



UNIVERSITÀ
DEGLI STUDI
FIRENZE

DiSIA

DIPARTIMENTO DI STATISTICA,
INFORMATICA, APPLICAZIONI
"GIUSEPPE PARENTI"
ECCELLENZA 2023-27

Extra virgin olive oil

Mannioil

March 2024

Samples:

- Per me 2023
- Per mio figlio 2023
- Oil of life 2023

Analysis of acidity, peroxides and total antioxidant capacity (CDR-Oxitester instrument):

| | Per me 2023 | Per mio figlio 2023 | Oil of life 2023 |
|--|-------------|---------------------|------------------|
| Acidity (% oleic acid) | 0,15 | 0,18 | 0,13 |
| Peroxides (mEq/Kg O ₂) | 14,27 | 12,61 | 6,06 |
| Total antioxidant capacity (mg/kg tyrosol) | 636 | 617 | 733 |

HPLC-DAD-MS characterization of minor polar compounds (MPC)

| Composti identificati | Per me 2023 mg/L | Per mio figlio 2023 mg/L | Oil of life 2023 mg/L |
|--|---------------------|-----------------------------|--------------------------|
| Hydroxytyrosol | 1,07 | 1,34 | 1,48 |
| Tyrosol | 1,06 | 1,57 | 1,14 |
| Elenolic acid derivatives | 8,91 | 10,15 | 12,06 |
| Elenolic acid | 62,77 | 50,87 | 57,01 |
| Oleacein | 160,67 | 183,15 | 150,78 |
| Oleocanthal | 62,05 | 71,11 | 98,94 |
| Secoiridoid derivatives | 9,02 | 12,24 | 5,74 |
| Lignans | 69,83 | 83,15 | 82,98 |
| Oleuropein aglycone | 86,59 | 98,09 | 120,66 |
| Total Minor Polar Compounds (MPC) | 461,97 | 511,67 | 530,79 |

The European Food Safety Authority (EFSA) made a health claim (EU 432/2012) about the extra virgin olive oil and its antioxidant activity (anti-aging) and the decreased risk of coronary heart disease with a minimum intake of 20g of oil per day with 5 mg of hydroxytyrosol and its derivatives.



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Per Me 2023: 249.1 mg/L of hydroxytyrosol and its derivatives per serving of 20 grams of EVOO:
5.42 mg

Per Mio Figlio 2023: 284.2 mg/L of hydroxytyrosol and its derivatives per serving of 20 grams of
EVOO: 6.18 mg

Oil of life 2023: 274.1 mg/L of hydroxytyrosol and its derivatives per serving of 20 grams of
EVOO: 5.96 mg