

Figures with captions:



Figure 1. a) the autosampler and b) the ion source with cotton swab heads inserted through an aluminum bar that is transported through the source on two N-scale model railroad flatcars.

DispEventFig1a.tiff and DispEventFig1b.tiff

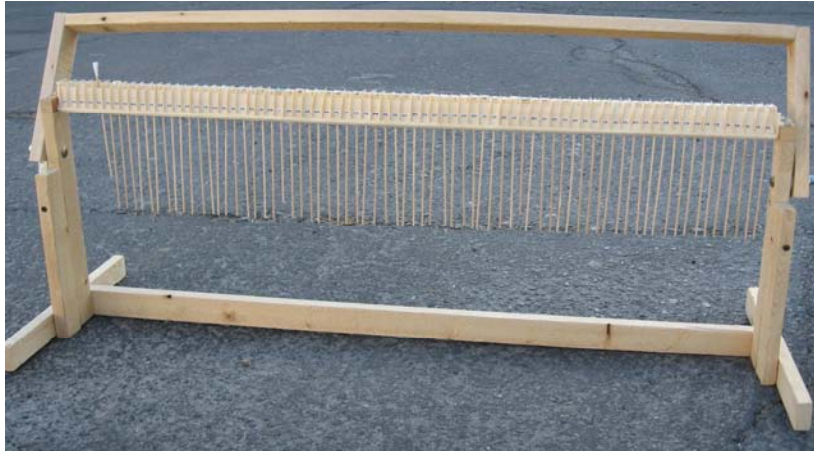


Figure 2. The field sample carrier. Four wipe samples have been collected and the fifth cotton swab is about to be removed to acquire a wipe sample.

DispEventFig2.tiff

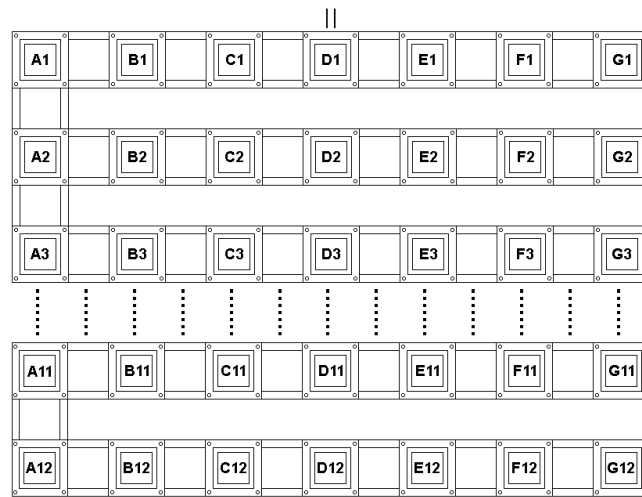


Figure 3. Grid pattern (7 x 12) used to collect wipe samples from the driveway.

DispEventFig3.tiff

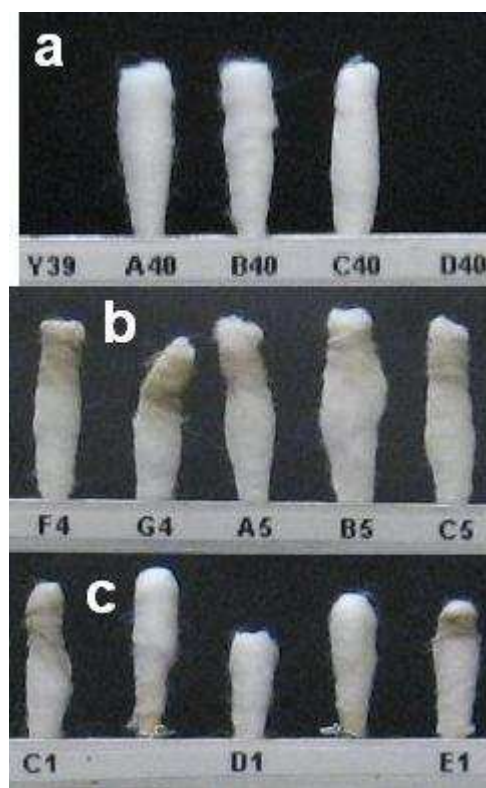


Figure 4. a) Blank wipe samples for swabs dipped into methanol, IPA, and water; b) driveway wipe samples acquired with the larger-head swabs; and c) driveway wipe samples acquired with the smaller-head swabs. The top of swab D1 was marked to indicate that no sample was taken due to the large amount of analyte present.

