

Milano, 21 ottobre 2021

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Dear,

we performed a quick analysis of the cigarettes and cigarillos, sent by you and purchased in Bucharest. The samples analyzed were as follows:

Camel Activate Cigarillos
Winston Selection
Winston Xspression Super Line
Winston Xspression

Cigarettes were all comprised of tobacco and filter, with no capsule or anything else inside. Cigarillos were equipped with a blue spherical capsule in the filter and a double layer and possibly tobacco, outside. The products, at room temperature, have no particular aroma of mint or other. We separated the tobacco from the filter and analyzed it separately. The capsule was also analyzed, separately, after rupture.

Below is the picture of the samples analyzed.



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Sample	weight of tobacco filler (g)
Camel Cigarillo	0,39
Winston Selection	0,46
Winston Xspression SuperLine	0,35
Winston Xspression	0,7

Samples, when heated to 60 degrees, produce a very light, barely perceptible mint scent, hidden in the typical aroma of the cigarette.

The analyzes were carried out by gas chromatography combined with mass spectrometry, by headspace and the quantitative results refer to deuterated xylene, added as an internal standard. The data are therefore to be considered semi-quantitative. The values have low accuracy (the absolute measured value may not reflect the real one, even if the deviations are small), while they are precise (the relative value between one sample and another has irrelevant deviations).

The analyzed samples clearly show the presence of a series of added flavoring substances, both in the taste of "mint" and "floral / fruity". The quantities added are significant, since menthol, for example, is generally the volatile compound with the highest concentration. Below the analytical results are reported.

