Supplementary experimental data

Table ST1: Antioxidant activity of the methanolic extract of *H. fomes* leaves (MEHFL) in DPPH free radical scavenging assay.

Group	Concentration (µg/mL)	% Inhibition	IC_{50} (µg/mL)	*p*-value
MEHFL	20	49.86 ± 0.03	21.98 ± 1.19	≈ 0.0
	40	60.48 ± 0.06		
	60	65.33 ± 0.06		
	80	73.31 ± 0.04		
	100	79.80 ± 0.04		
	200	85.77 ± 0.04		
Ascorbic	20	32.47 ± 2.00	59.58 ± 2.06	
acid	40	42.13 ± 0.13		
	60	49.13 ± 0.22		
	80	55.47 ± 0.06		
	100	62.40 ± 0.16		
	200	66.84 ± 0.13		

% Inhibition = $\frac{(Absorbance_{Negative\ control} - Absorbance_{Test\ sample})}{(Absorbance_{Negative\ control})} \times 100$ %; the negative control contained all reagents except the extract or ascorbic acid, while the test sample consisted of the reaction mixture containing either MEHFL or ascorbic acid. Results are expressed as mean ± SEM (n = 3).

Table ST2: Ferricyanide reducing power of the methanolic extract of *H. fomes* leaves (MEHFL).

Group	Concentration (µg/mL)	Absorbance (At 700 nm)	*p*-value
MEHFL	12.5	0.49 ± 0.001	≈ 0.0
	25	0.59 ± 0.001	
	50	0.63 ± 0.002	
	100	0.94 ± 0.001	
	200	1.09 ± 0.002	
	400	1.29 ± 0.002	
Ascorbic	12.5	0.07 ± 0.001	
acid	25	0.10 ± 0.002	
	50	0.19 ± 0.002	
	100	0.26 ± 0.001	
	200	0.36 ± 0.003	
	400	0.44 ± 0.001	

Results are expressed as mean ± SEM (n = 3).

Table ST3: Anti-inflammatory activity of the methanolic extract of *H. fomes* leaves (MEHFL) in bovine serum albumin (BSA) denaturation assay.

Group	Concentration (µg/mL)	% Inhibition	IC_{50} (µg/mL)	*p*-value
MEHFL	12.5	8.02 ± 0.61	966.61 ± 0.45	≈ 0.0
	25	18.51 ± 3.85		
	50	38.27 ± 2.22		
	100	50.61 ± 1.23		
	200	73.45 ± 2.69		
	400	91.35 ± 2.22		
Aspirin	12.5	4.93 ± 1.63	1380.23 ± 0.95	
	25	13.58 ± 1.63		
	50	16.66 ± 1.06		
	100	37.65 ± 2.69		
	200	54.32 ± 4.82		
	400	77.77 ± 1.85		

% Inhibition = $\frac{(Absorbance_{Test\ sample} - Absorbance_{Negative\ control})}{(Absorbance_{Negative\ control})} \times 100$ %; the negative control contained all reagents except the extract or aspirin, while the test sample consisted of the reaction mixture containing either MEHFL or aspirin. Results are expressed as mean ± SEM (n = 3).

Table ST4: Egg albumin denaturation activity of the methanolic extract of *H. fomes* leaves (MEHFL) in egg albumin denaturation assay.

Group	Concentration (µg/mL)	% Inhibition	IC_{50} (µg/mL)	*p*-value
MEHFL	12.5	9.59 ± 2.20	834.85 ± 0.52	≈ 0.0
	25	22.72 ± 1.51		
	50	39.89 ± 2.81		
	100	55.05 ± 2.02		
	200	68.68 ± 1.33		
	400	78.78 ± 0.87		
Diclofenac	12.5	5.05 ± 1.33	1300.75 ± 0.85	
	25	13.13 ± 1.82		
	50	25.25 ± 1.33		
	100	45.95 ± 1.01		
	200	53.03 ± 1.74		
	400	64.14 ± 1.33		

% Inhibition = $\frac{(Absorbance_{Test\ sample} - Absorbance_{Negative\ control})}{(Absorbance_{Negative\ control})} \times 100$ %; the negative control contained all reagents except the extract or diclofenac, while the test sample consisted of the reaction mixture containing either MEHFL or diclofenac. Results are expressed as mean ± SEM (n = 3).

