

Supplementary Materials

Evaluation of Antiproliferative Potentials Associated with the Volatile Compounds of *Lantana camara* Flowers: Selective In Vitro Activity

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1. Collection of the flowers



Figure S1: Petals of the *Lantana Camara* flowers: White, Pink, and Orange, respectively.

2. Chemical Profiles of the EO's

Yield of extraction: 0.045%			
Peak No.	Retention time (min)	Name	Proportion (%)
1	5,433	p-Cymene	1,5
2	6,364	3-Carene	5,56
3	16,656	5-Trimethyl-6-methylene-cyclohex	3,5
4	20,08	Caryophyllene	49,77
5	21,45	α - humulene	2,71
6	22,633	(+)-Epibicyclosesquiphellandrene	9,04
7	23,297	Bicyclogermacrene	21,34
8	24,465	α -Cubebene	2,62
9	26,379	α -Farnesene	3,95

Table S1: Main constituents of *L. Camara* white flowers essential oil (EO1)

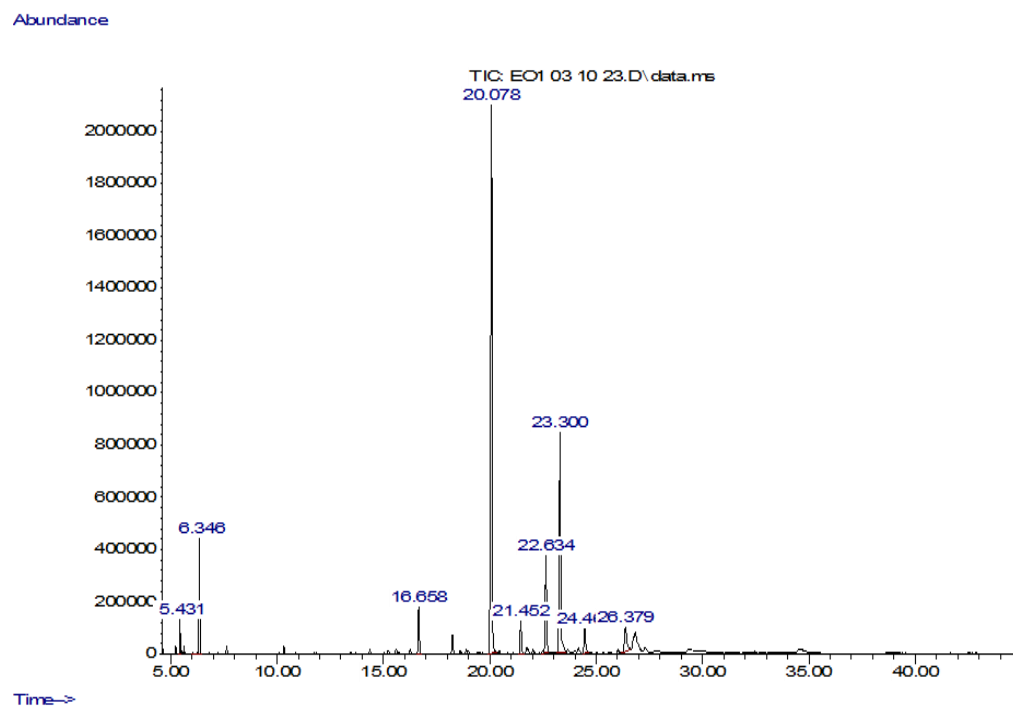


Figure S2: GC-MS chromatogram of EO1

Yield of extraction: 0.040%			
Peak No.	Retention time (min)	Name	Proportion (%)
1	16,656	Camphene	3,67
2	18,242	Copaene	3,18
3	20,059	Caryophyllene	54,2
4	22,628	α-Muurolene	12,05
5	23,287	γ-Elemene	21,37
6	24,459	α -Cubebene	5,5

Table S2: Main constituents of *L. Camara* pink flowers essential oil (EO2)