DispEventFig4.tiff

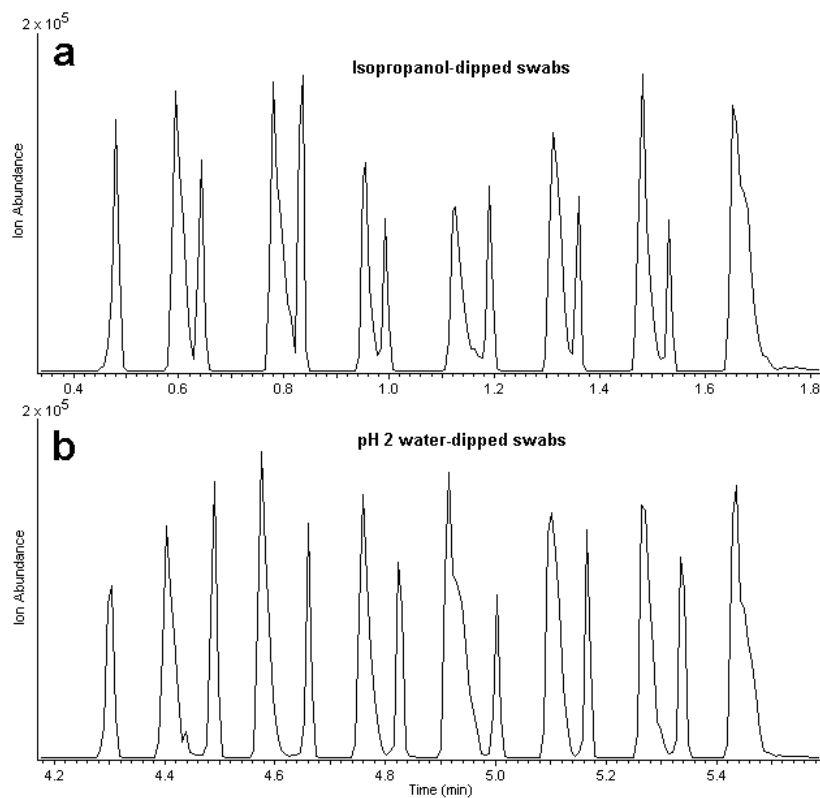


Figure 5. 170.0964 ± 0.050 Da ion chromatograms for $C_{12}H_{12}N$ minus the mass of an electron for sets of seven wipe samples for 2-aminobiphenyl on the mirror using the larger-head swabs dipped into a) isopropanol or b) water with a pH of 2. The bar speed was 0.1 cm/sec.

DispEventFig5.tiff

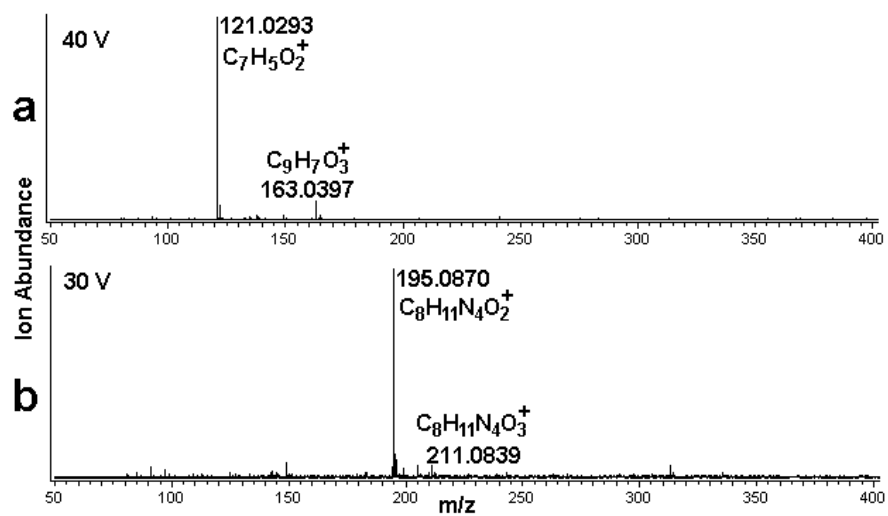


Figure 6. Measured masses for ions a) from aspirin with an orifice 1 voltage of 40 V and b) from NoDoz with an orifice 1 voltage of 30 V.