Table ST5: α-amylase inhibitory activity of the methanolic extract of *H. fomes* leaves (MEHFL) in α-amylase inhibition assay.

Group	Concentration (µg/mL)	% Inhibition	IC_{50} (µg/mL)	*p*-value
MEHFL	12.5	36.16 ± 0.51	40. 07 ± 0.18	1.09×
	25	44.94 ± 0.39		10^{-6}
	50	49.40 ± 0.64		
	100	58.63 ± 1.07		
	200	69.94 ± 0.14		
	400	90.32 ± 0.29		
Acarbose	12.5	29.01 ± 0.51	78.52 ± 0.32	
	25	39.58 ± 0.82		
	50	45.68 ± 0.78		
	100	54.31 ± 0.39		
	200	59.67 ± 0.39		
	400	65.02 ± 0.29		

% Inhibition = $\frac{(Absorbance_{Negative\ control} - Absorbance_{Test\ sample})}{(Absorbance_{Negative\ control})} \times 100$ %; the negative control contained all reagents except the extract or acarbose, while the test sample consisted of the reaction mixture containing either MEHFL or acarbose. Results are expressed as mean ± SEM (n = 3).

Table ST6: α-glucosidase inhibitory activity of the methanolic extract of *H. fomes* leaves (MEHFL) in α-glucosidase inhibition assay.

Group	Concentration (µg/mL)	% Inhibition	IC_{50} (µg/mL)	*p*-value
MEHFL	12.5	37.10 ± 0.30	35. 75 ± 1.42	8.48×
	25	46.20 ± 0.84		10^{-5}
	50	54.84 ± 1.22		
	100	62.19 ± 0.60		
	200	68.96 ± 1.16		
	400	74.09 ± 0.92		
Acarbose	12.5	27.30 ± 0.11	84.34 ± 2.01	
	25	33.02 ± 0.30		
	50	39.67 ± 0.23		
	100	55.54 ± 0.40		
	200	64.06 ± 0.42		
	400	67.21 ± 0.61		

% Inhibition = $\frac{(Absorbance_{Negative\ control} - Absorbance_{Test\ sample})}{(Absorbance_{Negative\ control})} \times 100$ %; the negative control contained all reagents except the extract or acarbose, while the test sample consisted of the reaction mixture containing either MEHFL or acarbose. Results are expressed as mean ± SEM (n = 3).

Table ST7: Effects of the different concentrations of the methanolic extract of *H. fomes* leaves (MEHFL) in brine shrimp lethality bioassay.

Group	Concentration (µg/mL)	% Mortality	LC_{50} (µg/mL)	*p*-value	Toxicity class (Meyer)
MEHFL	12.5	4.44 ± 2.22	328.57 ± 2.12	0.000248	Moderate
	25	8.89 ± 2.22			
	50	22.22 ± 2.22			
	100	33.33 ± 0			
	200	40 ± 3.85			
	400	55.56 ± 2.22			
Control	12.5	24.44 ± 2.22	56.25 ± 4.62		Highly toxic
	25	40 ± 7.7			
	50	48.89 ± 5.88			
	100	57.78 ± 2.22			
	200	66.67 ± 3.85			
	400	77.78 ± 5.88			

% Mortality = $\frac{(Total\ Nauplii - Alive\ Nauplii)}{(Total\ Nauplii)} \times 100$ %. Results are expressed as mean ± SEM (n = 3).

Table ST8: Observations and appearance of MEHFL (methanolic extract of *H. fomes* leaves) and control groups during 14-day study period.