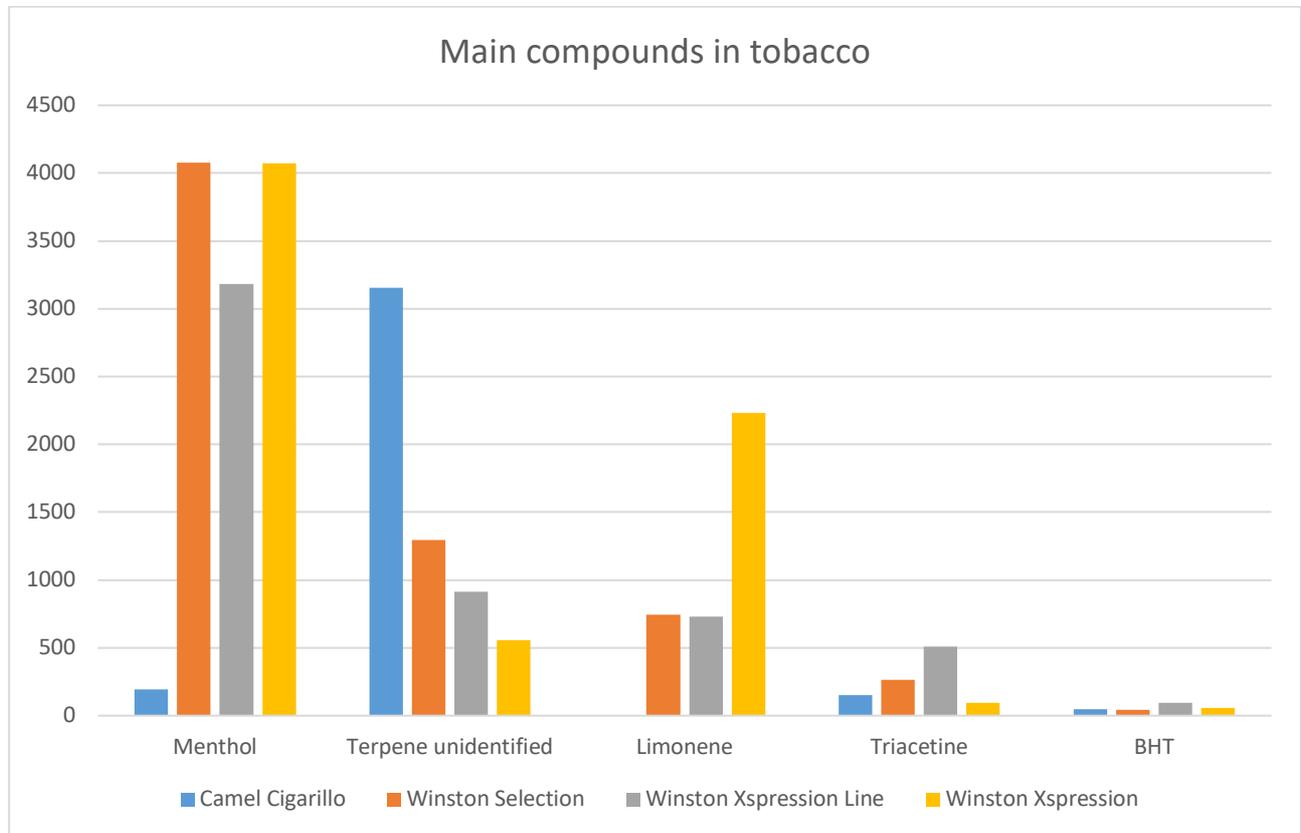


Fig. 1. Main compounds in tobacco (ng / sample) and added preservatives (beta hydroxytoluene, BHT)

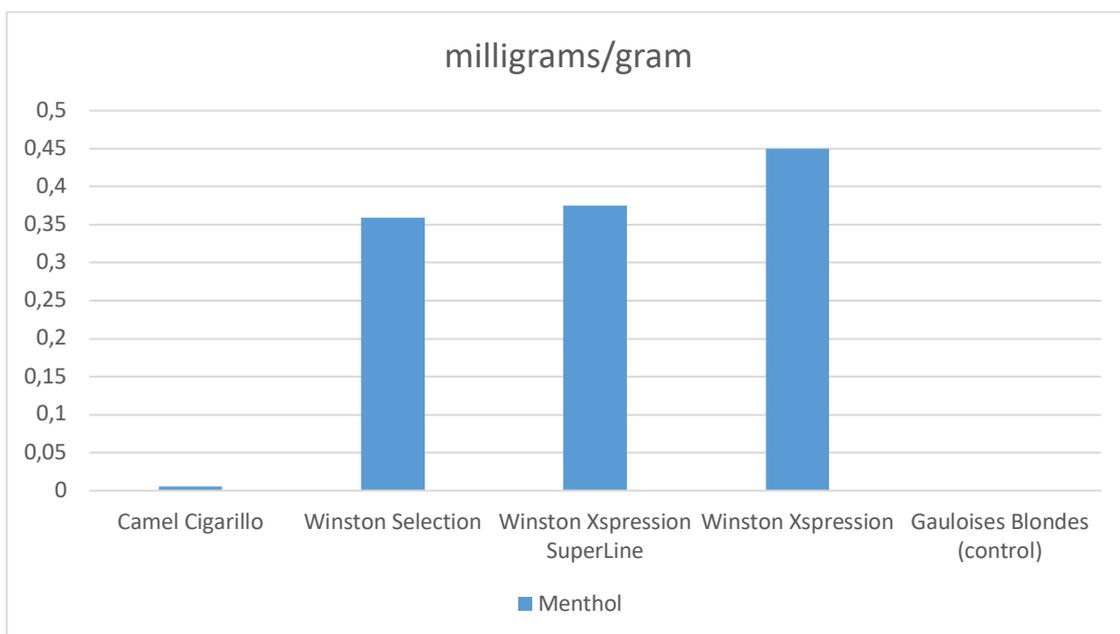


Fig. 2. Concentration of menthol in the samples (semi-quantitative data)

