Appendix A. Supplementary data

Dual COX-2 and EGFR inhibition by pyrazole–*ar*-turmerone hybrids suppresses colorectal cancer cell proliferation

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Isolation, Synthesis, and Characterization Data

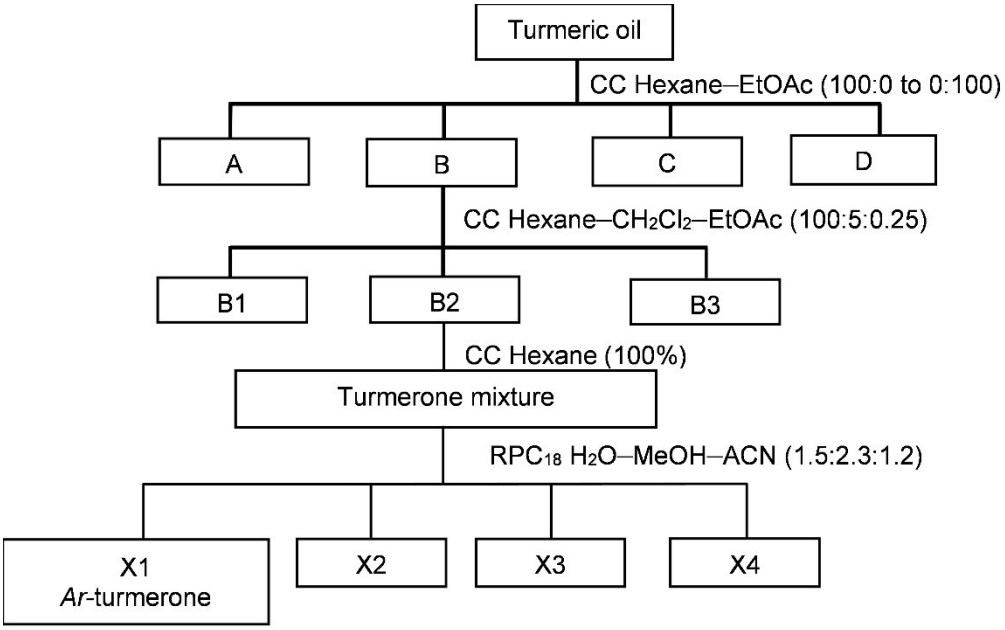
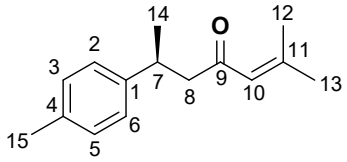


Fig. S1 Isolation of *ar*-turmerone from turmeric oil

Table S1 ^{1}H-NMR and ^{13}C-NMR, *ar*-turmerone in $CDCl_3$ (δ in ppm, J in Hz)



***Ar*-turmerone**

Position	**^{1}H signal (δ_H in ppm, J in Hz)**	**^{13}C signal (δ_C in ppm)**
1	-	143.6
2	7.06-7.11, m[a]	126.6
3	7.06-7.11, m[a]	129.0
4	-	135.4
5	7.06-7.11, m[a]	129.0
6	7.06-7.11, m[a]	126.6
7	3.27, m	35.2
8	8a: 2.59, dd (15.6, 8.3) 8b: 2.70, dd (15.6, 6.0)	52.6
9	-	199.8
10	6.00-6.02, m (W½ = 2.5 Hz)	124.0
11	-	155.0
12	1.84, d (1.2)	20.6
13	2.09, d (1.1)	27.5
14	1.23, d (6.9)	21.9
15	2.29, s	20.9

[a] Partially overlapping signals

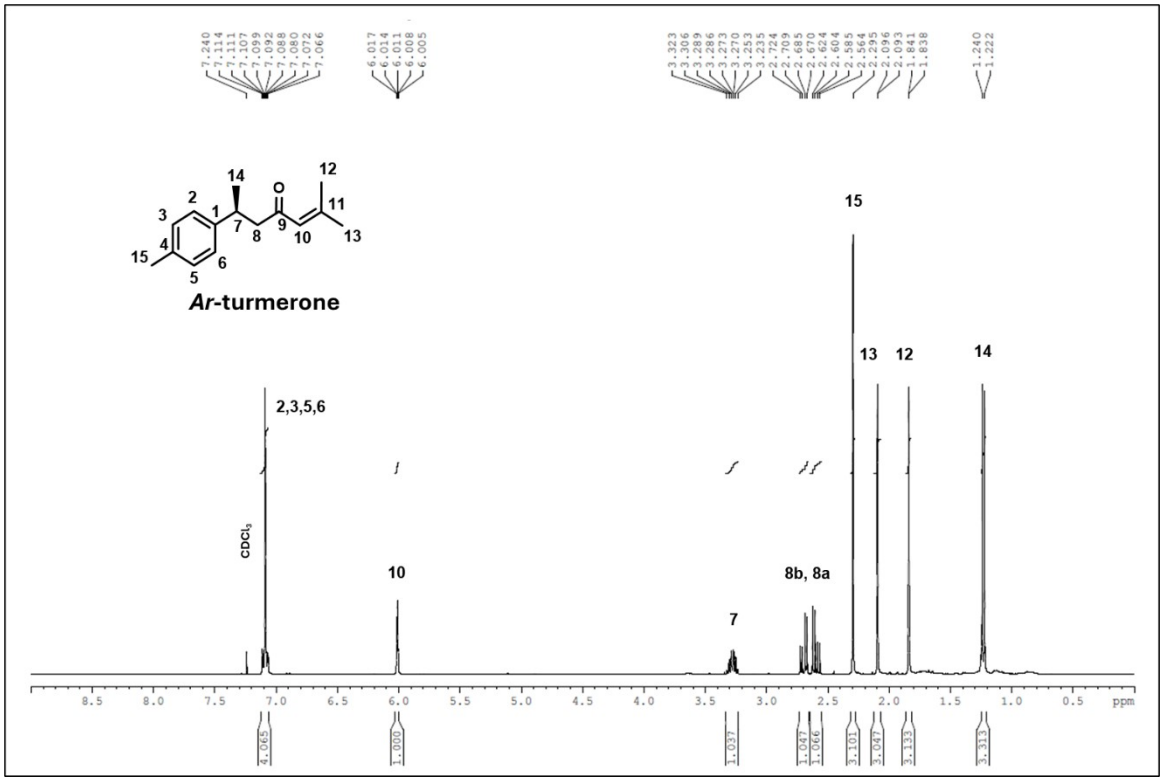


Fig. S2 ^{1}H NMR spectrum ($CDCl_3$, 400 MHz) of *ar*-turmerone

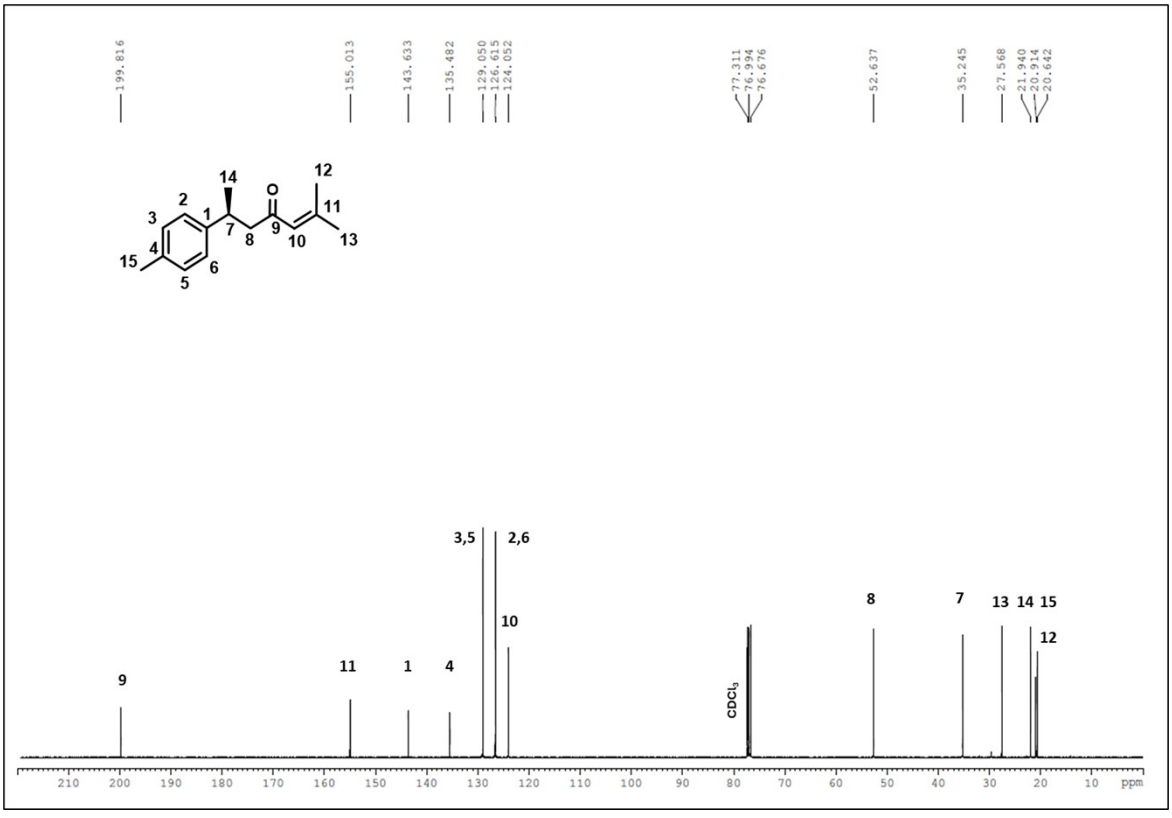


Fig. S3 ^{13}C NMR spectrum ($CDCl_3$, 100 MHz) of *ar*-turmerone

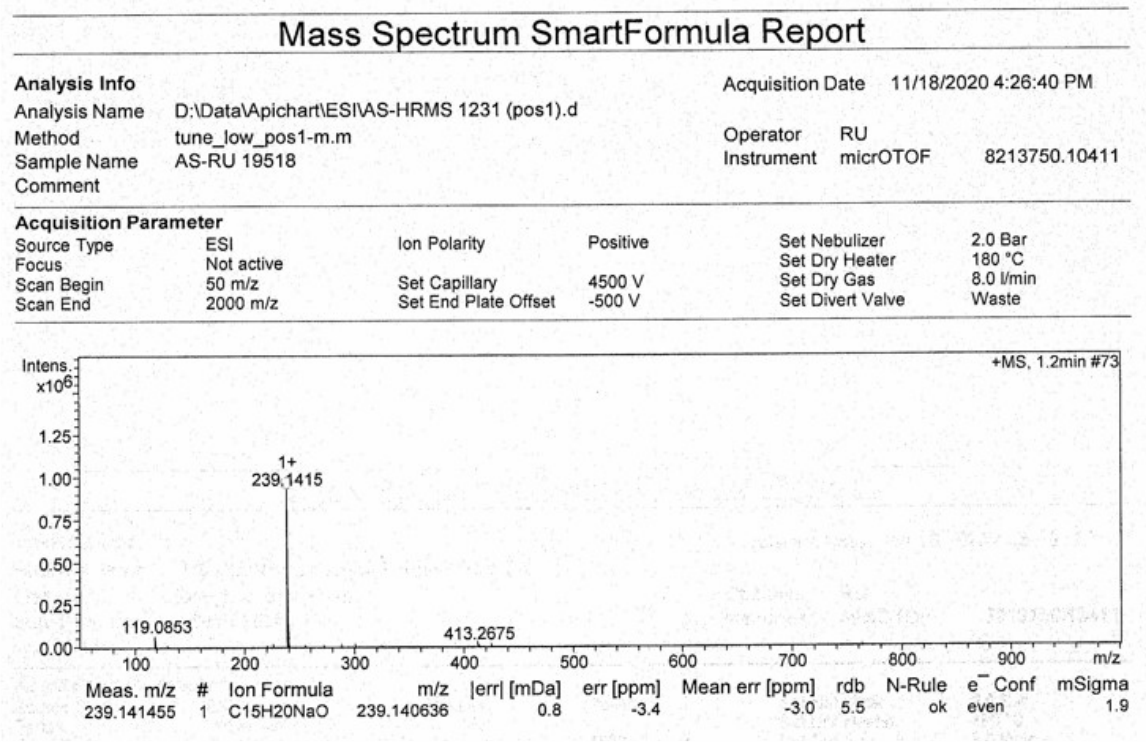


Fig. S4 HR-TOFMS spectrum of *ar*-turmerone

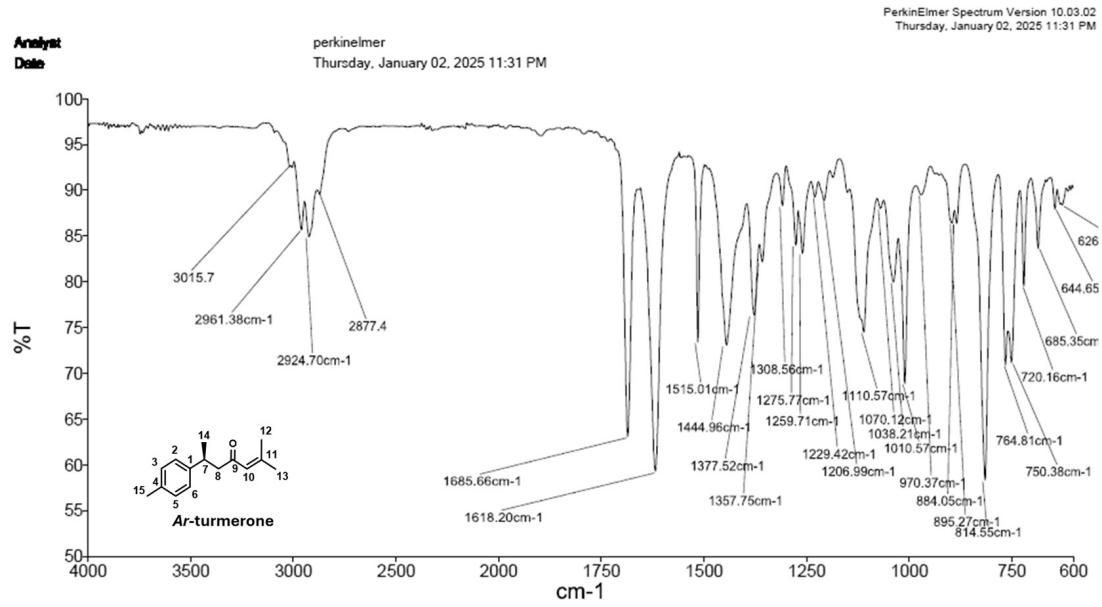
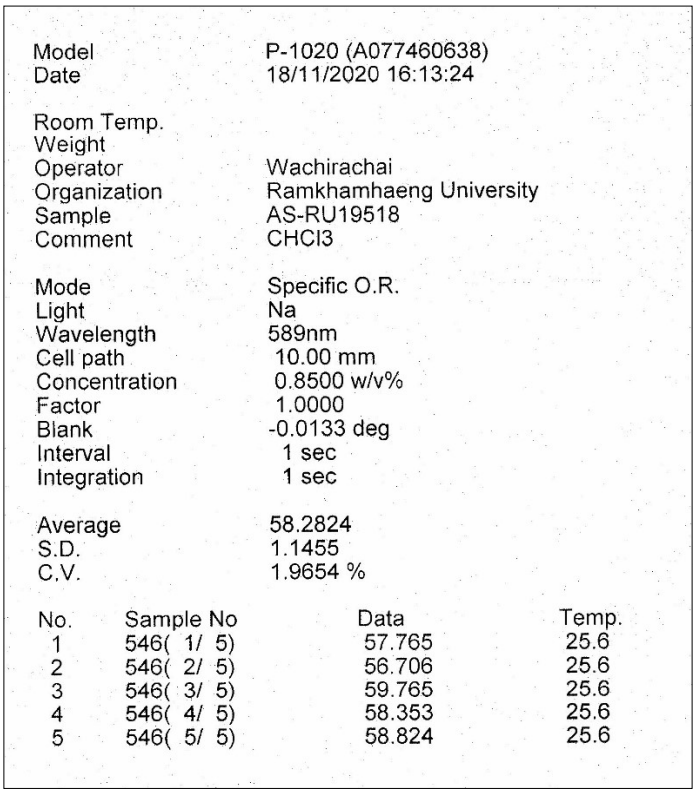


Fig. S5 FT-IR spectrum of *ar*-turmerone



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Weight	
Operator	Wachirachai
Organization	Ramkhamhaeng University
Sample	AS-RU19518
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Wavelength	589nm
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Factor	1.0000
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Integration	1 sec
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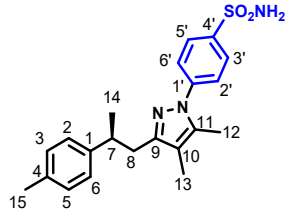
S.D.	1.1455
C.V.	1.9654 %

No.	Sample No	Data	Temp.
1	546(1/ 5)	57.765	25.6
2	546(2/ 5)	56.706	25.6
3	546(3/ 5)	59.765	25.6
4	546(4/ 5)	58.353	25.6
5	546(5/ 5)	58.824	25.6

Fig. S6 Optical rotation of *ar*-turmerone

Table S2 ^{1}H-NMR and ^{13}C-NMR, compound **1** in $CDCl_3$ *(δ in ppm, J in Hz)*



Compound **1**

Position	**^{1}H signal (δ_H in ppm, J in Hz)**	**^{13}C signal (δ_C in ppm)**
1	-	143.9
2	7.13, d (8.0)	126.8
3	7.08, d (8.0)	128.9
4	-	135.4
5	7.08, d (8.0)	128.9
6	7.13, d (8.0)	126.8
7	3.06 - 3.16 m	39.3
8	8a: 2.80, dd (14.0, 8.6)	35.5
	8b: 2.86, dd (14.0, 6.3)	
9	-	152.2
10	-	114.8
11	-	136.1
12	2.12, s	11.2
13	1.84, s	8.1
14	1.28, d (6.9)	21.1
15	2.29, s	20.9
1′	-	143.1
2′	7.45, d (8.4)	124.0
3′	7.87, d (8.4)	127.3
4′	-	140.0
5′	7.87, d (8.4)	127.3
6′	7.45, d (8.4)	124.0
-SO_2NH2	5.61, brs	-

