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Analysis of chemical composition of *Cissus incisa* leaves by GC/MS

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Abstract:

The human being since ancient times has sought in plants to cure their various diseases. The plants used for traditional medicine contain a wide range of substances that can be used to treat chronic and infectious diseases. Phytochemical researchers have great interest in the selection of medicinal plants for new therapies. In the present study, the bioactive components of the leaves of *Cissus incisa* have been identified using gas chromatography-mass spectrum (GC-MS). Sixteen compounds were identified in hexane extract. β -Sitosterol (19.445%) was the predominant compound in the hexane extract, which is a well-known biologically active compound. All compounds are being reported for the first time in the species. The present investigation is the base for a later phytochemical study. With which it is possible to isolate different metabolites of biological interest.

Keywords: *Cissus incisa*; Medicinal plant; GC-MS; phytochemical study.

2. Results and Discussion

Table 1. GC / MS results of the hexane extract of the leaves of *C. incisa*

# peak	Retention times	% of Abundance	Name of the compound	Molecular formula
1.	59.260	1.911%	2-pentadecanone 6,10,14-trimethyl	C ₁₈ H ₃₆ O
2.	62.925	1.296%	Tras-phytol	C ₂₀ H ₄₀ O
3.	71.905	4.094%	Cis- phytol	C ₂₀ H ₄₀ O
4.	79.925	1.481%	Heneicosane	C ₂₁ H ₄₄
5.	83.998	3.121%	Tetracosane	C ₂₄ H ₅₀
6.	87.926	4.861%	Pentacosane	C ₂₅ H ₅₂
7.	91.690	5.578%	Hexacosane	C ₂₆ H ₅₄
8.	95.309	5.763%	Heptacosane	C ₂₇ H ₅₆
9.	98.777	4.491%	Octacosane	C ₂₈ H ₅₈
10.	102.186	6.080%	Nonacosane	C ₂₉ H ₆₀
11.	105.379	2.474%	Triacontane	C ₃₀ H ₆₂
12.	108.709	9.503%	Hentriacontane	C ₃₁ H ₆₄
13.	114.535	19.445%	β-Sitosterol	C ₂₉ H ₅₀ O
14.	114.910	8.430%	β-Amyrin	C ₃₀ H ₅₀ O
15.	115.159	4.918%	6a,14a-methanopicene,perhydro-1,2,4a,6b,9,9,12a-heptametyl-10-hydroxy(cycloursanol)	C ₃₀ H ₅₀ O
16.	116.177	3.184%	α-Amyrin	C ₃₀ H ₅₀ O
17.	118.056	8.497%	β-Amyrone	C ₃₀ H ₄₈ O

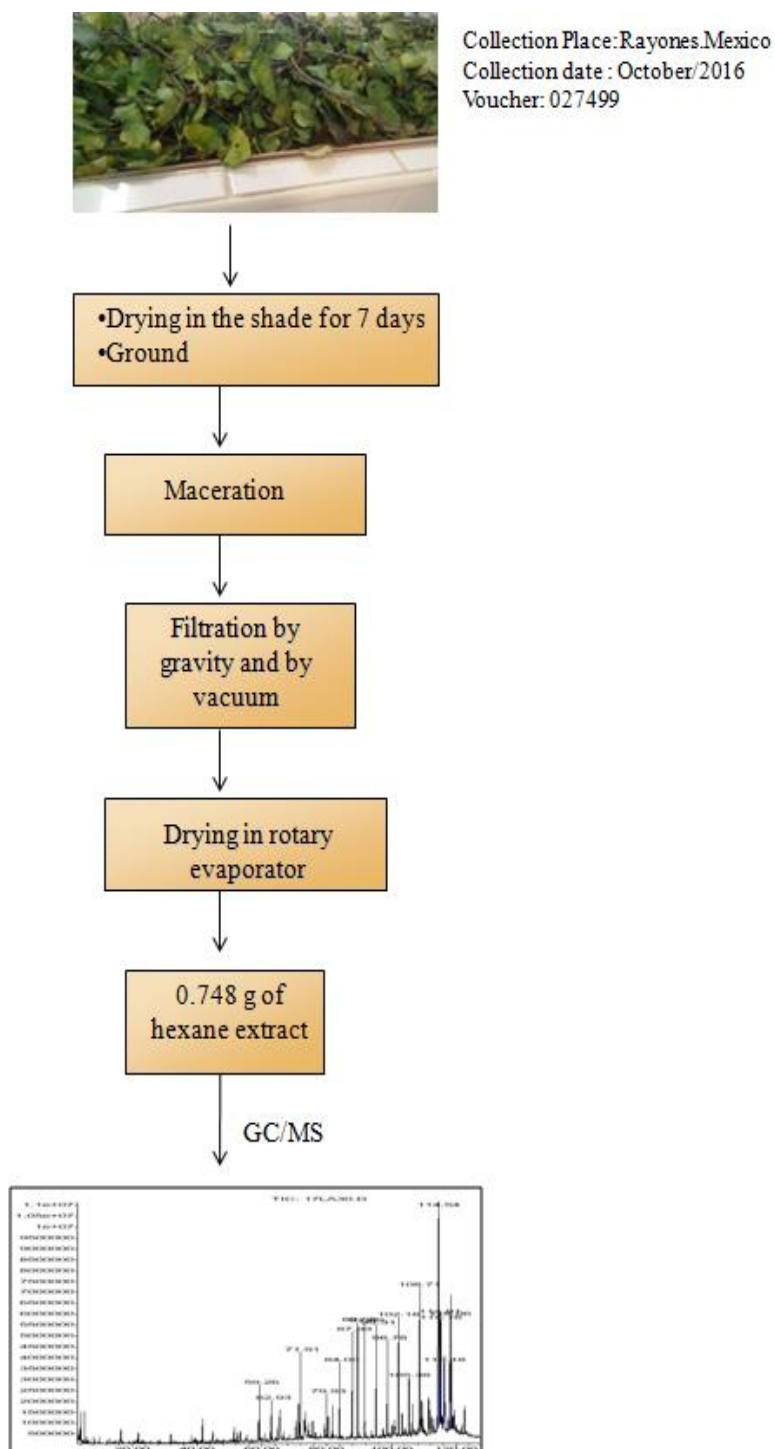


Figure 1. General workflow

3. Materials and Methods

Table 2.GC/ MS analysis

Conditions	
Column	HP-5MS de 30 mx 0.250 mmx 0.25microM
Gas carrier	Helium 1mL per minute constant flow
Oven	50°C-0 min, 2°C/min-285°C-35 min
Injector	250°C Splitless
Detector	MSD
Ionic source	230°C

4. Conclusions

Cissus incisa is a plant that until our knowledge is concerned has no reports of phytochemical studies. Thus the results here obtained are a good basis for the selection of this plant for further phytochemical and pharmacological investigation. The present work gives a direction for future investigations on the extracts of the plant until get some medicinally important compounds.

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Author Contributions

D.N.M. carried out the phytochemical study and GC/MS analysis, M.G.F., collection and identification of the plant, M.R.C.C., supervision of D.N.M experimental work.

Conflicts of Interest

The authors declare no conflict of interest.

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