

atoms. In agreement with these results, LC-TSP-MS showed the presence of isomers of octyl methylphosphonic acid (OMPA) and the ester dioctyl methylphosphonate which contain nine and seven carbon atoms, respectively. Since no reference compounds were available, no further confirmation of the identity of the compounds was possible.

Figure 8 shows the results obtained with micro-LC-TID and LC-TSP-MS using the same eluent (60% methanol) and, in the case of LC-TSP-MS, a conventional column packed with LiChrosorb RP-18. Because of their characteristic broad shape, the no. 2 peaks in Figures 8A (LC-TSP-MS) and 8B (LC-TID) were assigned to the same compound. The TSP mass spectrum of the peak given in Figure 9 shows the protonated OMPA molecular ion at m/z 209 and the ammonium adduct ion at m/z 226. Rather surprisingly the isomers of OMPA were lost after the cation-exchange pretreatment of the samples, as is illustrated in Figure 8C, in which only a large DMP peak shows up. The unexpected strong hydrophobic interaction between the isomers and the SCX

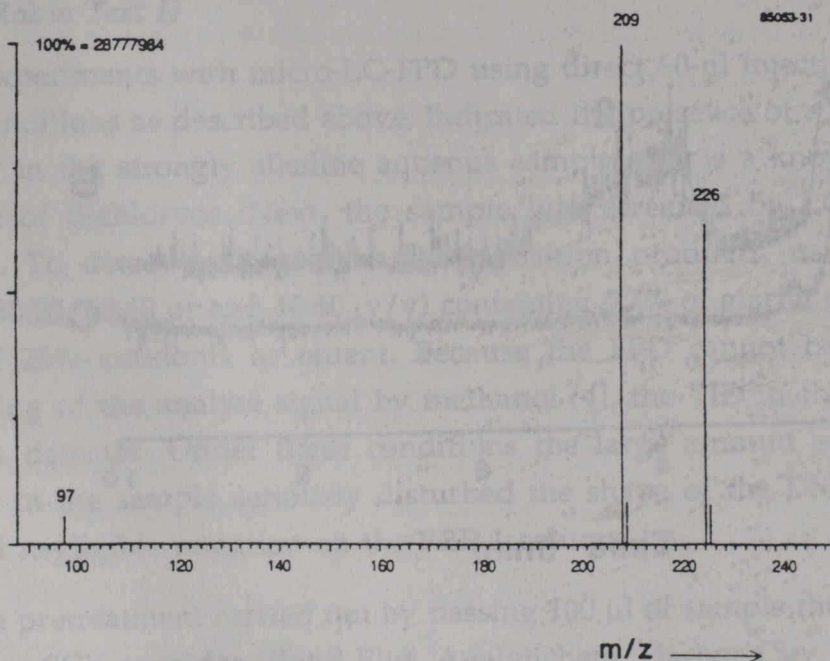


Fig. 9. Thermospray mass spectrum of OMPA: m/z 209, protonated OMPA; m/z 226, ammonium adduct ion. For further details, see text.