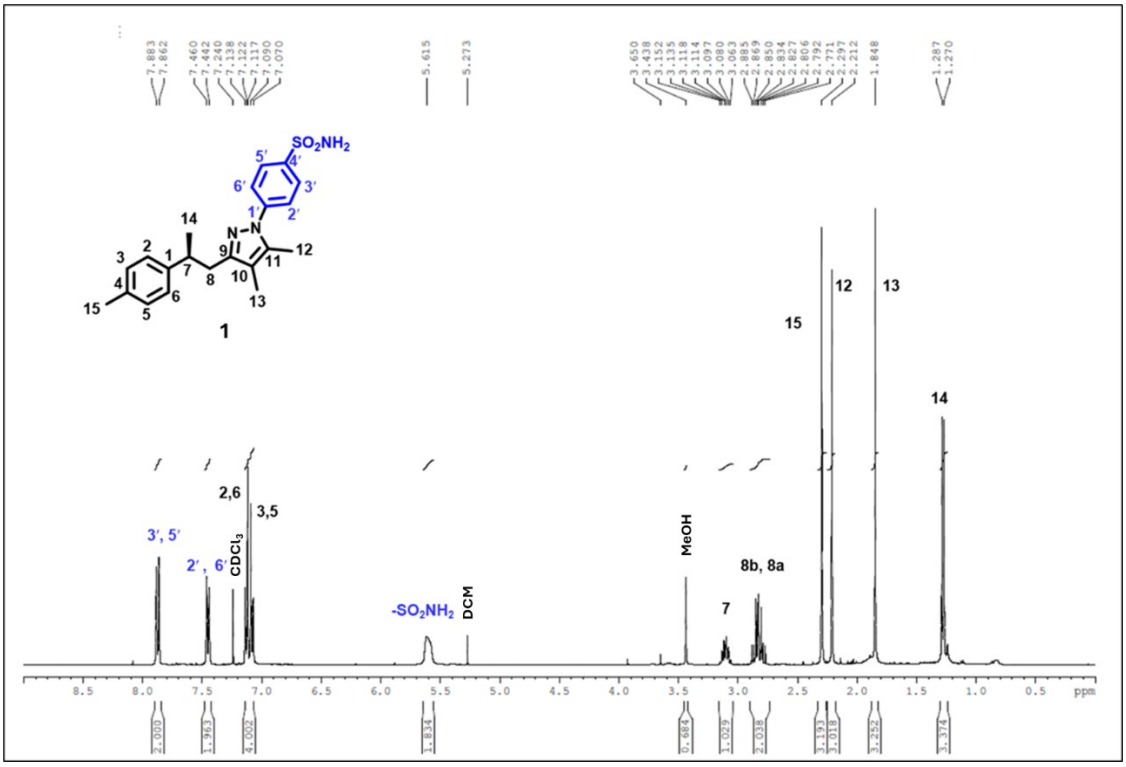


Fig. S7 ^{1}H NMR spectrum ($CDCl_3$, 400 MHz) of compound **1**

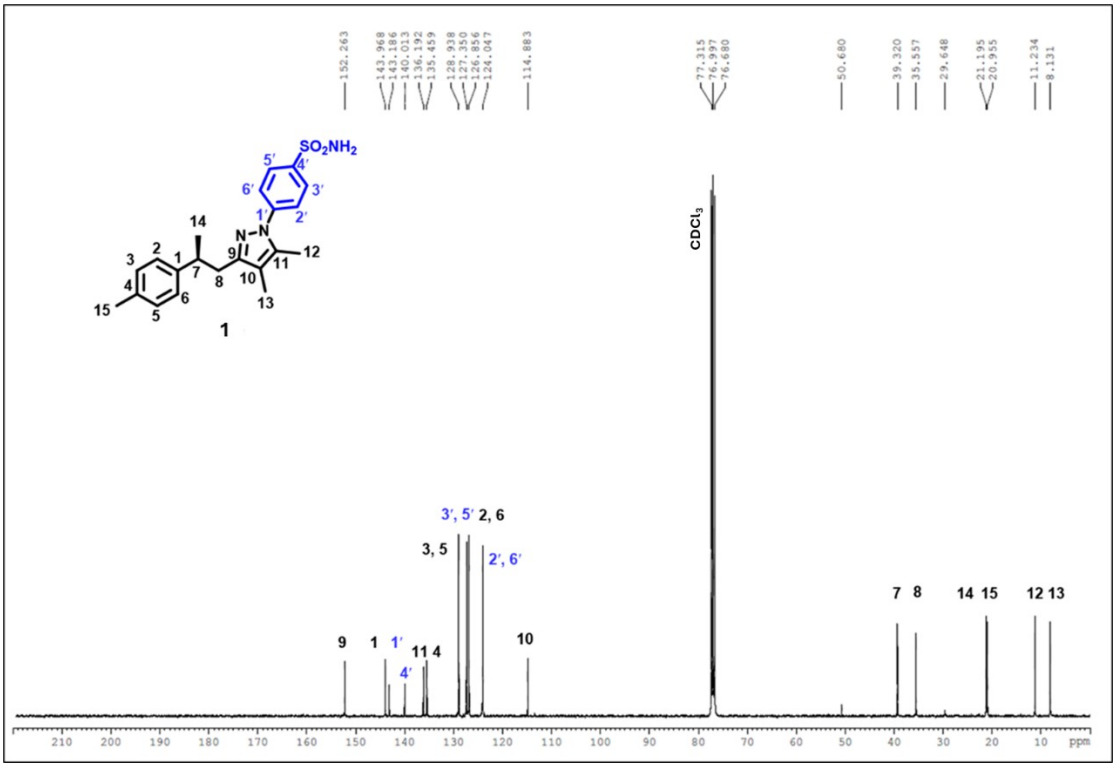


Fig. S8 ^{13}C NMR spectrum ($CDCl_3$, 100 MHz) of compound **1**

Mass Spectrum SmartFormula Report

Analysis Info

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Comment			

Acquisition Parameter

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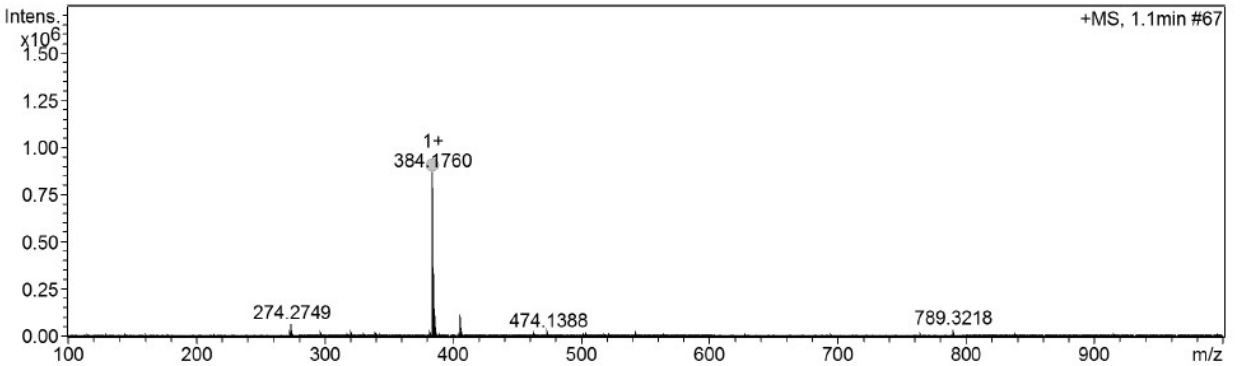
Scan End	2000 m/z	Set End Plate Offset	-500 V	Set Divert Valve	Waste



Meas. m/z	#	Ion Formula	m/z	|err| [mDa]	err [ppm]	Mean err [ppm]	rdb	N-Rule	e⁻ Conf	mSigma
384.175953	1	C21H26N3O2S	384.174025	1.9	-5.0	-2.9	10.5	ok	even	94.5

Fig. S9 HR-TOFMS spectrum of compound **1**

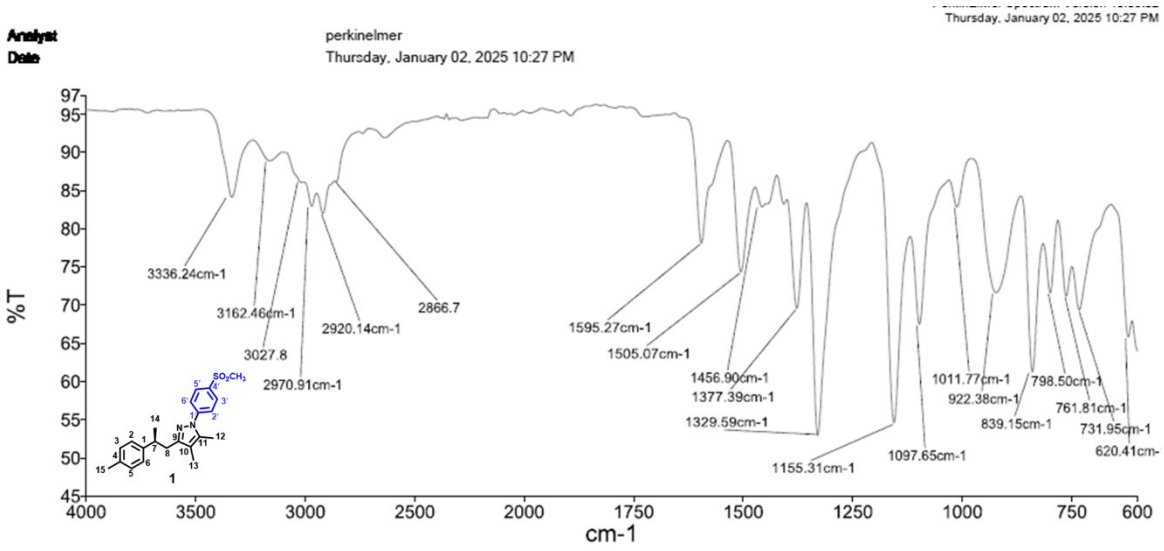
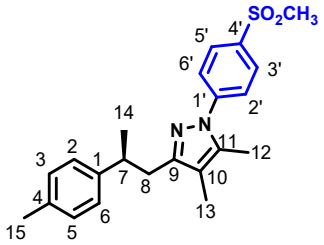


Fig. S10 FT-IR spectrum of compound **1**

Table S3 ^{1}H-NMR and ^{13}C-NMR, compound **2** in $CDCl_3$ *(δ in ppm, J in Hz)*



Compound **2**

Position	**^{1}H signal (δ_H in ppm, J in Hz)**	**^{13}C signal (δ_C in ppm)**
1	-	144.5
2	7.13, dd (8.1, 1.8)	126.8
3	7.09, dd (8.1, 1.2)	129.1
4	-	135.4
5	7.09, dd (8.1, 1.2)	129.1
6	7.13, dd (8.1, 1.8)	126.8
7	3.06-3.16, m	39.2
8	8a: 2.79, dd (14.0, 8.8)	35.6
	8b: 2.86, dd (14.0, 6.1)	
9	-	152.4
10	-	115.2
11	-	136.0
12	2.27, s	11.4
13	1.85, s	8.1
14	1.28, d (6.9)	21.2
15	2.30, s	20.9
1′	-	144.0
2′	7.63, dd (8.7, 2.3)	124.0
3′	7.99, dd (8.7, 2.4)	128.9
4′	-	137.8
5′	7.99, dd (8.7, 2.4)	128.9
6′	7.63, dd (8.7, 2.3)	124.0
-SO_2CH_3	3.05, s	44.6

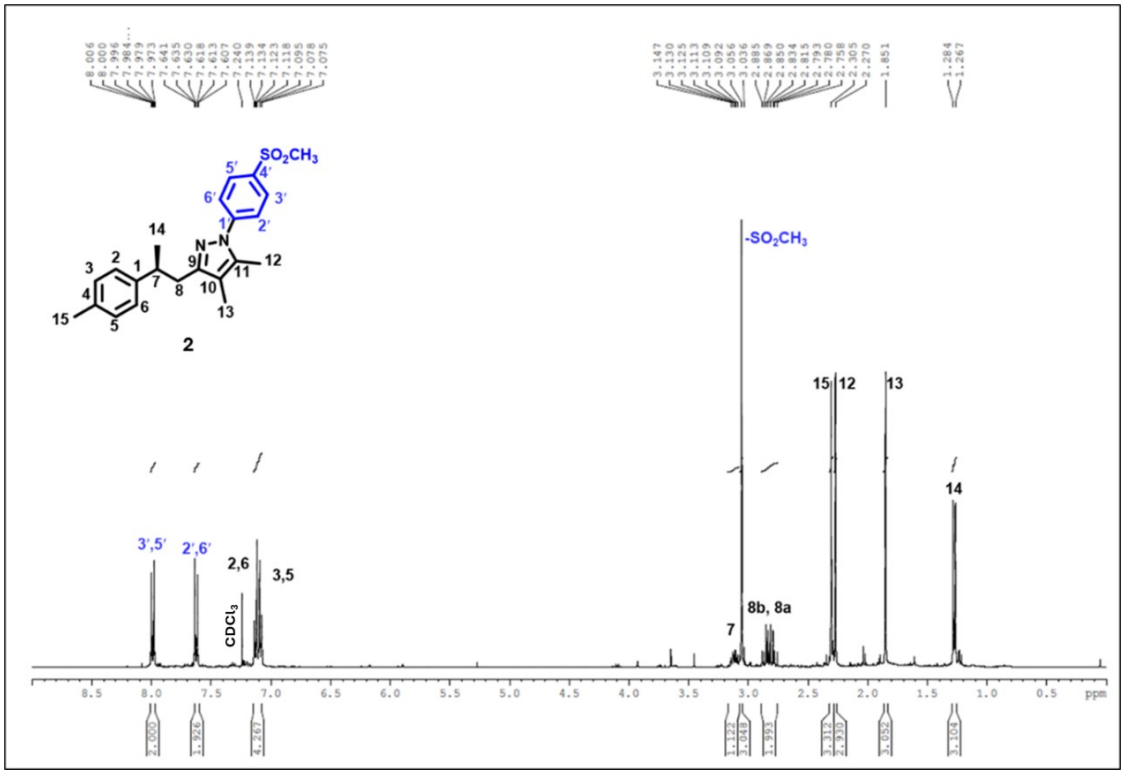


Fig. S11 ^{1}H NMR spectrum ($CDCl_3$, 400 MHz) of compound **2**

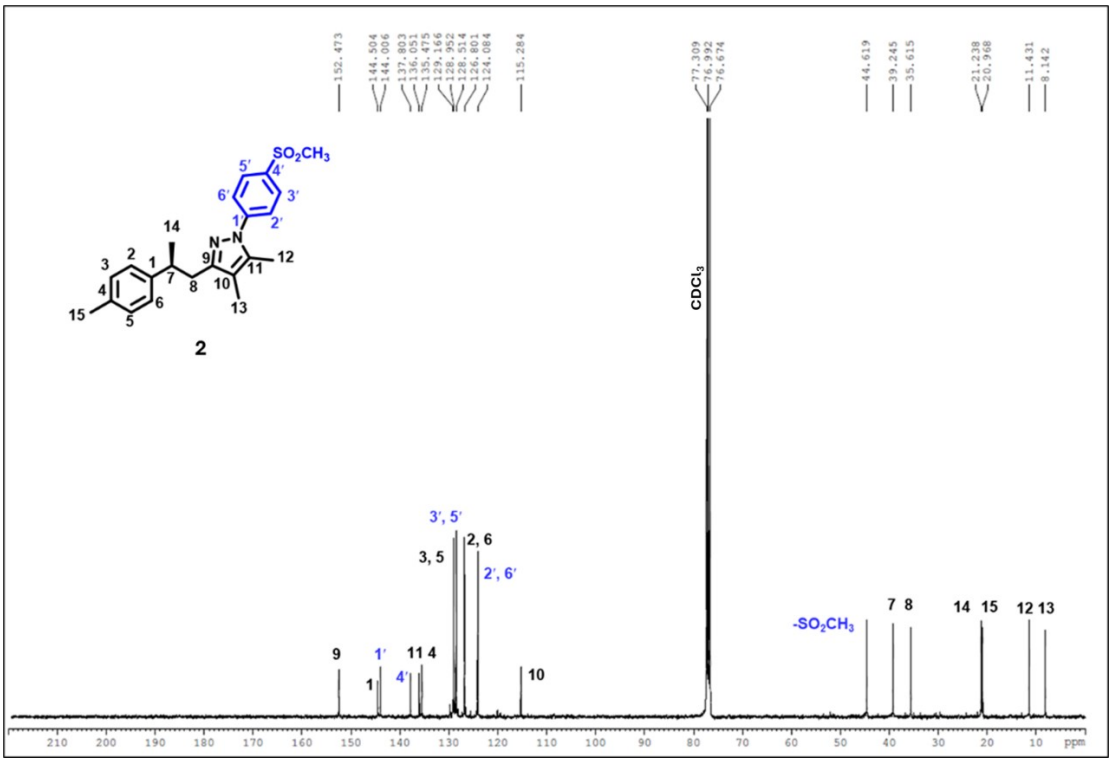


Fig. S12 ^{13}C NMR spectrum ($CDCl_3$, 100 MHz) of compound **2**

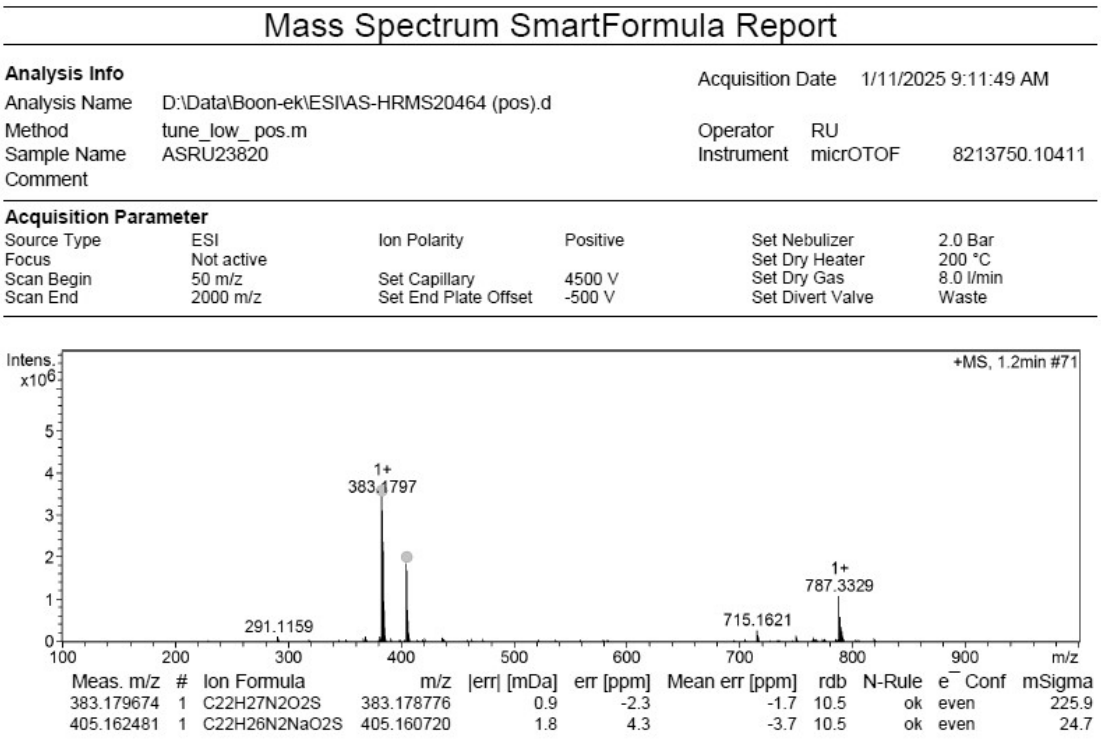


Fig. S13 HR-TOFMS spectrum of compound **2**

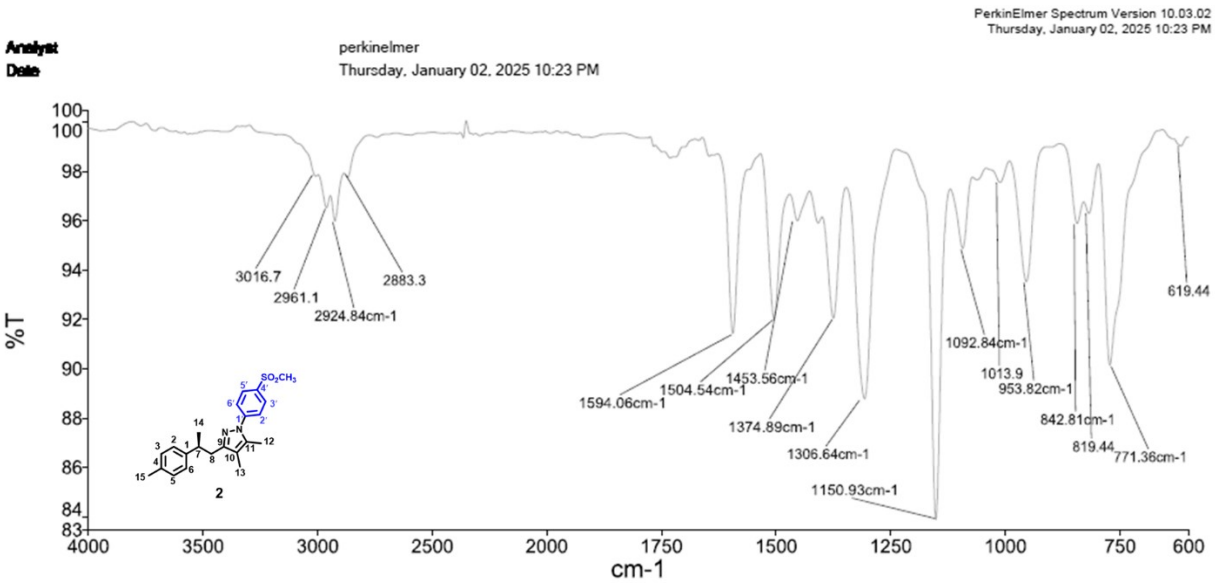
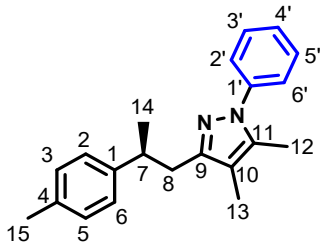


