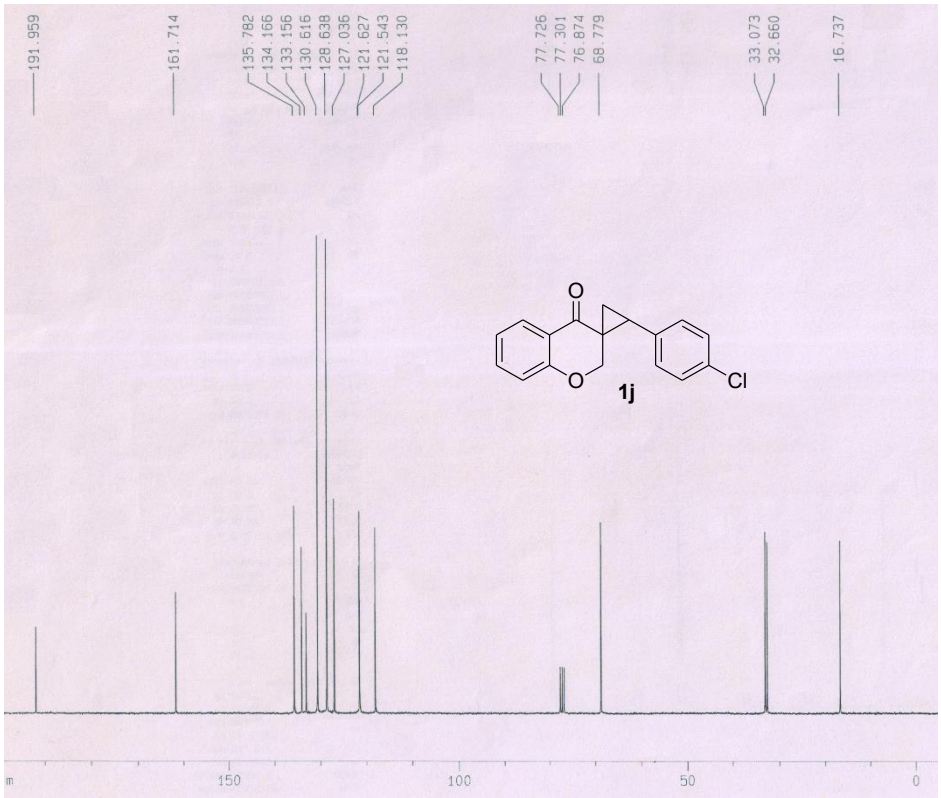


Fig. S20 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **1j**

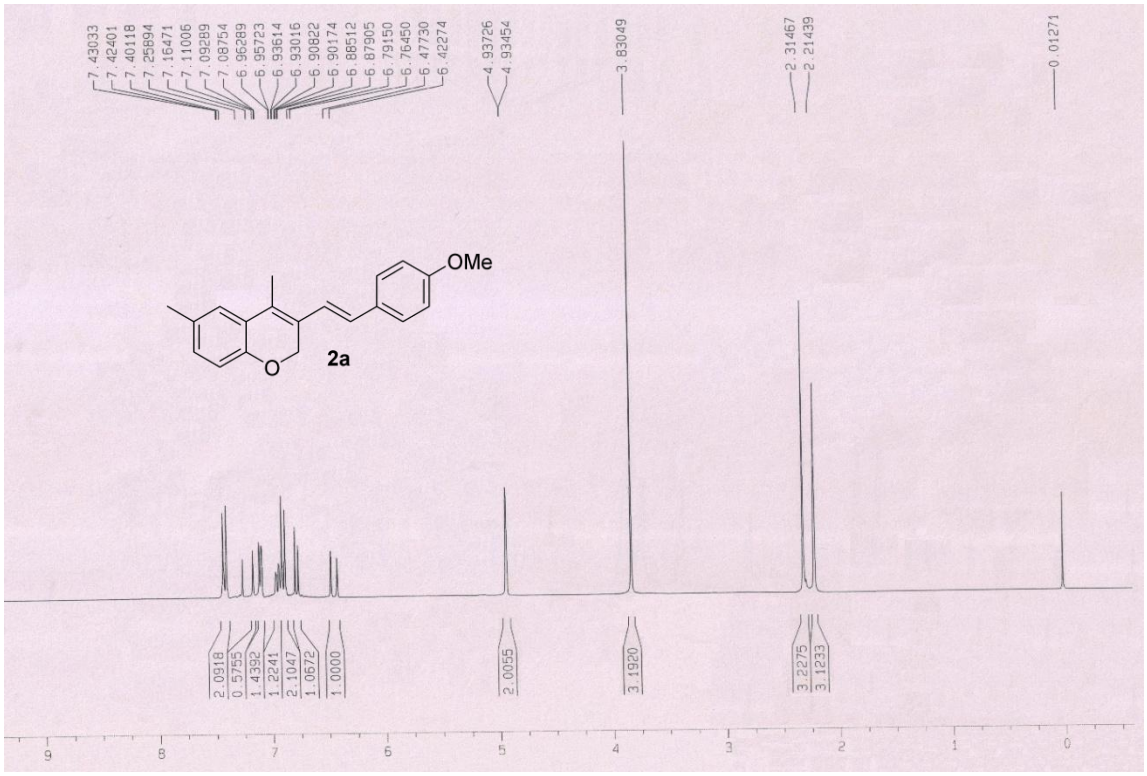


Fig. S21 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2a**

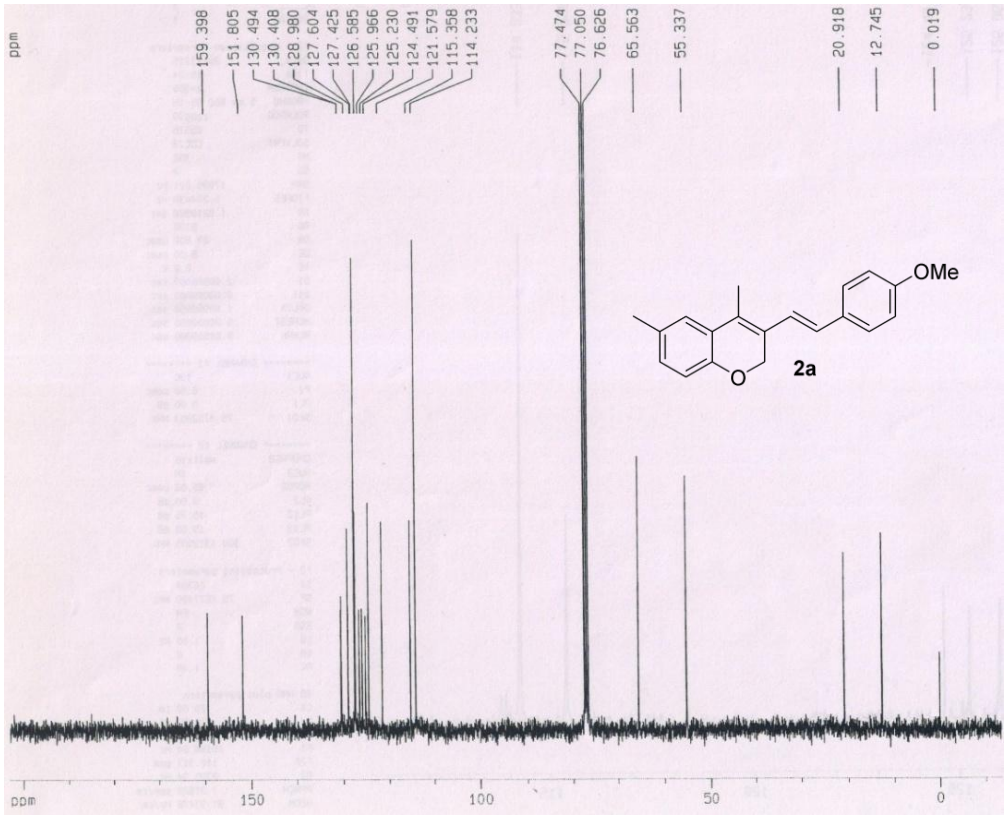


Fig. S22 ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$) spectrum of **2a**