DispEventFig6.tiff

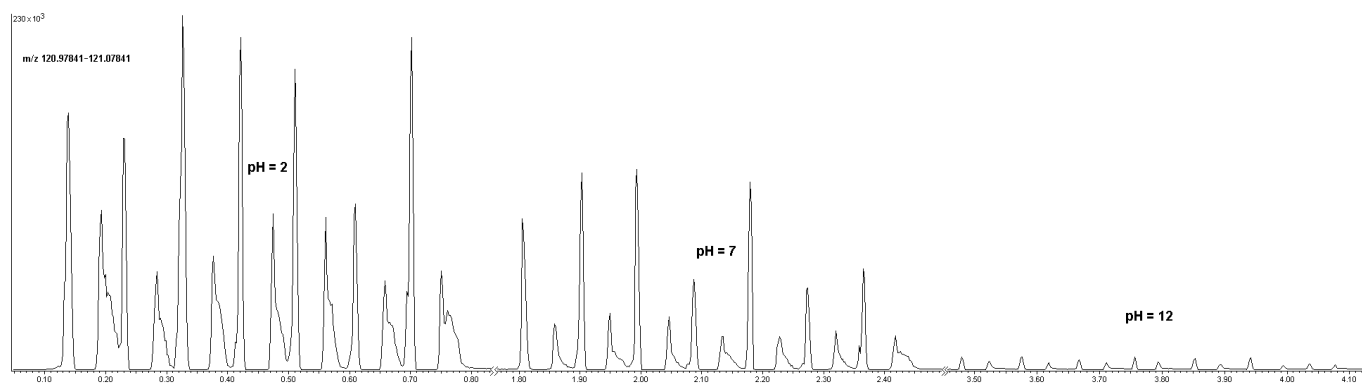


Figure 7. 121.02841 ± 0.050 Da ion chromatograms for sets of seven wipe samples for 125 μg of aspirin on each mirror square using swabs dipped into water with pHs of 2, 7, and 12. The bar speed was 0.2 cm/sec.

DispEventFig7.tiff

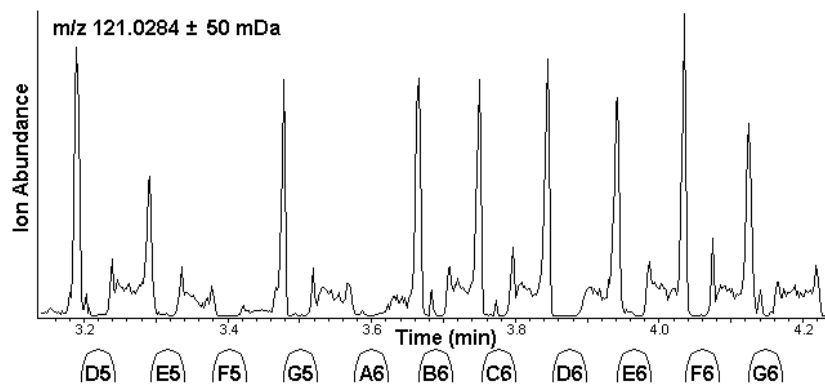


Figure 8. A portion of the semi-quantitation ion chromatogram for driveway wipe samples of aspirin.