Fig. S14 FT-IR spectrum of compound **2**

Table S4 ^{1}H-NMR and ^{13}C-NMR, compound **3** in $CDCl_3$ *(δ in ppm, J in Hz)*



Compound **3**

Position	**^{1}H signal (δ_H in ppm, J in Hz)**	**^{13}C signal δ_C in ppm**
1	-	144.4
2	7.14, d (8.0)	126.8
3	7.09, d (8.0)	128.9
4	-	135.3
5	7.09, d (8.0)	128.9
6	7.14, d (8.0)	126.8
7	3.06 - 3.16, m	39.4
8	8a: 2.77 dd (14.0, 9.3)	35.7
	8b: 2.86 dd (14.0, 5.7)	
9	-	150.7
10	-	113.2
11	-	135.8
12	2.18, s	10.9
13	1.85, s	8.2
14	1.26, d (6.9)	21.0
15	2.30, s	20.9
1′	-	140.2
2′	7.43, brd (7.1)	124.7
3′	7.38, brt (7.1)	128.9
4′	7.30, brt (7.1)	126.9
5′	7.38, brt (7.1)	128.9
6′	7.41, brd (7.1)	124.7

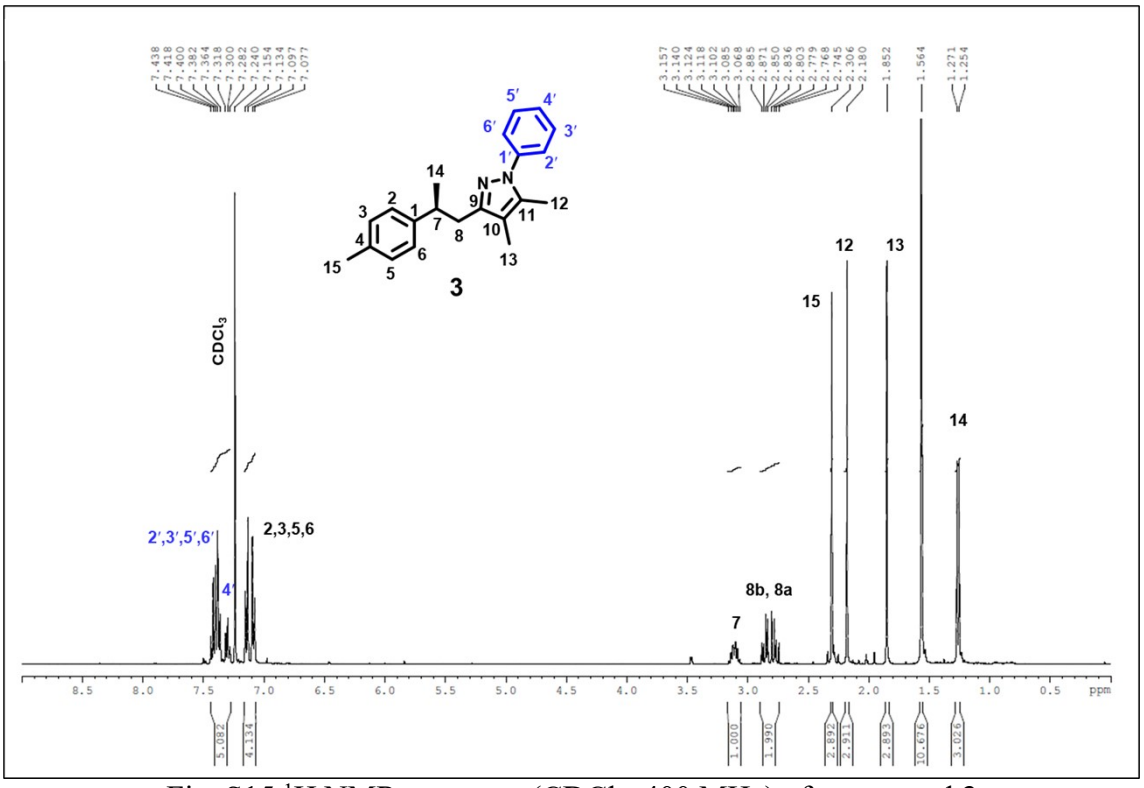


Fig. S15 ^{1}H NMR spectrum ($CDCl_3$, 400 MHz) of compound **3**

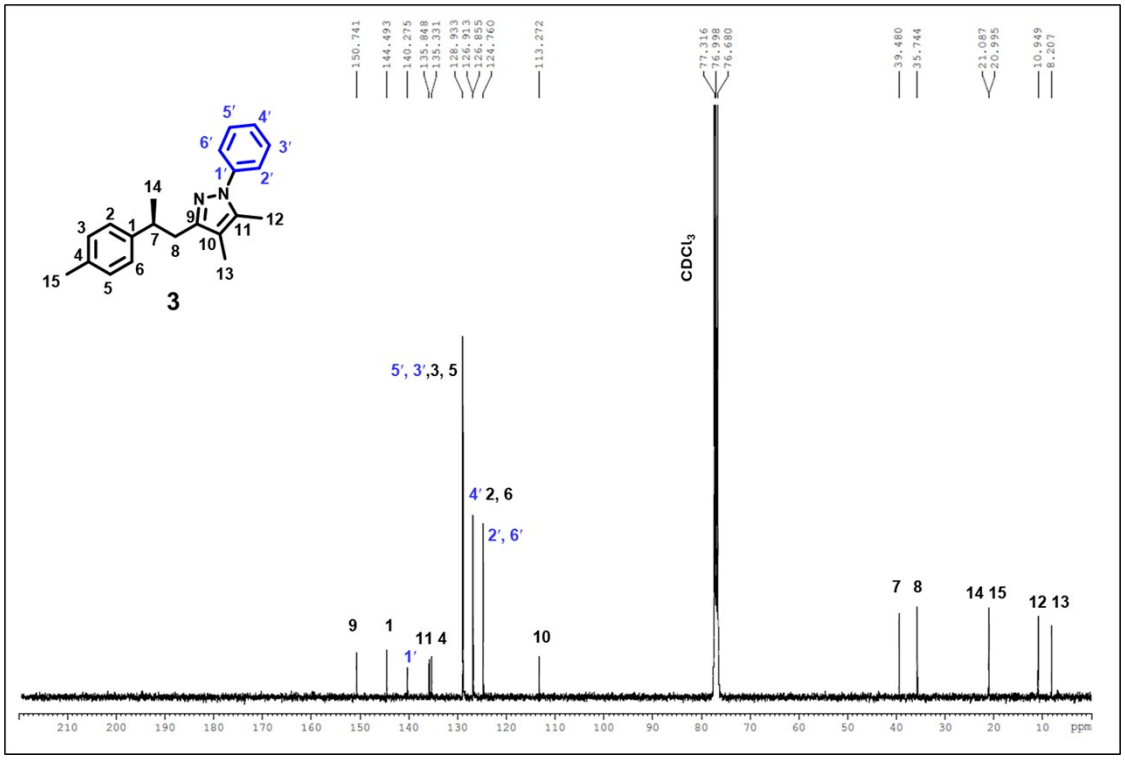


Fig. S16 ^{13}C NMR spectrum ($CDCl_3$, 100 MHz) of compound **3**

Mass Spectrum SmartFormula Report

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Comment			

Acquisition Parameter

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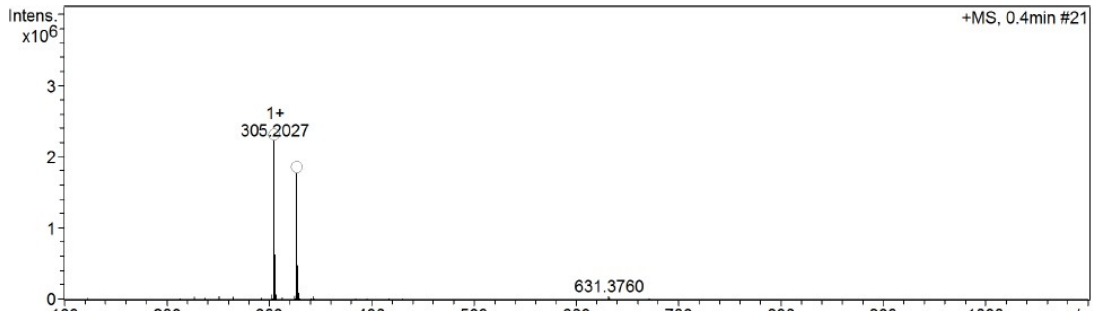
Scan End	2000 m/z	Set End Plate Offset	-500 V	Set Divert Valve	Waste



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305.202736	1	C21H25N2	305.201225	1.5	-4.9	-3.8	10.5	ok	even	27.1
327.184372	1	C21H24N2Na	327.183169	1.2	-3.7	-3.0	10.5	ok	even	22.7

Fig. S17 HR-TOFMS spectrum of compound **3**

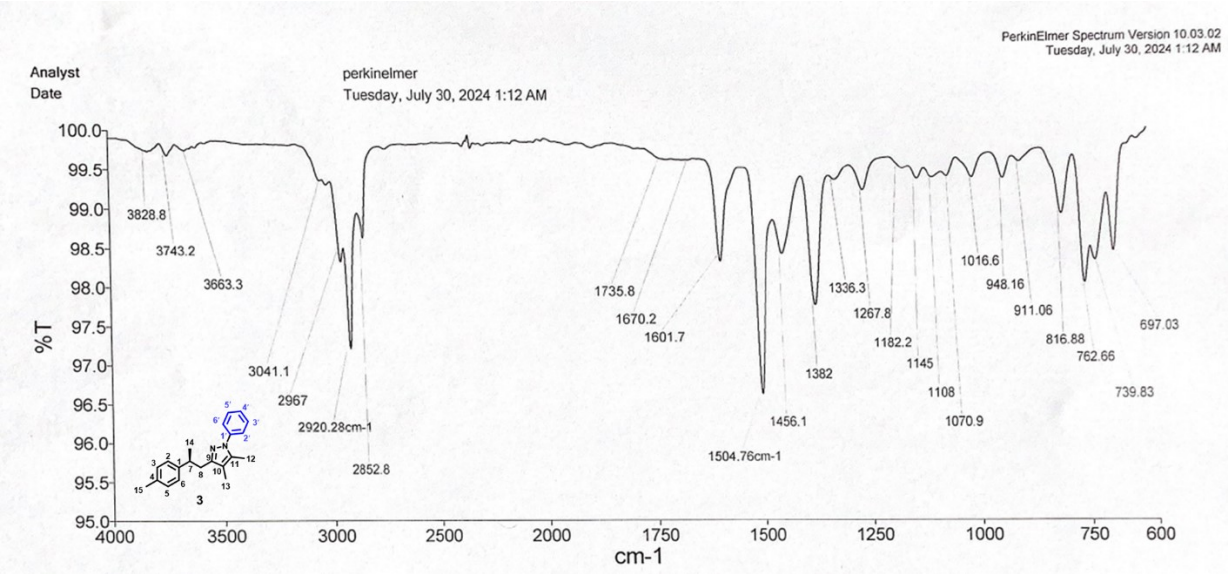
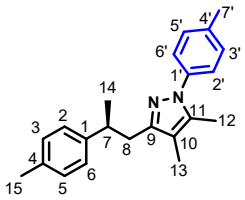


Fig. S18 FT-IR spectrum of compound **3**

Table S5 ^{1}H-NMR and ^{13}C-NMR, compound **4** in $CDCl_3$ *(δ in ppm, J in Hz)*



Compound **4**

Position	**^{1}H signal (δ_H in ppm, J in Hz)**	**^{13}C signal δ_C in ppm**
1	-	144.5
2	7.14, d (8.0)	126.8
3	7.08, d (8.0)	128.8
4	-	135.2
5	7.08, d (8.0)	128.8
6	7.14, d (8.0)	126.8
7	3.06 - 3.16, m	39.4
8	8a 2.77, dd (14.0,9.3)	35.7
	8b 2.86, dd (14.0,5.7)	
9	-	150.3
10	-	112.9
11	-	135.7
12	2.15, s	10.8
13	1.84, s	8.1
14	1.26, d (6.9)	21.0
15	2.30, s	20.9
1′	-	137.7
2′	7.25, dd (8.4, 2.0)	124.6
3′	7.21, dd (8.4, 2.0)	129.4
4′	-	136.7
5′	7.21, dd (8.4, 2.0)	129.4
6′	7.25, dd (8.4, 2.0)	124.6
7′	2.36, s	21.0

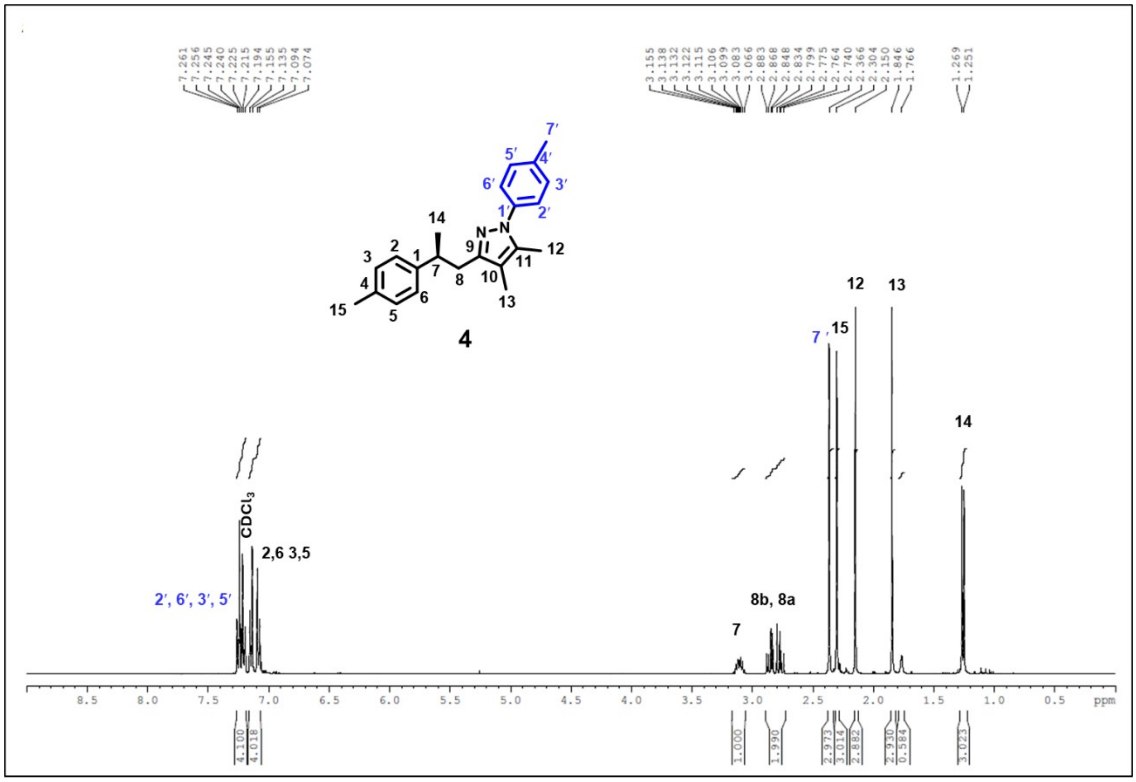


Fig. S19 ^{1}H NMR spectrum ($CDCl_3$, 400 MHz) of compound **4**

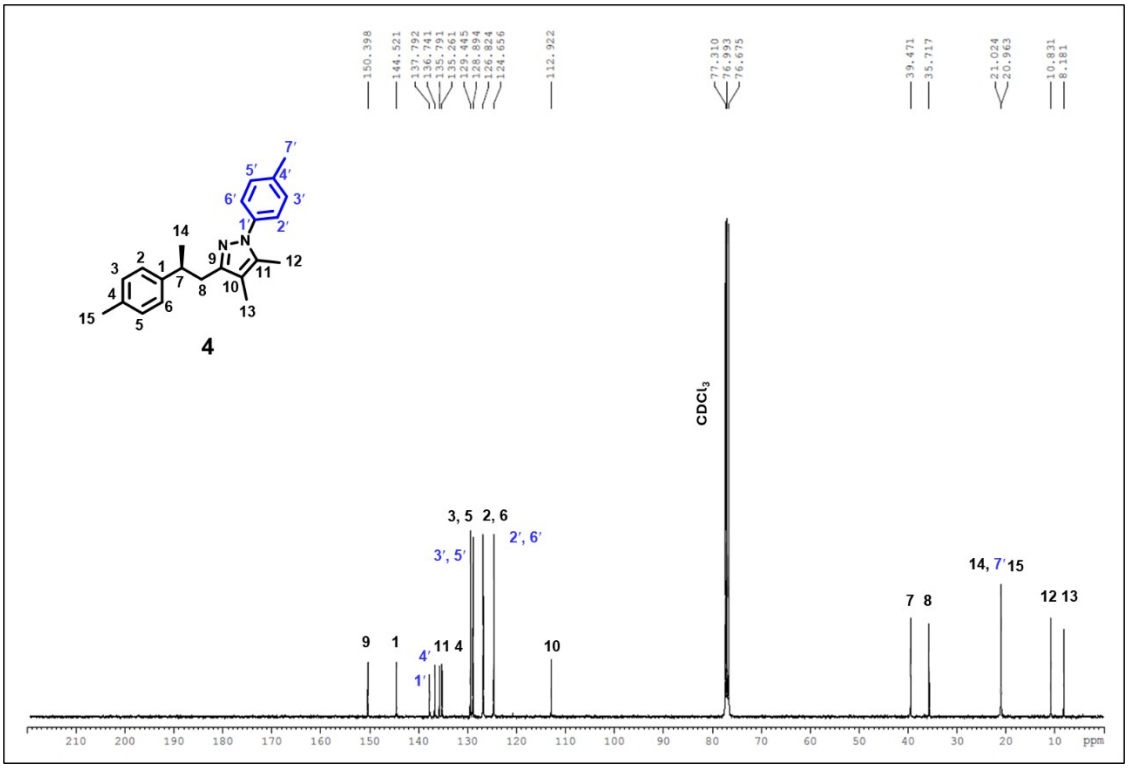


Fig. S20 ^{13}C NMR spectrum ($CDCl_3$, 100 MHz) of compound **4**

Mass Spectrum SmartFormula Report

Analysis Info

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Comment			

Acquisition Parameter

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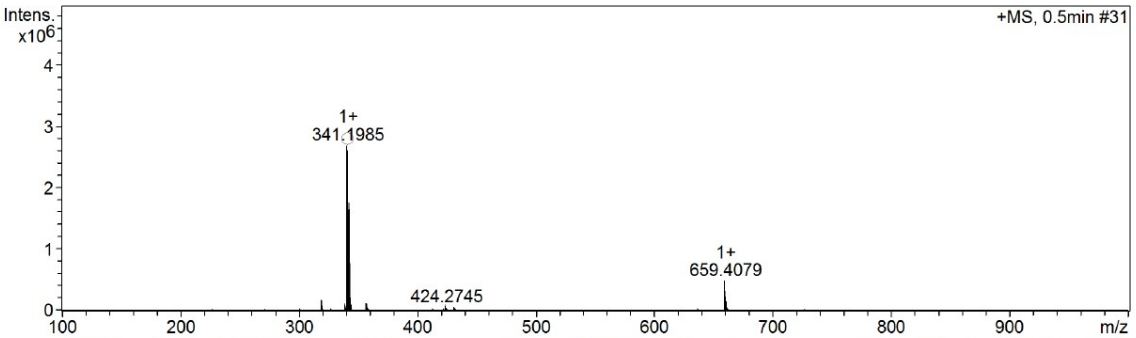
Scan End	2000 m/z	Set End Plate Offset	-500 V	Set Divert Valve	Waste



Meas. m/z	#	Ion Formula	Score	m/z	err [mDa]	err [ppm]	mSigma	rdb	e⁻ Conf	N-Rule	Adduct
341.198494	1	C22H26N2Na	100.00	341.198820	0.3	1.0	238.3	10.5	even	ok	M+Na