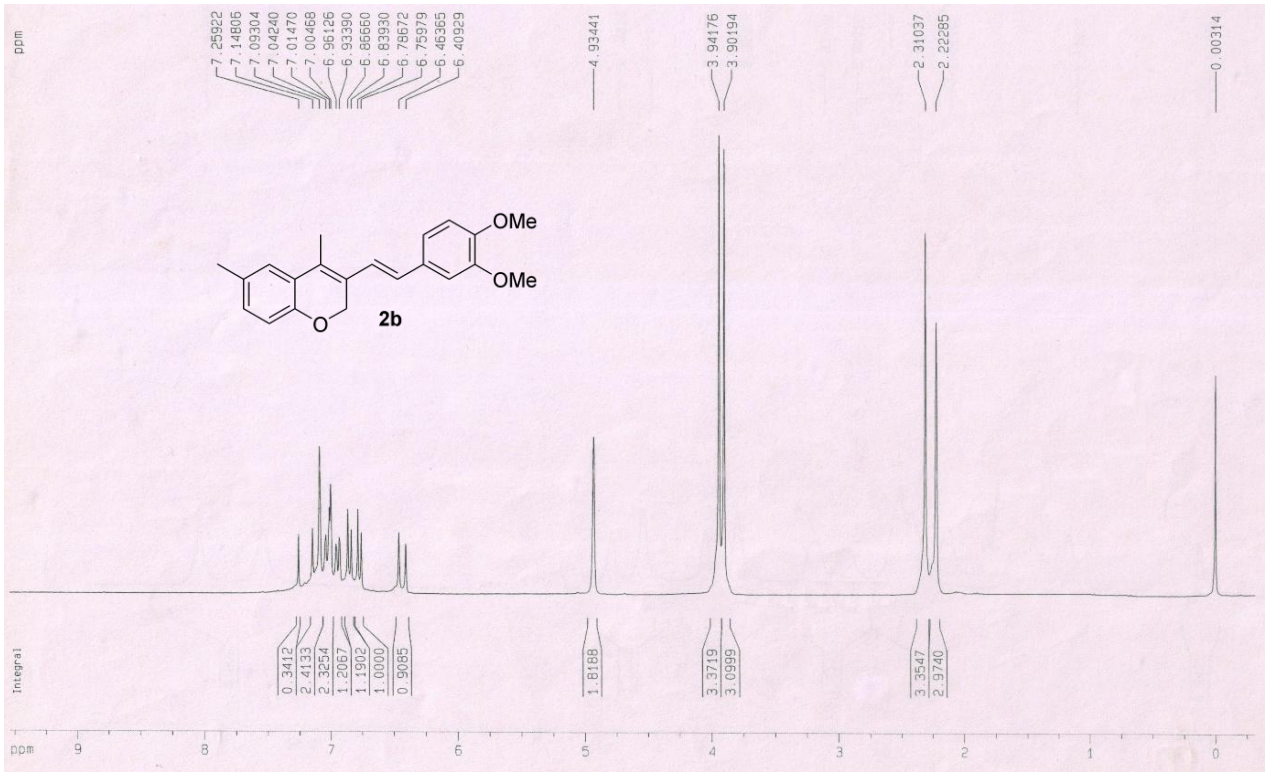


Fig. S23 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2b**

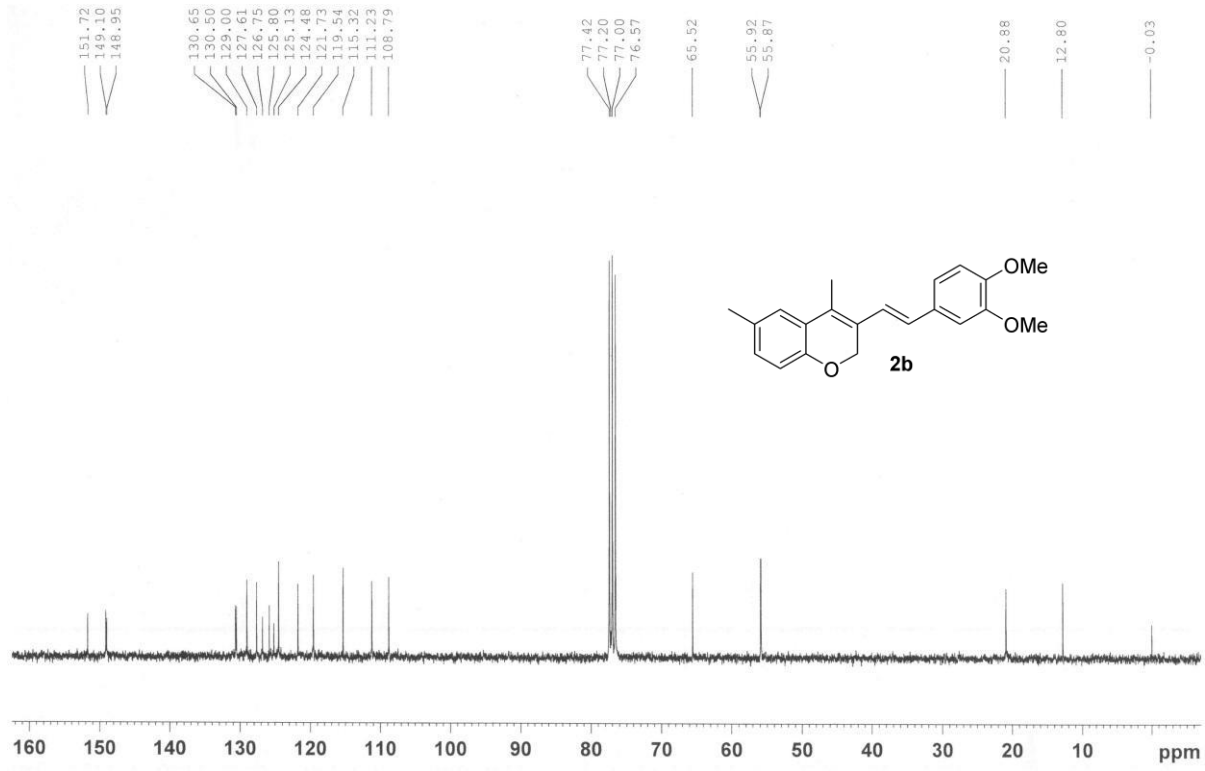


Fig. S24 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **2b**

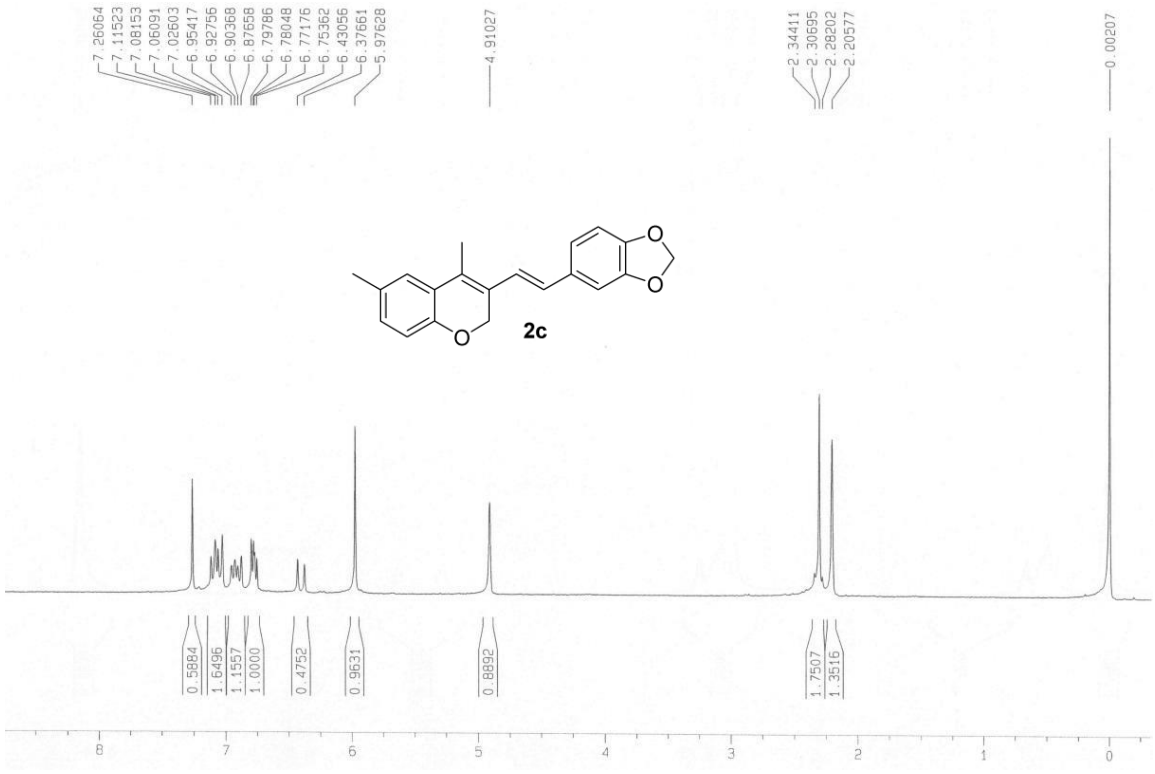


Fig. S25 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2c**

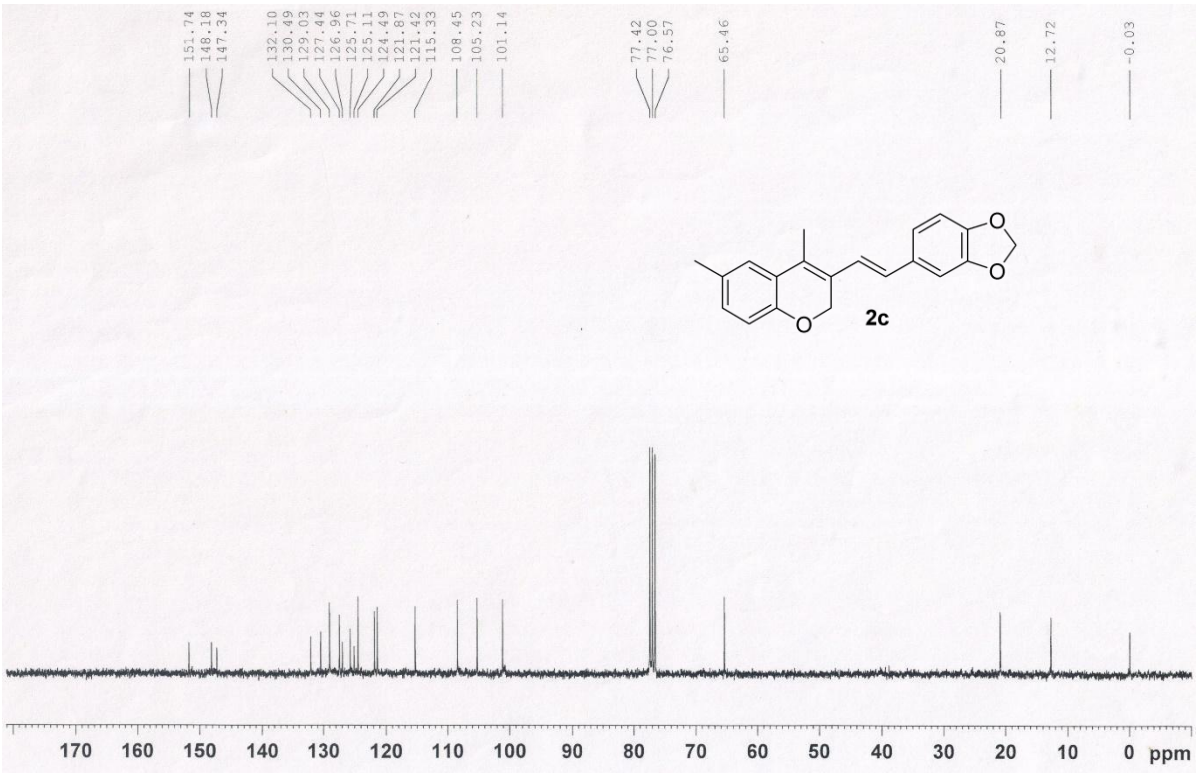


Fig. S26 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **2c**

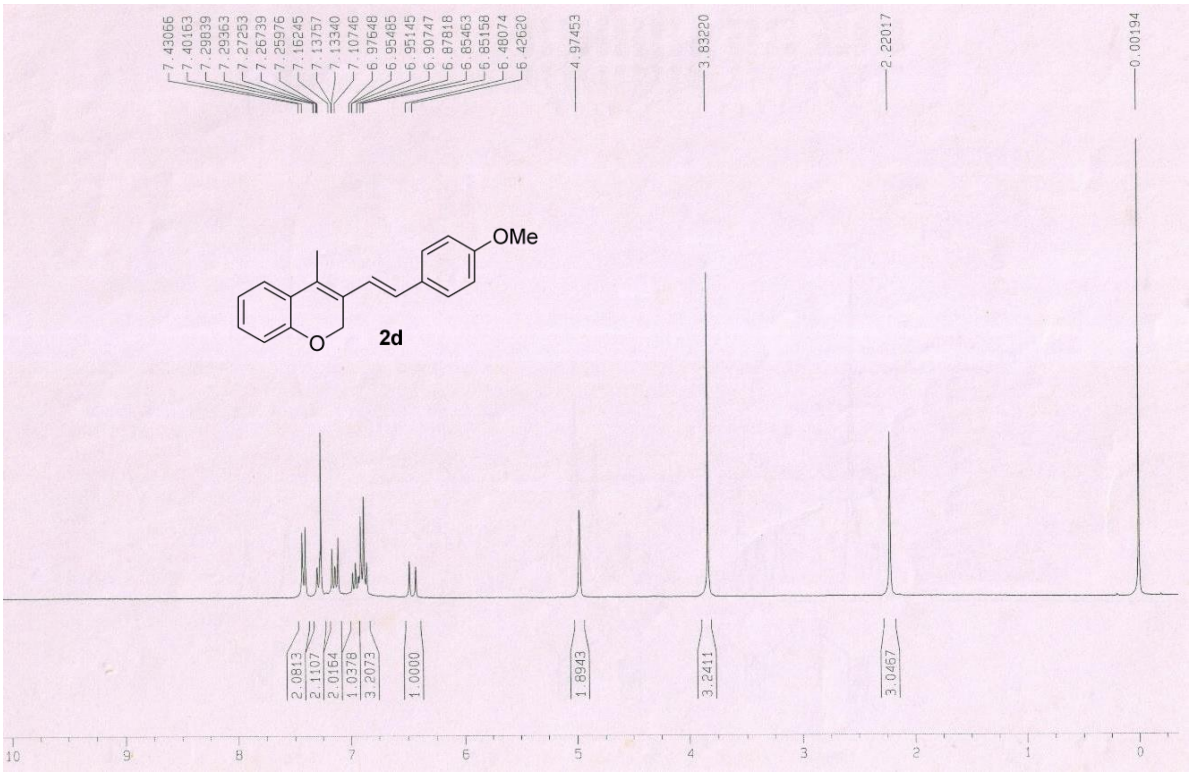


Fig. S27 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2d**

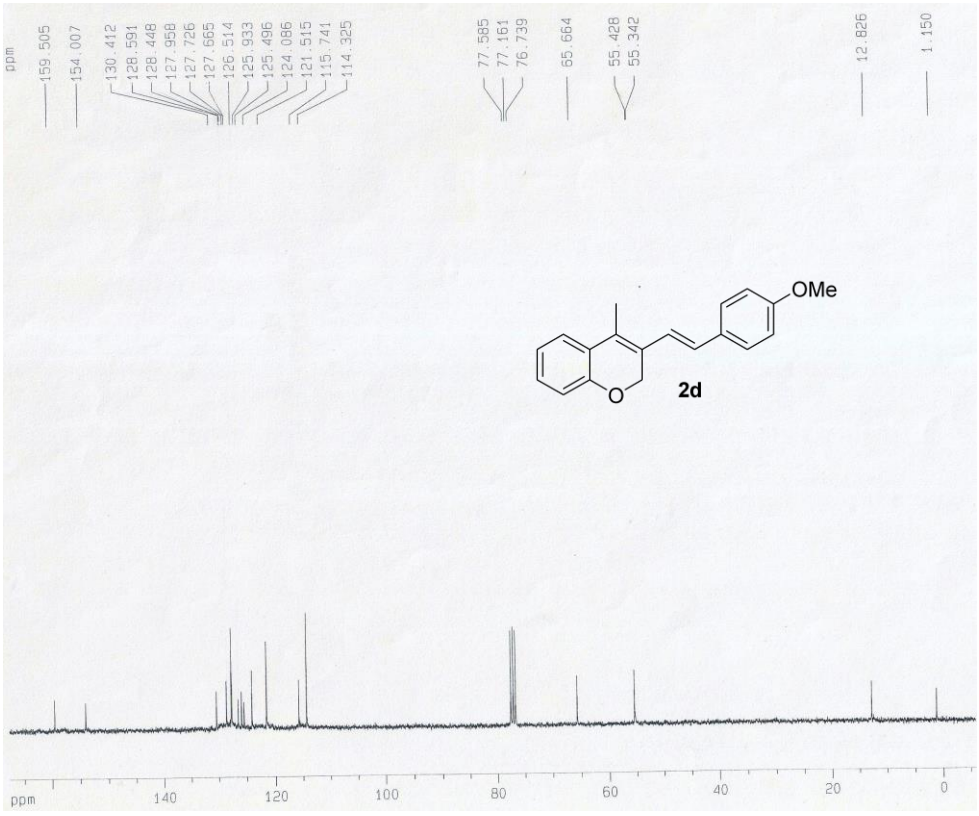


Fig. S28 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **2d**

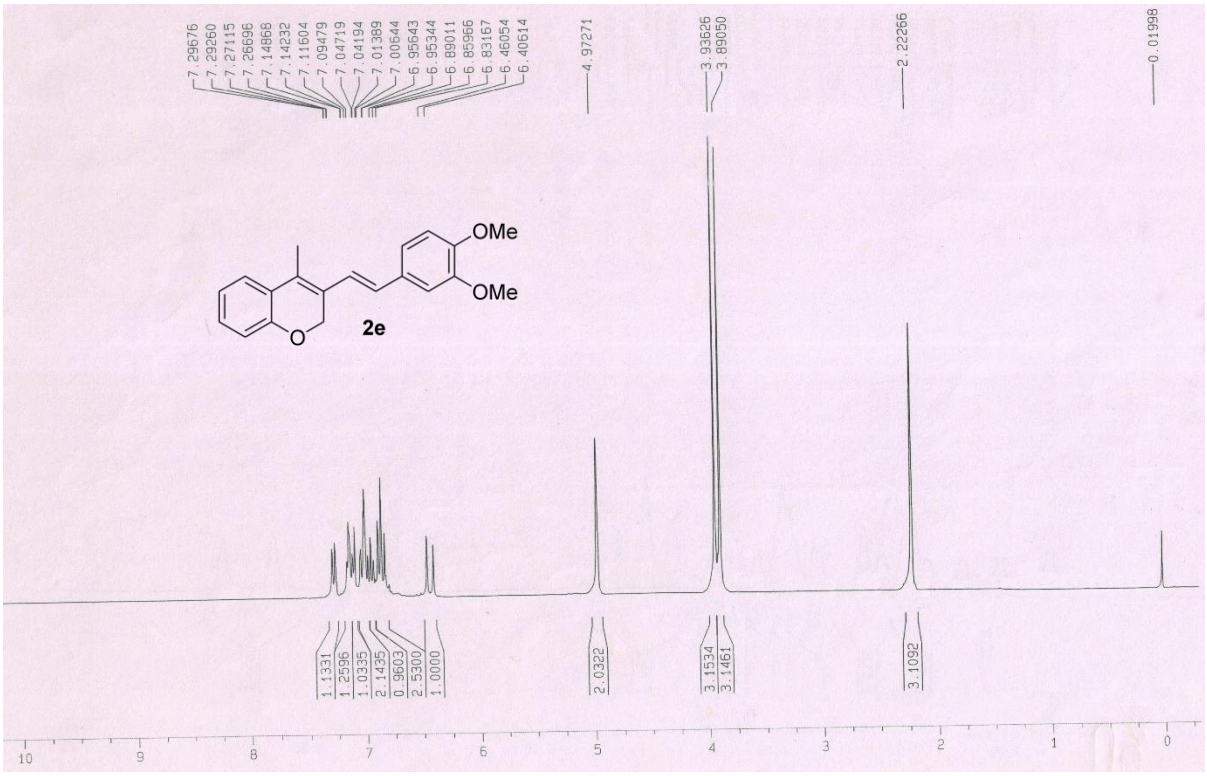


Fig. S29 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2e**

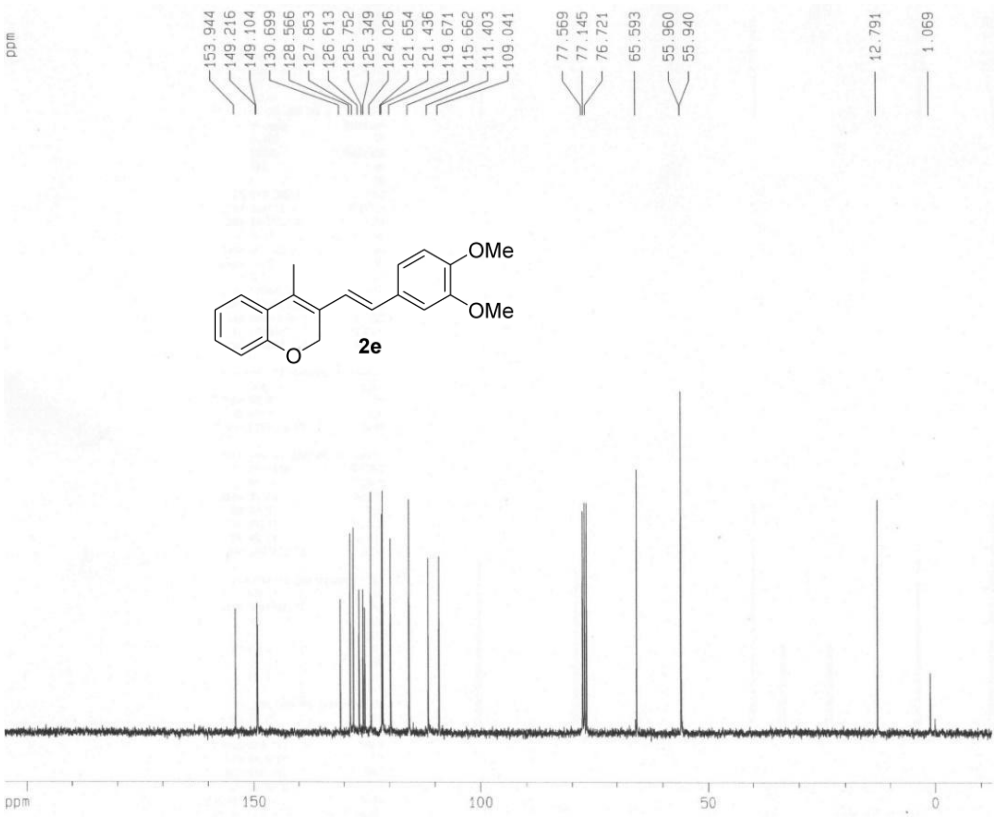


Fig. S30 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **2e**

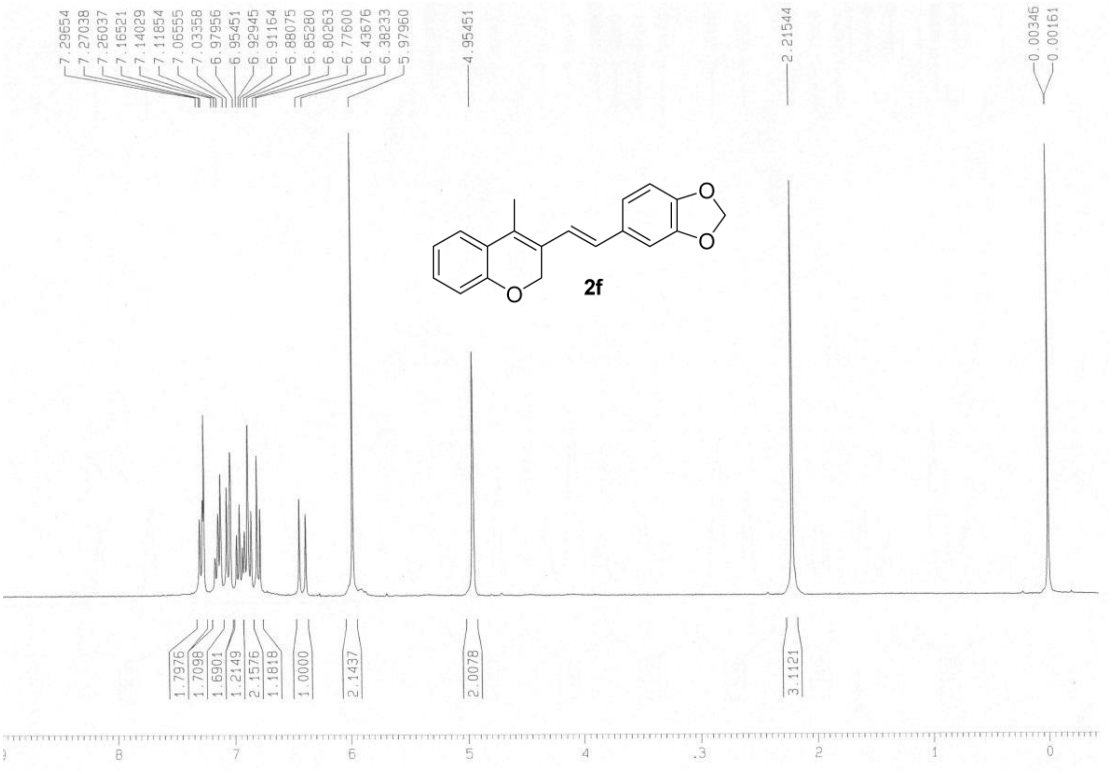


Fig. S31 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2f**

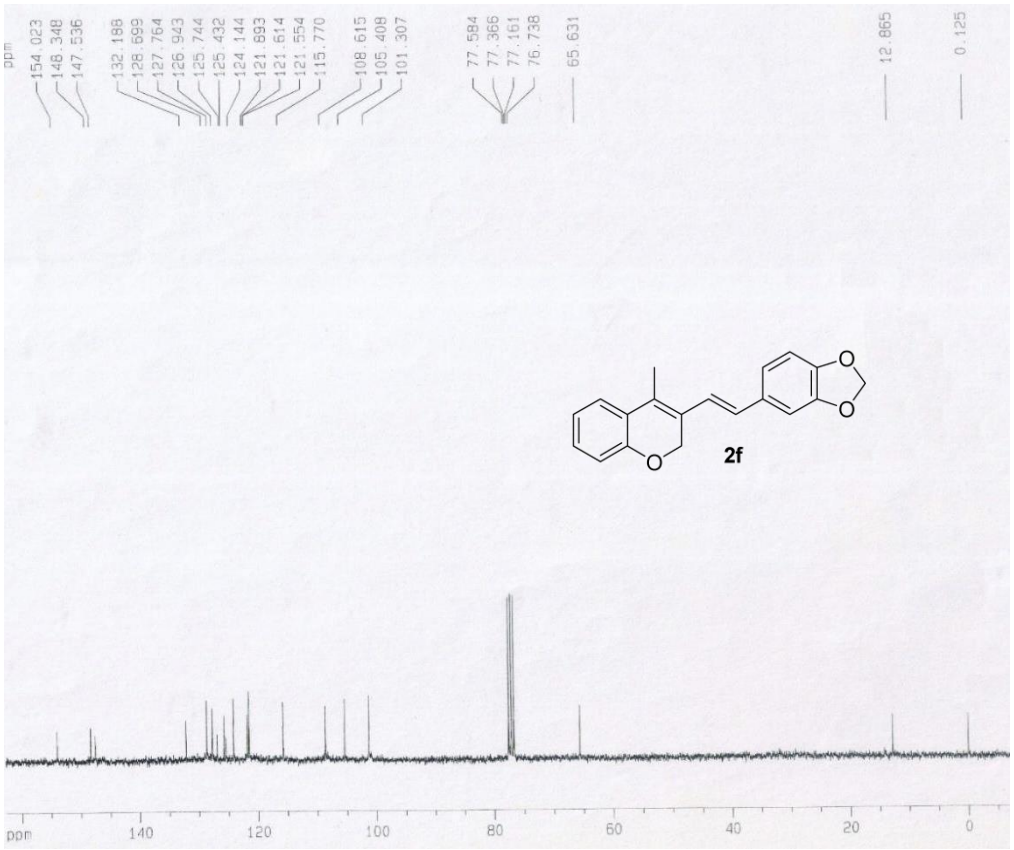


Fig. S32 ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$) spectrum of **2f**