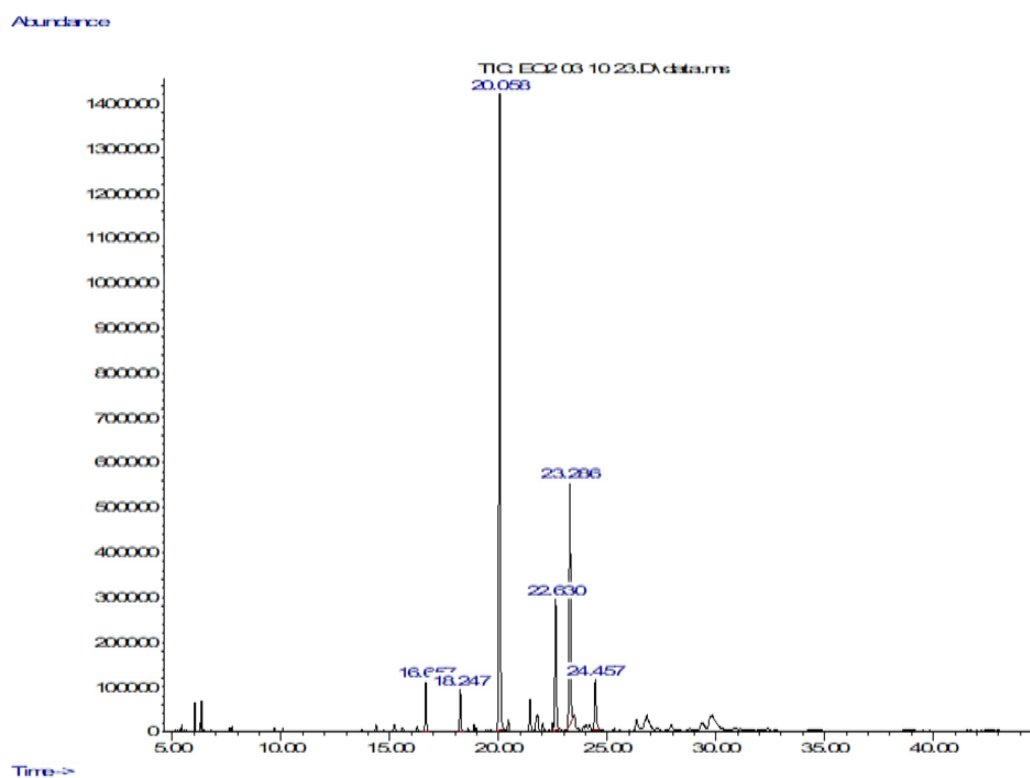


Figure S3: GC-MS chromatogram of EO2

Yield of extraction: 0.047%			
Peak No.	Retention time (min)	Name	Proportion (%)
1	6,346	α -Pinene	3,36
2	20,044	Caryophyllene	17,75
3	21,466	α-humulene	17,42
4	22,695	α-trans-Bergamotene	21,81
5	22,84	α -Curcumene	4,04
6	23,39	α-Phellandrene	21,48
7	24,06	Copaene	7,62
8	28,745	α -Farnesene	6,51

Table S3: Main constituents of *L. Camara* orange flowers essential oil (EO3)