Fig. S21 HR-TOFMS spectrum of compound **4**

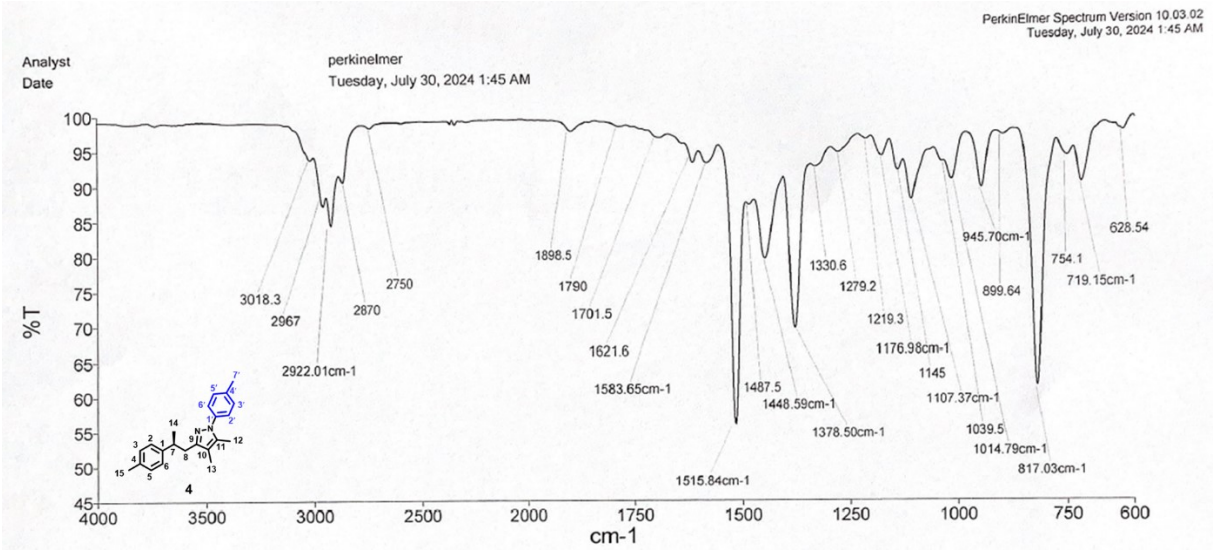
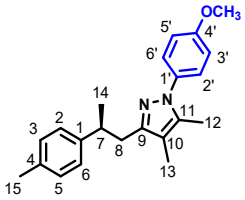


Fig. S22 FT-IR spectrum of compound **4**

Table S6 ^{1}H-NMR and ^{13}C-NMR, compound **5** in $CDCl_3$ *(δ in ppm, J in Hz)*



Compound **5**

Position	**^{1}H signal (δ_H in ppm, J in Hz)**	**^{13}C signal δ_C in ppm**
1	-	144.5
2	7.14, d (8.1)	126.8
3	7.09, d (8.1)	128.9
4	-	135.2
5	7.09, d (8.1)	128.9
6	7.14, d (8.1)	126.8
7	3.05 - 3.15, m	39.5
8	8a: 2.76 dd (14.0,9.4)	35.7
	8b: 2.85 dd (14.0,5.7)	
9	-	150.2
10	-	112.6
11	-	135.9
12	2.12, s	10.7
13	1.84, s	8.2
14	1.25, d (6.9)	21.0
15	2.30, s	20.9
1′	-	133.4
2′	7.27 dd (8.9, 2.2)	126.3
3′	6.93 dd (8.9, 2.2)	114.0
4′	-	158.5
5′	6.93 dd (8.9, 2.2)	114.0
6′	7.27 dd (8.9, 2.2)	126.3
-OCH_3	3.82, s	55.5

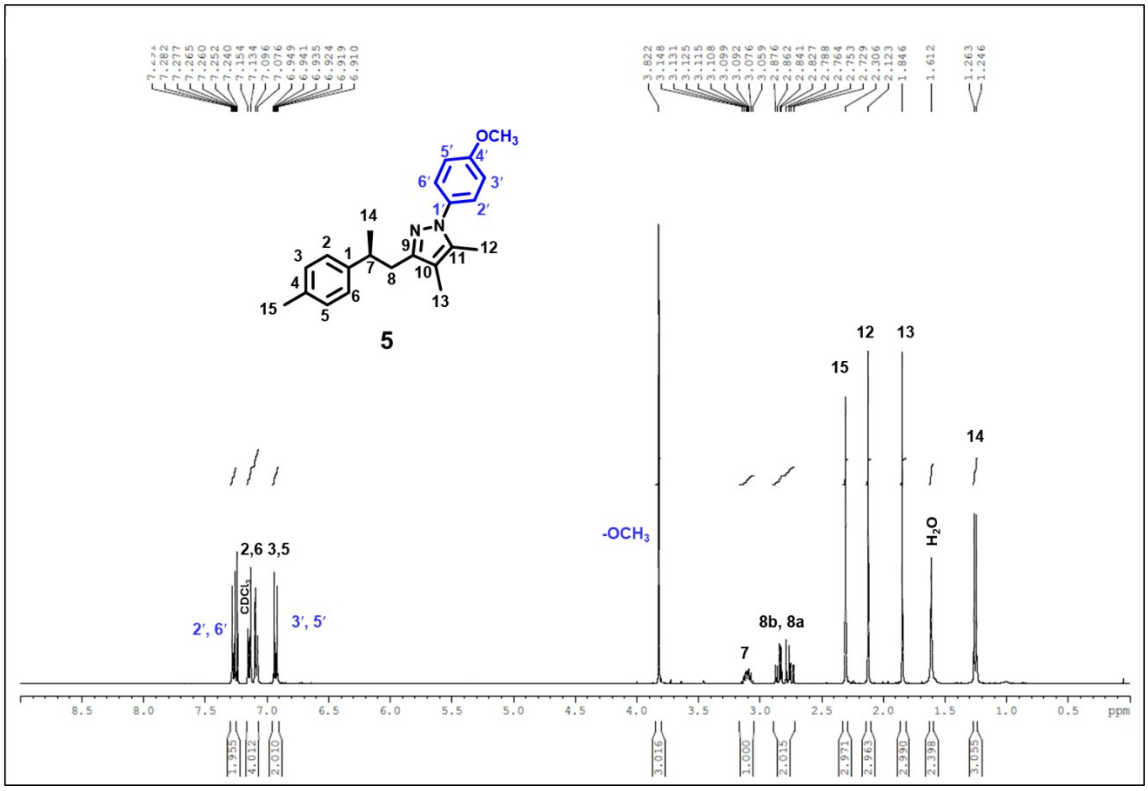


Fig. S23 ^{1}H NMR spectrum ($CDCl_3$, 400 MHz) of compound **5**

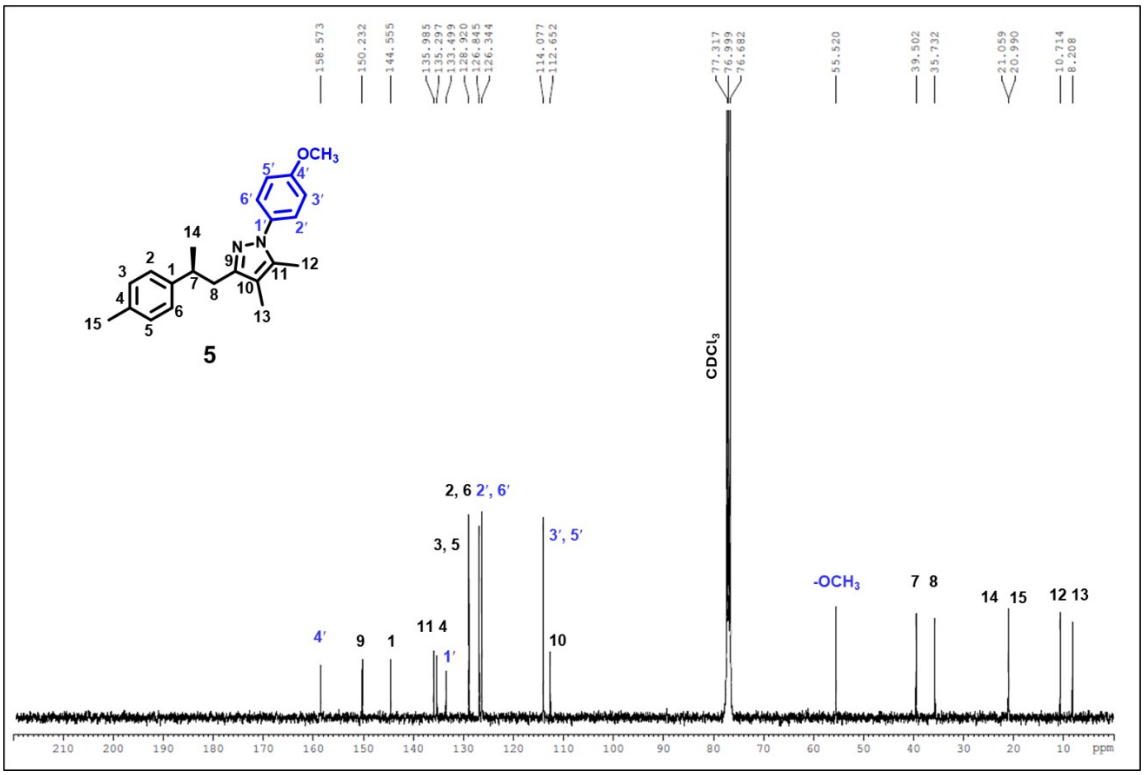


Fig. S24 ^{13}C NMR spectrum ($CDCl_3$, 100 MHz) of compound **5**

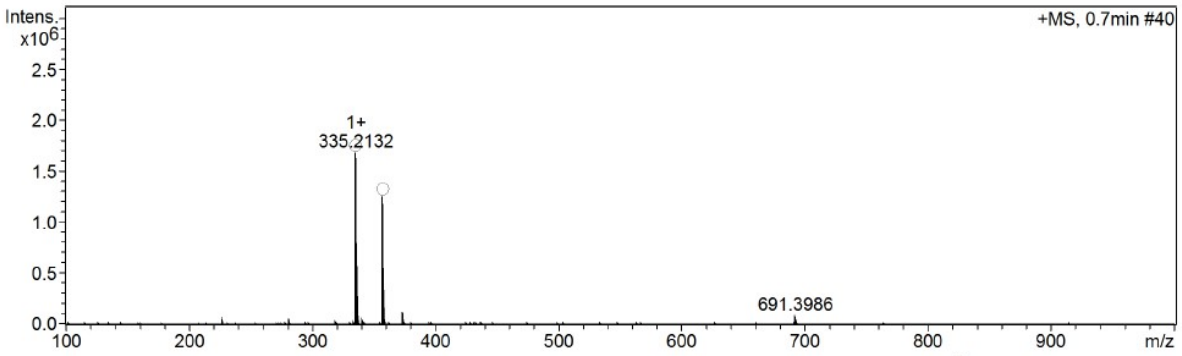
Mass Spectrum SmartFormula Report

Analysis Info

Analysis Name	D:\Data\Apichart\ESI\AS-HRMS 20467 (pos).d	Acquisition Date	8/9/2024 11:29:06 PM
Method	tune_low_ pos.m	Operator	RU
Sample Name	AS-RU 23062	Instrument	micrOTOF 8213750.10411
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	2.0 Bar
Focus	Not active			Set Dry Heater	200 °C
Scan Begin	50 m/z	Set Capillary	4500 V	Set Dry Gas	8.0 l/min
Scan End	2000 m/z	Set End Plate Offset	-500 V	Set Divert Valve	Waste



Meas. m/z	#	Ion Formula	Score	m/z	err [mDa]	err [ppm]	mSigma	rdb	e⁻ Conf	N-Rule	Adduct
335.213211	1	C22H27N2O	100.00	335.211790	1.4	4.2	60.9	10.5	even	ok	M+H
357.195103	1	C22H26N2NaO	86.20	357.193734	-1.4	-3.8	22.5	10.5	even	ok	M+Na

Fig. S25 HR-TOFMS spectrum of compound **5**

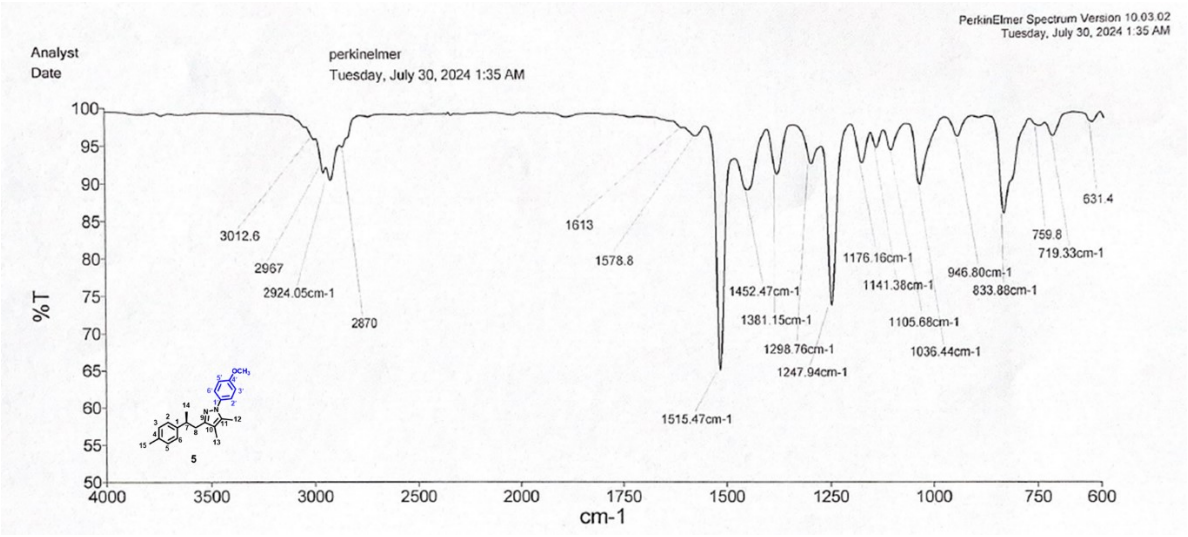
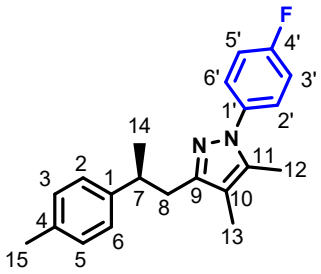


Fig. S26 FT-IR spectrum of compound **5**

Table S7 ^{1}H-NMR and ^{13}C-NMR, compound **6** in $CDCl_3$ *(δ in ppm, J in Hz)*



Compound **6**

Position	**^{1}H signal (δ_H in ppm, J in Hz)**	**^{13}C signal δ_C in ppm**
1	-	135.4
2	6.97, d (7.8)	128.9
3	6.77, d (7.8)	122.0
4	-	129.1
5	6.77, d (7.8)	122.0
6	6.97, d (7.8)	128.9
7	2.63-2.73, m	39.4
8	2.76, dd (8.0, 1.3)	35.6
9	-	144.3
10	-	113.2
11	-	135.9
12	2.18, s	10.7
13	1.86, s	8.1
14	1.08, d (6.8)	21.0
15	2.26, s	20.9
1′	-	135.9
2′	7.14, dd (8.1, 2.2)	115.6
3′	7.06, dd (8.1, 2.4)	115.8
4′	-	150.8
5′	7.04, dd (8.1, 2.4)	115.8
6′	7.13, dd (8.1, 2.2)	115.6

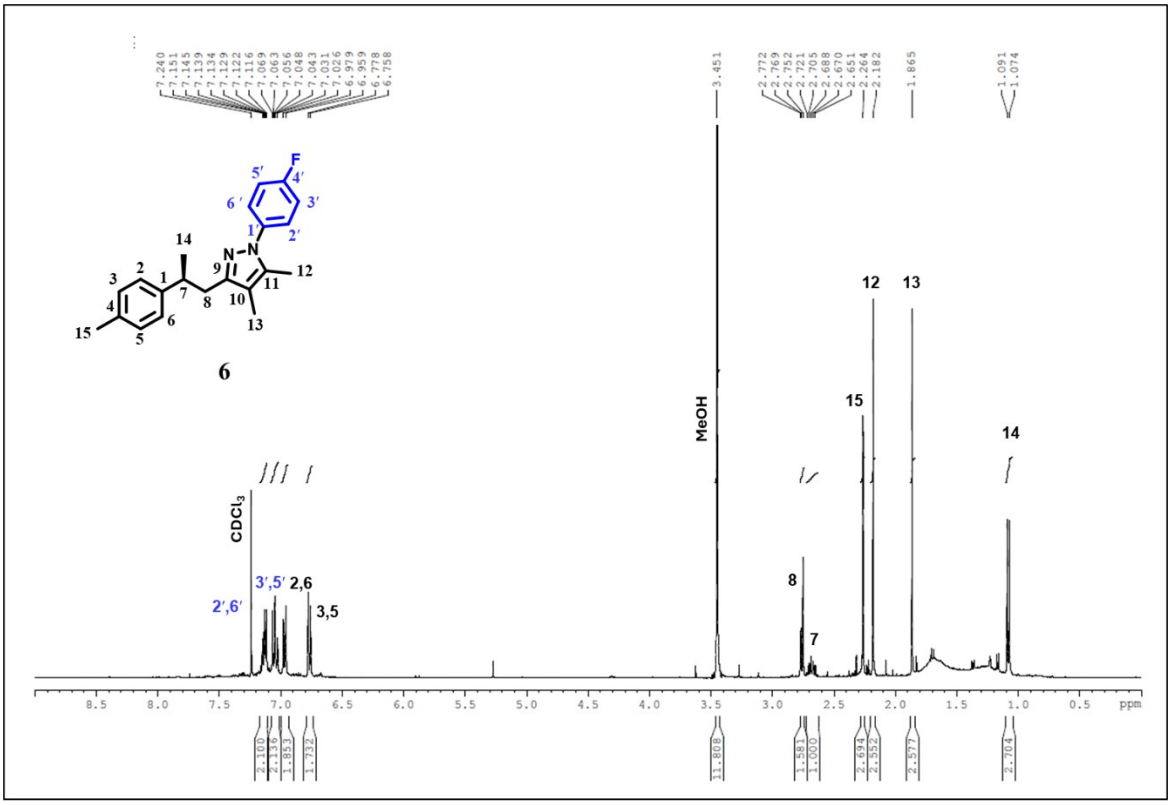


Fig. S27 ^{1}H NMR spectrum ($CDCl_3$, 400 MHz) of compound **6**

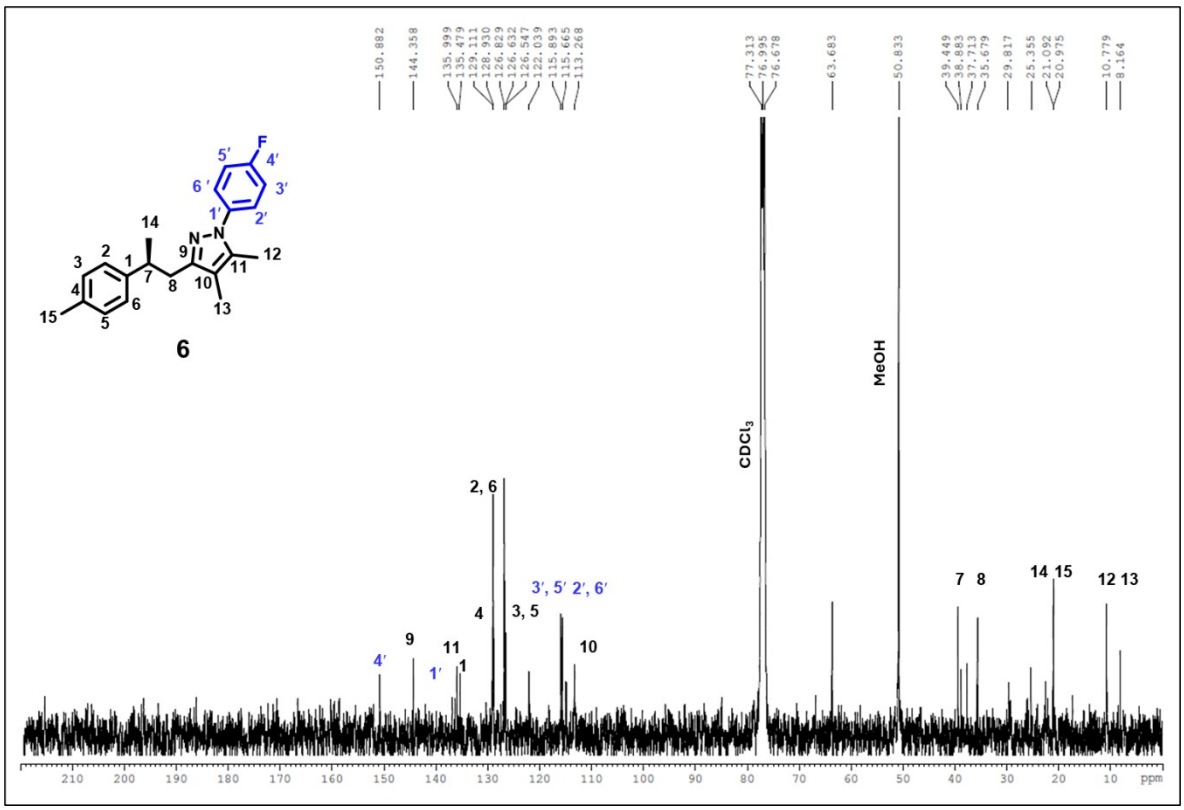


Fig. S28 ^{13}C NMR spectrum ($CDCl_3$, 100 MHz) of compound **6**

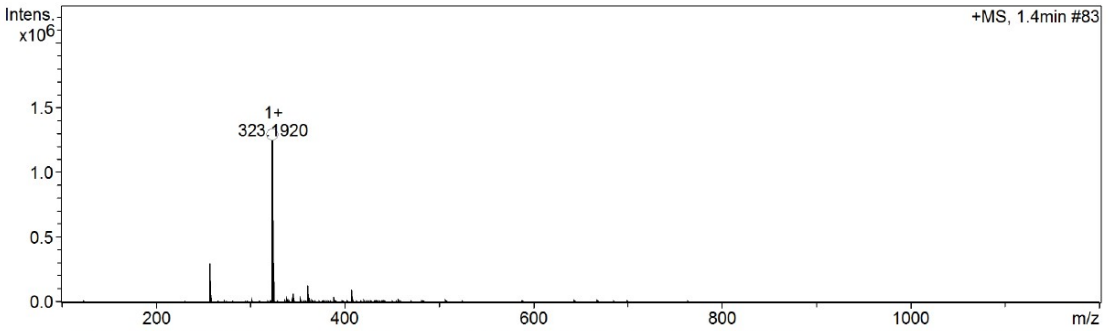
Mass Spectrum SmartFormula Report

Analysis Info

Analysis Name	D:\Data\Apichart\ESI\AS-HRMS 20469 (pos).d	Acquisition Date	8/9/2024 11:35:53 PM
Method	tune_low_ pos.m	Operator	RU
Sample Name	AS-RU 23147	Instrument	micrOTOF 8213750.10411
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	2.0 Bar
Focus	Not active			Set Dry Heater	200 °C
Scan Begin	50 m/z	Set Capillary	4500 V	Set Dry Gas	8.0 l/min
Scan End	2000 m/z	Set End Plate Offset	-500 V	Set Divert Valve	Waste