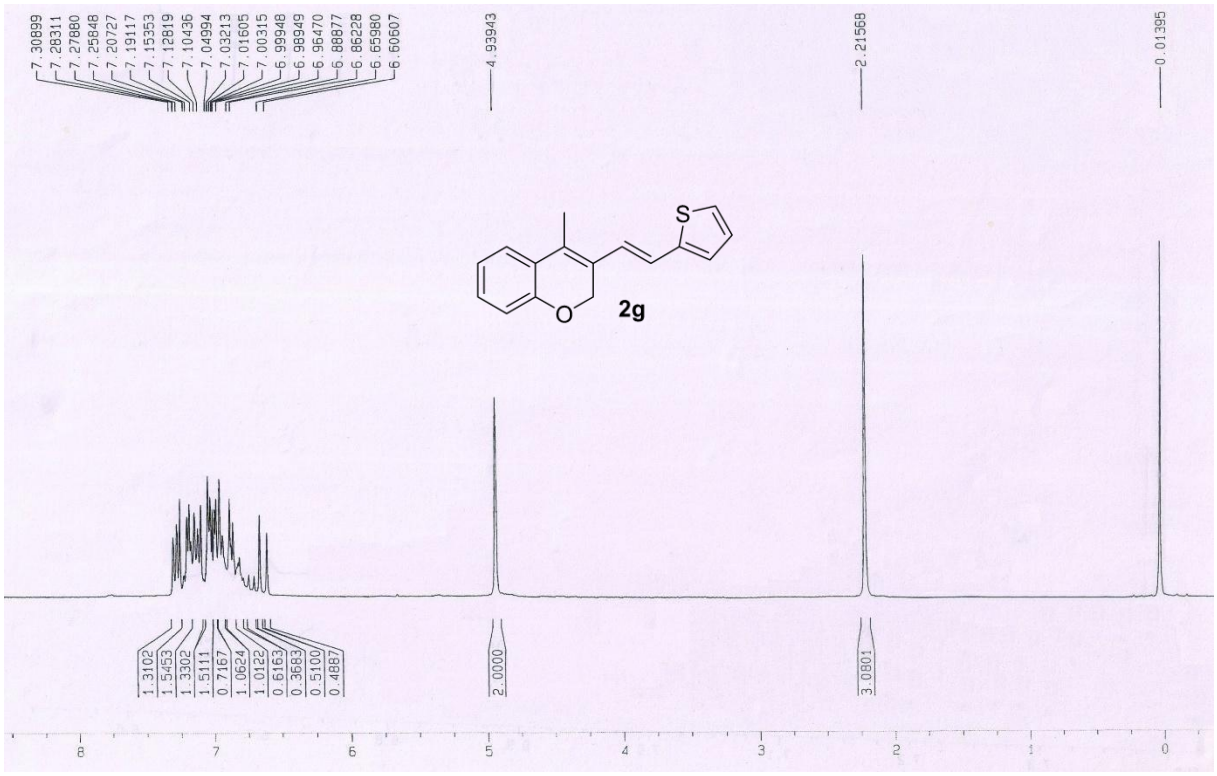


Fig. S33 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2g**

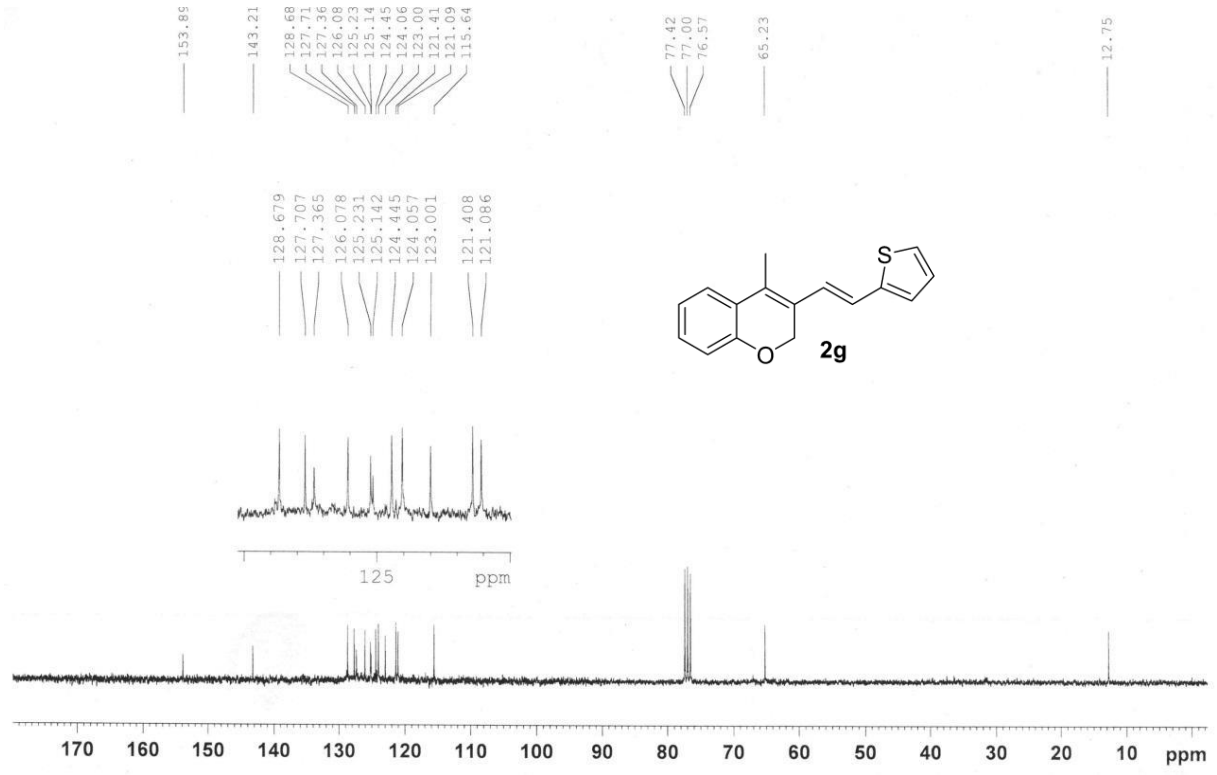


Fig. S34 ^{13}C{^{1}H} NMR (75 MHz, $CDCl_3$) spectrum of **2g**

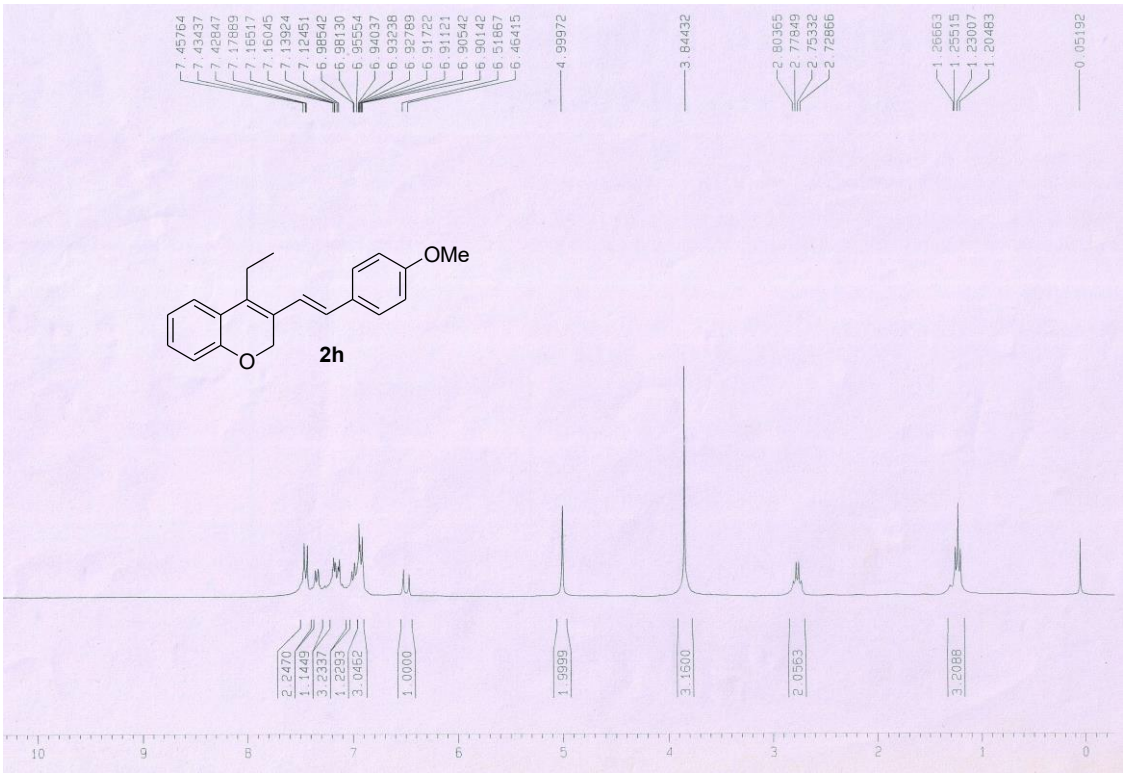


Fig. S35 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2h**

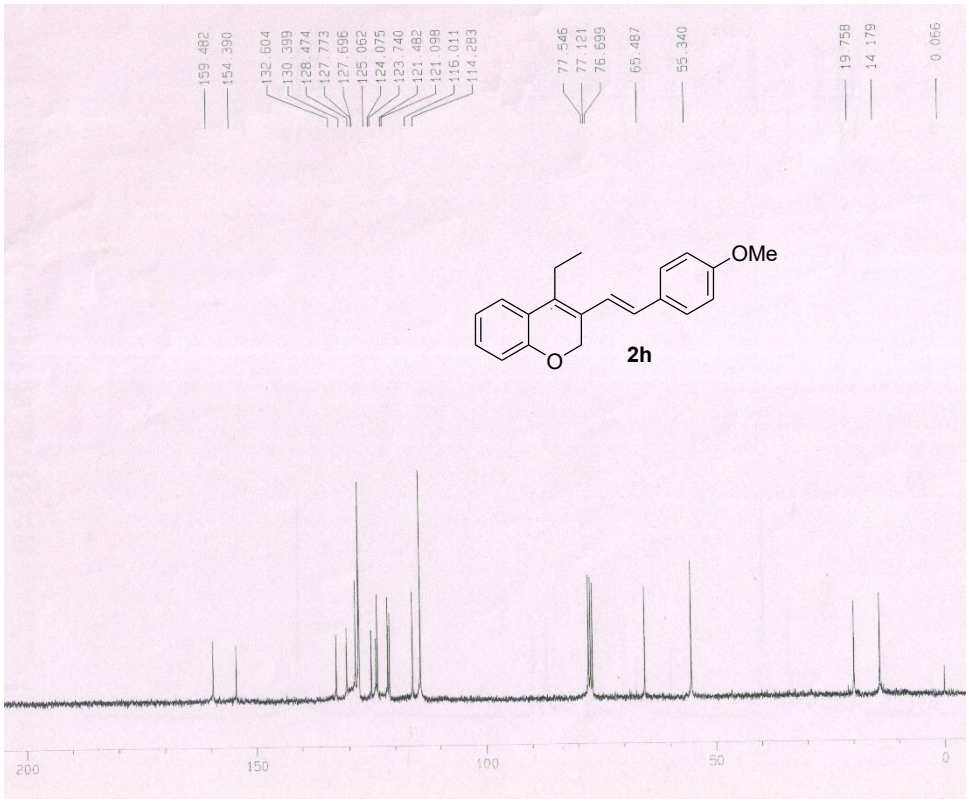


Fig. S36 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **2h**

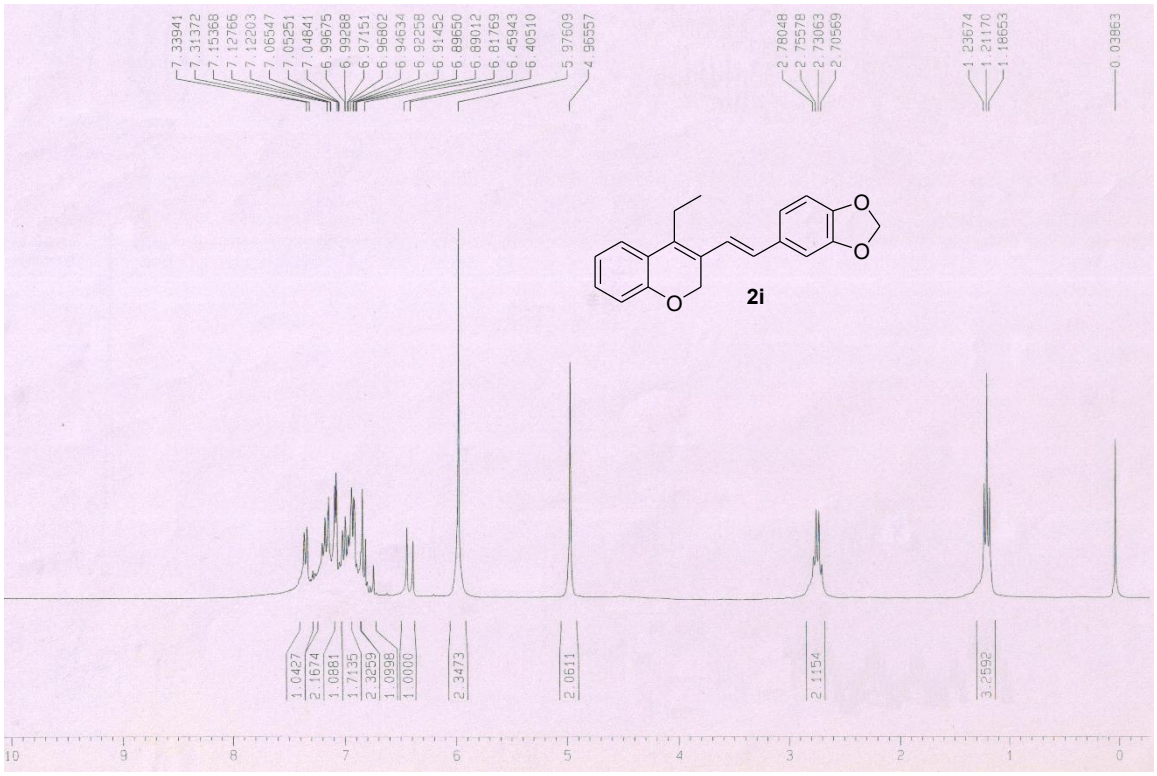


Fig. S37 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2i**

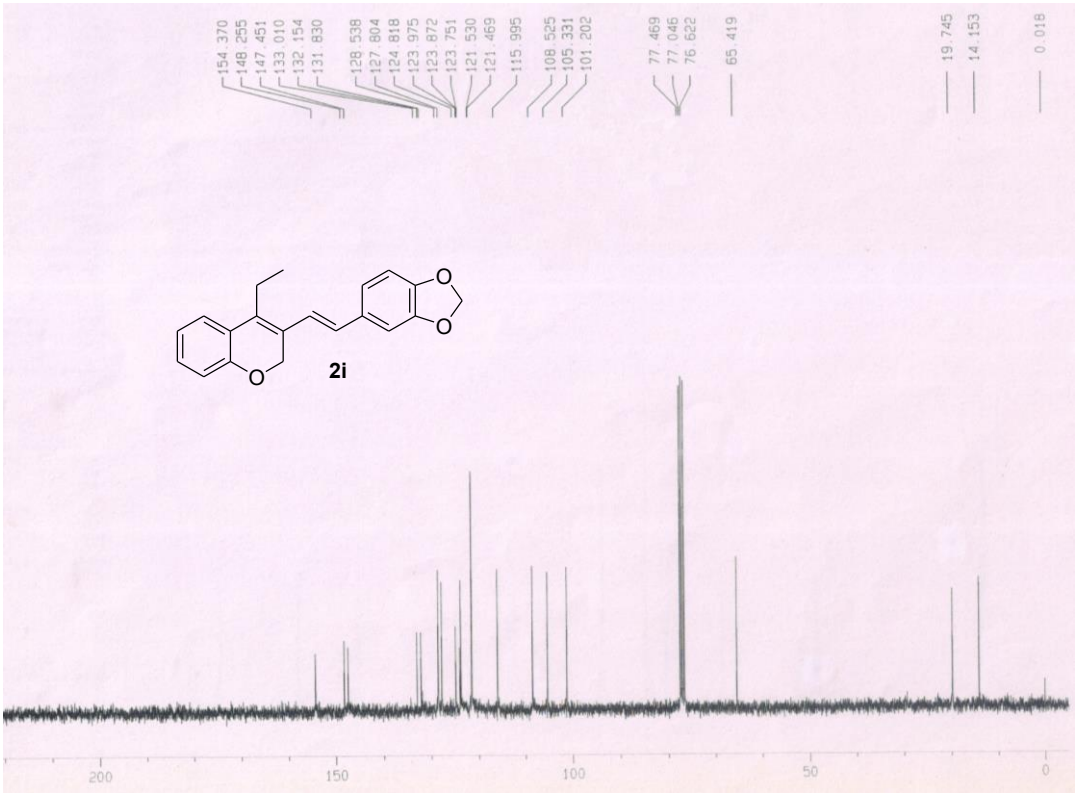


Fig. S38 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **2i**

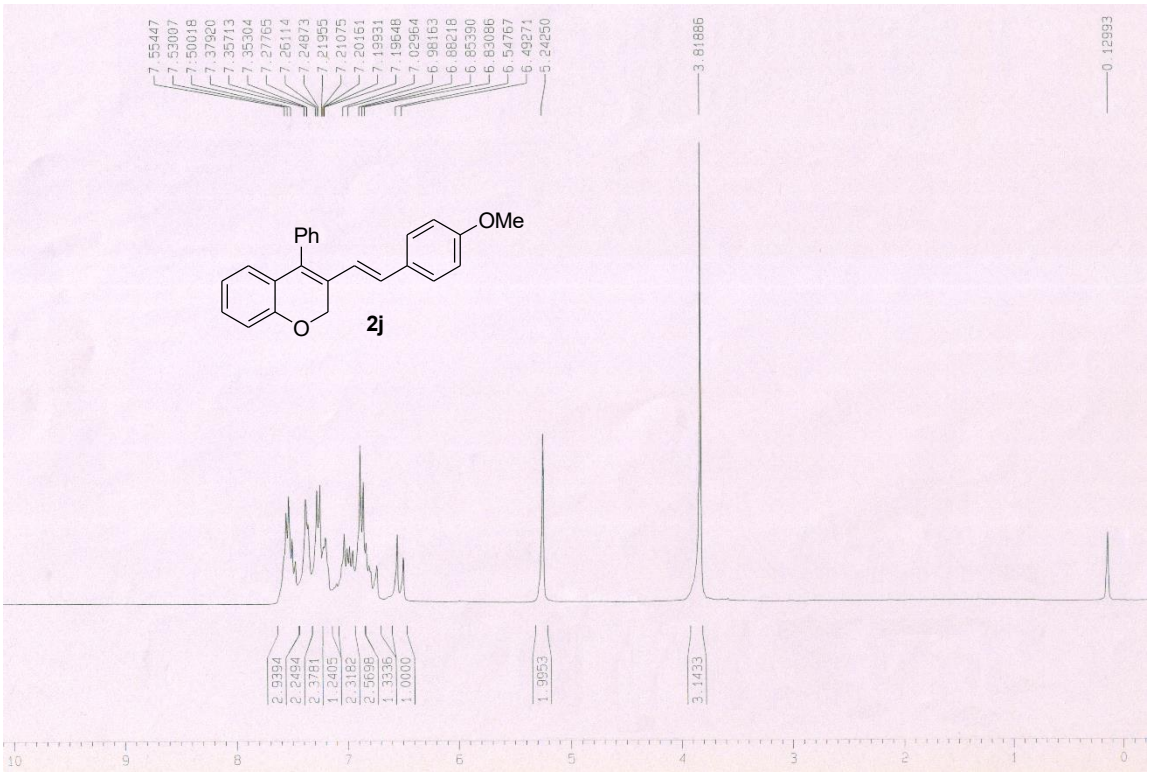


Fig. S39 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2j**

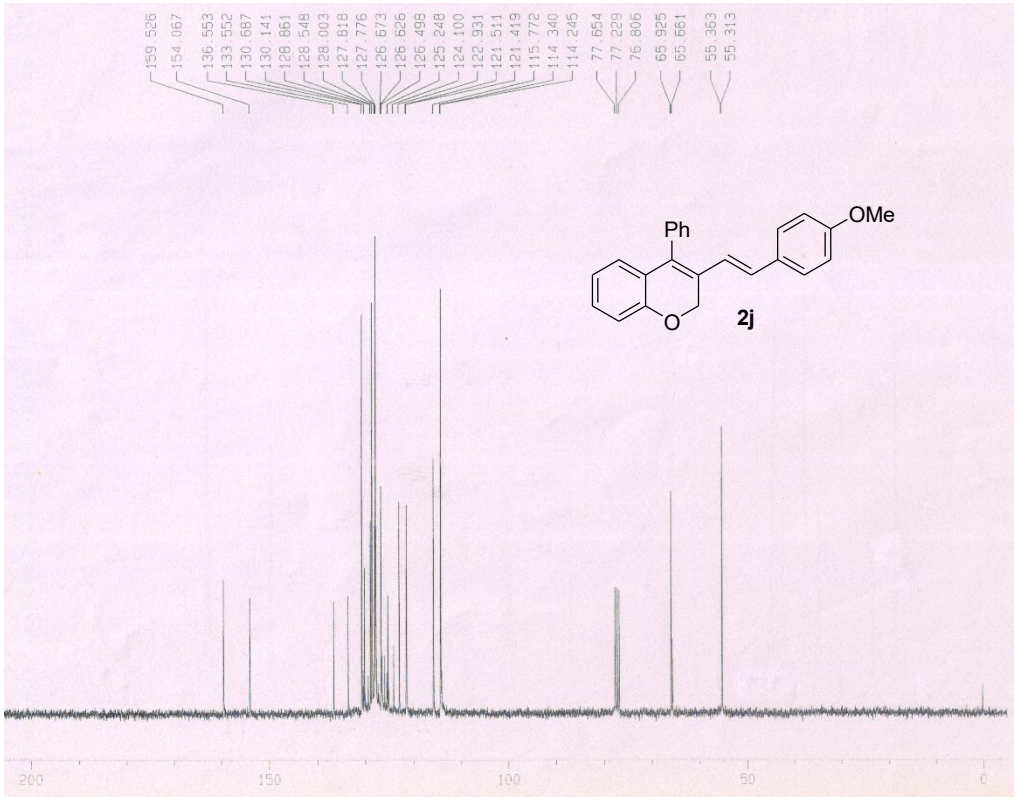


Fig. S40 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **2j**

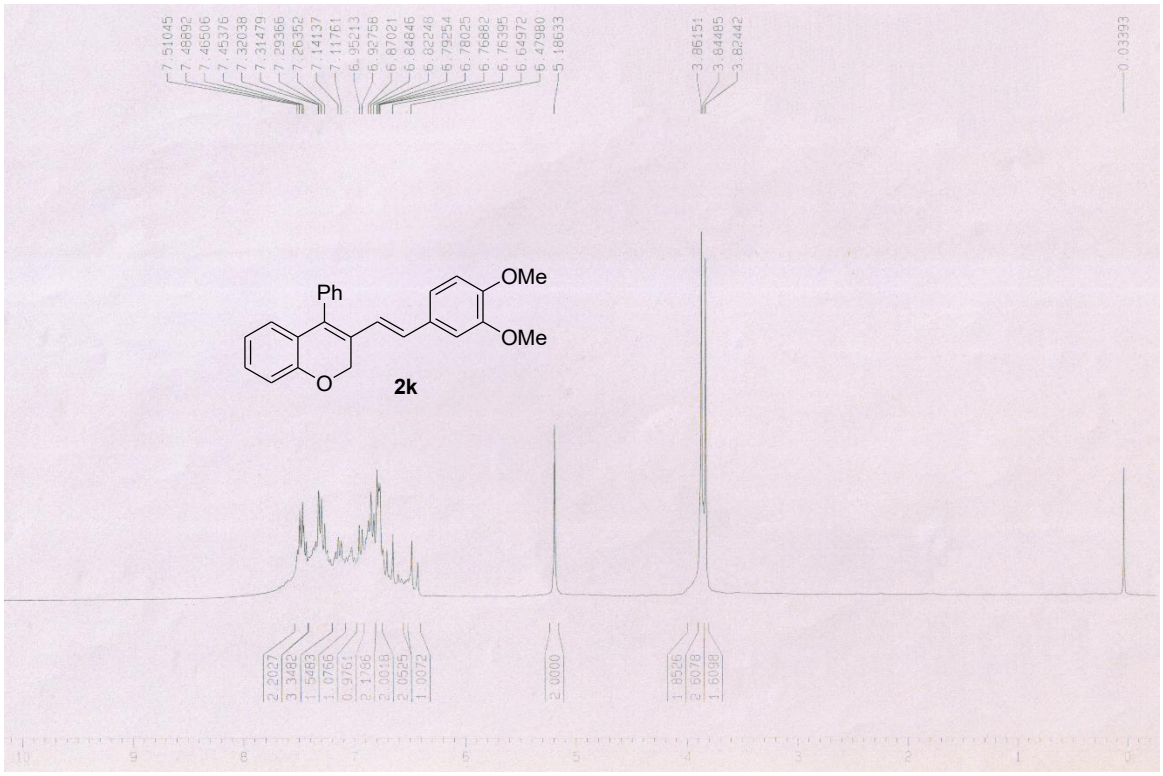