Group	Observation	Day 01	Day 02	Day 03	Day 04	Day 05	Day 06	Day 07	Day 08	Day 09	Day 10	Day 11	Day 12	Day 13	Day 14
MEHFL	Skin and fur	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Eyes	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Behavioral patterns	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Salivation	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Lethargy	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Sleep	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Diarrhea	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Coma	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O
	Tremors	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O
Control	Skin and fur	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Eyes	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Behavioral patterns	Hyperactive	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Salivation	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Lethargy	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Sleep	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Diarrhea	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Coma	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O
	Tremors	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O	N. O

N. O = Not observed

Table ST9: Changes in body weight (g) of mice during the acute oral toxicity study of the methanolic extract of *H. fomes* leaves (MEHFL).

Day	Control (g)	MEHFL (g)	*p*-value
W0	24.41 ± 0.49	25.74 ± 0.71	0.164
W1	26.59 ± 0.72	28.13 ± 0.85	0.204
W2	28.46 ± 0.88	30.64 ± 0.87	0.117

Here W0, W1, and W2 represents day 0, 7 and 14 respectively. Data are represented as mean ± SEM (n = 5).

Table ST10: Effect of the methanolic extract of *H. fomes* Leaves (MEHFL) on blood glucose levels in mice during the Oral Glucose Tolerance Test.

Group	Time (min)	Blood glucose level (mmol/L)	AUC (mmol/L.min^{-1})	Total blood glucose (mmol/L)
Negative control	30	5.68 ± 0.29	545.70 ± 13.21	18.18 ± 0.41
	60	4.74 ± 0.10		
	90	4.14 ± 0.10		
	120	3.62 ± 0.10		
Positive control	30	5.50 ± 0.11	521.40 ± 9.97	17.42 ± 0.34
	60	4.48 ± 0.21		
	90	4.08 ± 0.08		
	120	3.36 ± 0.12		
MEHFL-250	30	4.62 ± 0.29*$^{(a)}$	465.33 ± 28.93	15.60 ± 0.92
	60	4.16 ± 0.23		
	90	3.74 ± 0.27		
	120	3.08 ± 0.13		
MEHFL-500	30	4.40 ± 0.18*$^{(b)}$	416.40 ± 12.52***$^{(a)}$	13.88± 0.38**$^{(a)}$
	60	3.48 ± 0.16***$^{(a)}$		
	90	3.36 ± 0.16**$^{(a)}$		
	120	2.64 ± 0.14***$^{(a)}$		

Data are presented as mean ± SEM (n = 5). Statistical significance was determined by one-way ANOVA followed by Dunnett post hoc test, where *, **, and *** indicate $p < 0.05$, 0.01, and 0.001 versus the negative control, and (a), (b), and (c) indicate $p < 0.05$, 0.01, and 0.001 versus the positive control. Here, AUC = Area under the curve.

Table ST11: Effect of the methanolic extract of *H. fomes* Leaves (MEHFL) on fasting glucose levels (FBG) in alloxan induced diabetic rats during the 21 days study period.

Group	Days	FBG (mmol/L)	AUC (mmol/L.min^{-1})	Total blood glucose (mmol/L)
Normal control	1	6.56 ± 0.18	127.01±2.12***	25.40 ± 0.37***
	7	6.40 ± 0.32		
	14	6.34 ± 0.21		
	21	6.10 ± 0.04		
Negative control	1	15.70 ± 0.32	301.73 ± 1.90	60.62 ± 0.41
	7	15.32 ± 0.26		
	14	14.70 ± 0.11		
	21	14.90 ± 0.24		
Positive control	1	13.26 ± 0.23	266.75 ± 3.14	52.94 ± 0.54
	7	13.80 ± 0.22		
	14	13.34 ± 0.17		
	21	12.54 ± 0.19		
MEHFL-250	1	17.88 ± 0.47	193.08 ± 7.62*	42.00 ± 1.51*
	7	9.66 ± 1.11*		
	14	7.44 ± 0.48**		
	21	7.02 ± 0.57**		
MEHFL-500	1	13.98 ± 0.99	166.42 ± 7.81**$^{(a)}$	35.66 ± 1.81**$^{(a)}$
	7	8.22 ± 0.58**$^{(a)}$		
	14	6.84 ± 0.29**$^{(a)}$		
	21	6.62 ± 0.38***$^{(a)}$		

Data are presented as mean ± SEM (n = 5). Statistical significance was determined by one-way ANOVA followed by Dunnett post hoc test, where *, **, and *** indicate $p < 0.05$, 0.01, and 0.001 versus the negative control, and (a), (b), and (c) indicate $p < 0.05$, 0.01, and 0.001 versus the positive control. Here, AUC = Area under the curve.