Meas. m/z	#	Ion Formula	Score	m/z	err [mDa]	err [ppm]	mSigma	rdb	e⁻ Conf	N-Rule	Adduct
323.191985	1	C21H24FN2	100.00	323.191803	-0.2	-0.6	6.0	10.5	even	ok	M+H

Fig. S29 HR-TOFMS spectrum of compound **6**

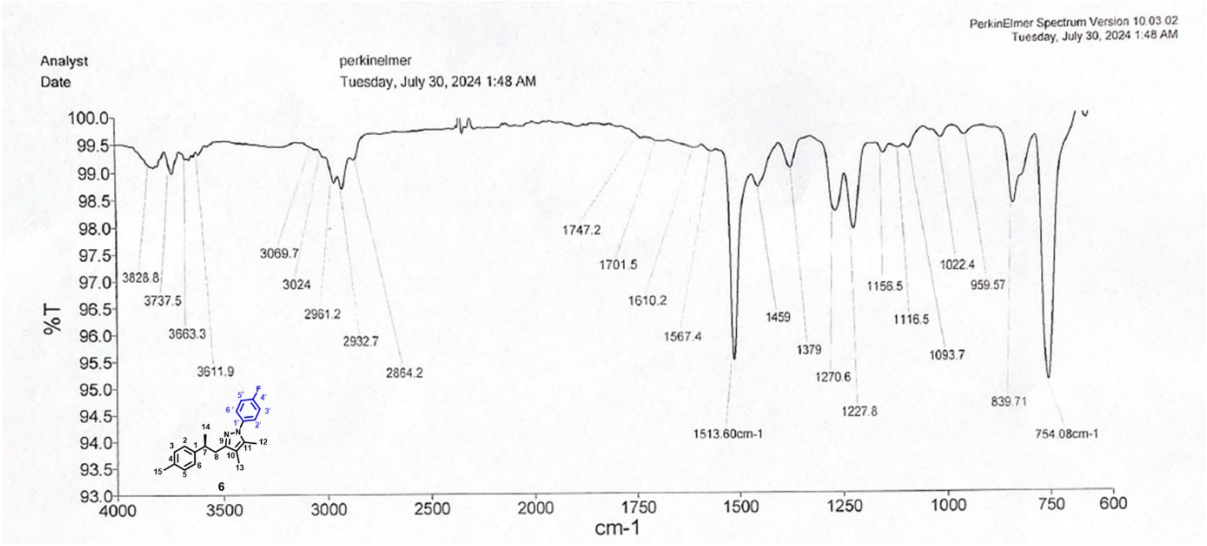
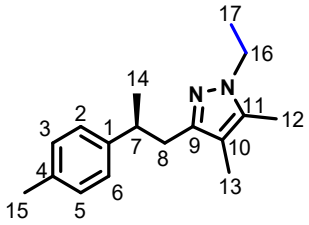


Fig. S30 FT-IR spectrum of compound **6**

Table S8 ^{1}H-NMR and ^{13}C-NMR, compound **7** in $CDCl_3$ *(δ in ppm, J in Hz)*



Compound **7**

Position	**^{1}H signal (δ_H in ppm, J in Hz)**	**^{13}C signal δ_C in ppm**
1	-	142.9
2	7.08, d (7.9)	126.6
3	7.02, d (7.9)	129.1
4	-	135.9
5	7.02, d (7.9)	129.1
6	7.08, d (7.9)	126.6
7	2.83 - 2.92, m	39.7
8	2.70, d (7.4)	33.5
9	-	145.9
10	-	111.6
11	-	137.9
12	2.13, s	11.8
13	1.77, s	8.1
14	1.24, d (6.9)	20.9
15	2.30, s	20.7
16	3.81, q (7.2)	43.2
17	1.28, t (7.2)	15.7

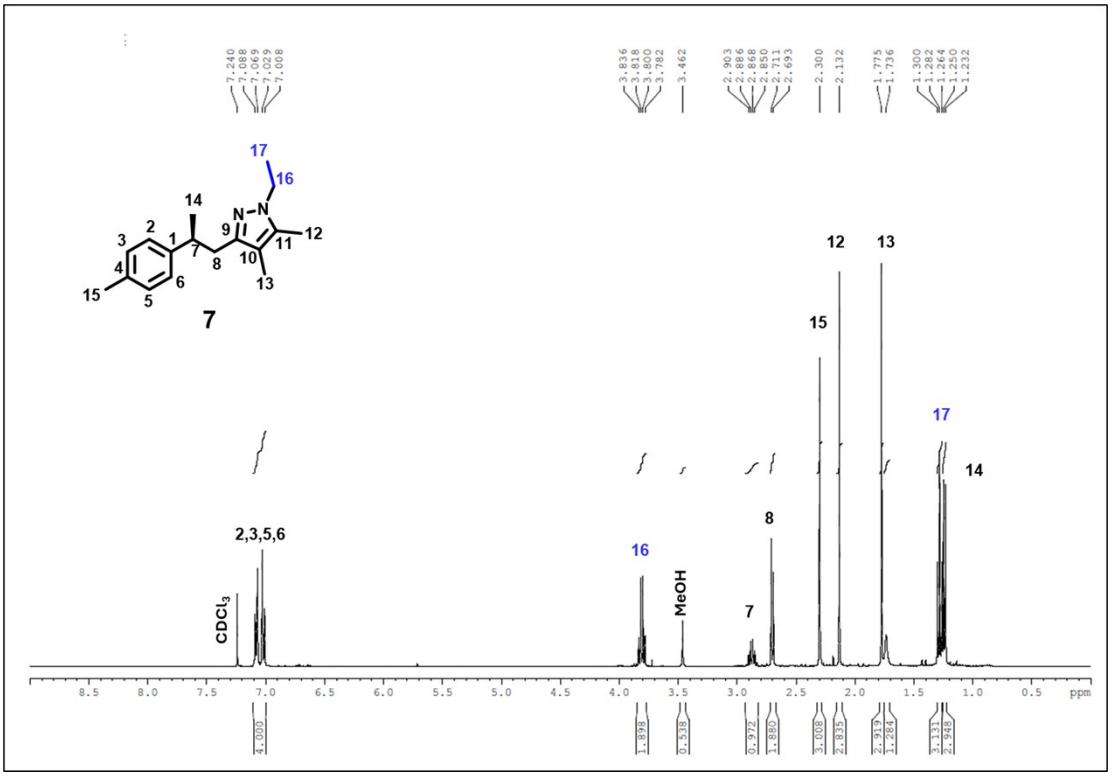


Fig. S31 ^{1}H NMR spectrum ($CDCl_3$, 400 MHz) of compound **7**

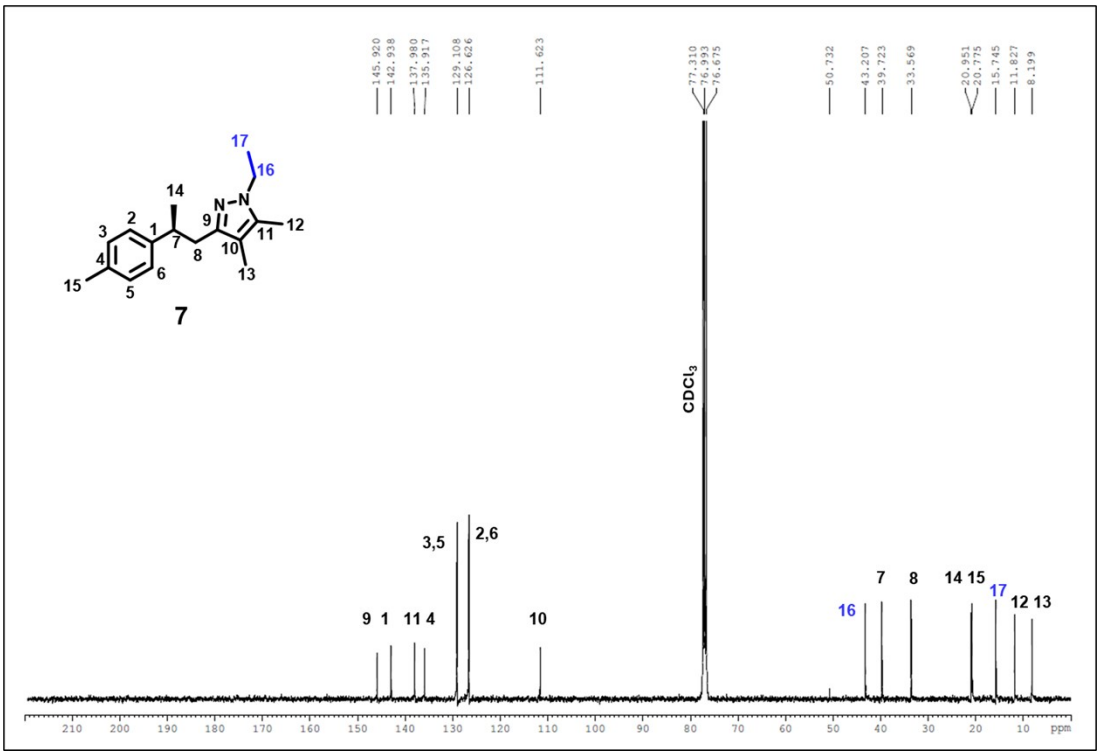


Fig. S32 ^{13}C NMR spectrum ($CDCl_3$, 100 MHz) of compound **7**

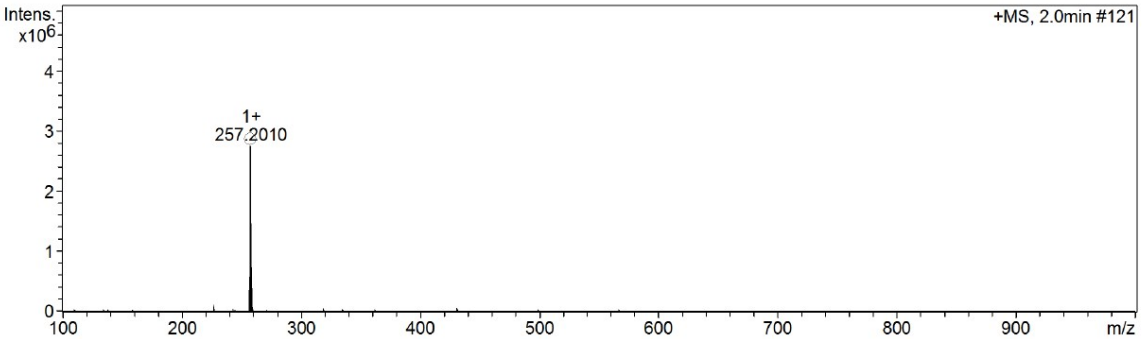
Mass Spectrum SmartFormula Report

Analysis Info

Analysis Name	D:\Data\Apichart\ESI\AS-HRMS 20468 (pos).d	Acquisition Date	8/9/2024 11:31:29 PM
Method	tune_low_ pos.m	Operator	RU
Sample Name	AS-RU 23067	Instrument	micrOTOF 8213750.10411
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	2.0 Bar
Focus	Not active			Set Dry Heater	200 °C
Scan Begin	50 m/z	Set Capillary	4500 V	Set Dry Gas	8.0 l/min
Scan End	2000 m/z	Set End Plate Offset	-500 V	Set Divert Valve	Waste



Meas. m/z	#	Ion Formula	Score	m/z	err [mDa]	err [ppm]	mSigma	rdb	e⁻ Conf	N-Rule	Adduct
257.200958	1	C17H25N2	100.00	257.201225	0.3	1.0	43.3	6.5	even	ok	M+H

Fig. S33 HR-TOFMS spectrum of compound **7**

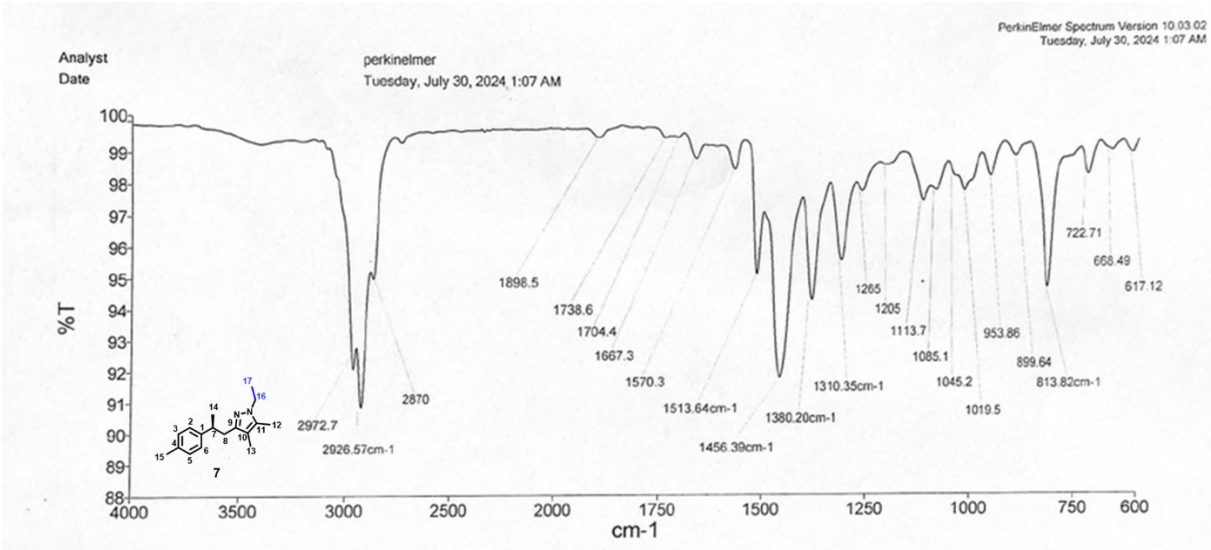
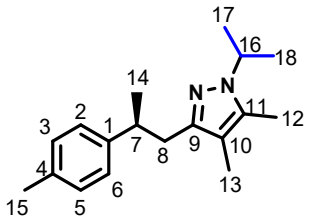


Fig. S34 FT-IR spectrum of compound **7**

Table S9 ^{1}H-NMR and ^{13}C-NMR, compound **8** in $CDCl_3$ *(δ in ppm, J in Hz)*



Compound **8**

Position	**^{1}H signal (δ_H in ppm, J in Hz)**	**^{13}C signal δ_C in ppm**
1	-	144.6
2	7.11, d (8.1)	126.8
3	7.06, d (8.1)	128.7
4	-	134.1
5	7.06, d (8.1)	128.7
6	7.11, d (8.1)	126.8
7	2.96 - 3.06, m	39.6
8	8a: 2.72, dd (13.9, 9.2) 8b: 2.79, dd (13.9, 5.8)	35.7
9	-	148.3
10	-	110.7
11	-	135.1
12	2.10, s	9.4
13	1.77, s	7.9
14	1.21, d (6.9)	20.9
15	2.29, s	20.8
16	4.27 - 4.38, m	49.2
17	1.42, d (6.6)	22.4
18	1.41, d (6.6)	22.3