Fig. S41 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2k**

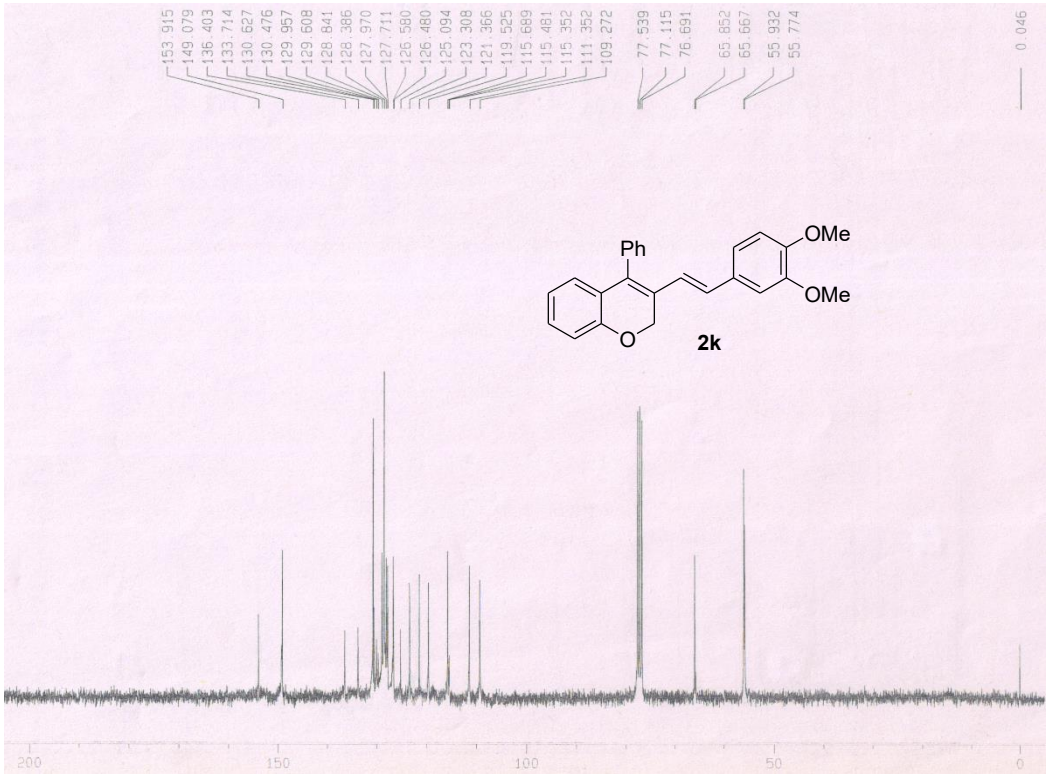


Fig. S42 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **2k**

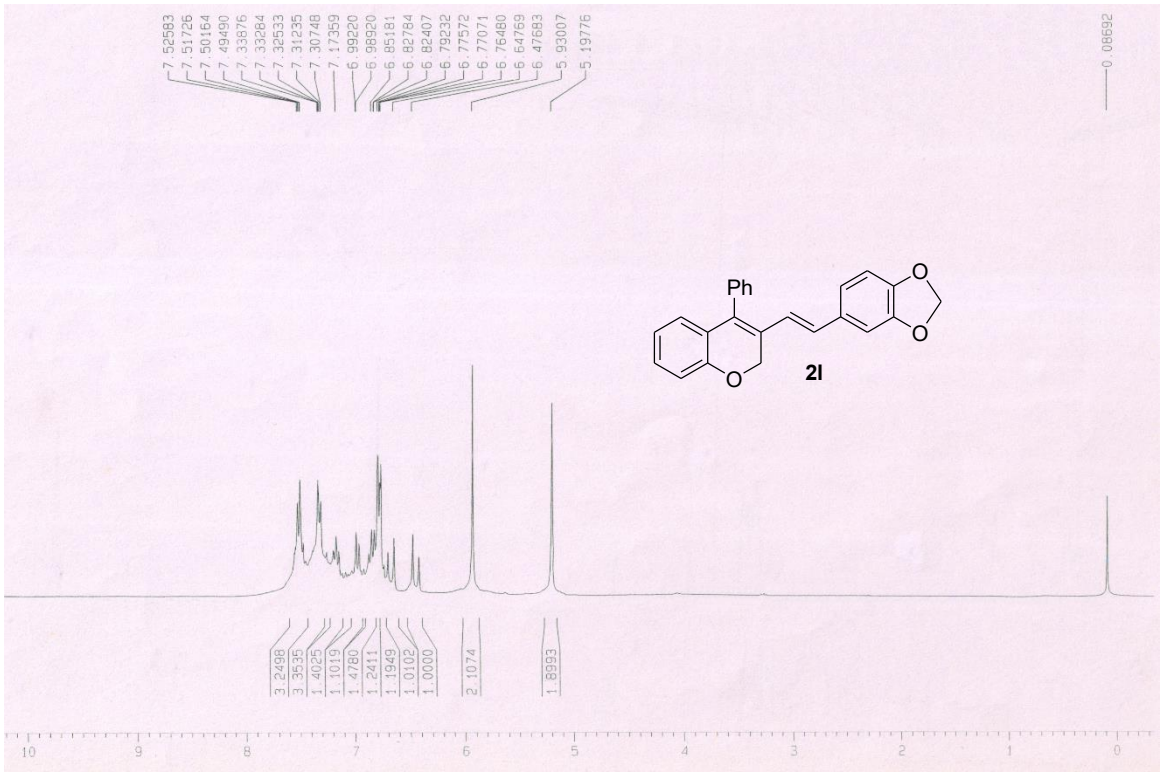


Fig. S43 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2l**

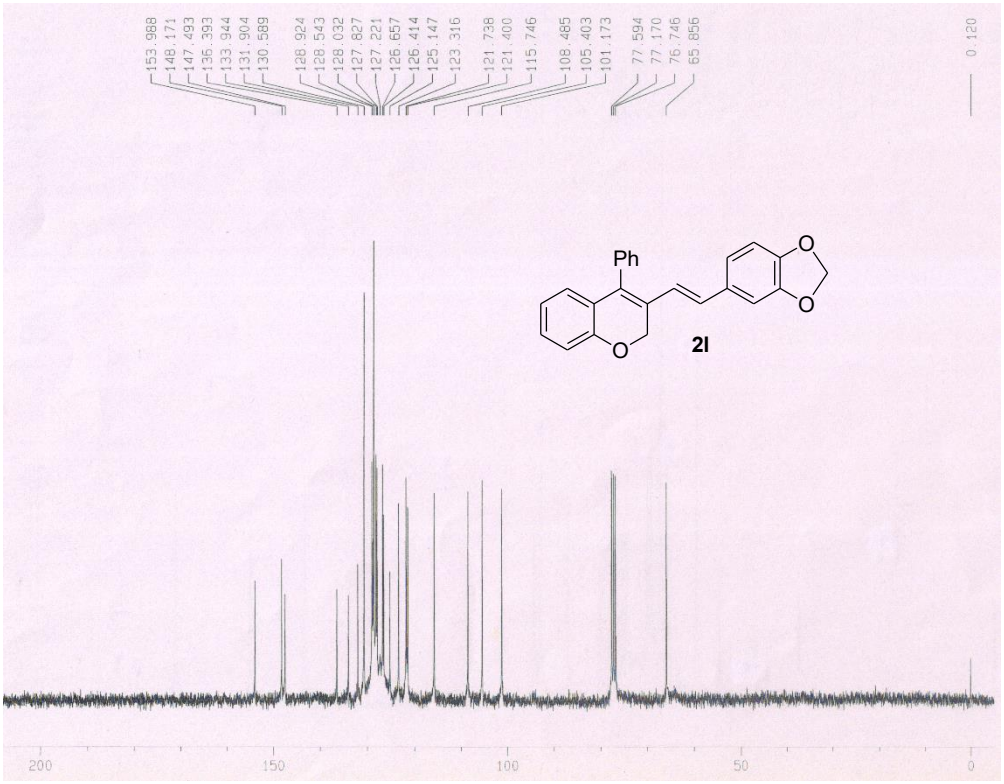


Fig. S44 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **2l**

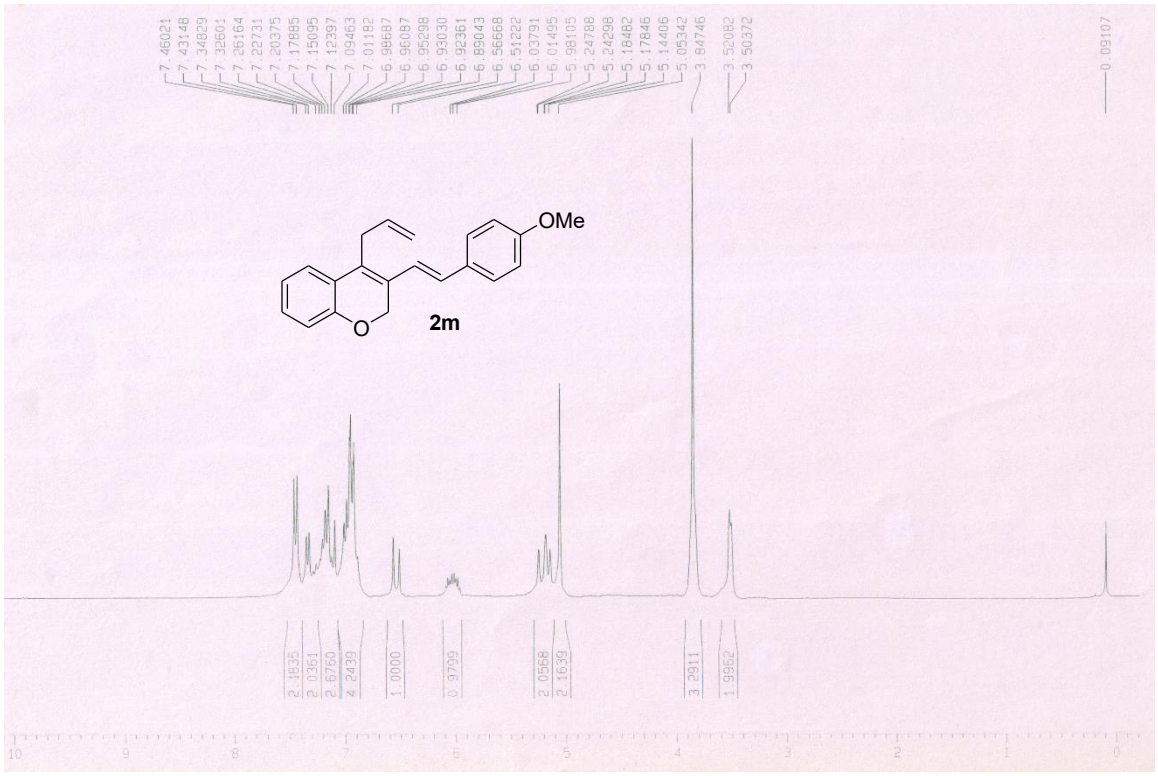


Fig. S45 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2m**

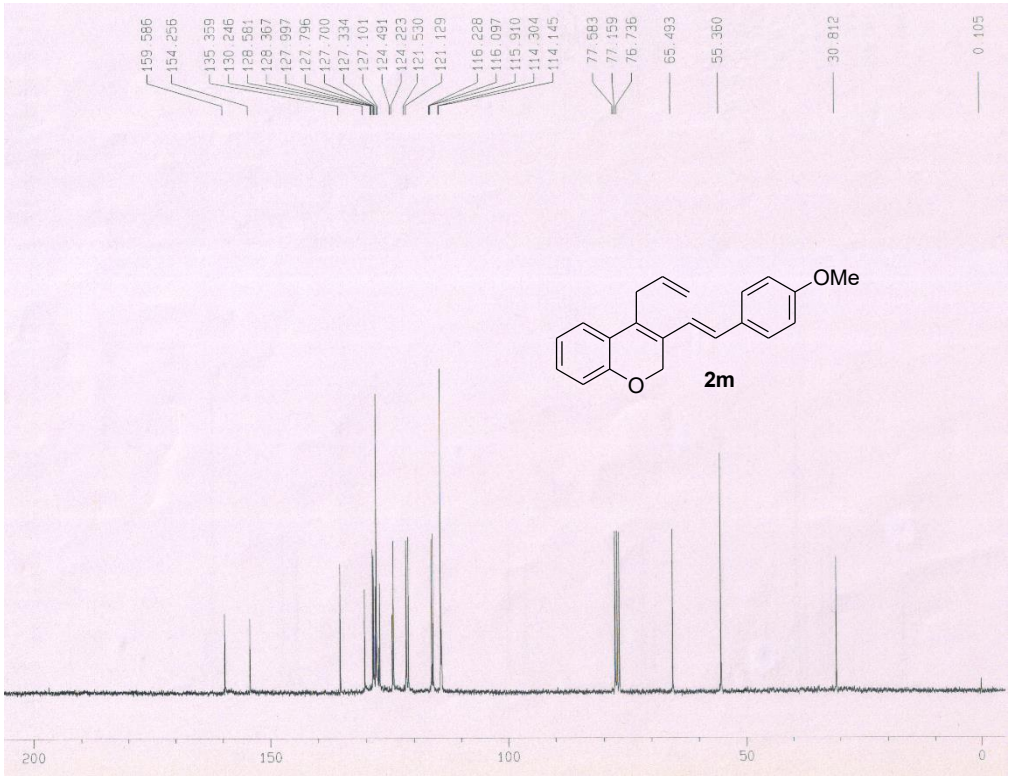


Fig. S46 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **2m**

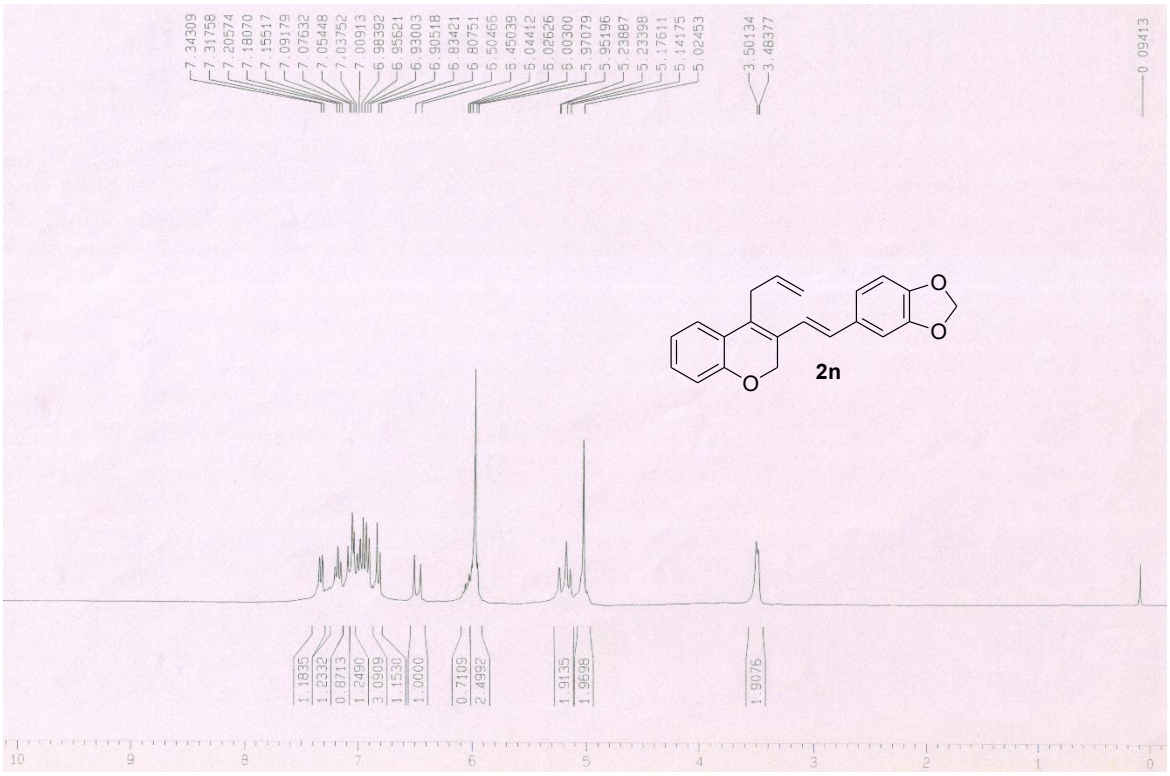


Fig. S47 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **2n**

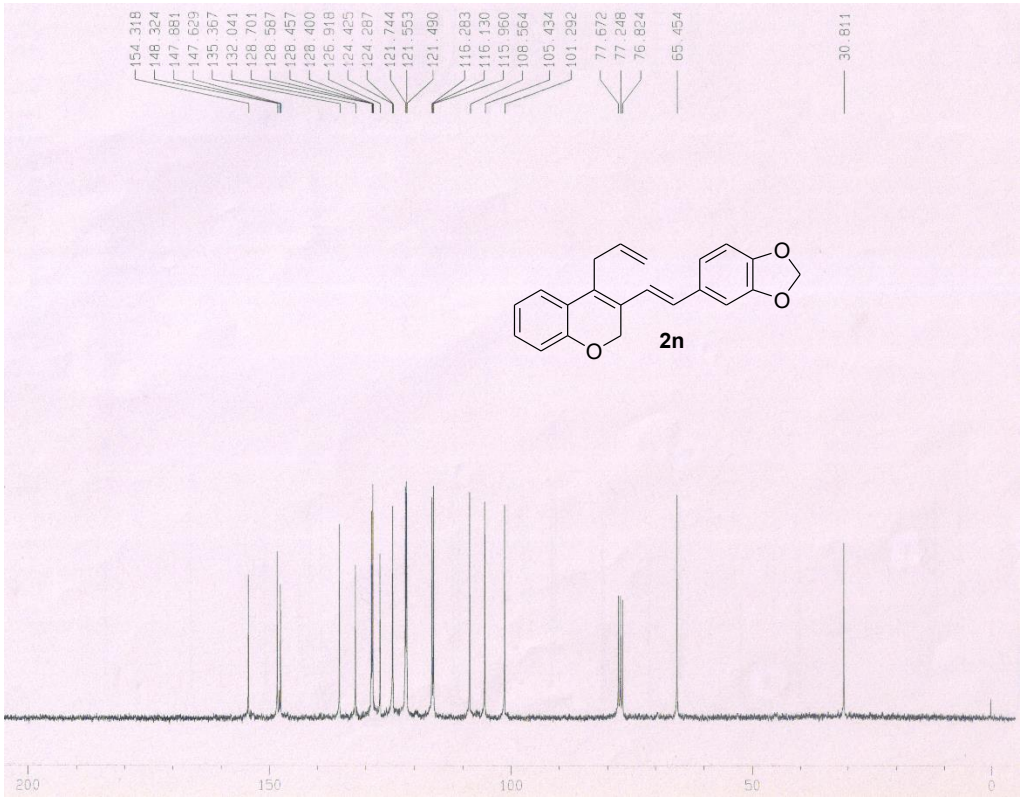


Fig. S48 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **2n**

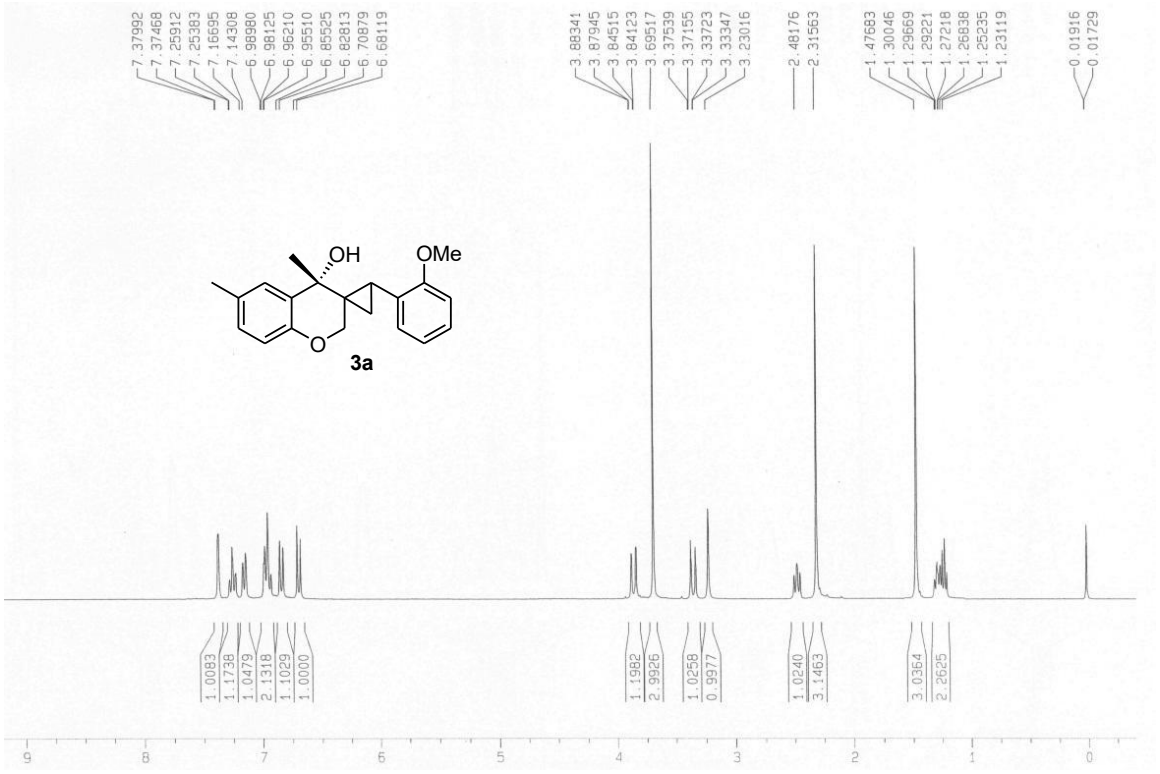


Fig. S49 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **3a**

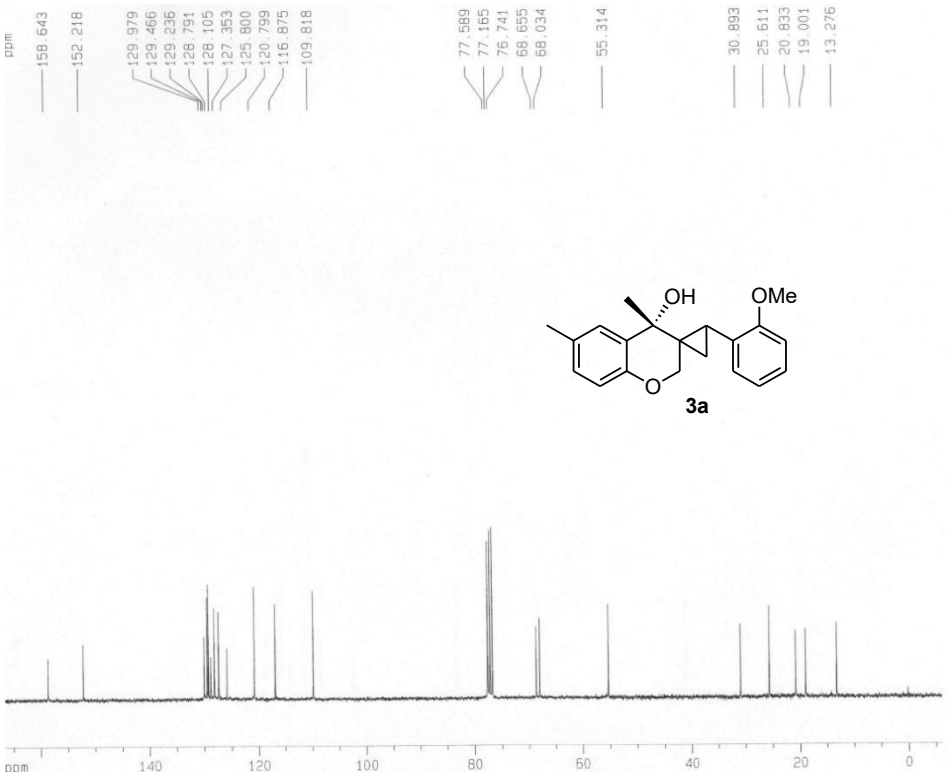


