

## Division of Mass Spectrometry - SCI 40<sup>th</sup> Anniversary

# **BOOK OF ABSTRACTS**

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Divisione di Spettrometria di Massa della Società Chimica Italiana

#### **Po-02 ION MOBILITY STUDIES ON SODIUM-BIS (2-**ETHYLHEXIL)SULFOSUCCINATE (AOTNa) AGGREGATES

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The supramolecular charged aggregates formed during ESI ionization of AOTNa solutions under critical micelle concentration have been studied thorough ion mobility experiments. In particular, positively charged clusters with several charge states, ranging from +1 to +4, have been investigated. It has been found that, despite to previous investigations (Siuzdak et al. 1995, Nohara et al. 1998), specific ionic aggregates with a peculiar cross section are observed. Indeed a single drift time is observed for each charged aggregate.



Figure 1: Ion Mobility graph of doubly charged AOTNa clusters

Using both calculated cross section and experimental calibration curves the experimental cross section of the observed cation has been determined. It is worth noting that simulated reversed micelle structure (through mobcal EHSS algorithm) cross section and experimental ones air in fair agreement. This agreement is a further support that reverse micelle is the most likely structure that characterize such aggregates.

#### References

D. Nohara et al. "The possibility of the direct measurement of micelle weight by electrospray ionization mass spectrometry", Rapid commun. Mass Spectrum. 12: 1933 (1998) G. Siuzdak, B Bathner, "Gas-Phase Micelles", Angew. Chem. Int. Ed. 34: 2053 (1995)