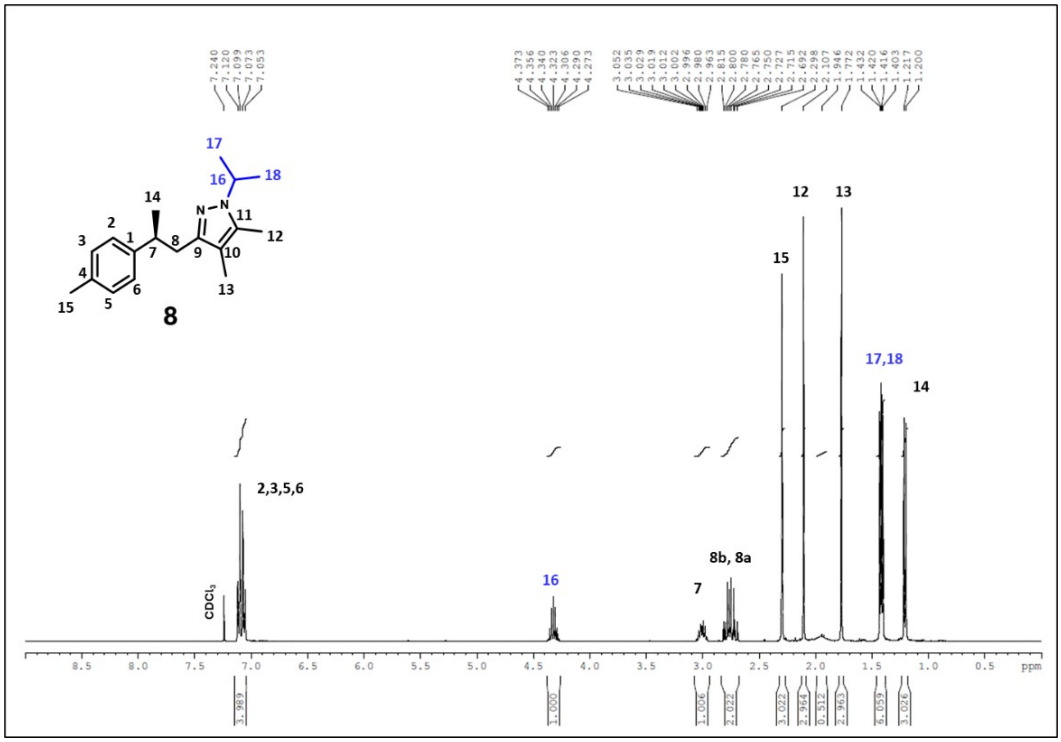


Fig. S35 ^{1}H NMR spectrum ($CDCl_3$, 400 MHz) of compound **8**

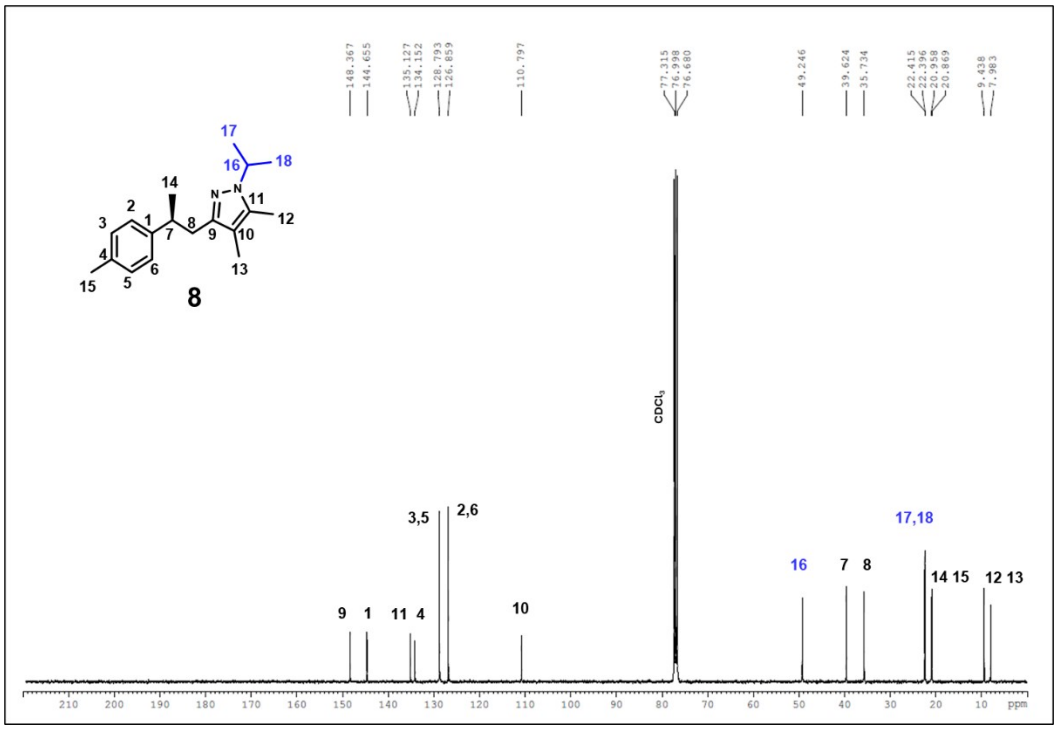


Fig. S36 ^{13}C NMR spectrum ($CDCl_3$, 100 MHz) of compound **8**

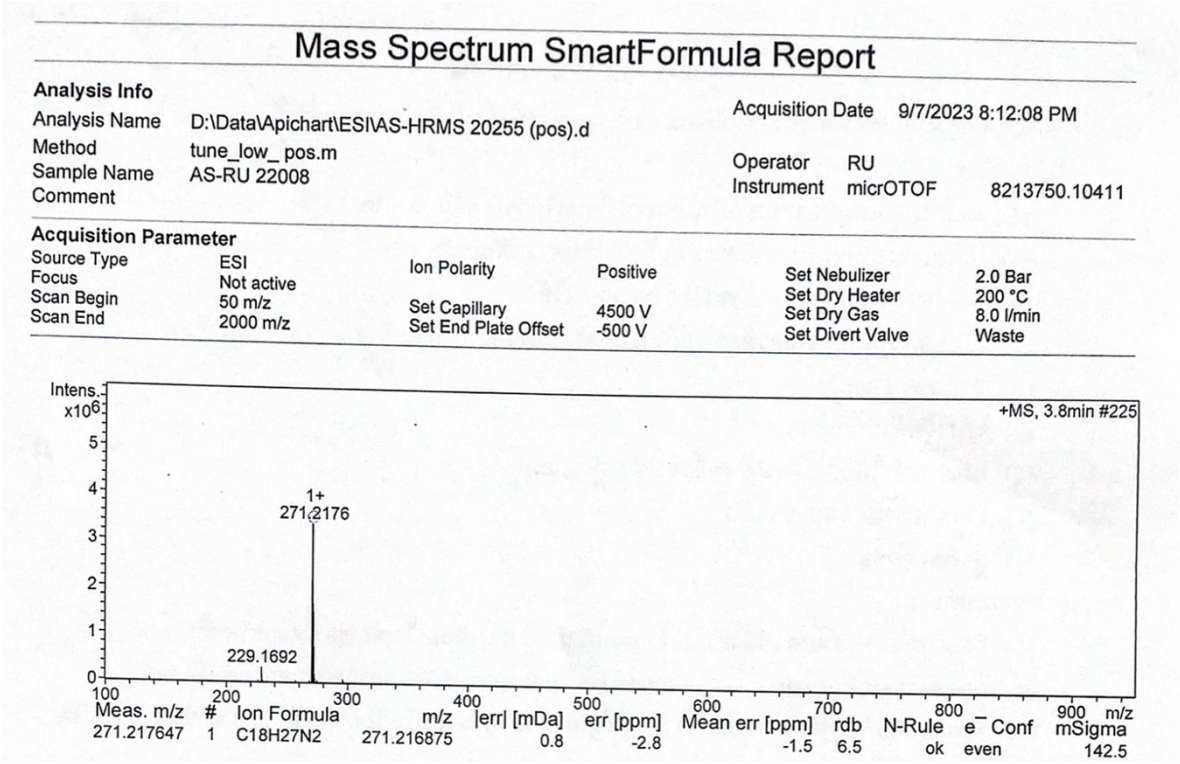


Fig. S37 HR-TOFMS spectrum of compound **8**

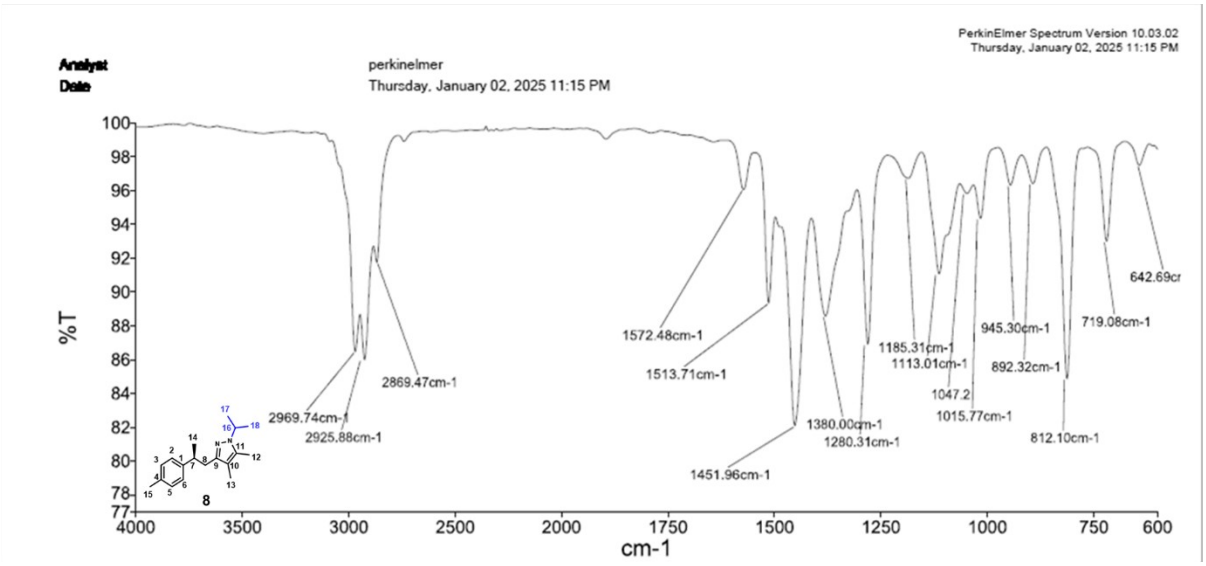


Fig. S38 FT-IR spectrum of compound **8**

Table S10 The High-Resolution Mass Spectrometry (HRMS) Results of the Synthesized Compounds

Compound Name	Formula	Molecular Weight (g/mol)	Calculated (*m/z*)	Found (*m/z*)	Error (*m/z*)	Error (ppm)
1	$C_{21}H_{25}N_3O_2S$	383.51	384.1740	384.1760	0.0019	-5.0
2	$C_{22}H_{26}N_2O_2S$	382.52	383.1788	383.1797	0.0009	-2.3
3	$C_{21}H_{24}N_2$	304.44	305.2012	305.2027	0.0015	-4.9
4	$C_{22}H_{26}N_2$	318.46	341.1988	341.1985	0.0003	1.0
5	$C_{22}H_{26}N_2O$	334.46	335.2118	335.2132	0.0014	4.2
6	$C_{21}H_{23}FN_2$	322.43	323.1918	323.1920	-0.0002	-0.6
7	$C_{17}H_{24}N_2$	256.39	257.2012	257.2010	0.0003	1.0
8	$C_{18}H_{26}N_2$	270.42	271.2169	271.2176	0.0008	-2.8

(Error limit 5 ppm or 0.003 *m/z* units)

Table S11 Percentage yield and physical characteristics of synthesized pyrazole–*ar*-turmerone hybrids (**1–8**).

Compound	Formula	Molecular Weight (g/mol)	Description	Yield (%)	Melting Point (°C)	Purity (%)
1	$C_{21}H_{25}N_3O_2S$	383.51	Pale-yellow amorphous powder	60	155–157	97.9
2	$C_{22}H_{26}N_2O_2S$	382.52	Dark-yellow viscous liquid	55	—	95.2
3	$C_{21}H_{24}N_2$	304.44	Dark-yellow viscous liquid	21	—	98.3
4	$C_{22}H_{26}N_2$	318.46	Dark-yellow viscous liquid	27	—	97.6
5	$C_{22}H_{26}N_2O$	334.46	Dark-yellow viscous liquid	15	—	95.7
6	$C_{21}H_{23}FN_2$	322.43	Dark-yellow viscous liquid	21	—	95.0
7	$C_{17}H_{24}N_2$	256.39	Dark-yellow viscous liquid	21	—	98.4
8	$C_{18}H_{26}N_2$	270.42	Dark-yellow viscous liquid	24	—	99.9

Molecular Docking Validation

Added Corresponding Materials in the Supplementary Information:

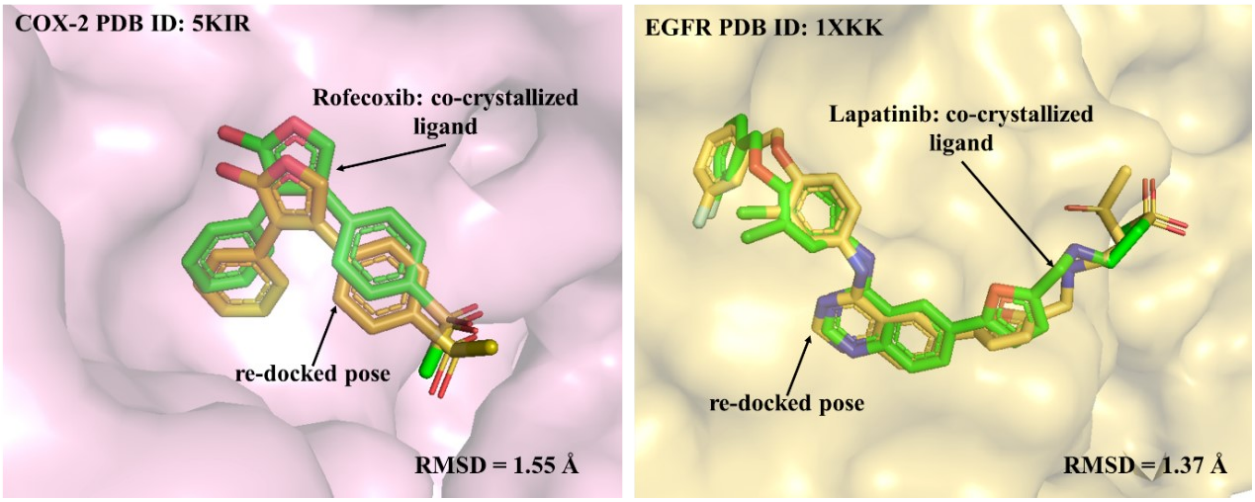


Fig. S39 Docking validation results for COX-2 (5KIR) and EGFR (1XKK), showing the overlay of co-crystallized and re-docked ligand conformation (RMSD = 1.55 Å and 1.37 Å, respectively).

Raw Data for Enzyme- and Cell-based Assays

Table S12 *In vitro* COX-1 and COX-2 inhibitory activities (IC_{50}), selectivity indices (COX-1/COX-2), EGFR WT kinase inhibition (IC_{50}), and growth inhibition (GI_{50}) values of pyrazole–*ar*-turmerone analogs (**1–8**) ($n = 3$).

Compound	IC_{50} (μM)		Selectivity Index (COX-1/COX-2)	EGFR WT kinase inhibition IC_{50} (μM)	GI_{50} (μM)
	COX-2	COX-1			
ar-turmerone	12.47	11.93	0.96	77.20	>50
1	0.63	8.99	14.38	37.56	5.85
2	1.04	24.44	23.57	57.56	9.57
3	26.08	16.82	0.64	>100	>50
4	0.84	2.02	2.39	>100	19.10
5	0.73	3.60	4.96	>100	40.56
6	1.30	2.53	1.96	>100	>50
7	0.87	0.74	0.85	>100	>50
8	18.94	23.61	1.25	>100	>50
Ibuprofen	8.84	4.79	0.54	>100	>50
Celecoxib	0.05	11.83	219.07	>100	11.17
Lapatinib	-	-	-	0.01	0.03

Cytotoxicity Evaluation on HT-29 Cells

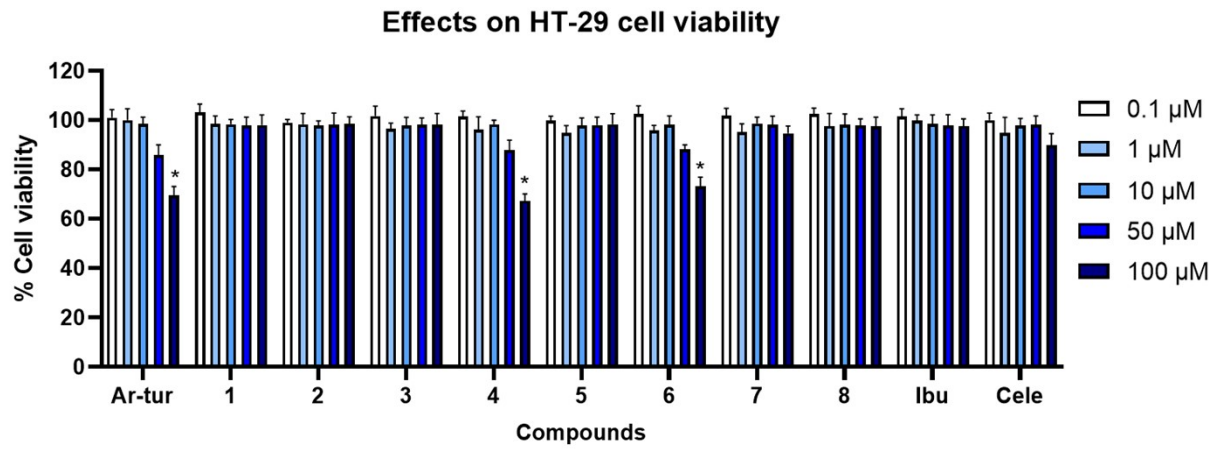


Fig. S40 Cytotoxicity of synthesized compounds on HT-29 cells by MTT assay.
Celecoxib (Cel) and ibuprofen (Ibu) were included as reference drugs. Statistical significance (n = 3) was determined vs. the control group (DMSO): *$p \leq 0.05$. Ar-turmerone, **4**, and **6** significantly reduced cell viability at 100 µM, indicating cytotoxic effects at higher concentrations, while the other Compounds showed no significant cytotoxicity, similar to the reference drugs ibuprofen and celecoxib.