Table ST12: Secondary metabolite profile of the methanolic extract of *H. fomes* Leaves (MEHFL) identified via GC-MS analysis.

Serial No	Peak	RT (min)	Area (Count.min)
1.	1,3-Butanediamine, N,N,N',N'-tetramethyl-	7.152	669675.2
2.	Trifluoroacetaldehyde hydrate	7.407	349890.2
3.	Alpha-l-rhamnopyranose	8.111	123557.2
4.	3-Hexenoic acid, (E)-	8.601	737416.4
5.	2,4-Dodecadienal, (E,E)-	8.933	291029.7
6.	Benzyl alcohol	9.262	199926.9
7.	1-Amino-2,6-dimethylpiperidine	9.402	157285.9
8.	2,6-Dimethylhex-4-enamidine, 2-(3-methylbut-2-enyl)-	9.503	195880.1
9.	Methyl 1-methylpyrrole-2-carboxylate	9.755	181735.6
10.	3-Hydroxypropionic acid	9.875	102074.9
11.	Hexanoic acid	10.023	154092.2
12.	Phenylethyl Alcohol	10.794	315688.5
13.	4H-Pyran-4-one, 2,3-dihydro-3,5-dihydroxy-6-methyl-	11.394	127069
14.	Methyl salicylate	12.216	287157.5
15.	Azacyclohexan-3-one, 1,5,6-trimethyl-	12.307	1142858
16.	Benzofuran, 2,3-dihydro-	12.572	454147.9
17.	2-Aminopyrimidine-1-oxide	12.743	658541.4
18.	l-Pyrrolid-2-one, N-carboxyhydrazide	13.199	185232.6
19.	Nonanoic acid	13.279	277454.1
20.	Talopyranoside, methyl 4-acetamido-4,6-dideoxy-, a-D-	13.598	894979.2
21.	3-Amino-4-fluorophenol, N,O-dimethyl-	13.792	1160798
22.	Thiazolidine, 2-(2-furyl)-	13.886	1050841
23.	2-Methoxy-4-vinylphenol	14.040	428318.7
24.	Acetic acid, (3-methyl-2-nitrophenyl)methyl ester	14.483	294471.8
25.	Phenol, 2,6-dimethoxy-	14.550	362216.6
26.	Deoxycytidine	15.124	136327.3
27.	1,4-Benzenediol, 2-methoxy-	15.191	143550.1
28.	4-Hydroxybutyl acrylate	15.442	253600
29.	Benzofuran-4(5H)-one, 6,7-dihydro-, oxime	15.734	333805.6
30.	Urea, N,N'-bis(3-methylphenyl)-	16.307	122990.1
31.	2(3H)-Furanone, 5-(2,5-dimethylphenyl)-	16.334	108256.3
32.	D-Allose	16.599	1214127
33.	(Z)-4-hydroxy-3-methoxybenzaldehyde O-methyl oxime	16.767	207941
34.	Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-, oxime, (1R)-	16.851	184335.5
35.	1,4-Dihydro-1,2-dimethylquinolin-4-ylidenemethane	16.935	333921.6
36.	2-Cyclohexen-1-one, 3-(3-hydroxybutyl)-2,4,4-trimethyl-	17.032	543268
37.	Dodecanoic acid	17.166	189615
38.	3-Hydroxy-4-methoxybenzoic acid	17.260	125086.3
39.	Phenol, 4-ethenyl-2,6-dimethoxy-	17.320	817377.2
40.	Benzoic acid, 3-amino-6-(1-pyrrolidinyl)-	17.417	129826.1
41.	Ethanol, 2-(9-octadecenyloxy)-, (Z)-	17.585	109090.2