Fig. S50 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **3a**

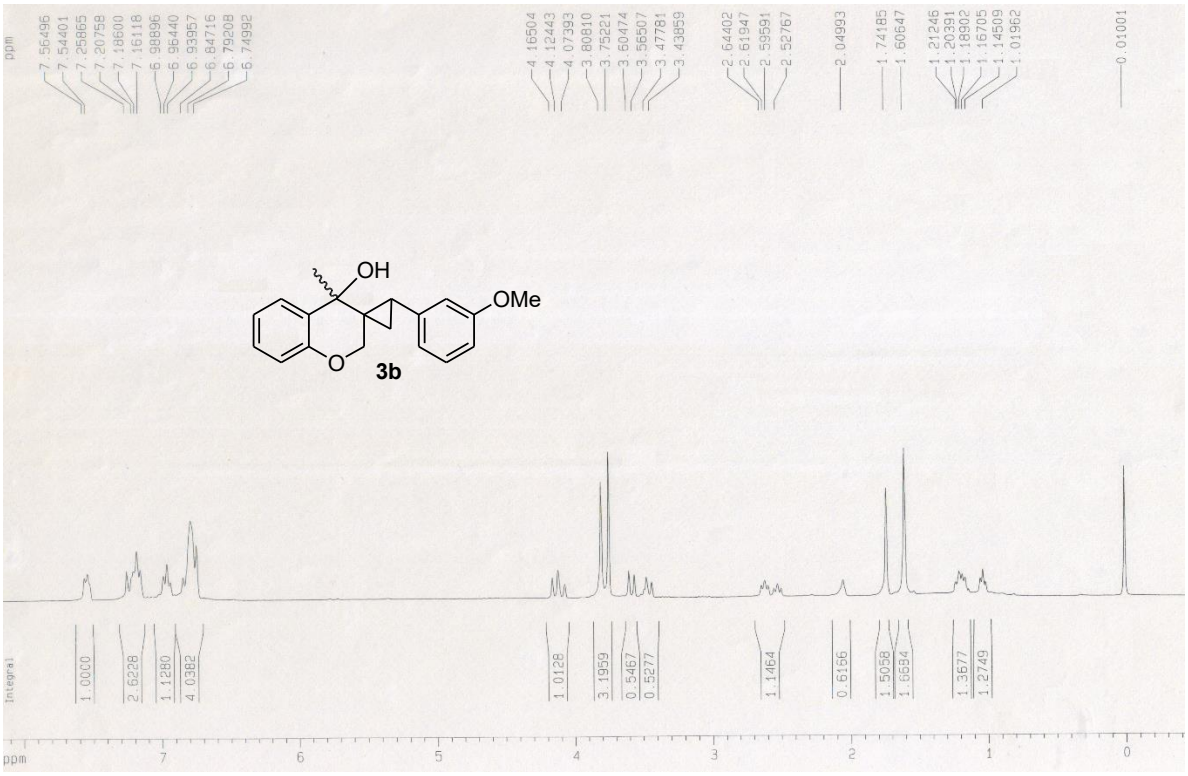


Fig. S51 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **3b**

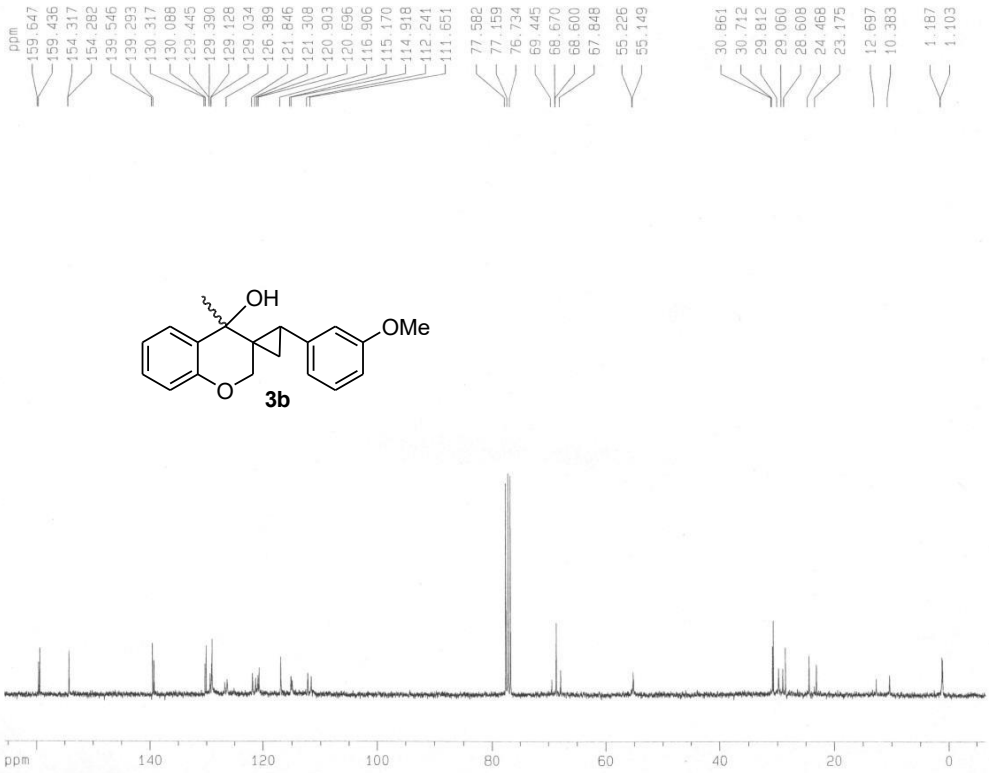


Fig. S52 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **3b**

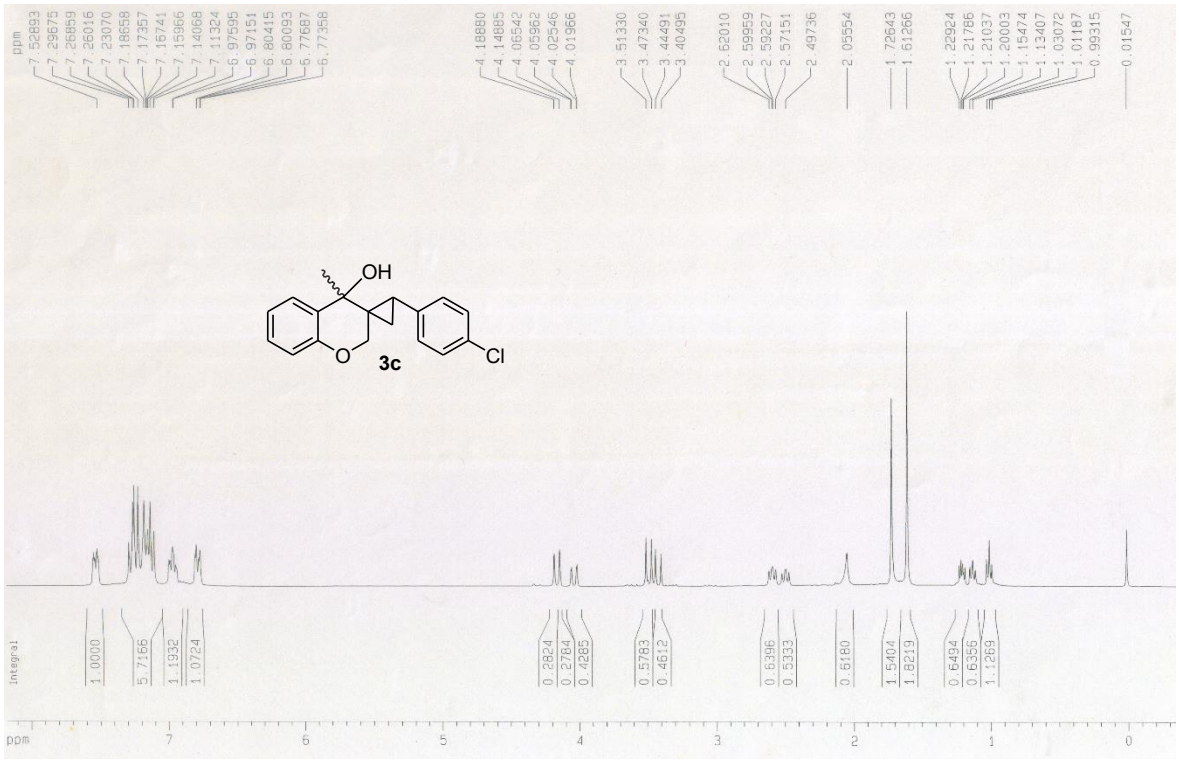


Fig. S53 ^{1}H NMR (300 MHz, $CDCl_3$) spectrum of **3c**

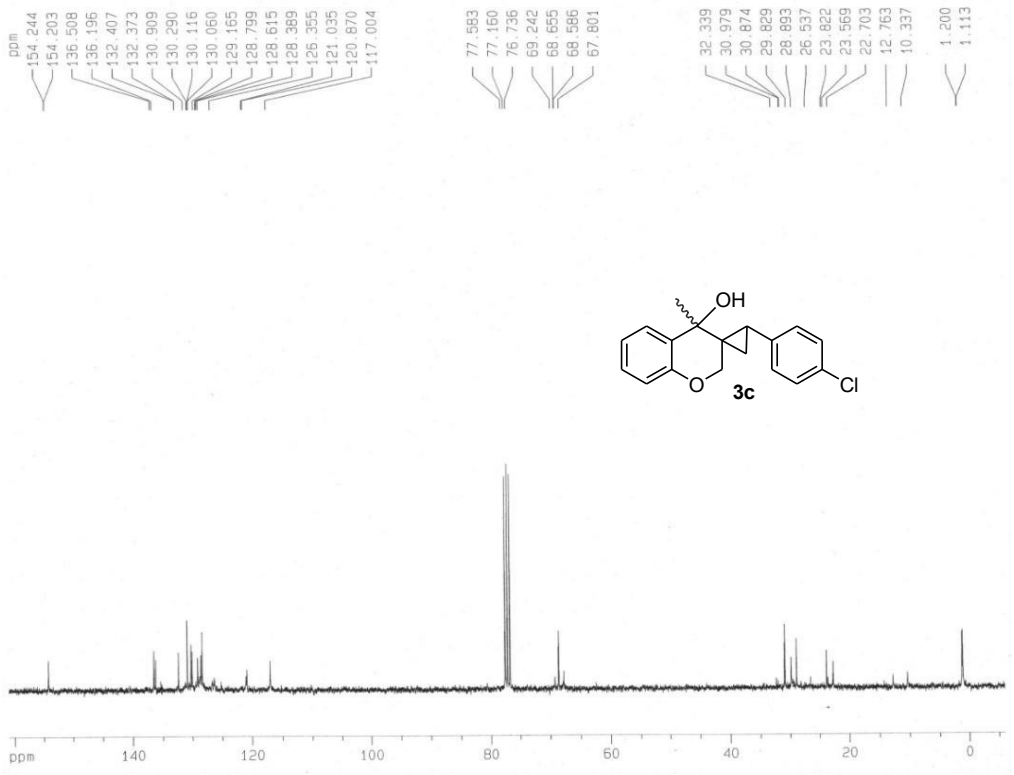


Fig. S54 $^{13}C\{^{1}H\}$ NMR (75 MHz, $CDCl_3$) spectrum of **3c**

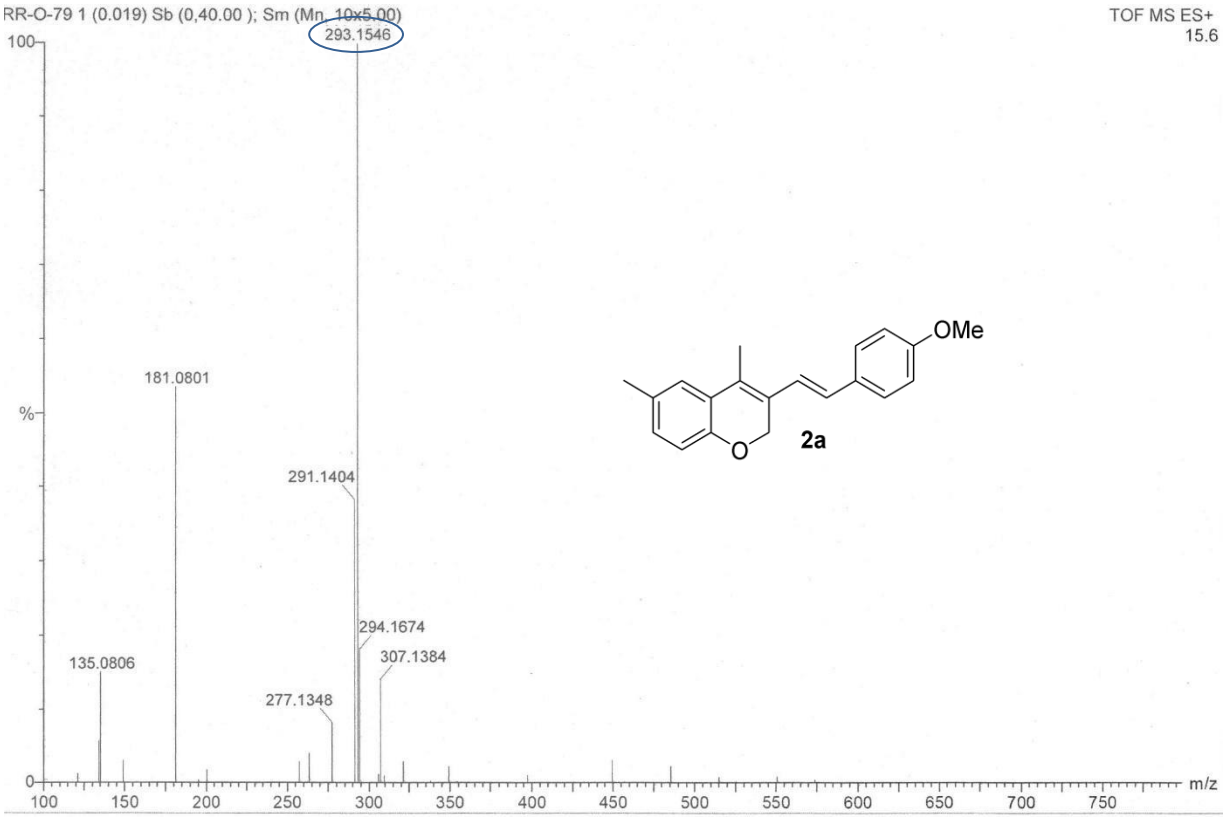


Fig. S55 Mass Spectrum of **2a**

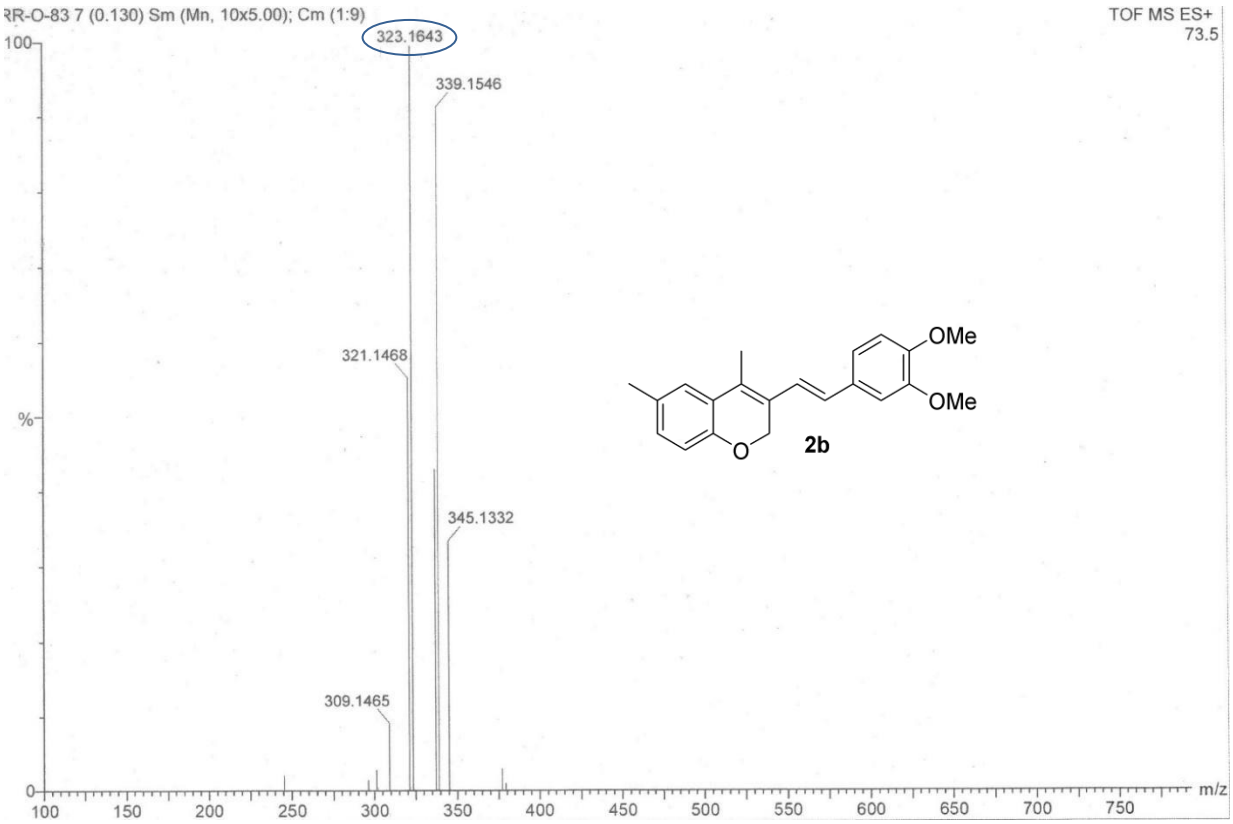


Fig. S56 Mass Spectrum of **2b**

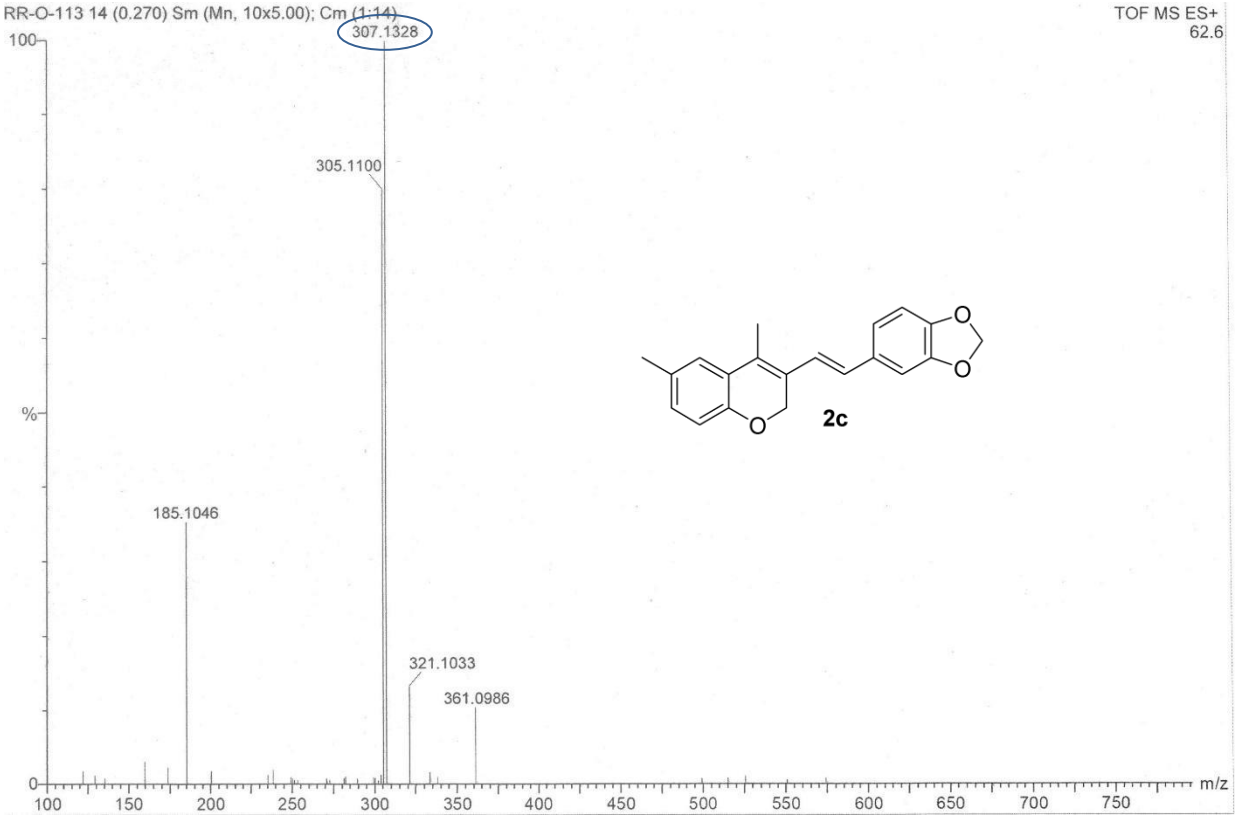


Fig. S57 Mass Spectrum of **2c**

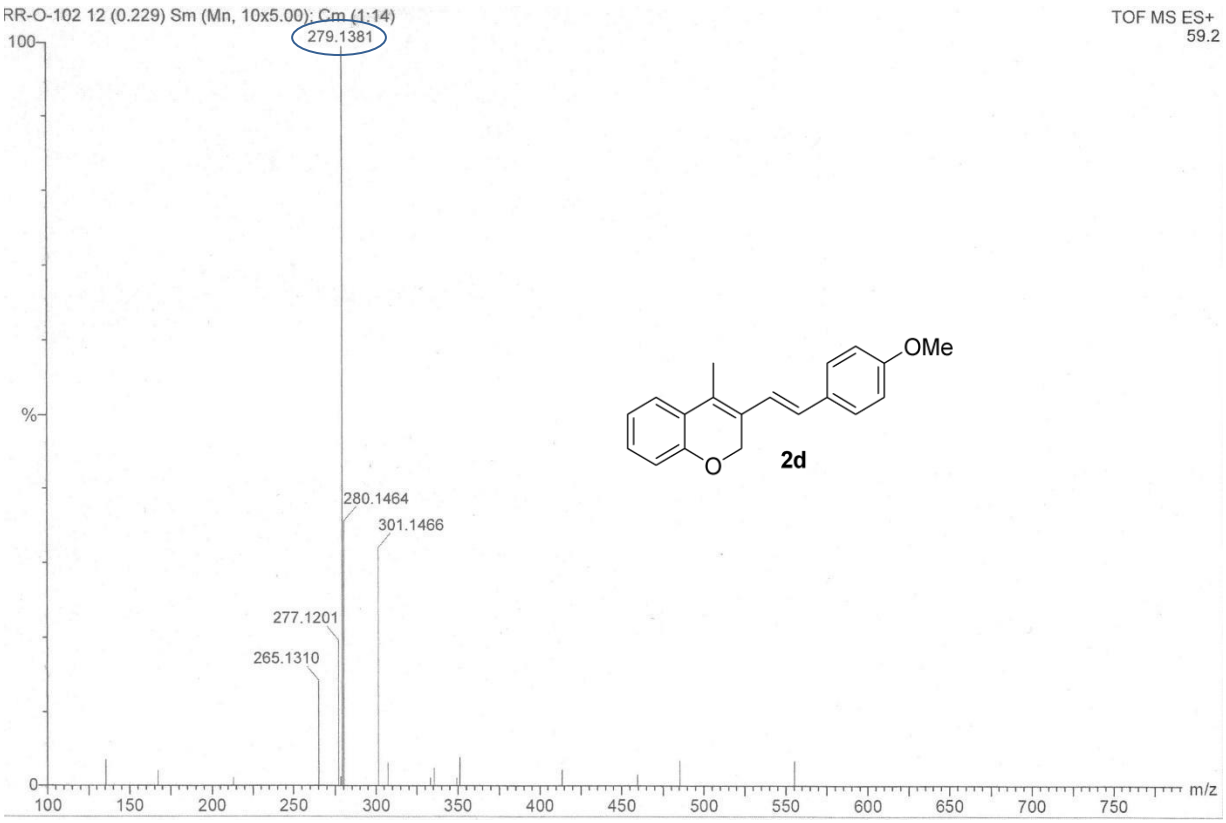


Fig. S58 Mass Spectrum of **2d**

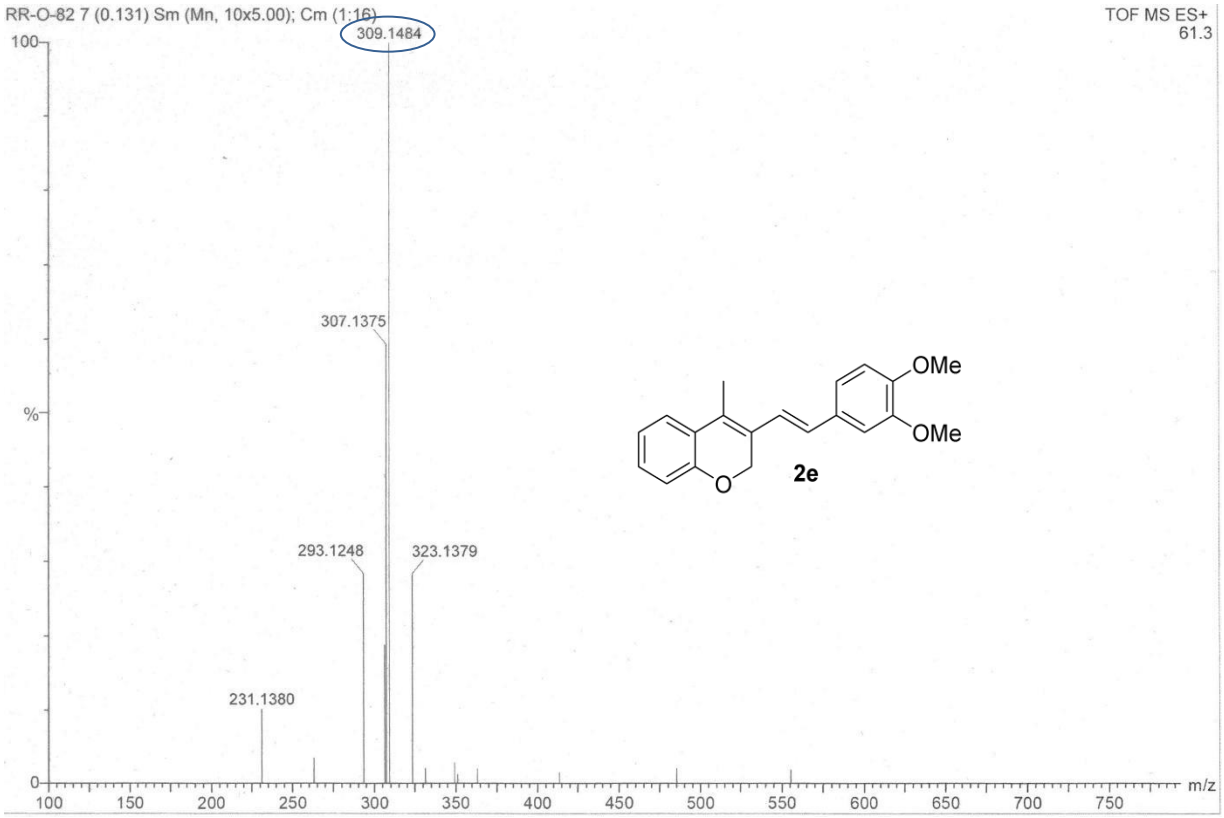


Fig. S59 Mass Spectrum of **2e**

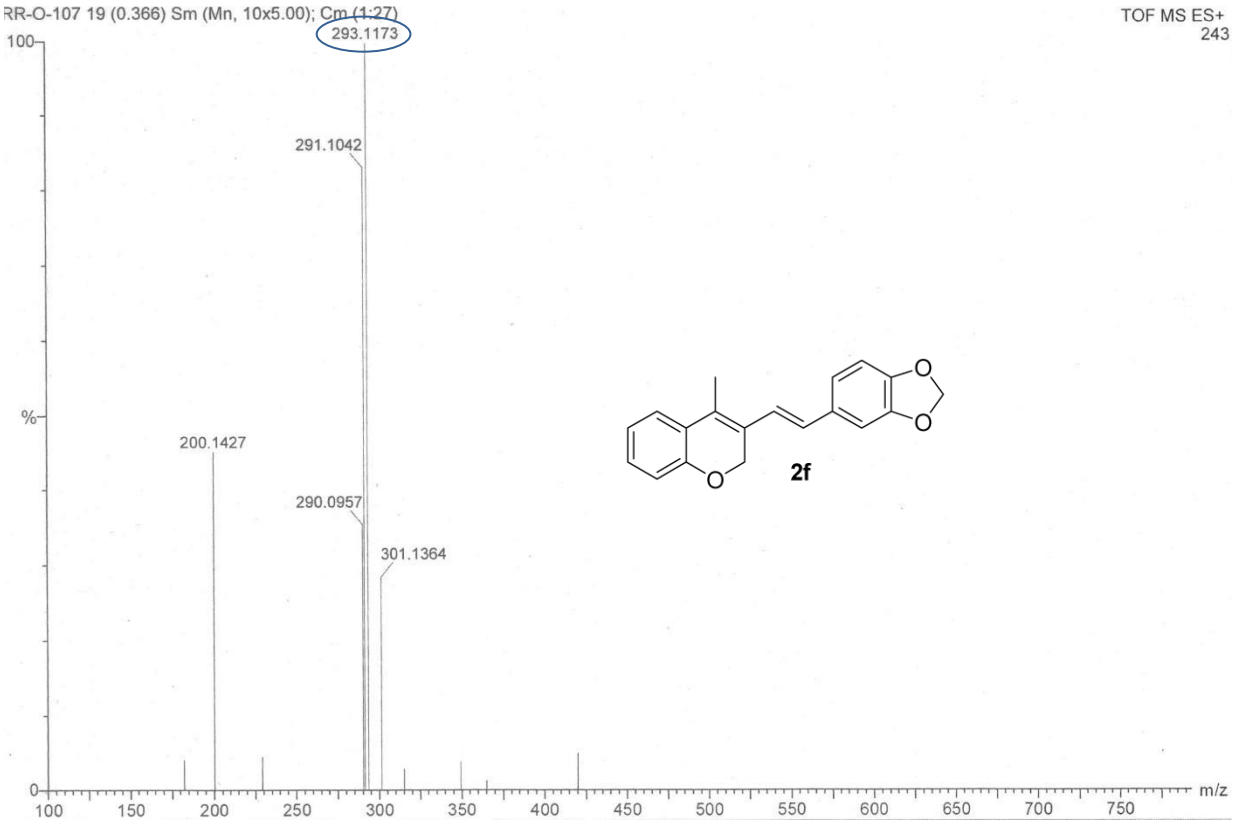