Antiproliferative effect of the tested compound: MTT Assay

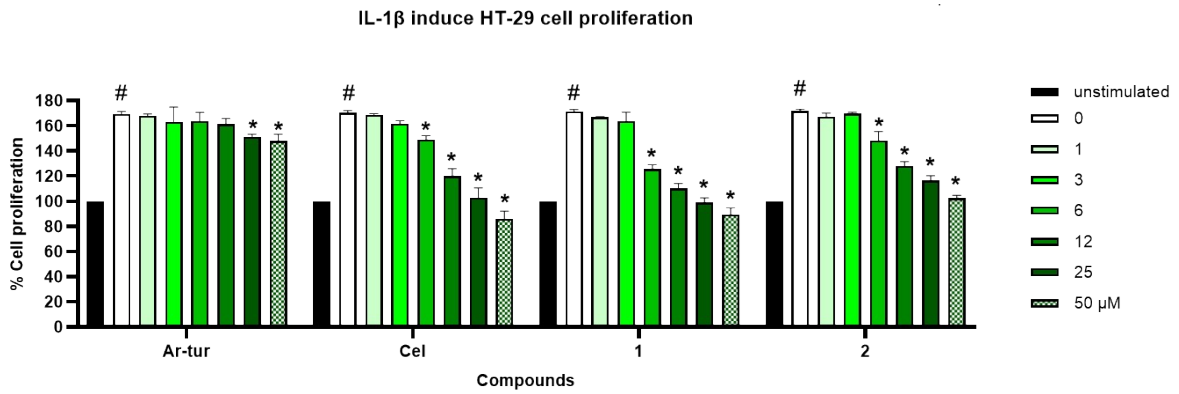
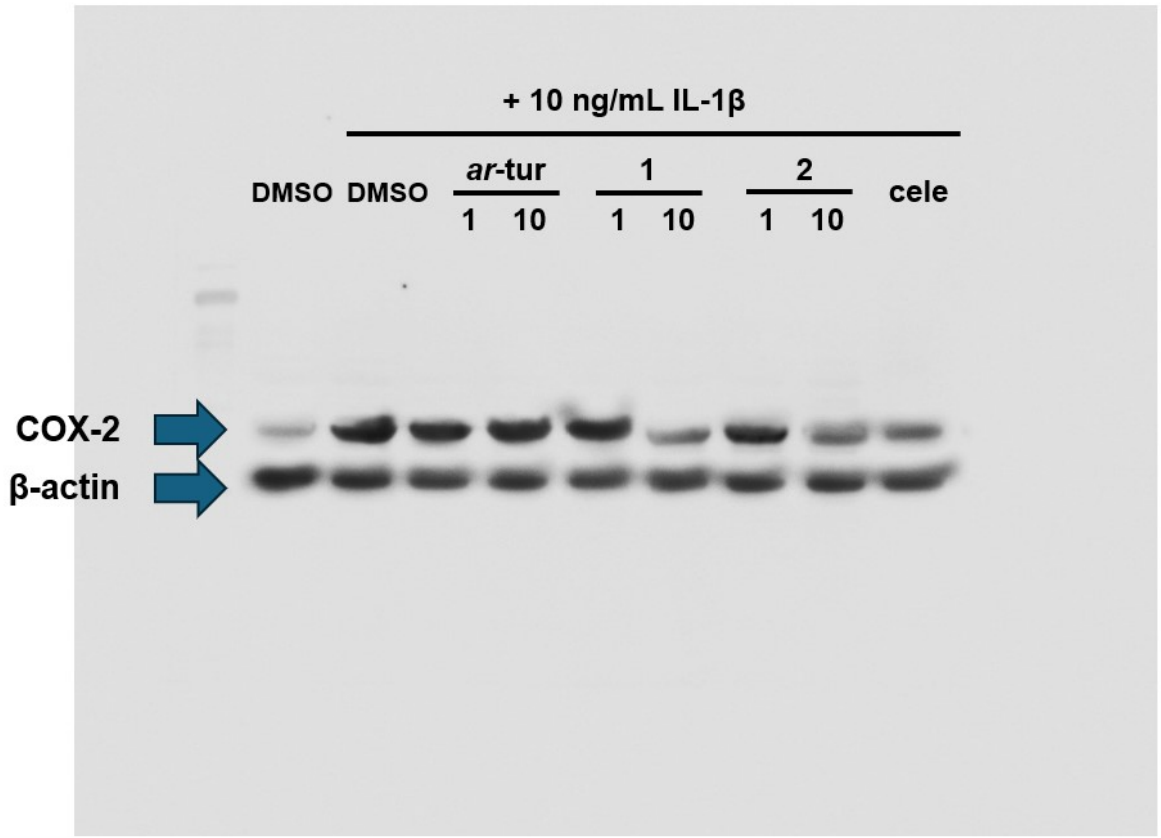
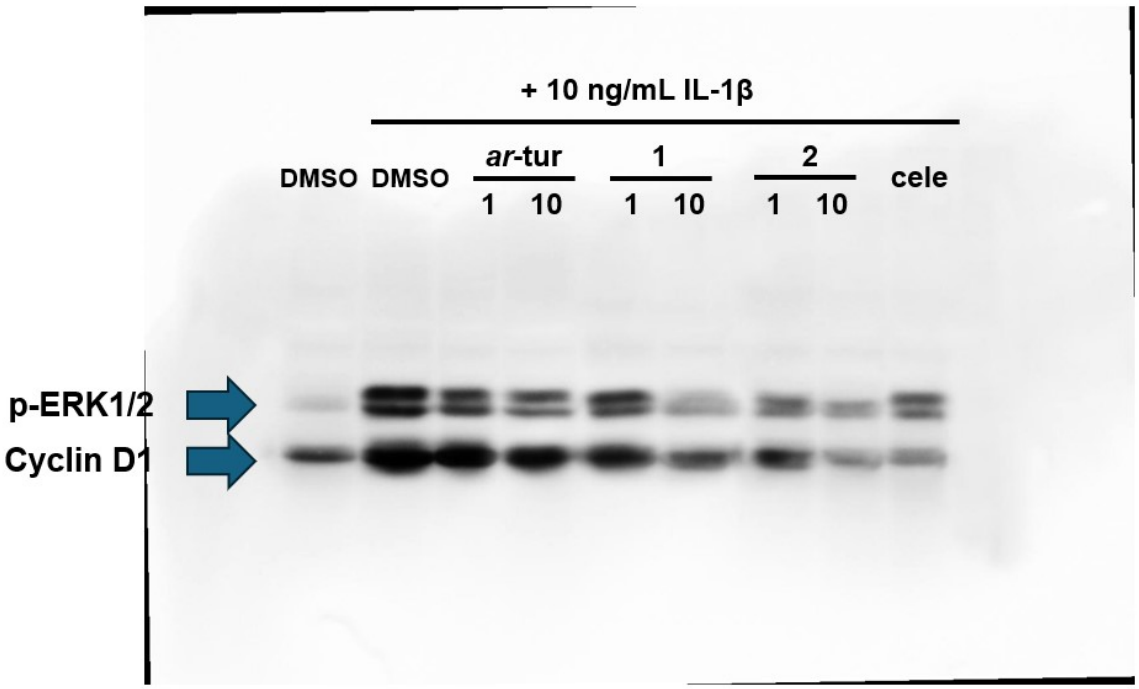
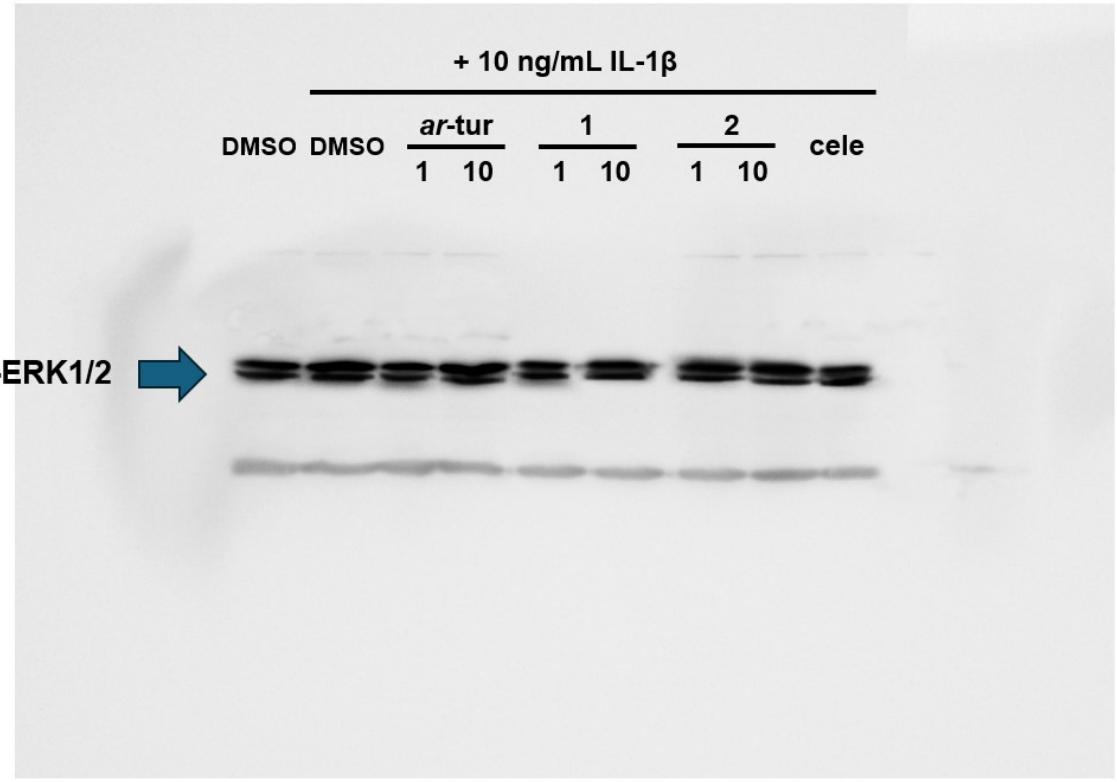


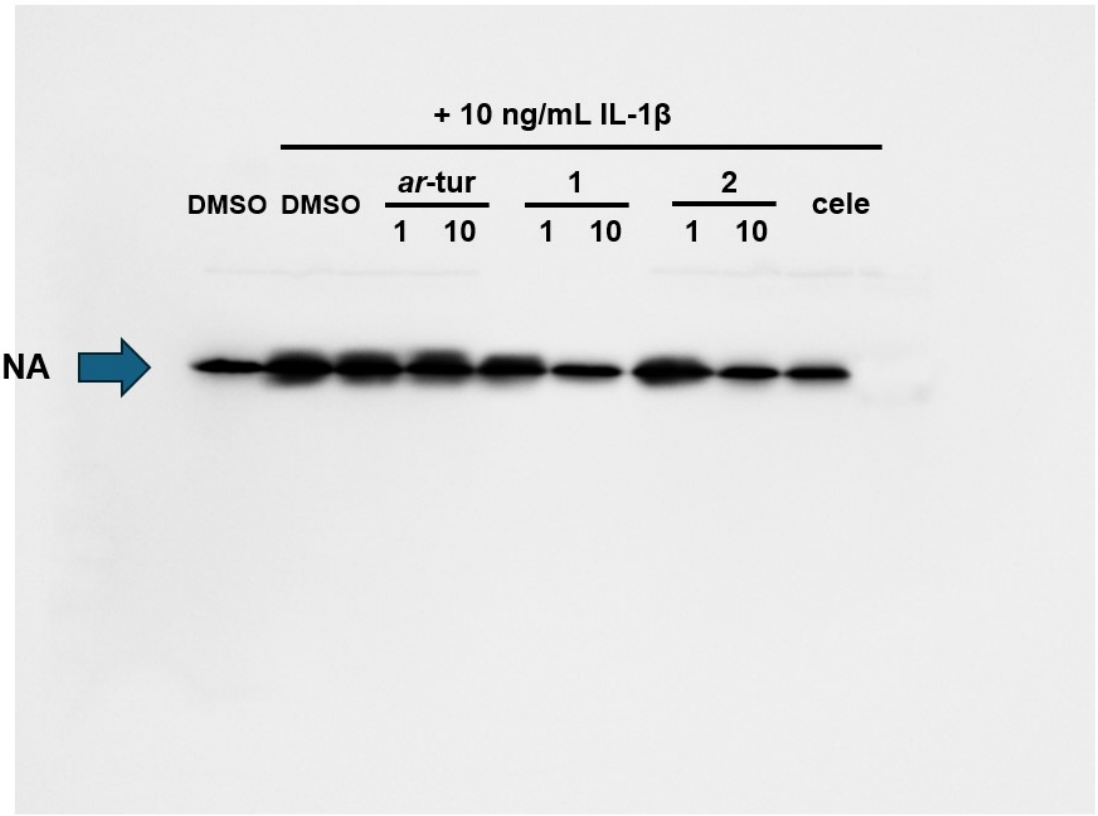
Fig. S41 Effects of *ar*-turmerone (*Ar*-tur), celecoxib (Cel), compound **1**, and **2** on IL-1β-induced HT-29 cell proliferation.
HT-29 cells were seeded at a density of 2,000 cells/well into 96-well plates and incubated for 24 h. After incubation, the cells were treated with DMSO as a control and non-toxic concentrations of the test compounds, with and without stimulation by 10 ng/mL IL-1β, for an additional 48-h incubation period. Cell viability was then assessed using the MTT assay. # indicates a significant difference when compared to unstimulated cells. * indicates a significant difference when compared to DMSO.
Note: The antiproliferative effect data in this figure were used to calculate the GI_{50} values presented in **Table S12.**

Supplementary Fig. S42 Original uncropped Western blot image for Fig. 9.

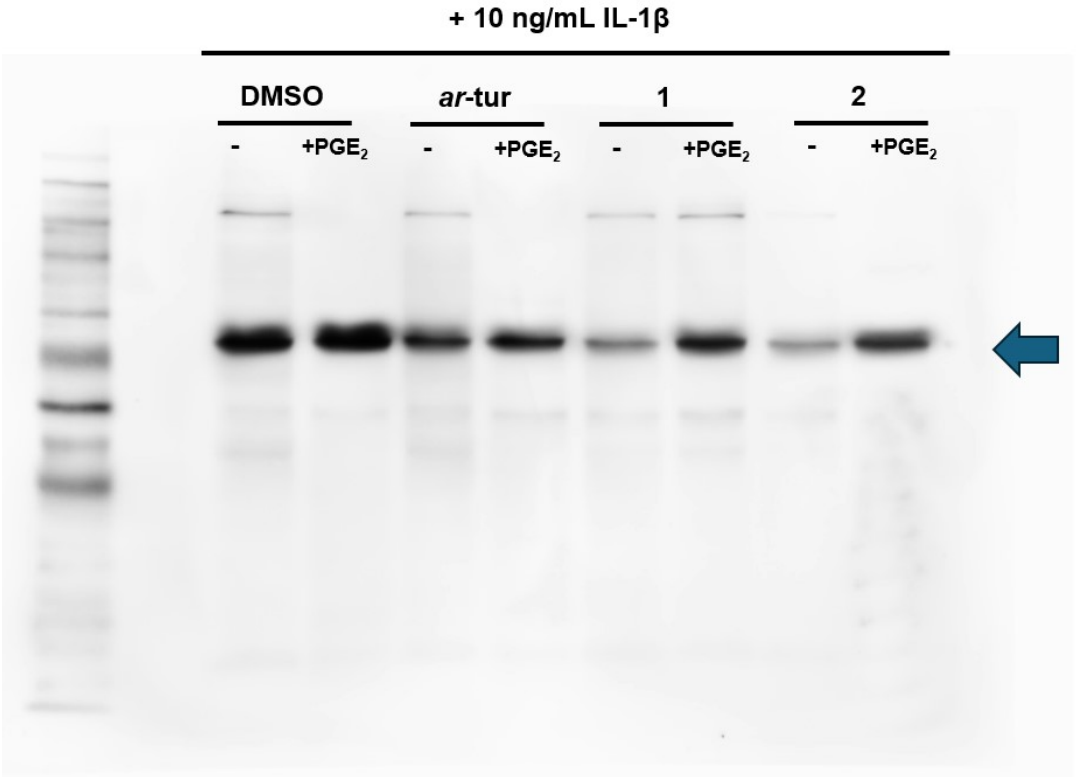


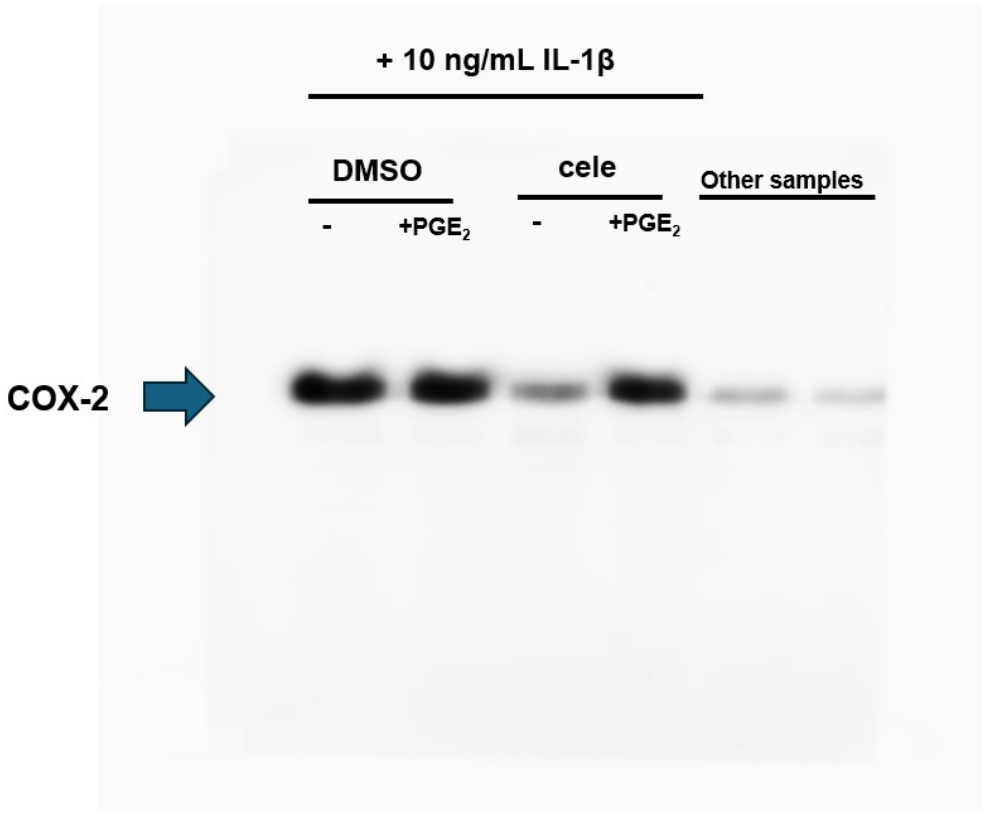


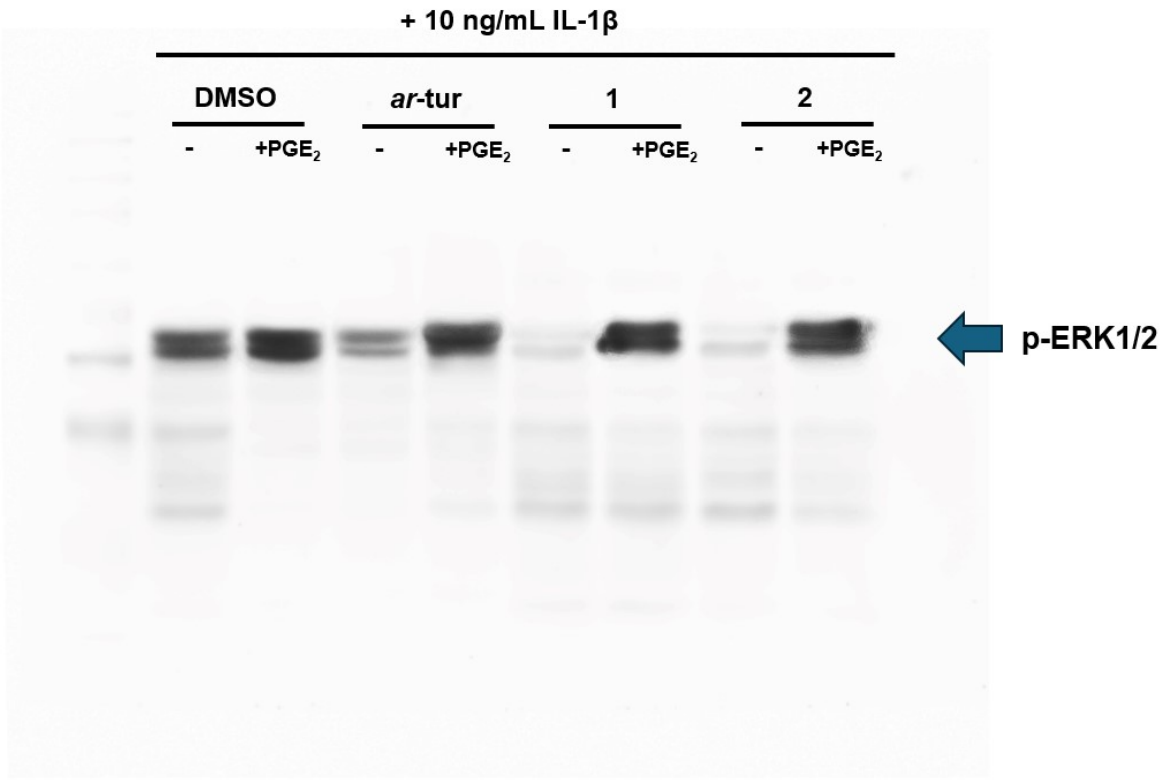

+ 10 ng/mL IL-1β
DMSO
DMSO
ar-tur
1
10
1
1
10
2
1
10
cele
t-ERK1/2

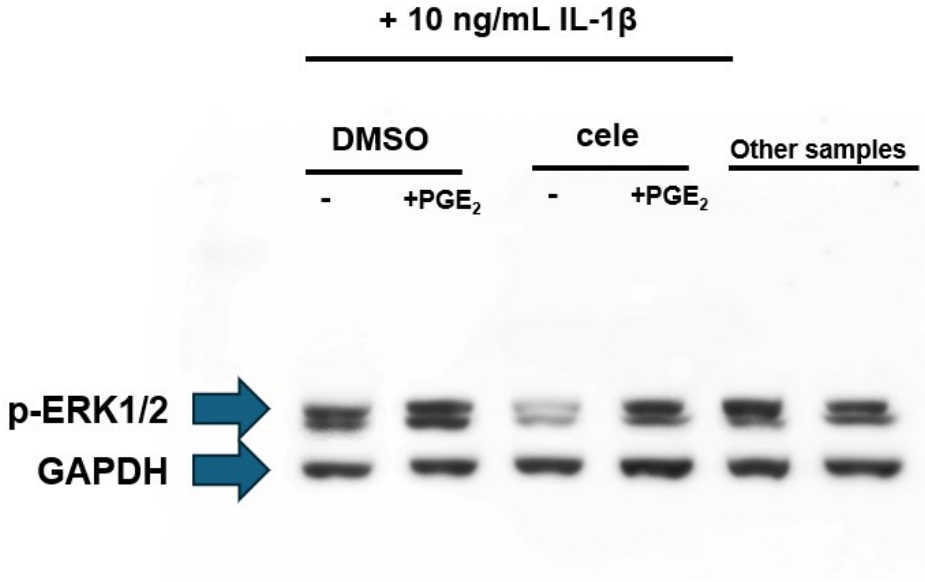

+ 10 ng/mL IL-1β
DMSO
DMSO
ar-tur
1
10
1
1
10
2
1
10
cele
PCNA

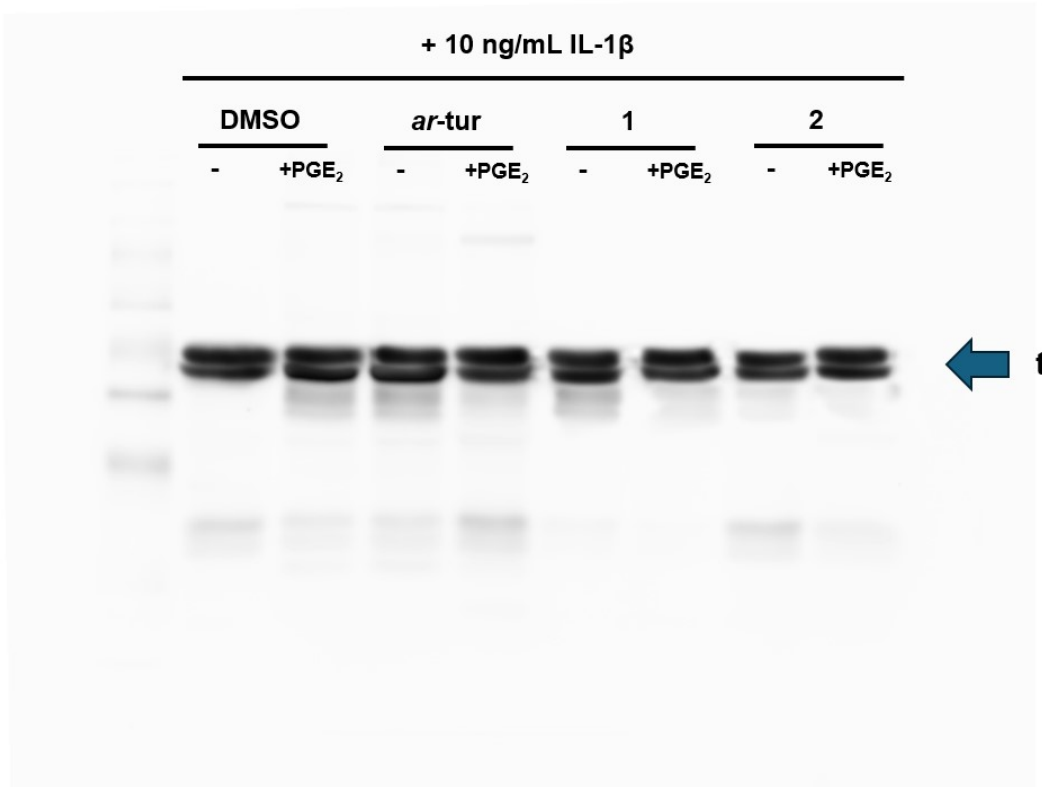
Supplementary Fig. S43 Original uncropped Western blot image for Fig. 10.