42.	Cyclooctane, (methoxymethoxy)-	17.662	206342.9
43.	Ginsenoyne E	17.810	659485.5
44.	(E)-3-(2-(3-(hydroxymethyl)cyclopentyl)-4-methylpenta-1,3-dien-1-yl)-2,2,4-trimethylcyclobutan-1-ol	18.363	142631.6
45.	Benzenepropanol, 4-hydroxy-3-methoxy-	18.403	185012.2
46.	2,4-Dimethoxythiophenol	18.450	324615
47.	2-Butanol, 4-(2,2-dimethyl-6-methylenecyclohexylidene)-	18.561	633950
48.	2,6,10,10-Tetramethyl-1-oxaspiro[4.5]decan-6-ol	18.735	311835.4
49.	Dnp-L-serine	18.886	155409.2
50.	(E)-2,6-Dimethoxy-4-(prop-1-en-1-yl)phenol	19.094	293476.4
51.	Propanoic acid, 2-(tricyclo[3.3.1.13,7]dec-2-ylidene)-	19.232	654181.2
52.	Phomenone	19.329	214338.7
53.	3-Allyl-6-methoxyphenol	19.530	147454.3
54.	Tetradecanoic acid	19.788	514094.7
55.	(+)-1,2,3,4-Tetrahydroisoquinolin-6-ol-1-carboxylic acid, 7-methoxy-1-methyl-, methyl(ester)	19.882	174016.2
56.	1,3-2H-Isobenzofuranone, 3,3,4,7-tetramethyl-6-nitro-	20.006	321420.5
57.	6-Hydroxy-4,4,7a-trimethyl-5,6,7,7a-tetrahydrobenzofuran-2(4H)-one	20.117	903303
58.	Sydonol	20.238	174429
59.	Benzoic acid, 4-hydroxy-3,5-dimethoxy-	20.647	468027.6
60.	Neophytadiene	20.982	4113653
61.	3-[3-Bromophenyl]-7-chloro-3,4-dihydro-10-hydroxy-1,9(2H,10H)-acridinedione	21.076	188938.4
62.	2,2,6,7-Tetramethyl-10-oxatricyclo[4.3.1.0(1,6)]decan-5-ol	21.173	518960.3
63.	3,7,11,15-Tetramethyl-2-hexadecen-1-ol	21.351	633291.2
64.	Dihydrosyringenin	21.861	2012167
65.	Cyclopropanebutanoic acid, 2-[[2-[[2-[(2-pentylcyclopropyl)methyl]cyclopropyl]methyl]cyclopropyl]methyl]-, methyl ester	21.998	104761.1
66.	Pentadecanoic acid, 14-methyl-, methyl ester	22.284	360657.3
67.	n-Hexadecanoic acid	22.807	4415674
68.	1-(4,5-dimethoxy-2-nitrophenyl)ethan-1-ol	22.894	734646.2
69.	Scopoletin	22.998	120453.9
70.	trans-Sinapyl alcohol	23.404	146866.7
71.	trans-Shisool	23.511	218077.8
72.	Atis-16-ene, (5ß,8a,9ß,10a,12a)-	24.467	410264.4
73.	Isofraxidin	25.000	142619.5
74.	Phytol	25.268	2320216
75.	Linoelaidic acid	25.550	628594.2
76.	cis-Vaccenic acid	25.644	2158761
77.	Octadecanoic acid	25.996	719019.8
78.	2-[(E)-4-(1,4-Dihydroxy-2,2,6-trimethylcyclohexyl)but-3-en-2-yl]oxy-6-(hydroxymethyl)oxane-3,4,5-triol, 5TMS	27.374	205634.2
79.	2H-Pyran-2-one, tetrahydro-6-tridecyl-	29.095	103055.1
80.	s-Indacene, 1,2,3,5,6,7-hexahydro-1,1,4,8-tetramethyl-	29.487	279681.9
81.	1,9-Dioxacyclohexadeca-4,13-diene-2-10-dione, 7,8,15,16-tetramethyl-	30.711	200748.8
82.	Triethylene glycol	30.989	105771.3
83.	1-Heptatriacotanol	31.291	1070953
84.	Hexadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester	31.429	1296591