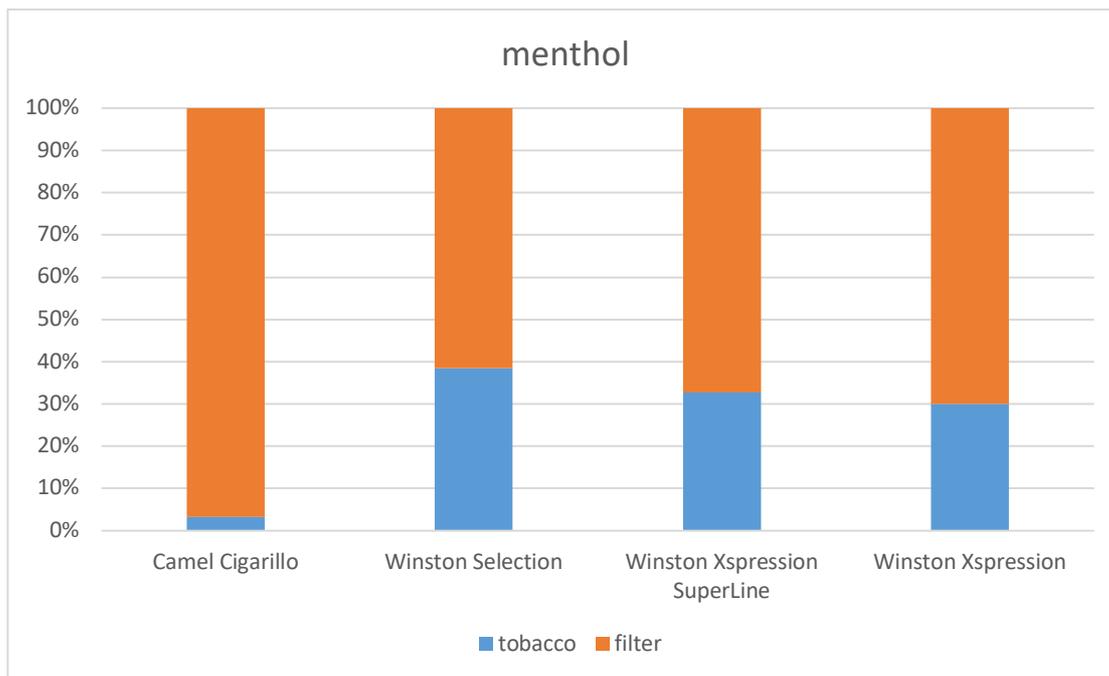


Fig. 3. Relative concentration of menthol in the samples. Analysis of filters and tobacco.

Library/ID	ug/sample	CAS
Menthol	99,7	015356-70-4
Butanoic acid, ethyl ester	37,7	000105-54-4
Hexanoic acid, ethyl ester	22,6	000123-66-0
Propanoic acid, phenylmethyl ester	19,7	000122-63-4
Cinnamaldehyde, (E)-	13,6	014371-10-9
Butanoic acid, 2-methyl-, ethyl ester	13,1	007452-79-1
3-Buten-2-one, 4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-, (E)-	11,1	000079-77-6
1,5-Dimethyl-1-vinyl-4-hexenyl butyrate	5,5	000078-36-4
4H-Pyran-4-one, 2-ethyl-3-hydroxy-	5,0	004940-11-8
Butanoic acid, 3-methyl-, ethyl ester	4,4	000108-64-5
Limonene	4,1	000138-86-3
Vanillin	4,0	000121-33-5
Triacetin	3,8	000102-76-1
2(3H)-Furanone, 5-hexyldihydro-	3,7	000706-14-9
Benzene-1,2,4,5-d4-, 3,6-di(methyl-d3)-	3,7	041051-88-1
Cyclohexanone, 5-methyl-2-(1-methylethyl)-, cis-	3,1	000491-07-6
Cyclohexanol, 5-methyl-2-(1-methylethenyl)-	2,4	007786-67-6
.gamma. Dodecalactone	1,6	002305-05-7
Bicyclo[4.1.0]heptane, 3,7,7-trimethyl-, (1.alpha.,3.alpha.,6.alpha.)-	1,6	018968-23-5
Eucalyptol	1,0	000470-82-6
1,6-Octadien-3-ol, 3,7-dimethyl-	0,9	000078-70-6
1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)-	0,9	000099-85-4
(+)-4-Carene	0,5	029050-33-7

Table 1. List of compounds identified by the instrument library and verified by an expert, detected inside the capsule found in the Camel cigarette filter.

Analysis comments.

The cigarette samples all contain menthol, and other flavor additives such as a terpene (not identified, a pinane-like terpene) and limonene, both in the filter and in the tobacco (fig. 1). The concentrations are high, about 0.35-0.45 mg / g of tobacco. They all have other aromas added in smaller quantities, always attributable to mint or fruit.

In general, over 60% of menthol is present in the filter, the remainder in tobacco (fig. 3). They also have an antioxidant, BHT, in tobacco, in very similar concentrations to each other, as well as humectants, triacetin.

Camel cigarillos, on the other hand, have only traces of menthol in tobacco, but this is present in high quantities in the capsule (table 1), making it the compound with the highest concentration. The large presence of esters, fruit aromas, cinnamon, vanilla, eucalyptol etc. they mask its presence on the nose, giving a fruity sensation.