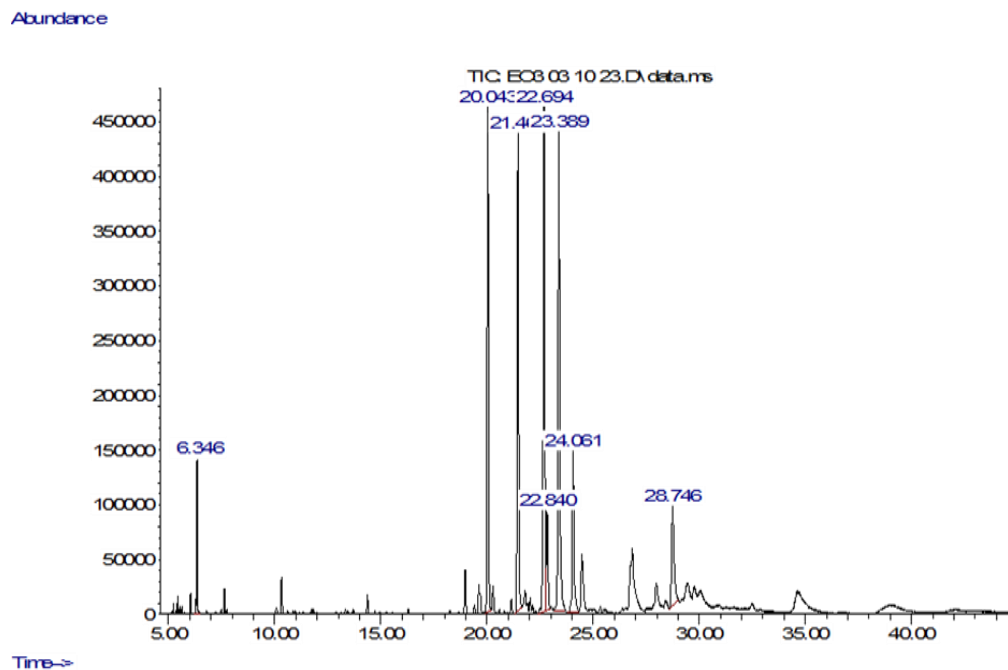


Figure S4: GC-MS chromatogram of EO3

Origin	Major components	Composition (%)	Part of Plant	References
Brazil	Bicyclogermacrene	19,4	Leaves	Ref (1)
	Isocaryophyllene	16,7		
	Valencene	12,9		
	Germacrene D	12,3		
China	Germacrene D	15,85	Leaves & Flowers	Ref (2)
	β-Caryophyllene	12,35		
	α-Humulene	9,31		
	Germacrene-B	6,19		
	1,8-Cineole	4,61		
Costa Rica	Caryophyllene	30,3	Leaves	Ref (3)
	γ-Muurolene	27,2		
	Bicyclogermacrene	24,4		
	β-Elemene	14,2		
Saudi Arabia	Cis-3-hexen-1-ol	11,3	Leaves	Ref (4)
	1-octen-3-ol	8,7		
	Spathulenol	8,6		
	Caryophyllene Oxide	7,5		
	1-hexanol	5,8		
	Caryophyllene oxide	10,6	Flowers	
	β-Caryophyllene	9,7		
	Spathulenol	8,6		
	γ-Cadinene	5,6		
	β-Farnesene	5		
Cairo, Egypt	Davanone	28,59	Leaves	Ref (5)
	Z-Caryophyllene	11,21		

Origin	Major components	Composition (%)	Part of Plant	References
Cairo, Egypt	α -Curcumene	10,26	Leaves	Ref (5)
Cairo, Egypt	β -Copene & Humelene	12,29	Leaves	Ref (5)
	Davanone	23,37	Flowers	
	Caryophyllene	22,96		
	Humulene	14,32		
Côte d'Ivoire	β -Caryophyllene	39,9	Leaves	Ref (6)
	α -Humulene	20,5	Flowers	
	β -Caryophyllene	36,6		
	α -Humulene	19,9		

Table S4: Main constituents of EOs of *Lantana Camara* from different geographical origins previously reported in literature.

Secondary Metabolites	White flower	Pink flower	Orange flower
Tannins	-	-	-
Quinones	+	+	+
Carotenoids	+	+	+
Terpenoids	+	+	+
Anthocyanins	-	-	-
Proteins	-	-	-
Flavonoids	+	+	+
Phenols	+	+	+
Alkaloids	+	+	+
Saponins	+	+	+

+ = Present - = Absent

Table S5: Results of the phytochemical screening of *L. Camara* flowers.