85.	Phthalic acid, octyl 2-propylpentyl ester	32.059	167482.4
86.	4-Hydroxybutyl hexadecanoate	32.301	549045.9
87.	3-Hydroxypropyl hexadecanoate	32.371	209885.2
88.	(E)-3,3'-Dimethoxy-4,4'-dihydroxystilbene	33.615	317242.6
89.	Oleic anhydride	34.105	159226.1
90.	Octadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester	34.457	511088.8
91.	Phytyl decanoate	34.658	5630088
92.	Phytyl heptadecanoate	34.870	732947.7
93.	1,3-Dihydroxypropan-2-yl octadec-9-enoate, 2TMS	35.165	555675.6
94.	(5ß)Pregnane-3,20ß-diol, 14a,18a-[4-methyl-3-oxo-(1-oxa-4-azabutane-1,4-diyl)]-, diacetate	35.255	176244.5
95.	Squalene	36.060	19082376
96.	(E,E,E)-3,7,11,15-Tetramethylhexadeca-1,3,6,10,14-pentaene	36.379	749271.9
97.	Rhodopin	36.727	137570.5

RT = Retention time

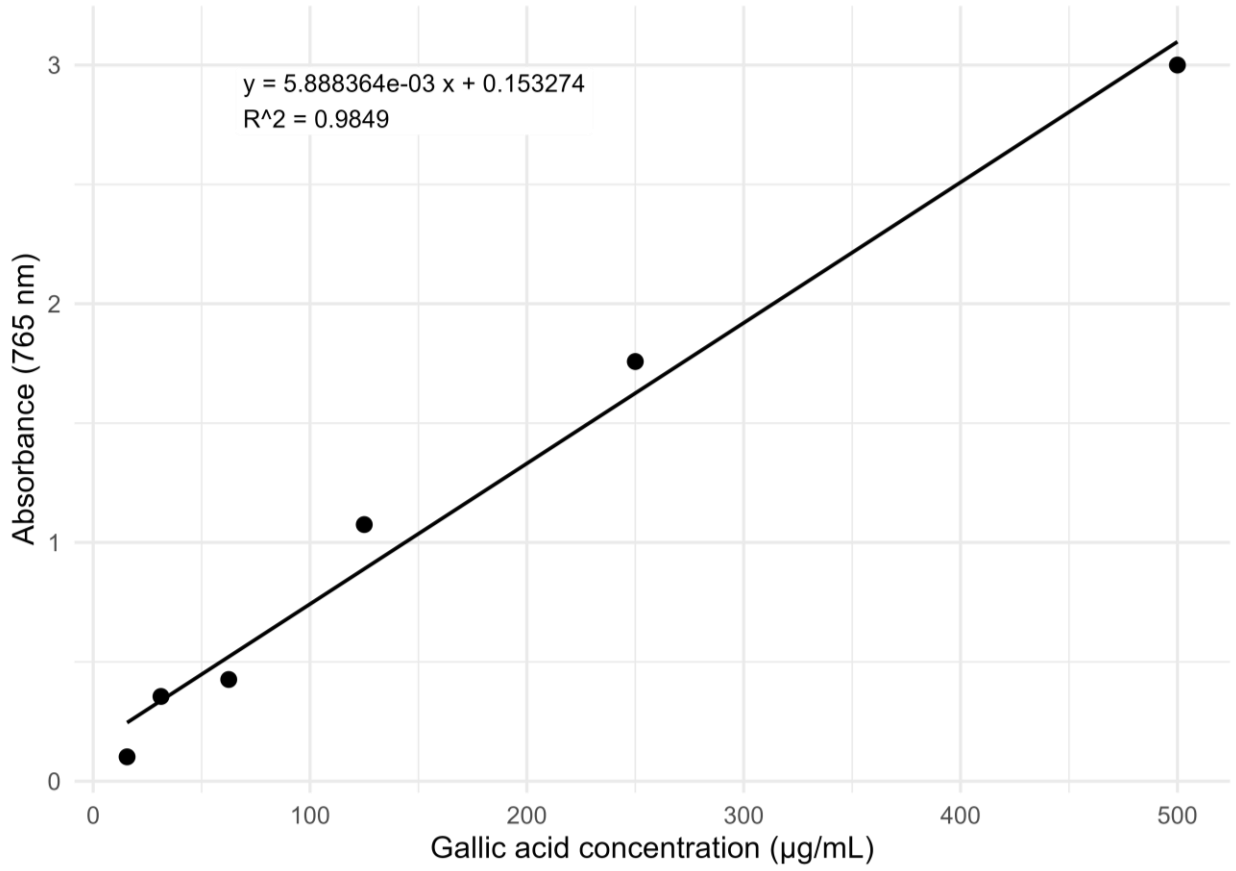

Figure SF1: Gallic acid calibration curve for total phenolic content (TPC).

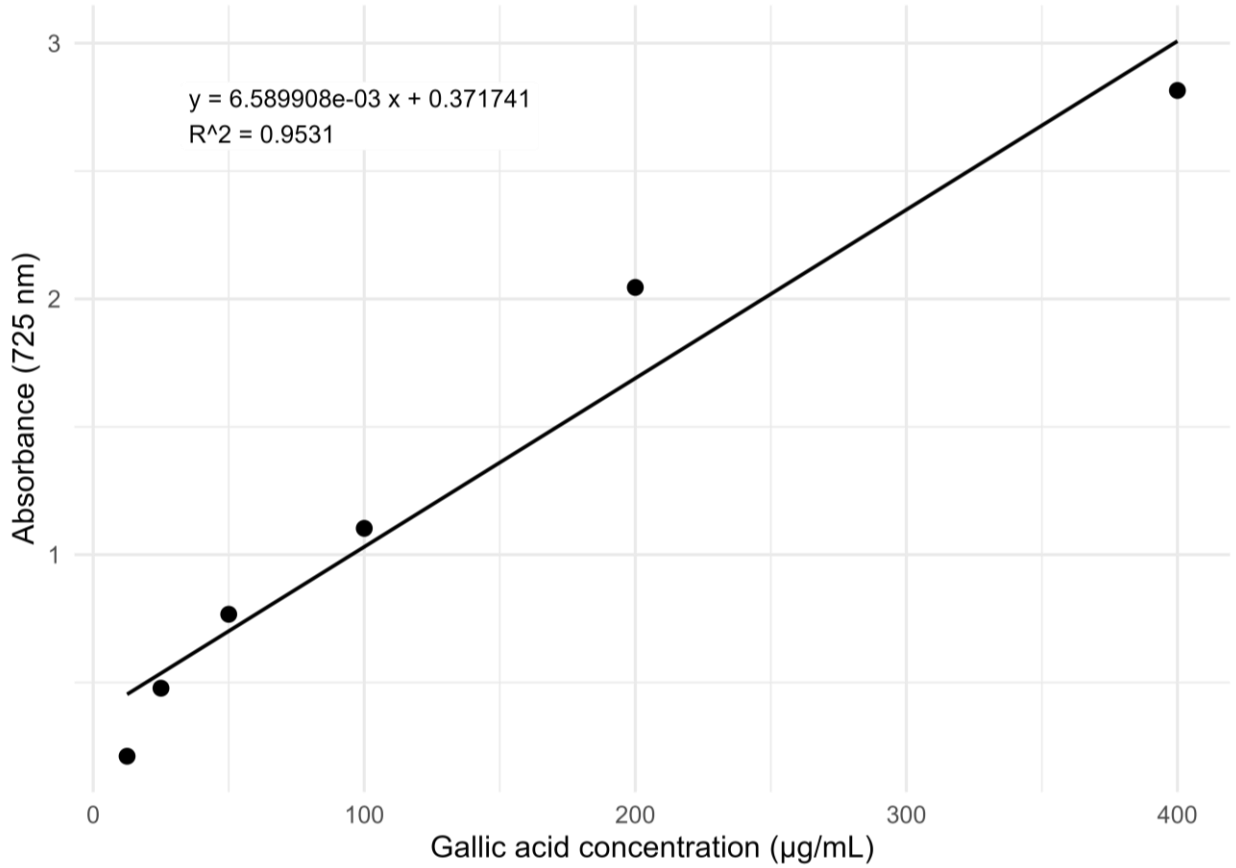

Figure SF2: Gallic acid calibration curve for total tannin content (TTC).

