



HELLENIC REPUBLIC
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CERTIFICATE OF PHYSICOCHEMICAL PARAMETERS AND OLIVE OIL BIOPHENOLS ANALYSIS

Description	Olive oil sample
Producer / Distributor	MARIA GEORGIOPOULOU PANAGIOTIS
Olive Variety	--
Region of Cultivation	--
Type of Cultivation	--
Production way of olive-mill	--
Date of harvest	--
Date of oiling	--
Date of reception	06/01/2026
Date of analysis	13/01/2026
Packaging	PLASTIC BOTTLE
ANALYSIS*	1. Determination of free fatty acids (Acidity) 2. Determination of peroxides number 3. Ultraviolet spectrophotometric examination Extraction/Sample preparation 5. Determination of olive oil biophenols, referred to EFSA's approved health claim and verification, whether the analyzed olive oil sample meets the specifications of the EU regulation 432/2012 concerning the health claim on olive oil polyphenols (http://www.efsa.europa.eu/sites/default/files/scientific_output/files/main_documents/2033.pdf). 6. Quantitative determination of Hydroxytyrosol (HT), Tyrosol (T), Oleacein (OLEA) and Oleocanthal (OLEO) using the HPLC-DAD technique, proposed by International Olive Council (IOC) (http://www.internationaloliveoil.org/documents/viewfile/4141-met29eng).

*Experimental details: available upon request.

RESULTS**Table 1. Results of physicochemical parameter analysis**

Determination of Acidity, Number of Peroxides and UV Absorption Coefficients.				
Lab Code	Physicochemical parameter	Measurement Unit	Results	Value Limits for the Extra Virgin Olive Oil
OLE_1832	Acidity	%	0.48	≤ 0.8
	Number of Peroxides	mEqO₂/Kg	8.05	≤ 20
	K270		0.18	≤ 0.22
	K232		1.78	≤ 2.50
	ΔK		-0.003	≤ 0.01

Table 2. Results of Olive Oil Biophenols Analysis

Determination of Olive Oil Biophenols						
Sample code	mg of compound/Kg olive oil				RRF*	Determination of polyphenols (mg tyrosol/Kg olive oil)
	HT	T	OLEA	OEO		
OLE_1832	13.03	14.61	31.62	58.04	5.34	466

RRF*: factor for the expression of the result as tyrosol.

Comments

The determination of the quality parameters of olive oil sample **OLE_1832** showed that its free fatty acid content, expressed in % w/w oleic acid, is **0.48**, the peroxide number is **8.05 meq O₂/kg**, and the values of the absorption coefficients **K270/K232/DK** are **0.18, 1.78** and **-0.003** respectively.

Based on the results of olive oil analysis that was performed by the suggested method of International Olive Oil Council, the specific olive oil sample analyzed on the above-mentioned date, was found to contain **466 mg Tyrosol/Kg olive oil**. Thus, it can be concluded that **the analyzed olive oil sample meets the specifications of the EU regulation 432/2012 concerning the health claim on olive oil polyphenols**.



Professor A. L. Skaltsounis