3. Analysis of the EOs

1. TFC and TPC Results

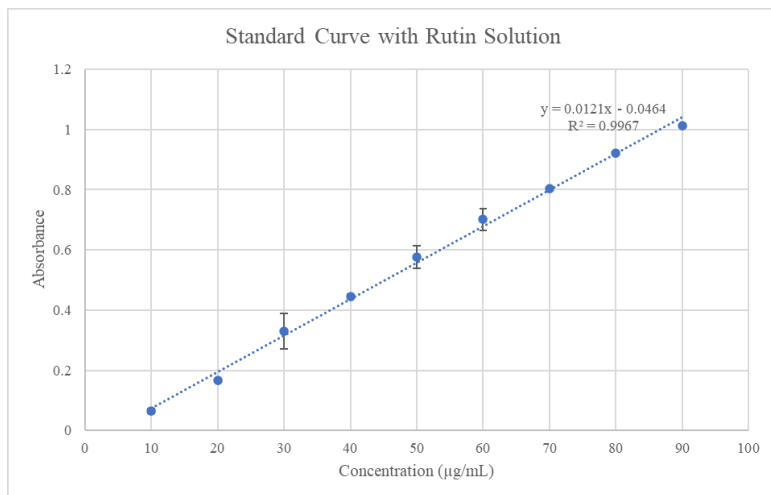


Figure S5: Variation of the Absorbance in function of the concentration of the Rutin in µg/mL

Sample	y	x (µg/ml)	C (mg/ml)	mass (g)	TFC (mg of RE/g of extract)
OE1	0,246	24,10	0,0241	0,1	2,41
OE2	0,165	17,45	0,0175	0,08	2,19
OE3	0,388	35,85	0,0359	0,07	5,12

Table S6: Results of the TFC of the different samples.

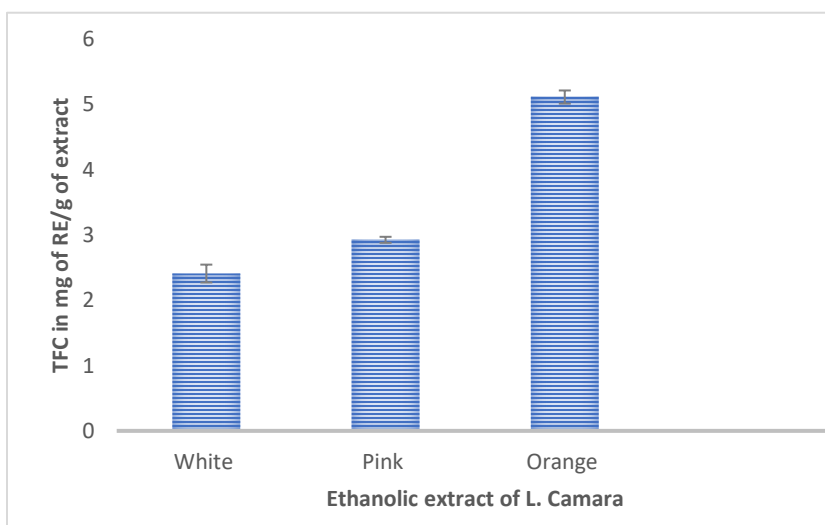


Figure S6: Comparison of the TFC in different extracts of Lantana Camara

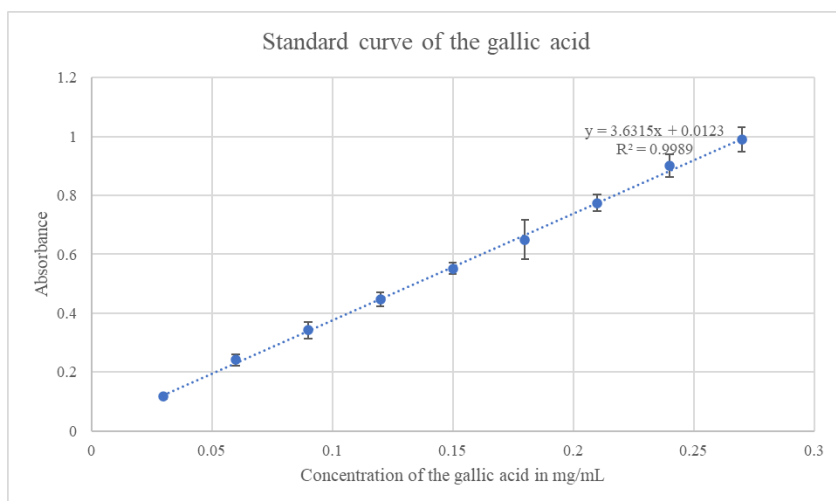


Figure S7: Variation of the Absorbance in function of the concentration of Gallic Acid in mg/mL.