Fig. S60 Mass Spectrum of **2f**

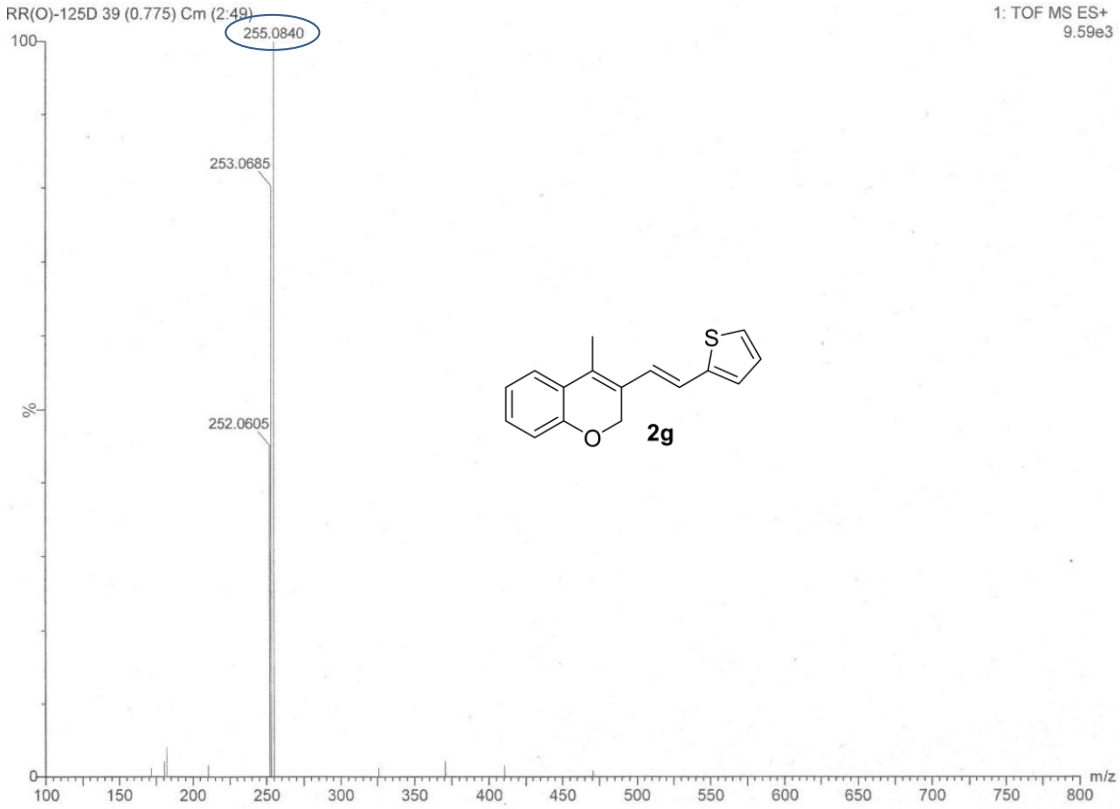


Fig. S61 Mass Spectrum of **2g**

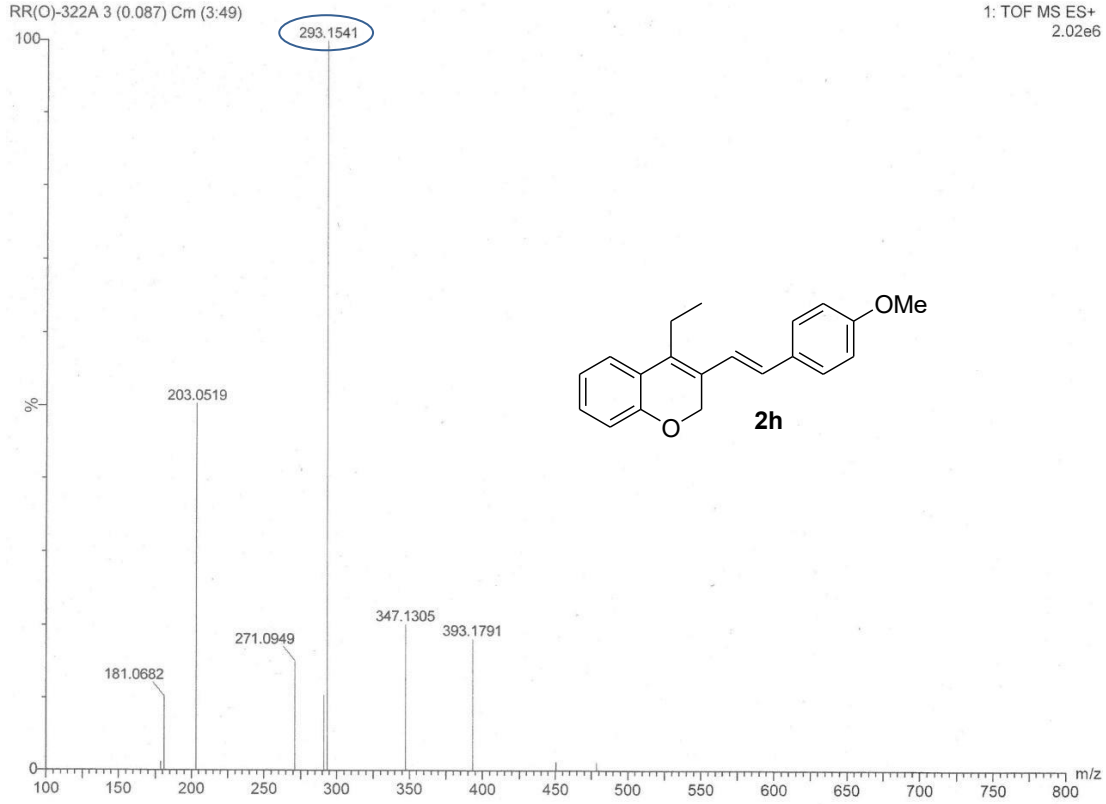


Fig. S62 Mass Spectrum of **2h**

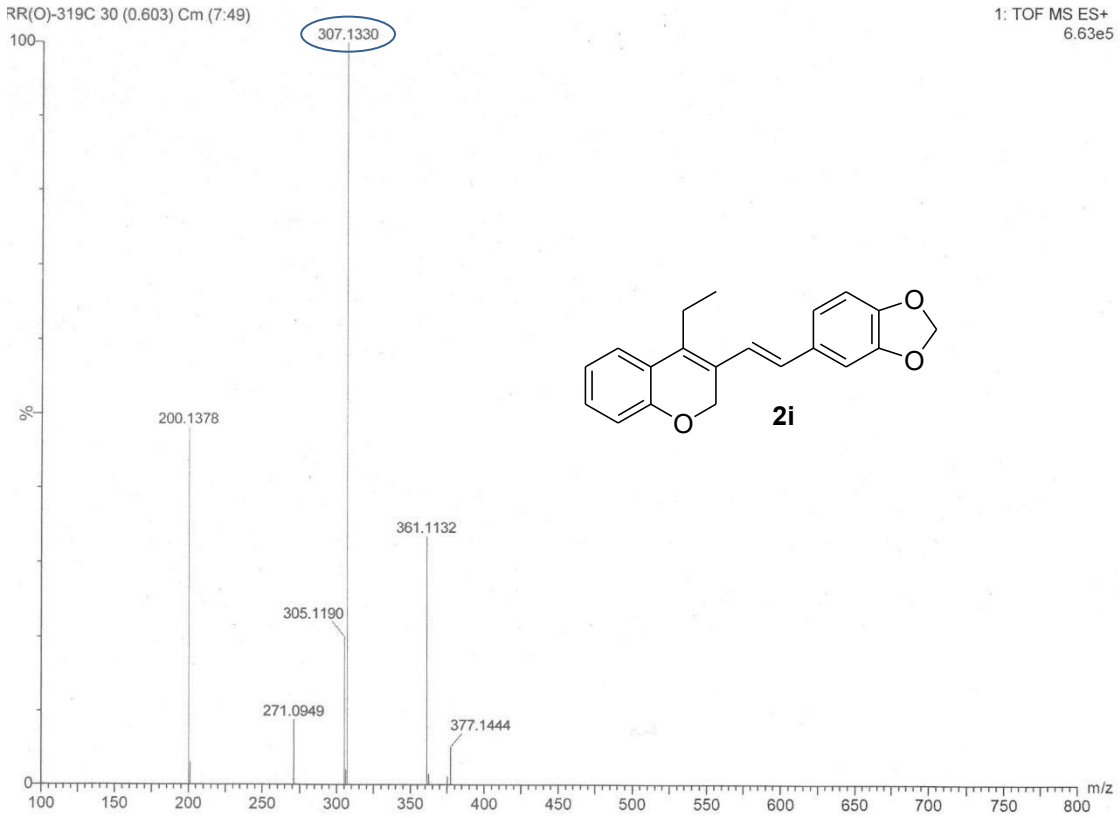


Fig. S63 Mass Spectrum of **2i**

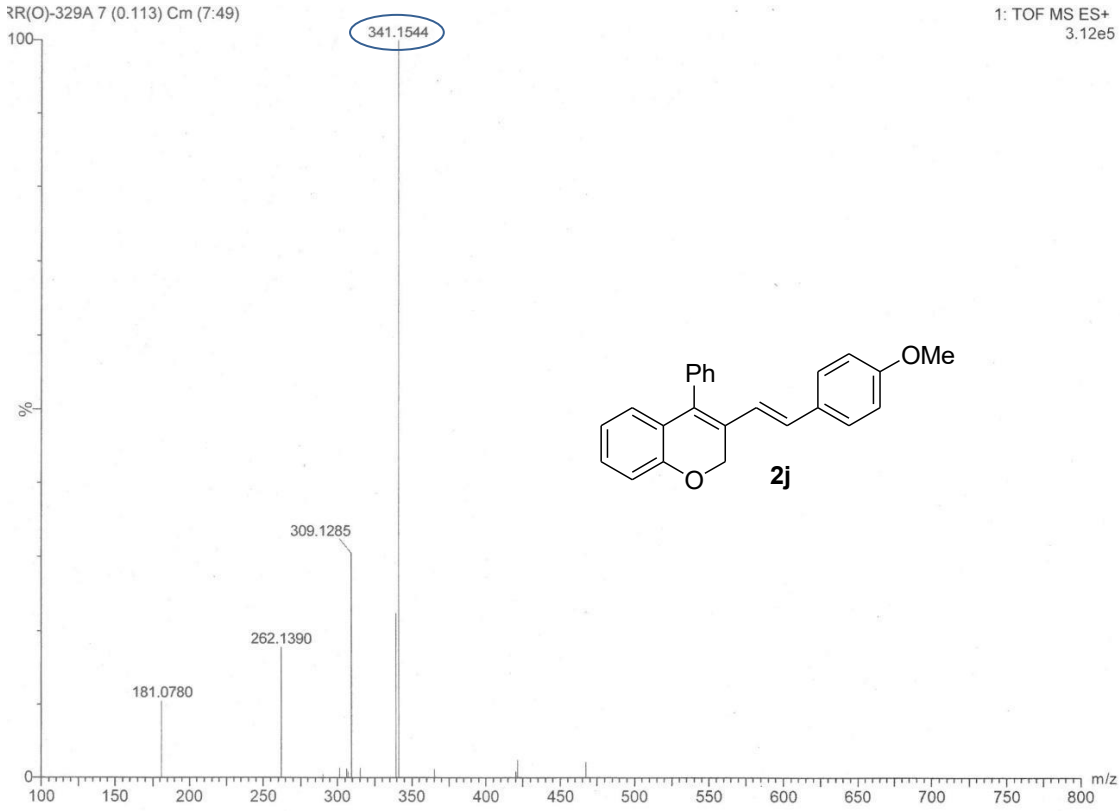


Fig. S64 Mass Spectrum of **2j**

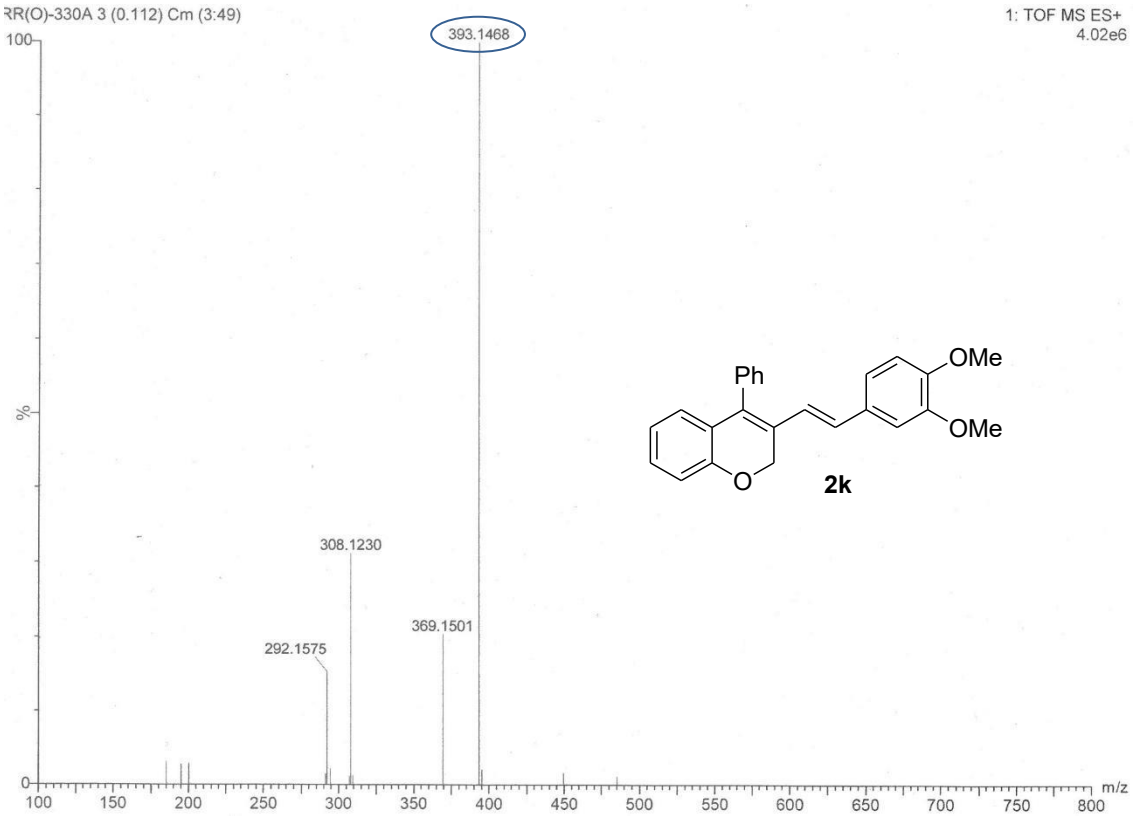


Fig. S65 Mass Spectrum of **2k**

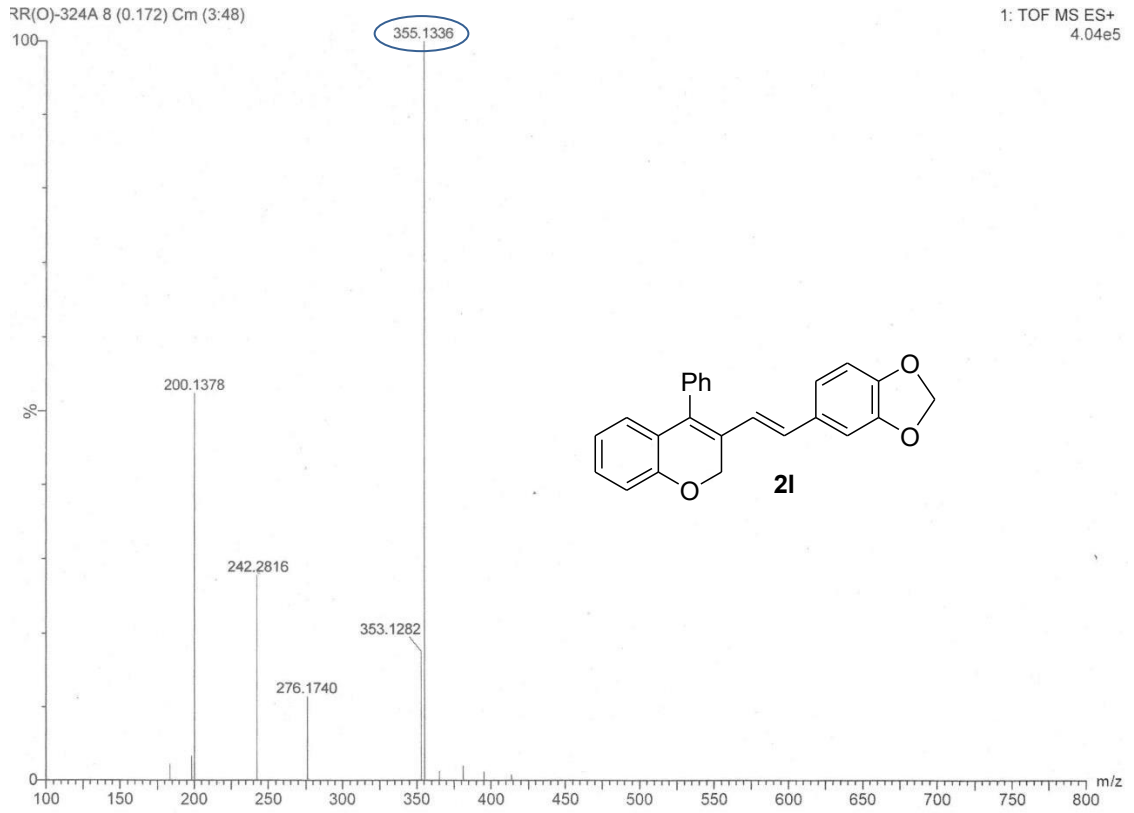


Fig. S66 Mass Spectrum of **2l**

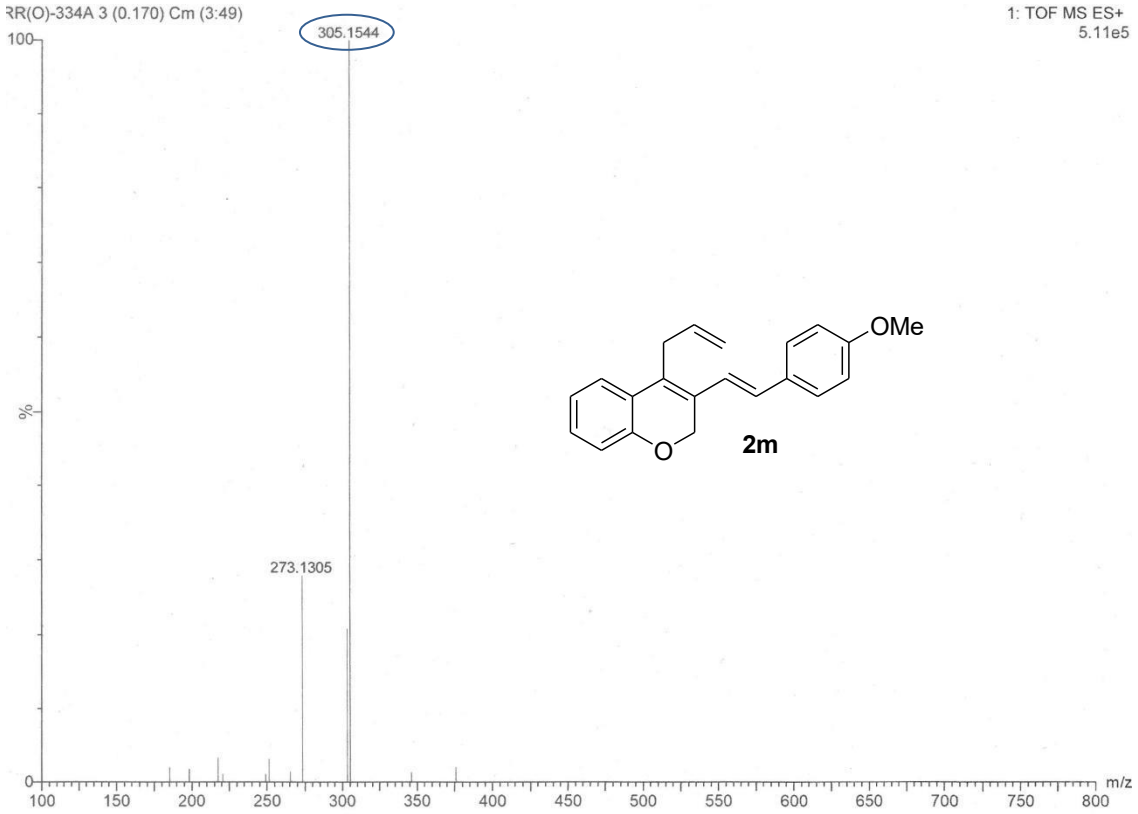


Fig. S67 Mass Spectrum of **2m**

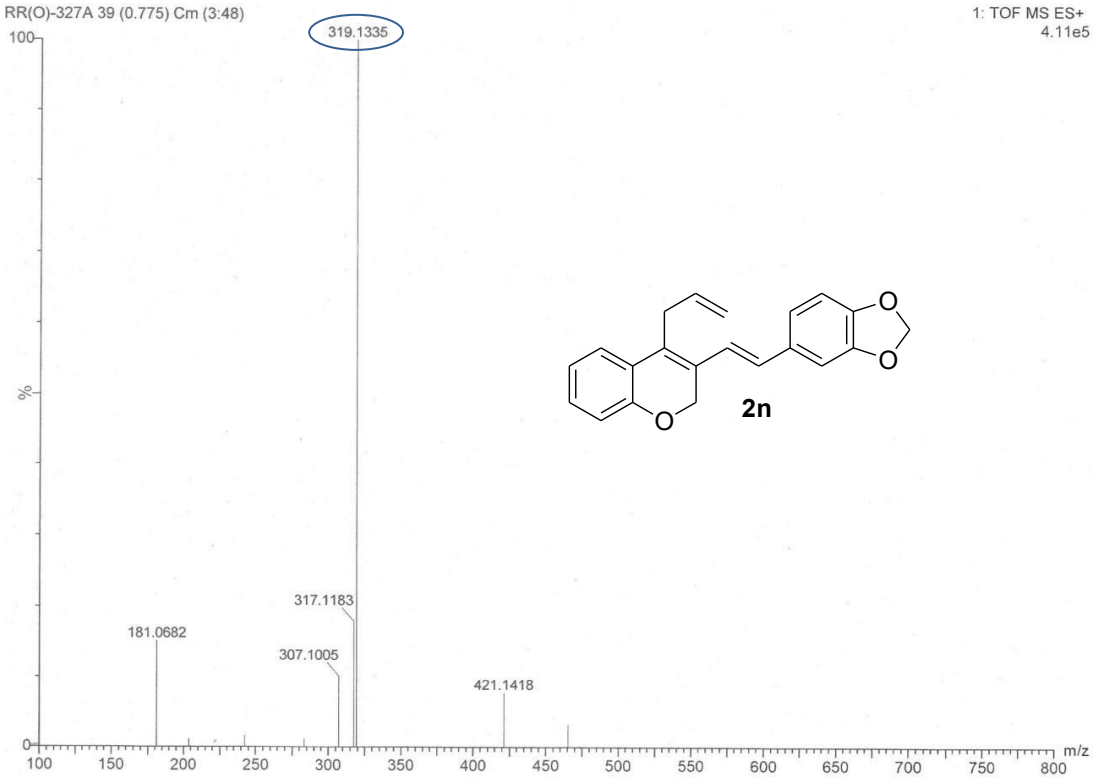


Fig. S68 Mass Spectrum of **2n**

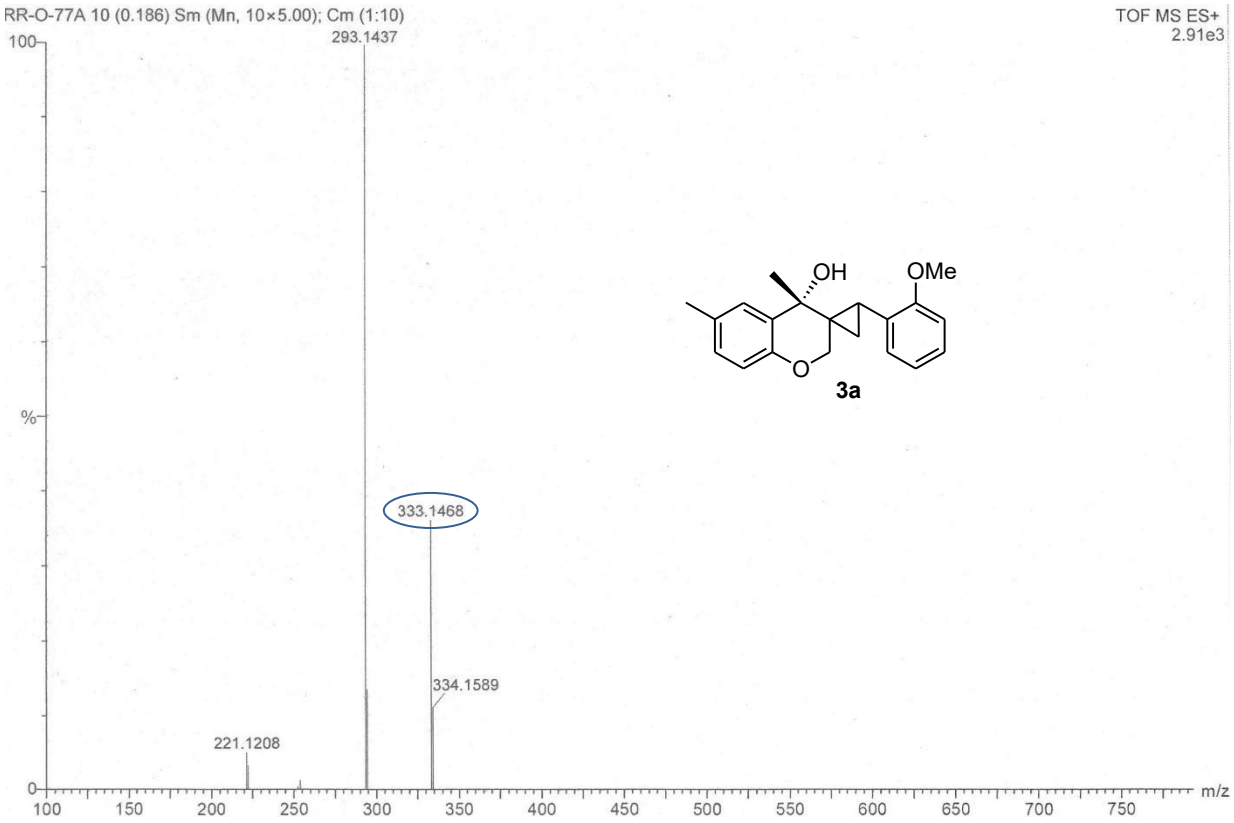


Fig. S69 Mass Spectrum of **3a**

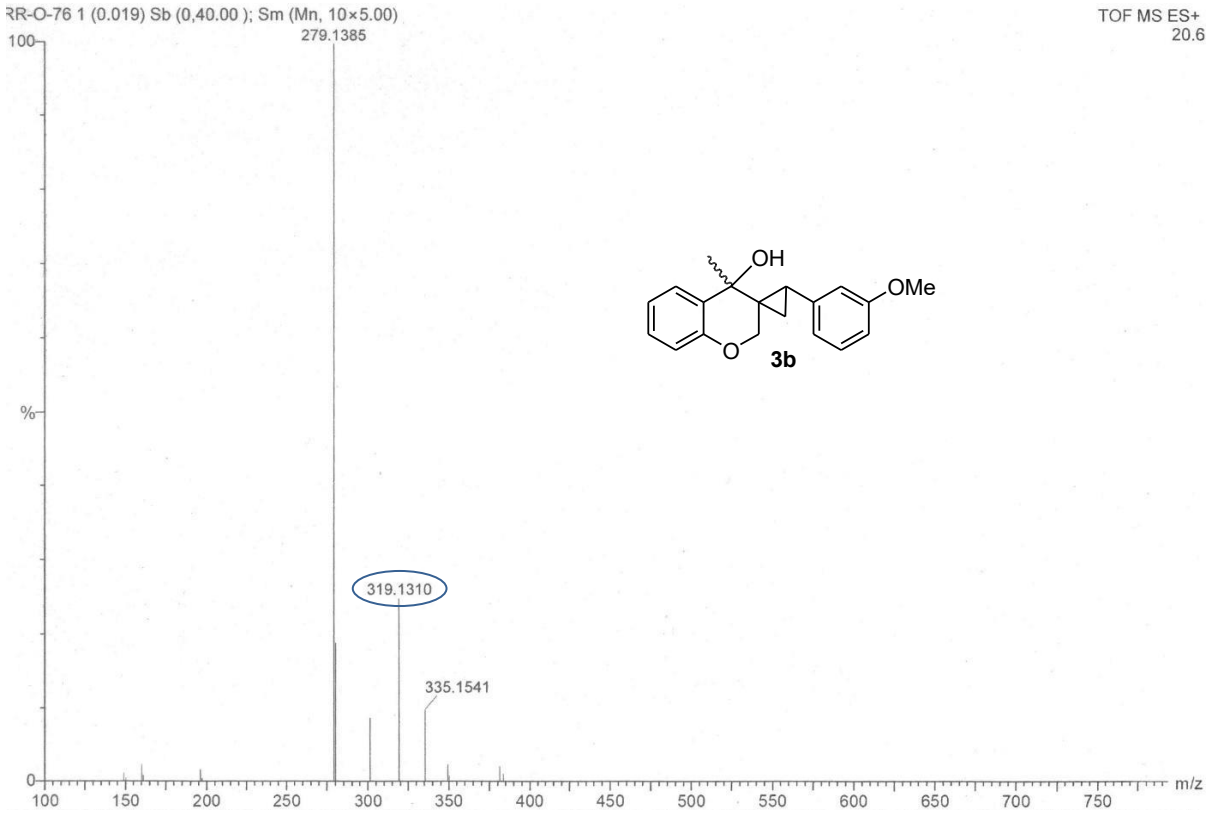


Fig. S70 Mass Spectrum of **3b**

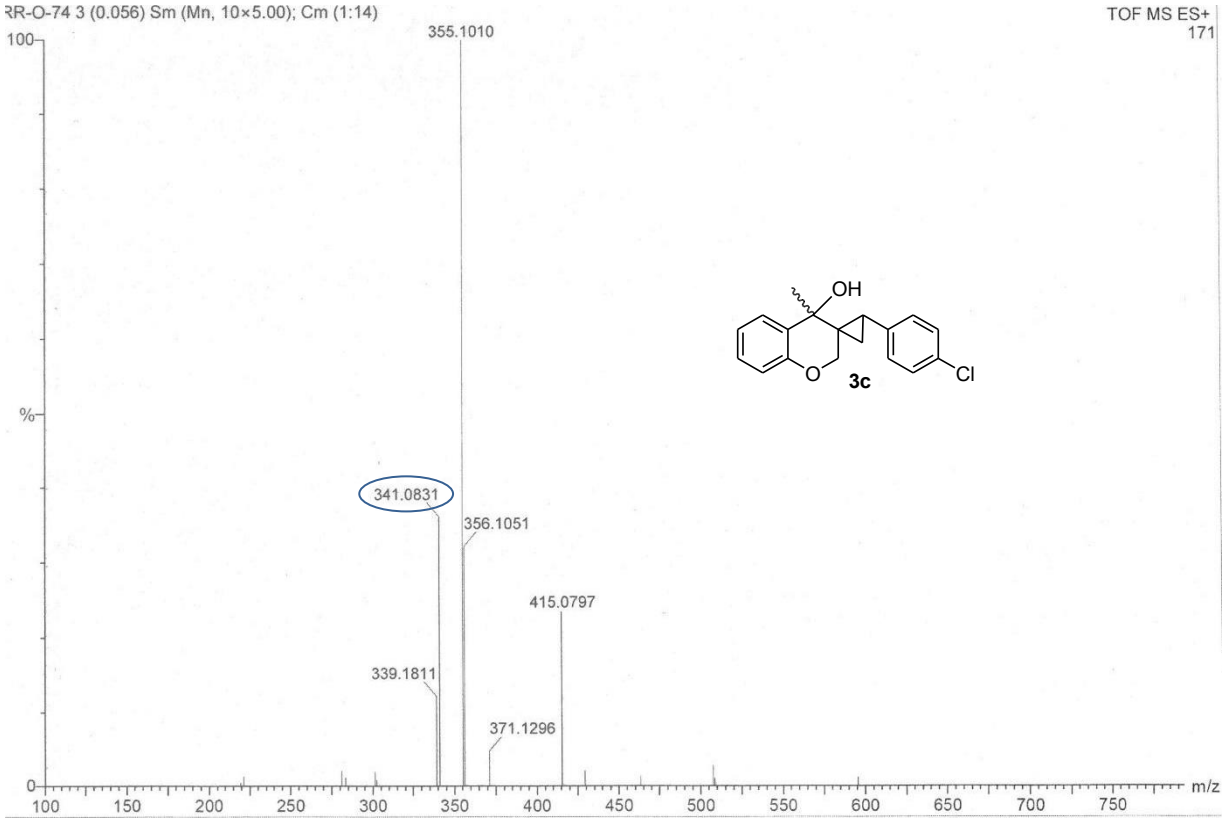


Fig. S71 Mass Spectrum of **3c**

Table S1. Details of time resolved data of the synthesized chromenes in different solvents.

