

Subject: Identification of additives on PE film

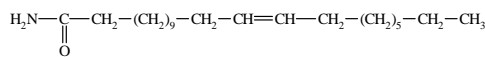
Technique: **ToF-SIMS**

- ✓ High resolution mass spectrometry (no sample preparation)
- ✓ Identification available through *molecular peaks*

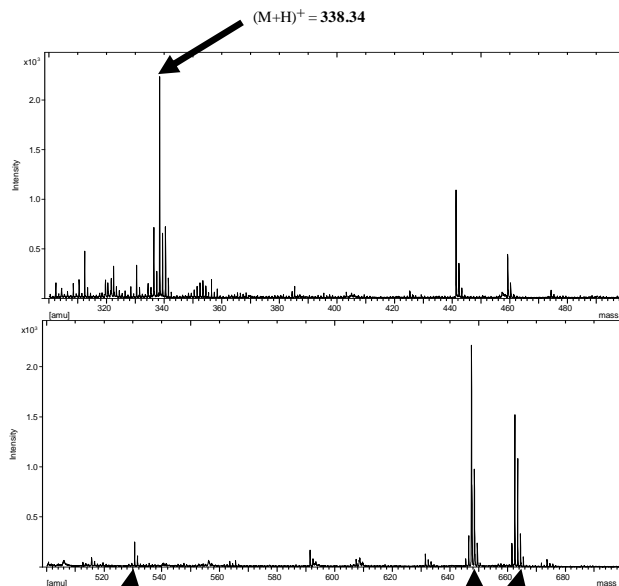
Results:

Analysis thickness:
the first monolayer

Erucamide

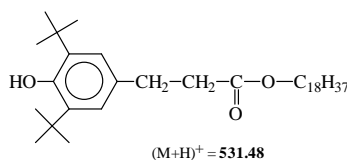


Mass spectra acquisition
(positive and negative ions :
0 - 1500 uma)

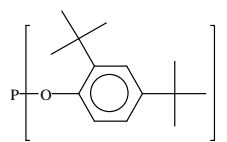


Positive ions
spectrum on
surface of PE
film from 300 to
700 uma

IRGANOX 1076



IRGAFOS 168



[PR₃ + H]⁺ 647.46

[PR₃ + O]⁺ 662.44

[PR₃ + OH]⁺ 663.45

Conclusion:

- Two antioxidants/stabilizer additives have been identified on surface of the film : **IRGAFOS 168** and **IRGANOX 1076**
- A slip agent is also present: **Erucamide**

Such a characterisation is of interest when the film is to be used for sticking, printing, in composite assembly ...