Sample	y	C (mg/ml)	mass (g)	TPC (mg of GAE/g of extract)
OE1	0,62	0,169	0,1	16,8
OE2	0,72	0,197	0,08	24,6
OE3	0,69	0,187	0,07	26,7

Table S7: Results of TPC of the different samples.

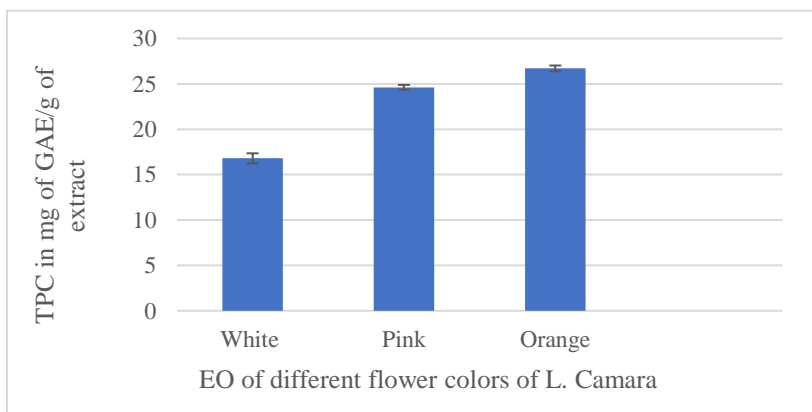
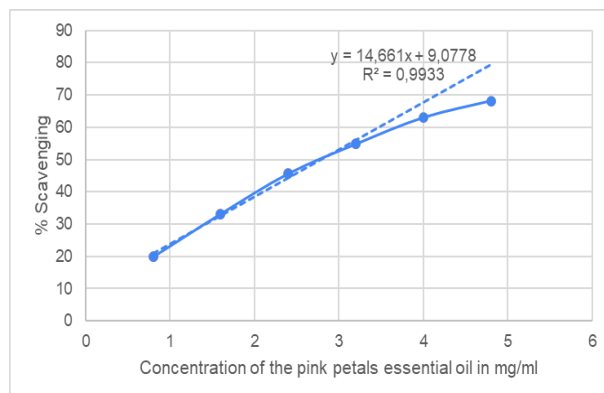
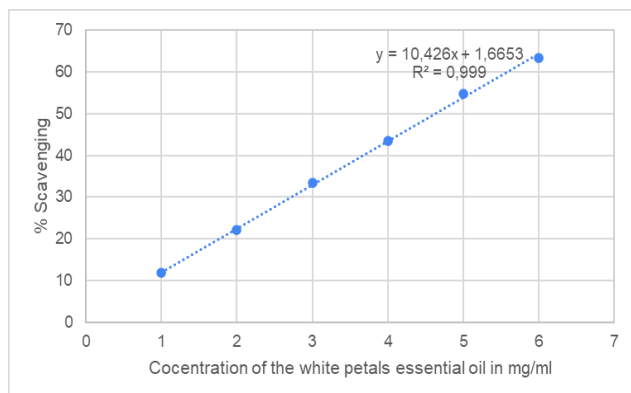