Compound	Solvent	τ_1 (ns)[a]	α_1[b]	τ_2 (ns)[a]	α_2[b]	τ_{avg} (ns)	χ^2
	ACN	0.35	0.56	1.36	0.44	0.79	1.003
	Cy	–	–	0.97	1.00	0.97	1.020
2a	DMF	0.40	0.66	1.55	0.34	0.79	1.020
	DiOX	0.74	0.82	1.43	0.18	0.86	1.020
	MeOH	0.30	0.51	1.45	0.49	0.86	1.007
	H_2O	0.56	0.91	1.95	0.09	0.69	1.100
	ACN	0.28	0.99	1.32	0.01	0.29	1.020
	Cy	0.33	0.85	0.97	0.15	0.43	1.007
2b	DMF	0.33	0.96	1.44	0.04	0.37	1.005
	DiOX	0.43	0.87	1.16	0.13	0.53	1.010
	MeOH	0.27	0.93	1.36	0.07	0.35	1.003
	H_2O	0.30	0.96	1.54	0.04	0.35	1.010
	ACN	0.31	0.92	1.40	0.08	0.40	1.020
	Cy	0.45	0.72	1.27	0.28	0.68	1.001
2d	DMF	0.31	0.84	1.56	0.16	0.51	1.010
	DiOX	0.46	0.74	1.33	0.26	0.69	1.010
	MeOH	0.26	0.80	1.45	0.20	0.50	1.001
	H_2O	0.36	0.94	1.62	0.06	0.44	1.010
	ACN	0.30	0.98	1.32	0.02	0.32	1.005
	Cy	0.34	0.82	1.01	0.18	0.46	1.010
2e	DMF	0.29	0.93	1.36	0.07	0.37	1.006
	DiOX	0.42	0.78	1.08	0.22	0.57	1.010
	MeOH	0.25	0.85	1.35	0.15	0.42	1.010
	H_2O	0.34	0.98	1.64	0.02	0.37	1.020
	ACN	0.30	0.96	2.15	0.04	0.37	1.020
	Cy	0.30	0.93	1.41	0.07	0.38	1.090
2f	DMF	0.28	0.95	1.92	0.05	0.36	1.010
	DiOX	0.42	0.91	1.37	0.09	0.51	1.010
	MeOH	0.25	0.94	1.89	0.06	0.35	1.010
	H_2O	0.28	0.96	3.25	0.04	0.40	1.010
	ACN	0.20	0.97	1.36	0.03	0.24	1.010
	Cy	0.30	0.47	1.12	0.53	0.74	1.020
2h	DMF	0.25	0.97	1.38	0.03	0.29	1.002
	DiOX	0.29	0.97	1.10	0.03	0.32	1.010

	MeOH	0.19	0.96	1.14	0.04	0.23	1.030
	H_2O	0.34	0.96	3.32	0.04	0.46	1.030
	ACN	0.32	0.97	2.13	0.03	0.37	1.010
	Cy	0.23	0.78	1.03	0.22	0.41	1.010
2i	DMF	0.13	0.52	0.36	0.48	0.24	1.010
	DiOX	0.40	0.90	0.87	0.10	0.45	1.010
	MeOH	0.33	1.00	–	–	0.33	1.030
	H_2O	0.34	0.95	3.64	0.05	0.51	1.060
	ACN	0.28	0.98	1.14	0.02	0.30	1.010
	Cy	0.22	0.75	1.07	0.25	0.43	1.030
2k	DMF	0.34	0.98	1.38	0.02	0.36	1.010
	DiOX	0.37	0.89	0.96	0.11	0.44	1.020
	MeOH	0.26	0.96	0.87	0.04	0.28	1.010
	H_2O	0.31	0.98	2.72	0.02	0.36	1.050
	ACN	0.25	0.97	1.99	0.03	0.30	1.010
	Cy	0.26	0.92	1.69	0.08	0.37	1.020
2l	DMF	0.27	0.95	1.99	0.05	0.36	1.002
	DiOX	0.31	0.94	1.60	0.06	0.39	1.020
	MeOH	0.25	0.94	2.01	0.06	0.36	1.005
	H_2O	0.33	0.95	2.93	0.05	0.46	1.020
	ACN	0.28	0.97	2.14	0.03	0.34	1.020
	Cy	0.57	0.94	1.38	0.06	0.62	1.010
2m	DMF	0.28	0.97	2.10	0.03	0.33	1.010
	DiOX	0.51	0.87	1.31	0.13	0.59	1.002
	MeOH	0.26	0.96	1.98	0.04	0.33	1.010
	H_2O	0.26	0.98	3.68	0.02	0.33	1.050
	ACN	0.27	0.98	2.28	0.02	0.31	1.010
	Cy	0.21	0.97	1.10	0.03	0.24	1.030
2n	DMF	0.30	0.98	2.09	0.02	0.34	1.010
	DiOX	0.39	0.90	1.19	0.10	0.47	1.020
	MeOH	0.27	0.98	2.03	0.02	0.31	1.005
	H_2O	0.29	0.98	3.30	0.02	0.35	1.070

[a]The short (τ_1) and long (τ_2) lived decay times. [b]The corresponding pre-exponential coefficients.

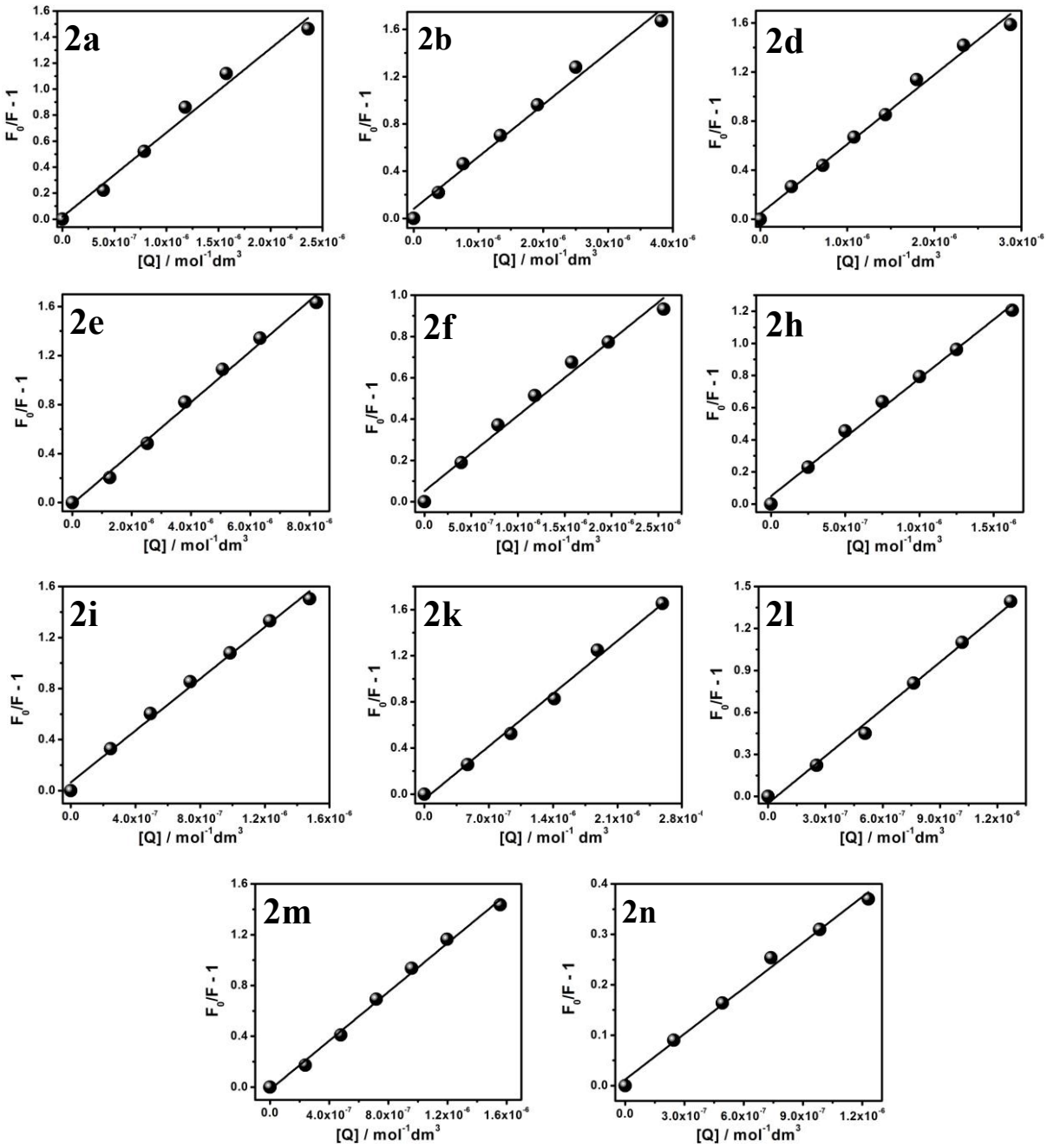


Fig. S72 Stern-Volmer (K_{sv}) plots for chromene–HSA FRET pairs

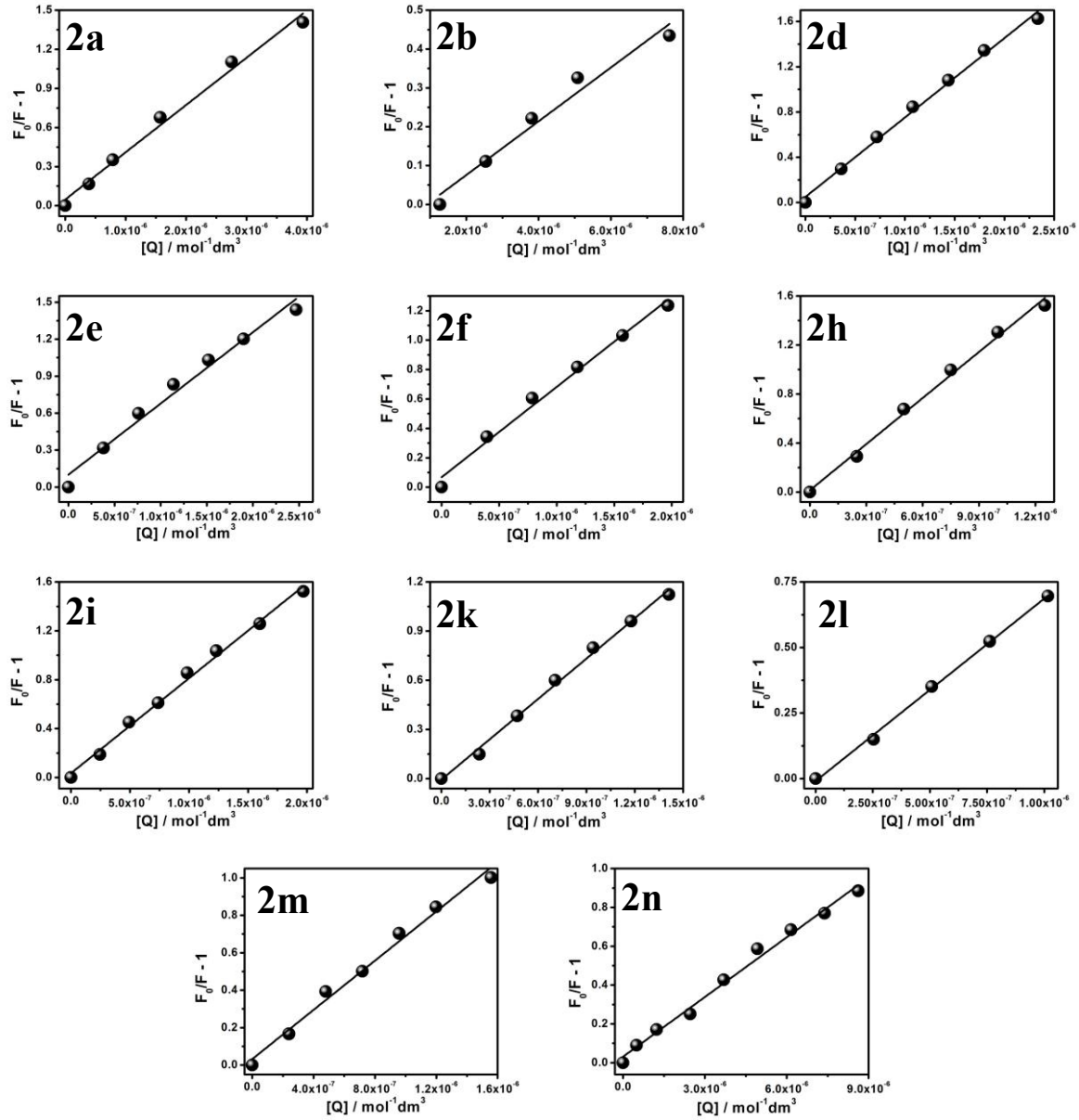


Fig. S73 Stern-Volmer (K_{sv}) plots for chromene–BSA FRET pairs

Table S2. Fluorescence lifetime of HSA as a function of different 2*H*-chromene concentrations.

Compound	Conc. (μM)	τ_1 (ns)[b]	α_1[a]	τ_2 (ns)[b]	α_2[a]	τ_{avg} (ns)	χ^2
2a	0	3.55	0.59	7.84	0.41	5.31	1.07
	2.56	1.57	0.57	6.03	0.43	3.49	1.02
	4.95	0.84	0.74	4.72	0.26	1.85	1.03
2b	0	3.55	0.59	7.84	0.41	5.31	1.07
	0.95	2.64	0.55	7.18	0.45	4.68	1.01
	1.72	1.99	0.59	6.62	0.41	3.89	1.01
	2.68	1.86	0.72	7.12	0.28	3.33	1.02
	4.36	1.65	0.83	7.03	0.17	2.56	1.03
	6.67	1.51	0.86	6.88	0.14	2.26	1.03
2d	0	3.55	0.59	7.84	0.41	5.31	1.07
	0.52	2.84	0.62	7.57	0.38	4.64	1.01
	1.21	2.41	0.64	7.36	0.36	4.19	1.02
	2.43	2.23	0.67	7.22	0.33	3.87	1.03
	4.12	1.91	0.71	7.15	0.29	3.43	1.03
	6.13	1.73	0.77	7.09	0.23	2.96	1.03
	8.16	1.60	0.80	7.12	0.20	2.70	1.04
2e	0	3.55	0.59	7.84	0.41	5.31	1.07
	0.60	3.57	0.66	7.67	0.34	4.96	1.03
	1.45	3.11	0.66	7.47	0.34	4.59	1.05
	2.70	2.99	0.69	7.63	0.31	4.42	1.01
	4.85	2.47	0.74	7.86	0.26	3.87	1.02
	6.90	2.12	0.76	6.84	0.24	3.25	1.01
2f	0	3.55	0.59	7.84	0.41	5.31	1.07
	1.53	2.71	0.67	7.44	0.33	4.27	1.08
	4.51	2.32	0.76	7.08	0.24	3.46	1.06
	10.58	2.16	0.83	6.94	0.17	2.97	1.06
2h	0	3.55	0.59	7.84	0.41	5.31	1.07
	0.24	2.37	0.72	7.16	0.28	3.71	1.06
	0.76	2.01	0.80	6.70	0.20	2.95	1.03
	1.52	1.95	0.85	6.54	0.15	2.64	1.01
	3.81	1.84	0.86	6.18	0.14	2.45	1.07
2i	0	3.55	0.59	7.84	0.41	5.31	1.07
	0.52	2.29	0.70	6.98	0.30	3.70	1.03

	1.10	2.09	0.80	6.92	0.20	3.06	1.05
	2.32	1.94	0.85	6.49	0.15	2.62	1.05
	4.56	1.85	0.87	6.08	0.13	2.40	1.04
2k	0	3.55	0.59	7.84	0.41	5.31	1.07
	0.47	2.27	0.65	7.01	0.35	3.93	1.01
	1.72	1.90	0.75	6.79	0.25	3.12	1.07
	3.21	1.81	0.81	6.77	0.19	2.75	1.02
	5.46	1.75	0.83	6.76	0.17	2.60	1.05
2l	0	3.55	0.59	7.84	0.41	5.31	1.07
	0.47	2.34	0.63	7.07	0.37	4.09	1.01
	1.73	1.93	0.72	6.72	0.28	3.27	1.06
	2.51	1.82	0.78	6.71	0.22	2.89	1.02
	3.88	1.68	0.79	6.40	0.21	2.67	1.03
	5.56	1.61	0.80	6.26	0.20	2.54	1.03
2m	0	3.55	0.59	7.84	0.41	5.31	1.07
	0.45	2.87	0.63	7.43	0.37	4.56	1.04
	1.29	2.39	0.65	7.08	0.35	4.03	1.07
	2.74	2.19	0.71	6.98	0.29	3.58	1.03
	3.98	2.02	0.76	6.80	0.24	3.17	1.04
	5.23	1.79	0.78	6.44	0.22	2.81	1.06
2n	0	3.55	0.59	7.84	0.41	5.31	1.07
	0.55	2.18	0.78	6.75	0.22	3.19	1.06
	1.51	1.91	0.87	5.89	0.13	2.43	1.01
	2.52	1.83	0.89	5.14	0.11	2.19	1.02
	3.87	1.68	0.84	3.96	0.16	2.05	1.01

[a]The corresponding pre-exponential coefficients. [b]The short (τ_1) and long (τ_2) lived decay times.

Table S3. Fluorescence lifetime of BSA as a function of different 2*H*-chromene concentrations.

Compound	Conc. (μM)	τ_1 (ns)[a]	α_1[b]	τ_2 (ns)[a]	α_2[b]	τ_{avg} (ns)	χ^2
2a	0	4.57	0.56	7.23	0.44	5.74	1.02
	0.51	3.82	0.57	6.89	0.43	5.14	1.08
	0.95	3.27	0.57	6.63	0.43	4.71	1.06
	1.57	2.64	0.54	6.25	0.46	4.30	1.04
	2.75	2.38	0.58	6.26	0.42	4.01	1.06
	4.06	2.03	0.62	6.12	0.38	3.58	1.02
2b	0	4.57	0.56	7.23	0.44	5.74	1.02
	0.8	3.60	0.50	6.74	0.50	5.17	1.01
	1.6	3.12	0.53	6.66	0.47	4.78	1.03
	3.0	2.81	0.54	6.56	0.46	4.53	1.05
	4.12	2.64	0.58	6.59	0.42	4.30	1.06
	6.08	2.14	0.58	6.27	0.42	3.87	1.08
	8.12	1.92	0.64	6.26	0.36	3.48	1.06
	10.24	2.04	0.80	5.95	0.20	2.82	1.01
	12.32	2.03	0.84	5.94	0.16	2.66	1.01
2d	0	4.57	0.56	7.23	0.44	5.74	1.02
	0.42	3.60	0.61	7.05	0.39	4.95	1.09
	1.70	3.15	0.58	6.97	0.42	4.75	1.09
	3.08	2.63	0.61	6.89	0.39	4.29	1.03
	4.68	2.20	0.73	6.14	0.27	3.26	1.01
	7.1	2.12	0.78	6.11	0.22	2.99	1.01
2e	0	4.57	0.56	7.23	0.44	5.74	1.02
	0.40	4.14	0.60	7.33	0.40	5.41	1.02
	1.02	3.84	0.58	7.39	0.42	5.33	1.09
	2.56	3.95	0.61	7.41	0.39	5.30	1.02
	5.52	3.30	0.58	7.26	0.42	4.96	1.01
	8.02	2.96	0.58	7.15	0.42	4.72	1.06
2f	0	4.57	0.56	7.23	0.44	5.74	1.02
	0.51	3.39	0.51	6.68	0.49	5.01	1.01
	2.29	2.73	0.57	6.35	0.43	4.29	1.01
	3.14	2.50	0.64	6.31	0.36	3.87	1.04
	5.30	2.32	0.67	6.16	0.33	3.59	1.01
2h	0	4.57	0.56	7.23	0.44	5.74	1.02
	0.76	2.83	0.54	6.47	0.46	4.50	1.01
	1.68	2.29	0.66	6.09	0.34	3.58	1.01
	2.76	2.07	0.75	5.78	0.25	2.99	1.01

	4.58	1.96	0.80	5.52	0.20	2.67	1.01
2i	0	4.57	0.56	7.23	0.44	5.74	1.02
	0.91	2.97	0.59	6.41	0.41	4.38	1.01
	2.12	2.34	0.61	5.76	0.39	3.67	1.04
	4.16	2.18	0.70	5.69	0.30	3.23	1.01
	5.15	2.07	0.74	5.61	0.26	2.99	1.01
	6.15	1.89	0.77	5.36	0.23	2.68	1.01
2k	0	4.57	0.56	7.23	0.44	5.74	1.02
	0.62	3.30	0.52	6.92	0.48	5.04	1.07
	1.25	3.01	0.54	6.77	0.46	4.74	1.06
	2.10	2.71	0.52	6.53	0.48	4.54	1.02
	2.72	2.43	0.56	6.48	0.44	4.21	1.04
	3.54	2.26	0.60	6.41	0.40	3.92	1.07
	4.25	2.06	0.64	6.31	0.36	3.59	1.02
	5.10	1.98	0.68	6.27	0.32	3.35	1.03
2l	0	4.57	0.56	7.23	0.44	5.74	1.02
	0.64	3.94	0.55	7.04	0.45	5.33	1.05
	1.22	3.29	0.52	6.68	0.48	4.91	1.09
	1.89	3.04	0.54	6.54	0.46	4.65	1.01
	2.76	2.51	0.53	6.28	0.47	4.28	1.01
	3.57	2.31	0.60	6.27	0.40	3.89	1.05
	4.44	2.01	0.64	5.98	0.36	3.43	1.01
2m	0	4.57	0.56	7.23	0.44	5.74	1.02
	0.74	3.77	0.54	7.03	0.46	5.27	1.06
	1.51	3.41	0.55	6.85	0.45	4.96	1.01
	2.52	3.07	0.56	6.67	0.44	4.65	1.07
	3.26	2.60	0.55	6.33	0.45	4.28	1.03
	4.27	2.53	0.62	6.34	0.38	3.98	1.01
	5.11	2.29	0.63	6.19	0.37	3.73	1.06
2n	0	4.57	0.56	7.23	0.44	5.74	1.02
	0.51	3.30	0.52	6.92	0.48	5.04	1.07
	1.28	3.01	0.54	6.77	0.46	4.74	1.06
	2.35	2.71	0.52	6.53	0.48	4.54	1.02
	5.12	2.43	0.56	6.48	0.44	4.21	1.04
	7.21	2.26	0.60	6.41	0.40	3.92	1.07
	9.35	2.06	0.64	6.31	0.36	3.59	1.02
	12.12	1.98	0.68	6.27	0.32	3.35	1.03

[a]The short (τ_1) and long (τ_2) lived decay times; [b]The corresponding pre-exponential coefficients.