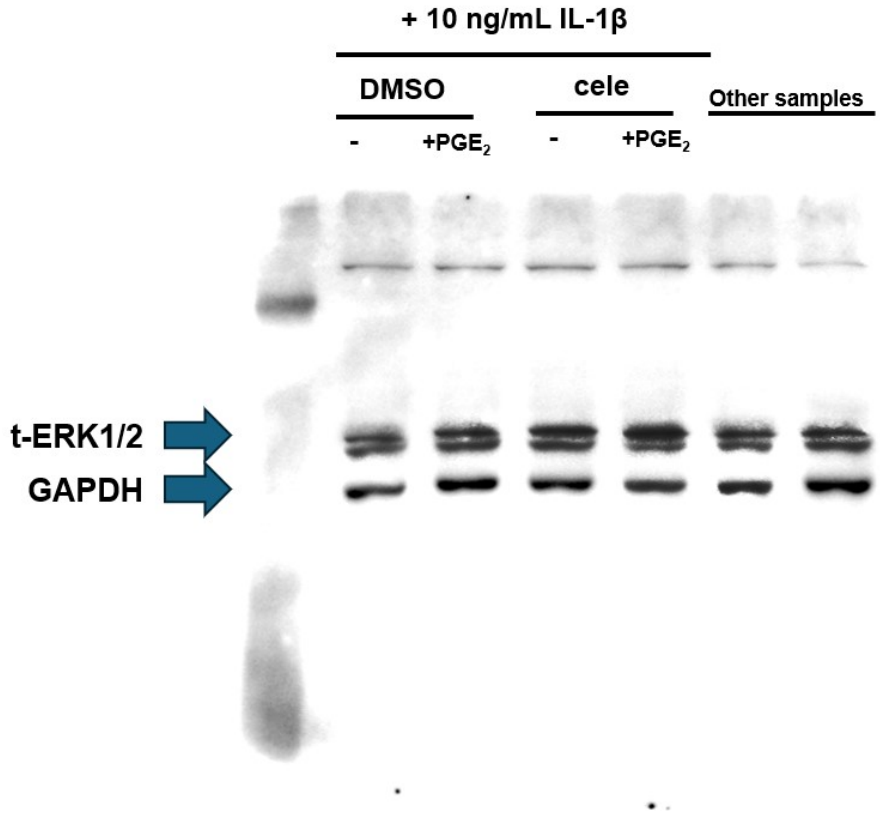


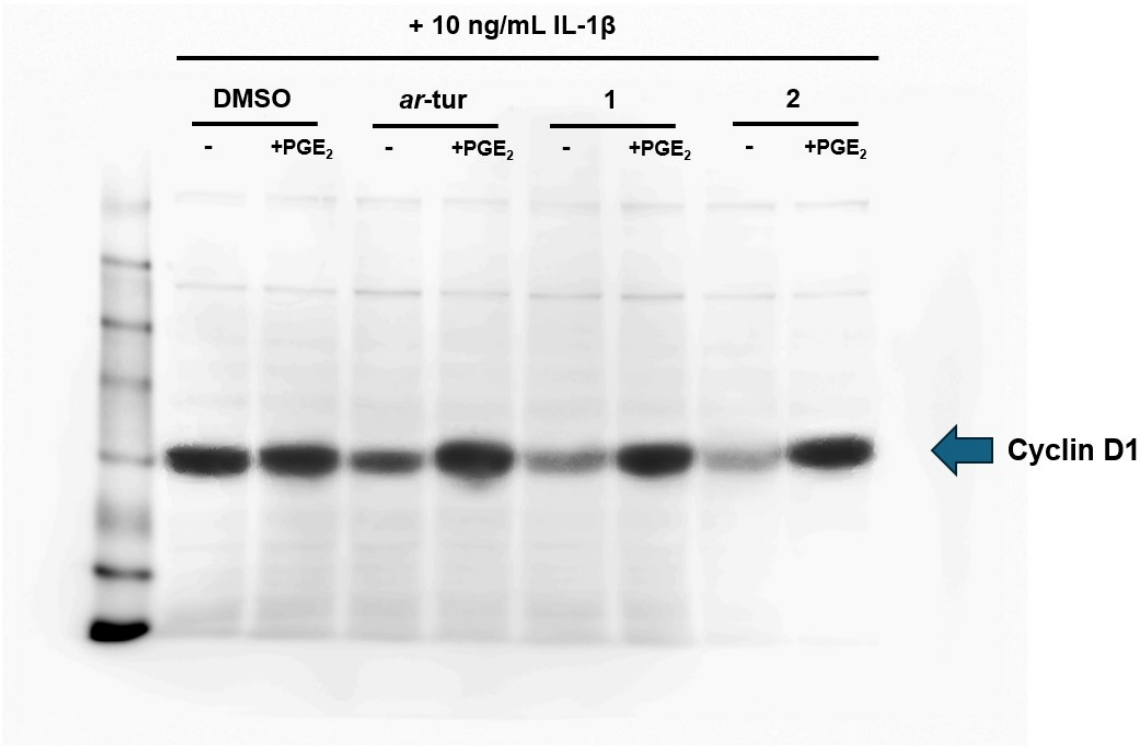


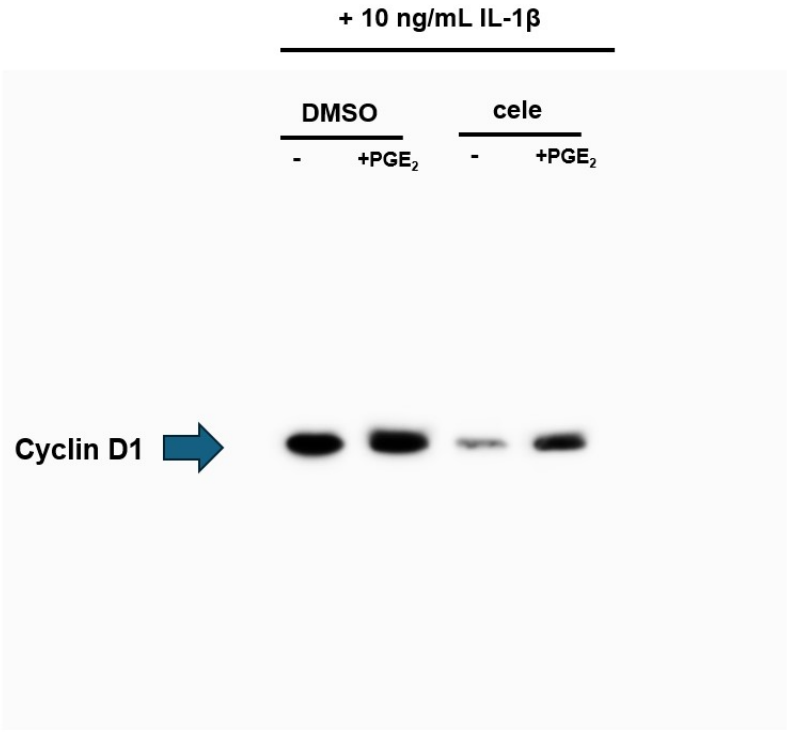

+ 10 ng/mL IL-1β
DMSO
ar-tur
1
2
- +PGE2 - +PGE2 - +PGE2 - +PGE2
p-ERK1/2

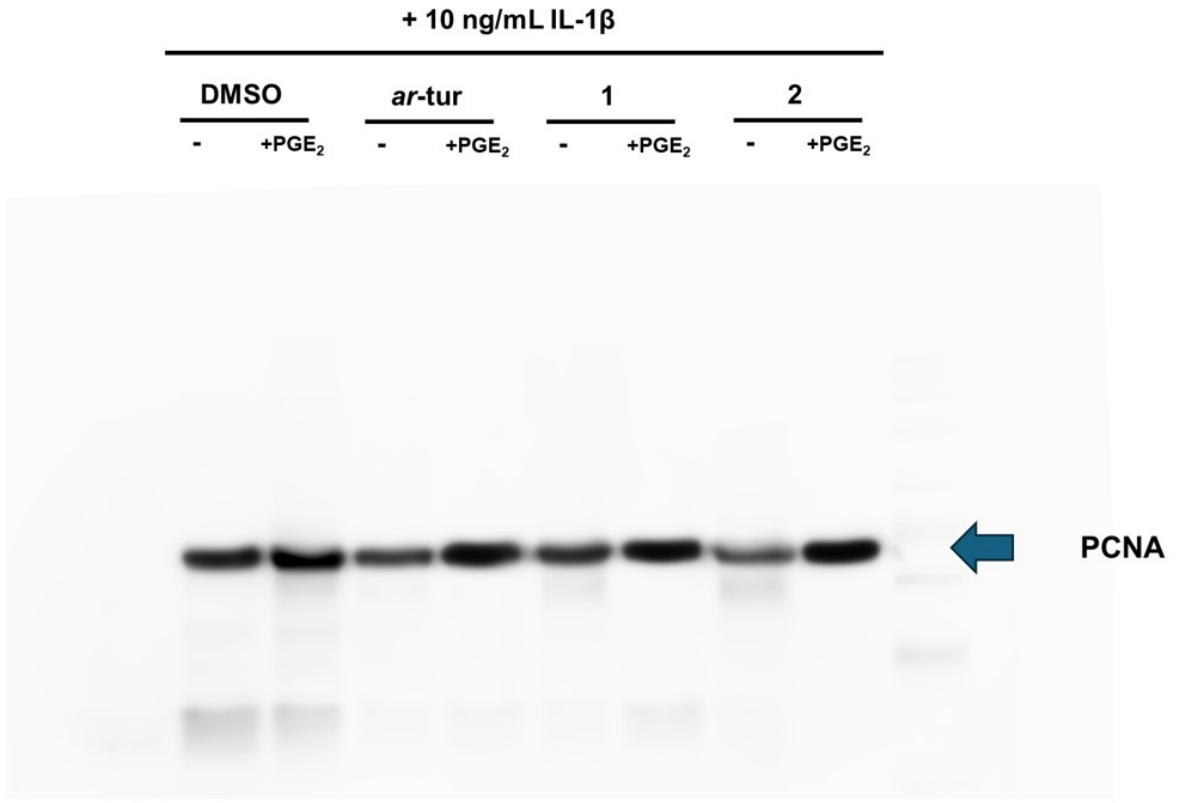

+ 10 ng/mL IL-1β
DMSO
cele
Other samples
- +PGE2 - +PGE2
p-ERK1/2
GAPDH

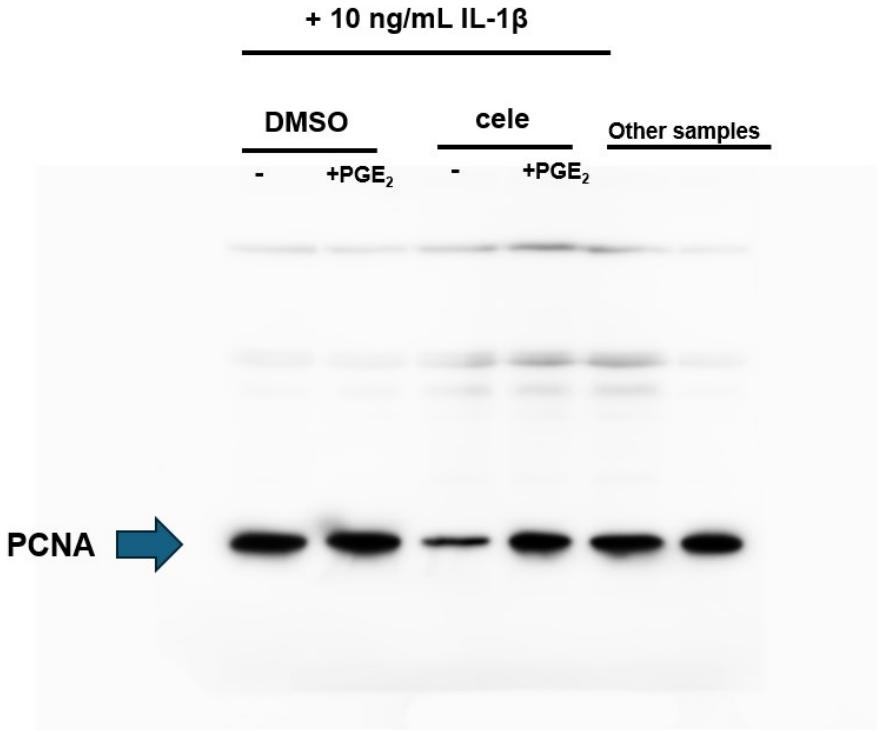

+ 10 ng/mL IL-1β
DMSO
ar-tur
1
2
-
+PGE2
-
+PGE2
-
+PGE2
-
+PGE2
t-ERK1/2

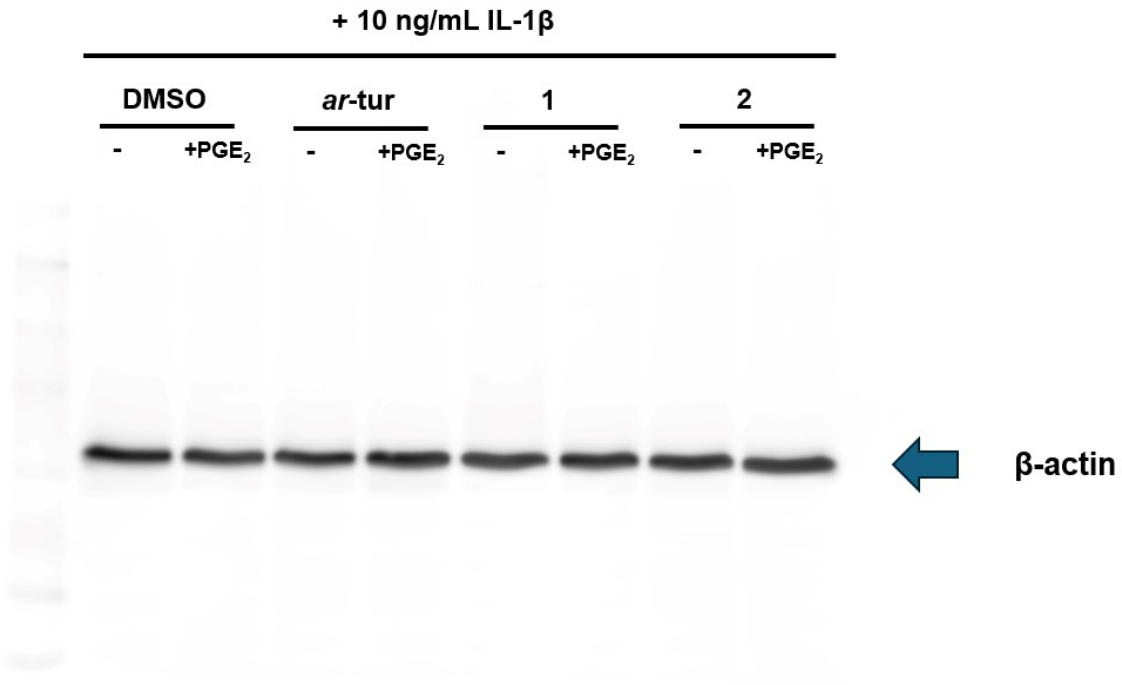

+ 10 ng/mL IL-1β
DMSO
cele
Other samples
-
+PGE2
-
+PGE2
t-ERK1/2
GAPDH

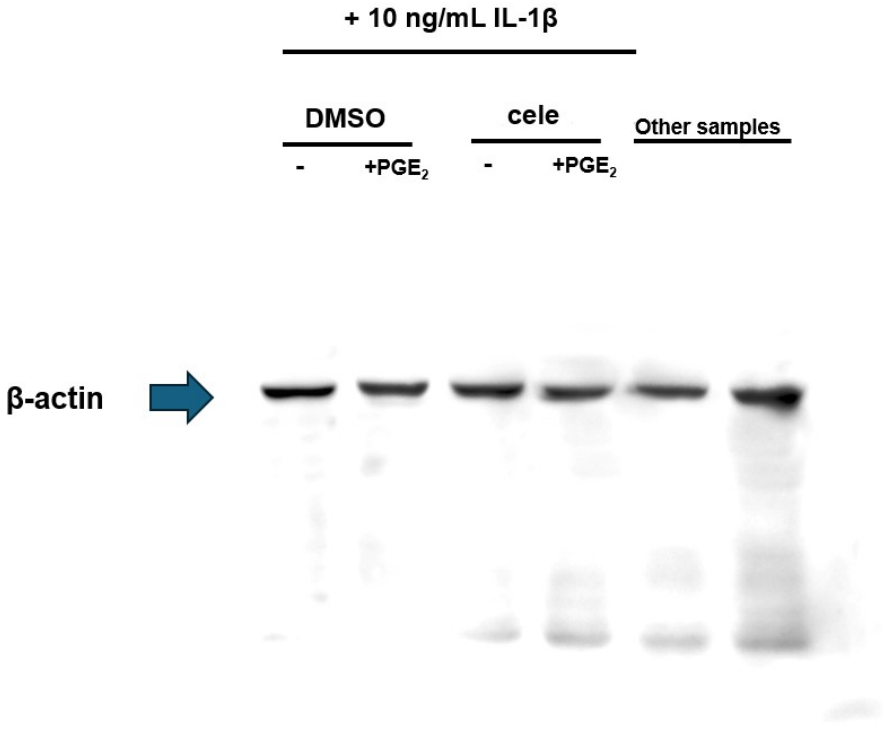

+ 10 ng/mL IL-1β
DMSO
ar-tur
1
2
- +PGE2 - +PGE2 - +PGE2 - +PGE2
Cyclin D1


+ 10 ng/mL IL-1β
DMSO
cele
- +PGE2 - +PGE2
Cyclin D1


+ 10 ng/mL IL-1β
DMSO
ar-tur
1
2
- +PGE2 - +PGE2 - +PGE2 - +PGE2
PCNA


+ 10 ng/mL IL-1β
DMSO
cele
Other samples
- +PGE2 - +PGE2
PCNA


+ 10 ng/mL IL-1β
DMSO
ar-tur
1
2
- +PGE2
- +PGE2
- +PGE2
- +PGE2
β-actin


+ 10 ng/mL IL-1β
DMSO
cele
Other samples
- +PGE2
- +PGE2
β-actin