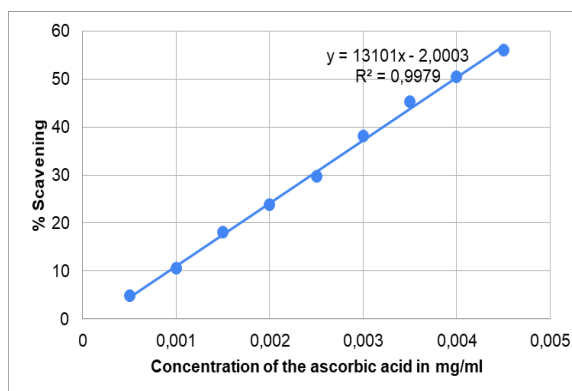
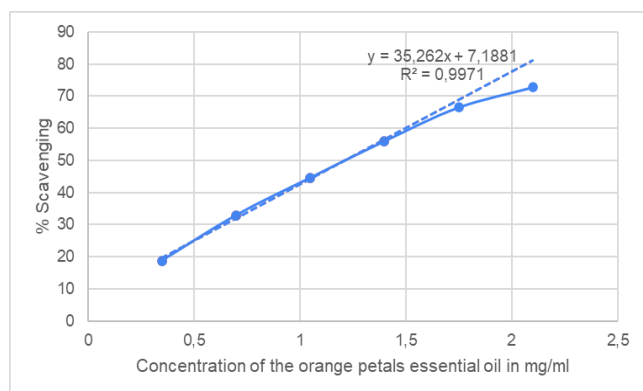
Figure S8: Comparison of the TPC in different essential oil extracts of Lantana Camara

2. DPPH Results



EO1)

EO2)



EO3)

Ascorbic Acid standard)

Figure S9: Results of the DPPH scavenging assay in the three EOs and the ascorbic acid measuring the % Scavenging in function of its different concentrations in mg/mL.

Sample	Equation	R ²	IC ₅₀ (mg/ml)
EO1	$y = 10,426 x + 1,6653$	0,999	4,64
EO2	$y = 14,661 x + 9,0778$	0,9933	2,79
EO3	$y = 35,262 x + 7,1881$	0,9971	1.21
Ascorbic Acid	$y = 1301x + 2.0003$	0,9979	0,004

Table S8: Results of DPPH Assay of the different samples.

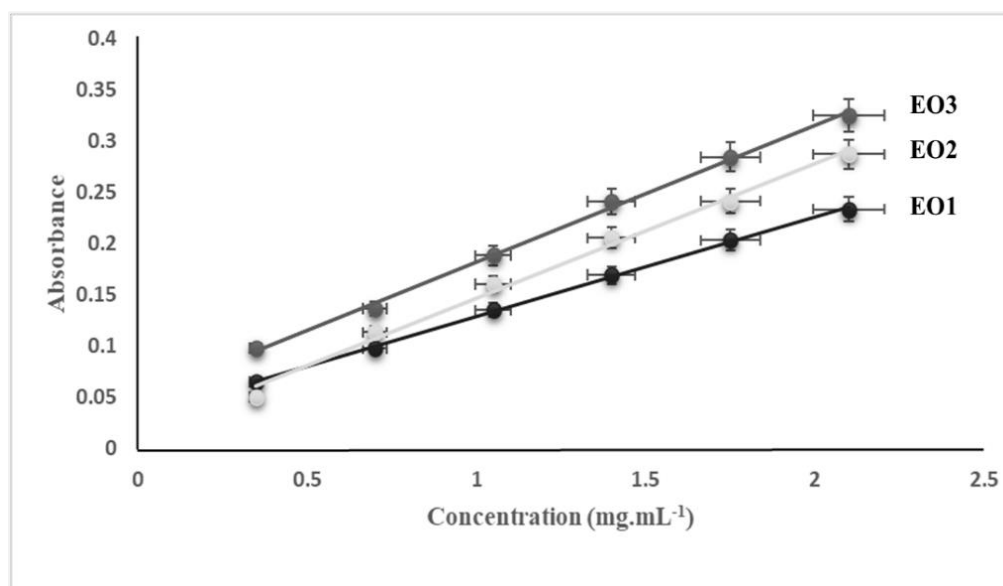


Figure S10: Results of the FRAP assay of the three EO samples, measuring absorbance as function of the different concentrations in mg.ml⁻¹.

3. Pearson Correlation data

Sample	TFC	TPC	DPPH	MCF7	MDAMB-231
EO1	2.41	16.8	4.64	0.306	0.3099
EO2	2.93	24.63	2.79	0.363	0.7398
EO3	5.12	26.71	1.21	0.5927	0.6473

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