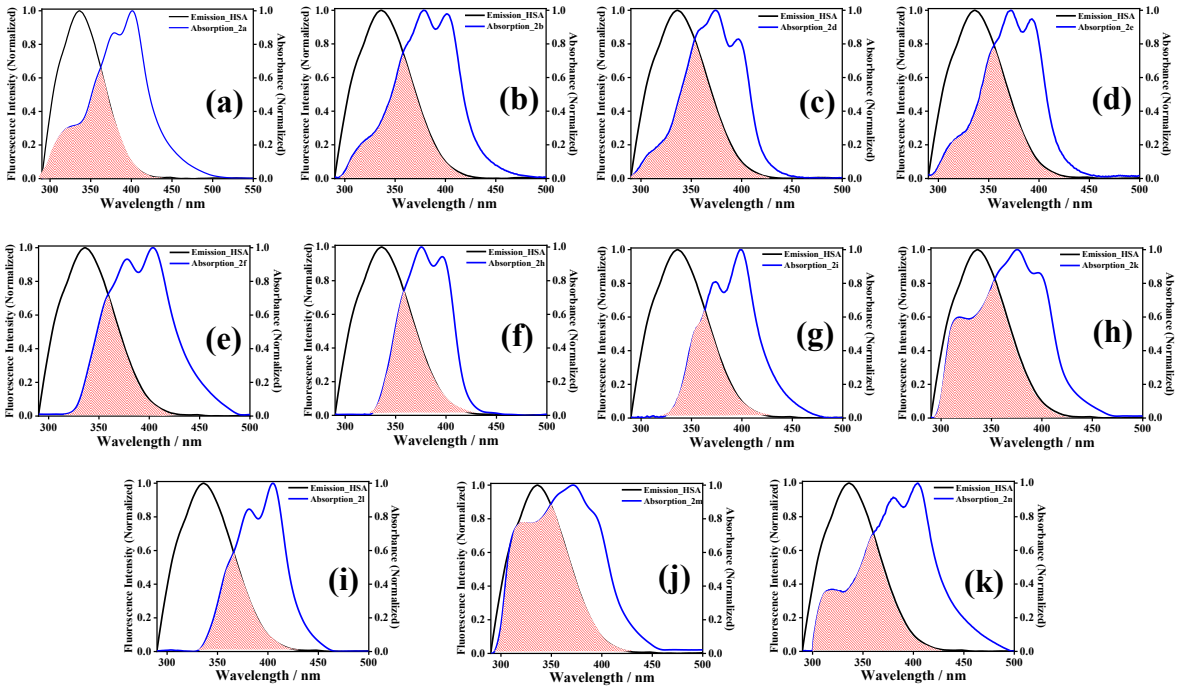


Fig. S74 Spectral overlap between the fluorescence spectra of HSA and the absorption spectra of 2*H*-chromenes (a) **2a**, (b) **2b**, (c) **2d**, (d) **2e**, (e) **2f**, (f) **2h**, (g) **2i**, (h) **2k**, (i) **2l**, (j) **2m** and (k) **2n**

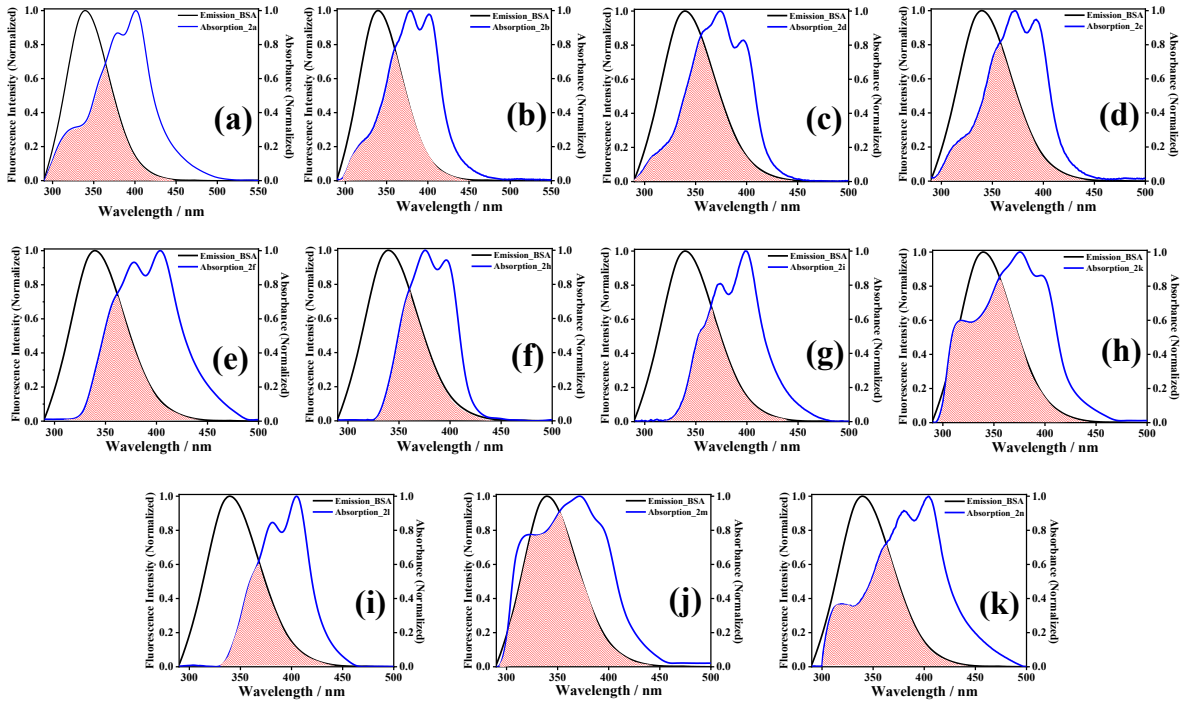


Fig. S75 Spectral overlap between the fluorescence spectra of BSA and the absorption spectra of 2*H*-chromenes (a) **2a**, (b) **2b**, (c) **2d**, (d) **2e**, (e) **2f**, (f) **2h**, (g) **2i**, (h) **2k**, (i) **2l**, (j) **2m** and (k) **2n**

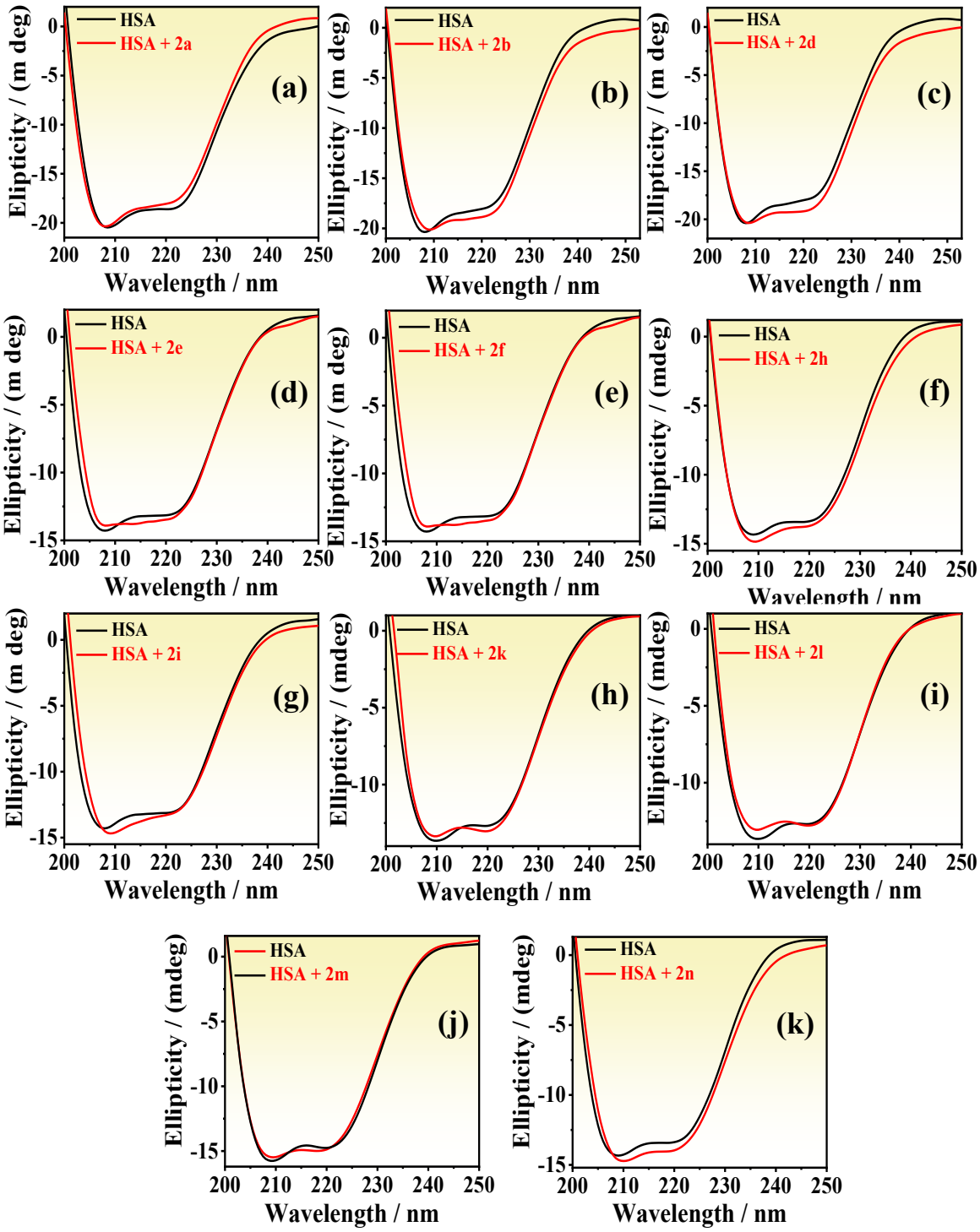


Fig. S76 Change in the CD spectra of HSA in the presence of (a) **2a**, (b) **2b**, (c) **2d**, (d) **2e**, (e) **2f**, (f) **2h**, (g) **2i**, (h) **2k**, (i) **2l**, (j) **2m** and (k) **2n**, respectively.

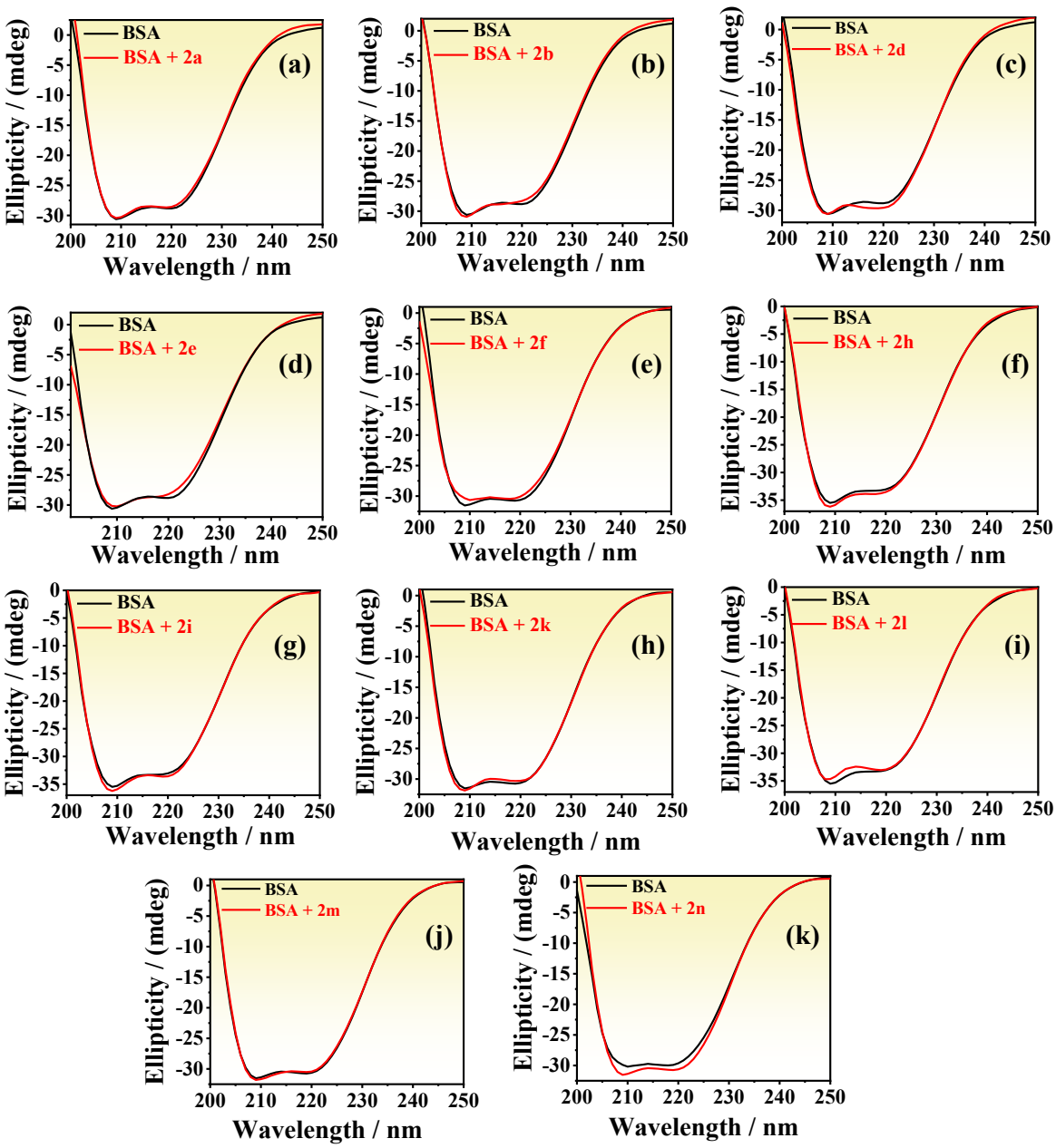


Fig. S77 Change in the CD spectra of BSA in the presence of (a) **2a**, (b) **2b**, (c) **2d**, (d) **2e**, (e) **2f**, (f) **2h**, (g) **2i**, (h) **2k**, (i) **2l**, (j) **2m** and (k) **2n**, respectively.

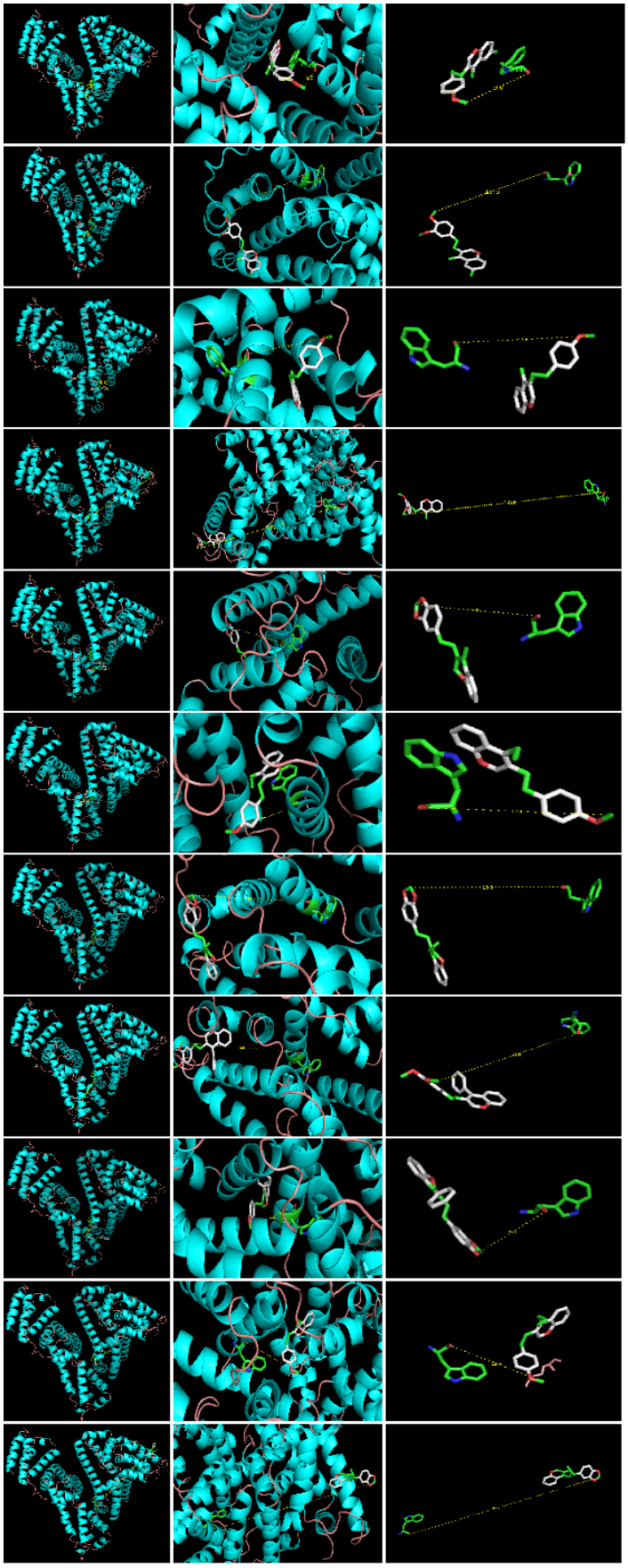


Fig. S78 Docking results of chromene-HSA System

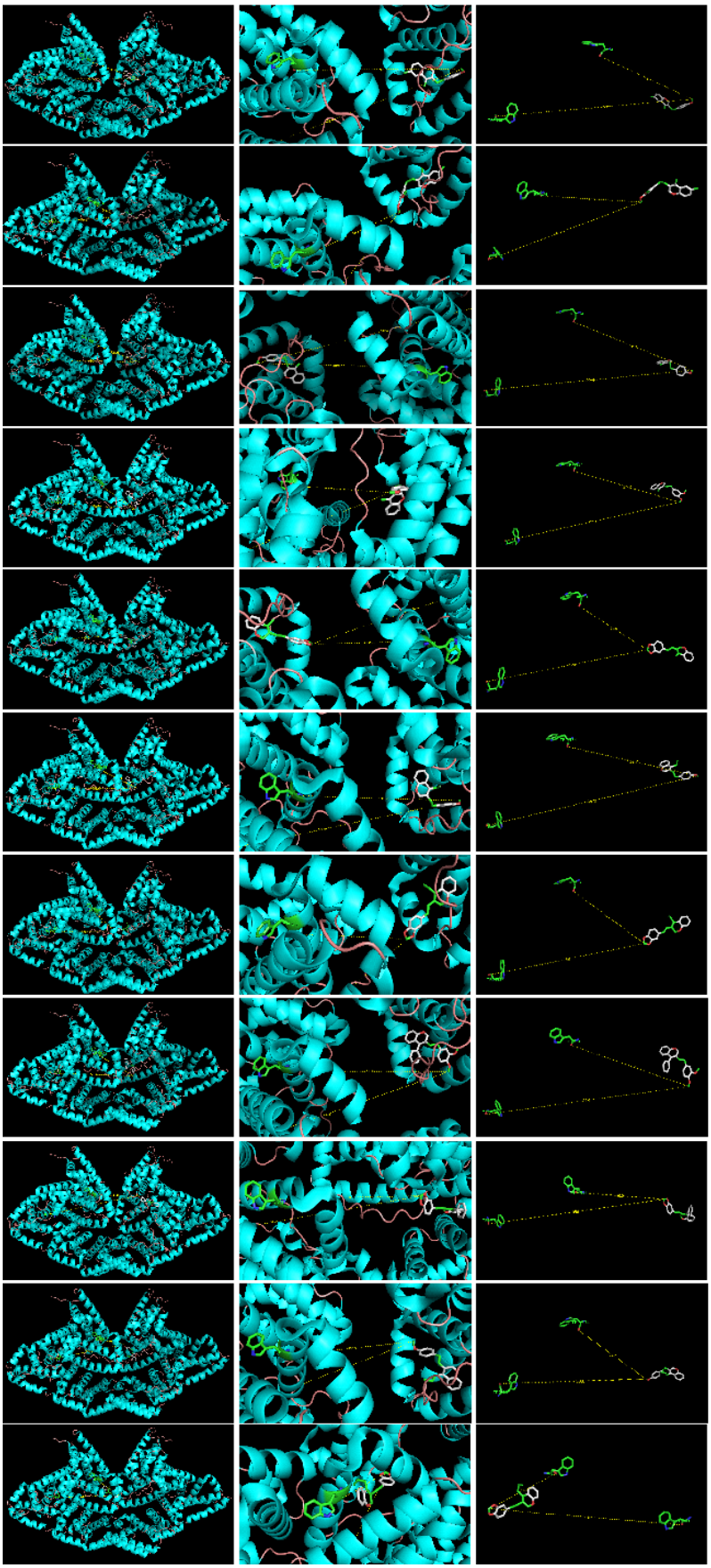


Fig. S79 Docking results of chromene-BSA System

Table S4. Theoretical binding free energy values and Distances from the Tryptophan moieties of the chromenes with HSA and BSA.

System	Compound	Energy (kJ/mol)	Distance (*Trp* 214) (Computation) (Å)	Distance (Experimental) (Å)	Position
HSA	**2a**	– 9.4	9.00	24.59	IIA
	2b	– 7.3	21.00	25.29	IIA
	2d	– 7.2	20.00	25.71	IIA
	2e	– 8.4	14.00	30.86	IIA
	2f	– 9.4	13.80	26.31	IIA
	2h	– 6.2	19.30	30.30	IIA
	2i	– 8.5	12.90	29.53	IIA
	2k	– 9.1	9.20	30.51	IIA
	2l	– 6.2	9.70	27.95	IIA
	2m	– 7.5	26.00	32.26	IIA
	2n	– 7.8	11.40	29.41	IIA

System	Compound	Energy (kJ/mol)	Distance (Trp 134) (Computation) (Å)	Distance (Trp 213) (Computation) (Å)	Distance (Experimental) (Å)	Position
BSA	**2a**	– 8.6	35.10	59.70	28.26	IIIA
	2b	– 8.8	34.70	55.70	26.99	IIIA
	2d	– 7.9	23.70	45.30	25.75	IIIA
	2e	– 8.5	36.60	59.40	34.81	IIIA
	2f	– 7.8	23.00	46.00	24.89	IIIA
	2h	– 7.6	23.10	42.60	29.36	IIIA
	2i	– 8.7	36.70	59.00	29.09	IIIA
	2k	– 7.8	30.00	59.80	31.97	IIIA
	2l	– 7.5	18.30	42.70	29.79	IIIA
	2m	– 9.4	34.20	55.40	31.42	IIIA
	2n	– 8.5	27.90	50.80	32.53	IIIA