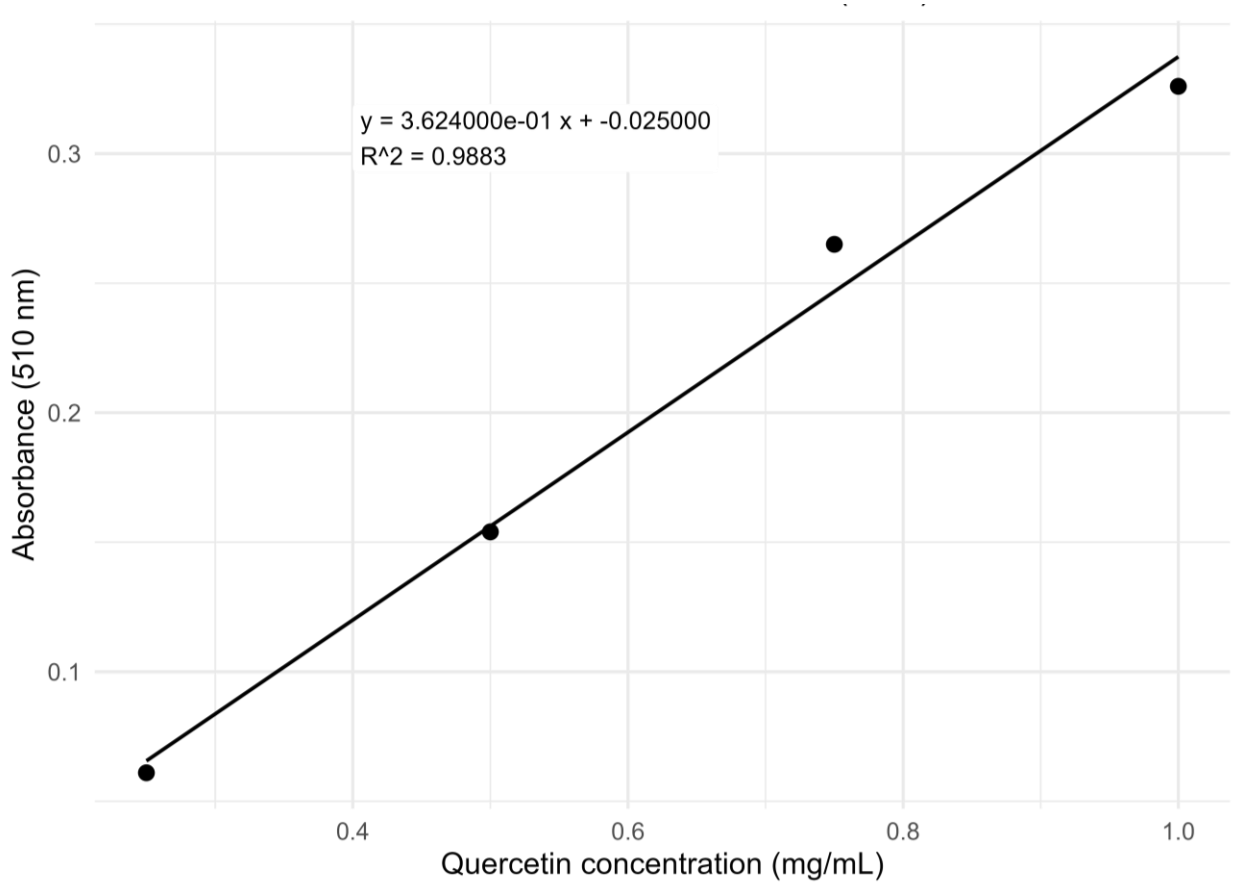

Figure SF3: Quercetin calibration curve for total flavonoid content (TFC).