Sterols identified by GC-MS in fraction of hexane extract of *Cissus incisa*

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SUMMARY

The plants are a great source for the discovery of new products of medicinal value for the development of drugs. Several chemical products derived from plants are important drugs that are currently used in one or more countries of the world. In this study, we performed a GC-MS analysis on a fraction of the hexane extract from the leaves of *Cissus incisa*, an endemic plant from Mexico and the southern of The United States. Until the best of our knowledge there are not reports about the phytochemical composition of this plant. As a result of the analysis, five sterols were identified. The stigmastan-3, 5-diene was the most predominant with 74% of the abundance. It has been found that these different active phytochemicals possess a wide range of biological activities.

Keywords: medicinal plants; *Cissus incisa;* hexane extract; GC-MS; sterols.

RESULTS

Table 1. GC-MS of a sample of the hexane extract of *C. incisa* leaves

Retention times	% of Abundance	Compounds	Molecular formula
113.681	1.210%	(3S,10R,13R)-17-((2R,5S,E)-5,6-dimethylhept-3-en-2-yl)-10,13-dimethyl-2,3,4,7,8,9,10,11,12,13,14,15,16,17-tetradecahydro-1H-cyclopenta[a]phenanthren-3-yl acetate	$C_{30}H_{48}O_2$
114.811	1.079%	(E)-17-(5,6-dimethylhept-3-en-2-yl)-10,13-dimethyl-2,3,4,9,10,11,12,13,14,15,16,17-dodecahydro-1H-cyclopenta[a]phenanthren-3-yl acetate	$C_{30}H_{46}O_2$
115.665	9.155%	Stigmata acetate-5-en-3-β-yl	$C_{31}H_{52}O_2$
116.604	7.761%	(E)-17-(5-ethyl-6-methylhept-3-en-2-yl)-10,13-dimethyl-2,3,4,7,8,9,10,11,12,13,14,15,16,17-tetradecahydro-1H-cyclopenta[a]phenanthren-3-yl acetate	$C_{31}H_{50}O_2$
118.851	74.897%	17-(5-ethyl-6-methylheptan-2-yl)-10,13-dimethyl-2,7,8,9,10,11,12,13,14,15,16,17-dodecahydro-1H-cyclopenta[a]phenanthrene	$C_{29}H_{48}$

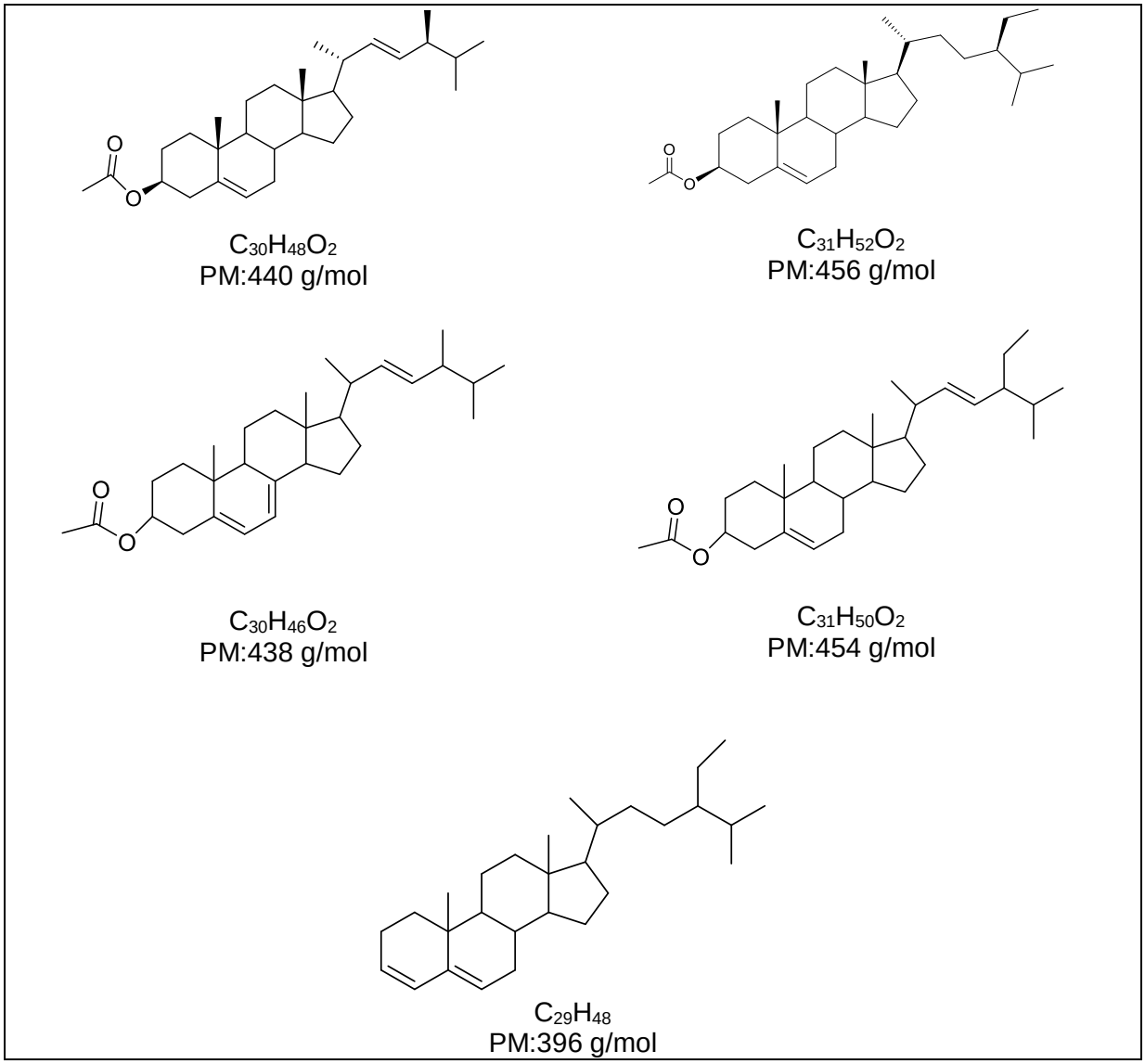

Figure 1. Chemical structure of the sterols characterized by GC-MS of the sample of the hexane extract of *C. incisa* leaves

CONCLUSIONS

In the chromatogram obtained, peaks with different retention times and area were observed. Of which four acetylated sterols and one stigmastene were characterized, this being the most abundant. Sterols are very abundant and their function is to maintain the structure and

functioning of cell membranes. They have also been widely studied and they have been determined antimicrobial , anticancer properties, among others.

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