3D front-face fluorescence spectroscopy for differentiation between Extra Virgin Olive Oils (EVOO) and non EVOO

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Relevant results will be published soon

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The problem

❖ Olive oil is very important economic share in EU, mediterranean area (SPAIN, ITALY main exporters)

❖ Olive oil trade have spread all over the world

❖ Developed EU Standards must take into account new methodolologies for authentification, to detect adulteration, oxidation status

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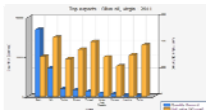
Olive oil presents fluorescent compounds

Antioxidants: phenolic , α tocopherol, chlorophyll
Related to freshness

Oxidation products: primary, secondary

Extra Virgin Olive Oil is free from defects. Degradation due to oxidative processes, decreases antiox. and increases ox. products

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Objetive

To discriminate Extra virgin olive oils EVOO from Non extra virgin olive oils non EVOO by means of the high resolution fluorescence espectroscopy technique 3D front-face

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Front-face 3D spectra
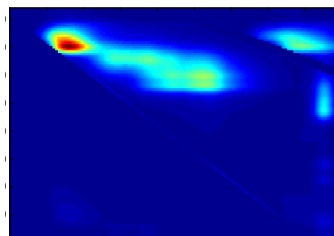
Conclusions

- 3D fluorescence spectroscopy is able to sense differences in oxidation status of olive oils

- Detailed spectral features are provided by this technique

Thank you for your attention

ACKNOWLEDGEMENTS

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