DispEventFig8.tiff

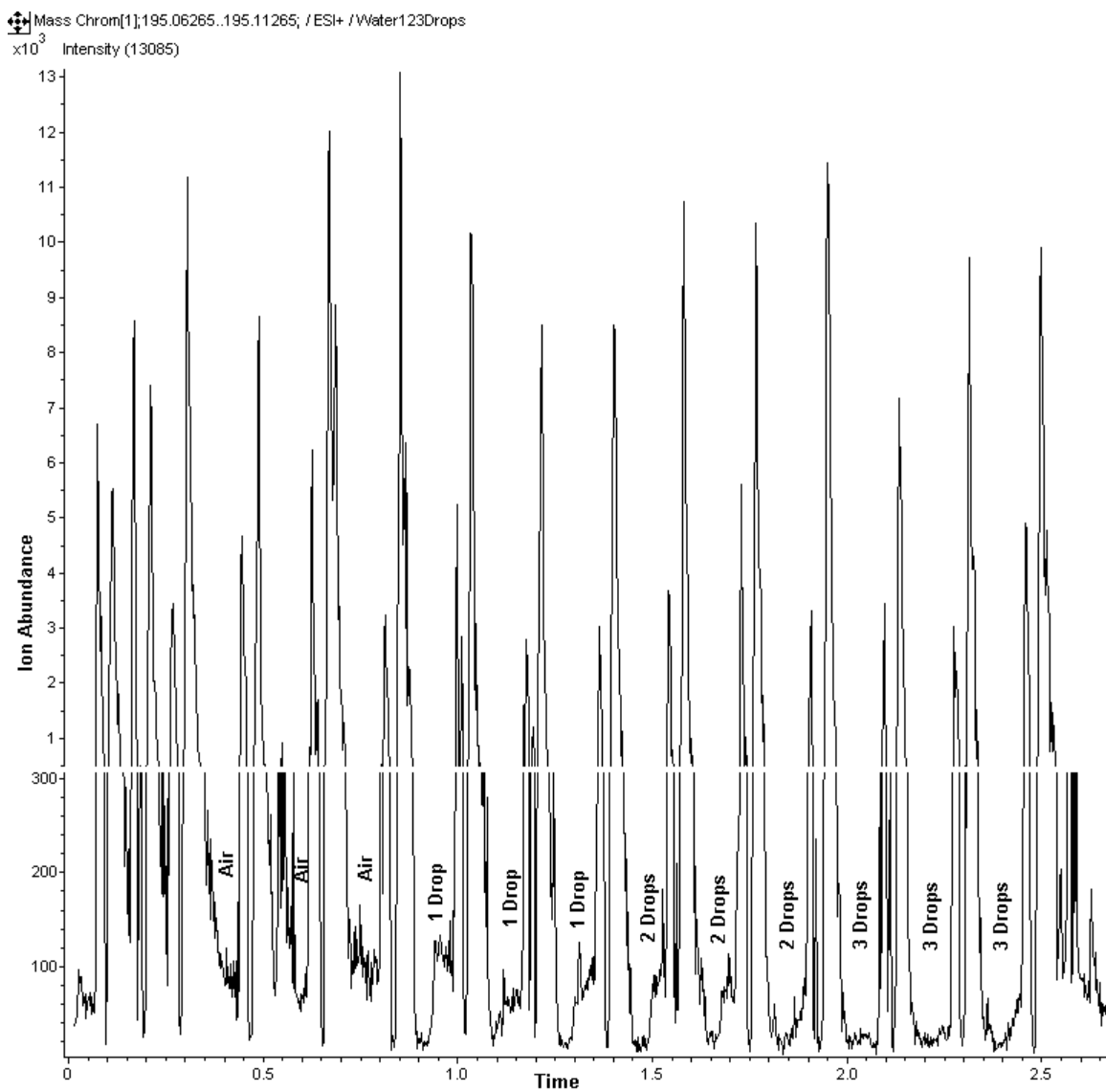


Figure 9. Wipe samples from 375 μg of caffeine on the mirror squares not separated, separated by air, or by swabs wetted with 1, 2, or 3 drops of water. The lower portion of the trace is magnified on the y-axis to better view the baseline. Carryover is greatest for the three adjacent wipe samples and least for the three wipe samples separated by swabs soaked with three drops of water.

DispEventFig9.tiff

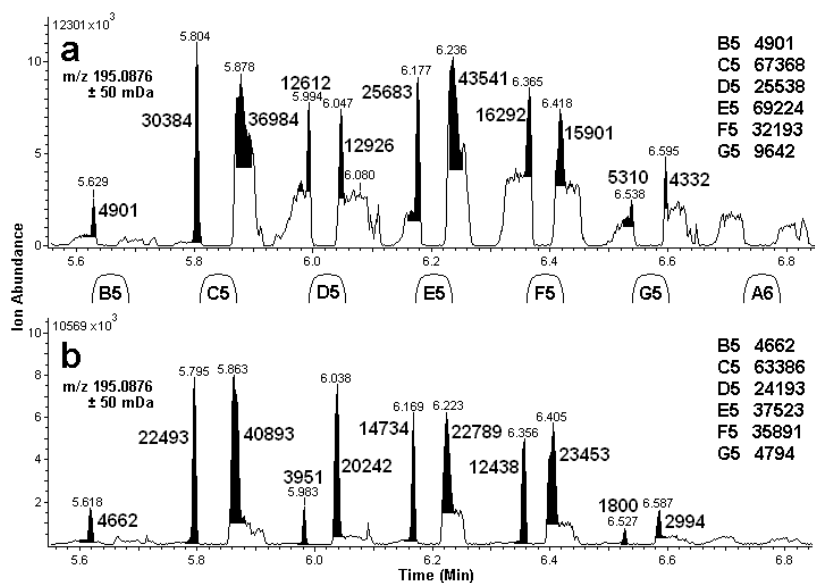


Figure 10. Partial semi-quantitation ion chromatograms for NoDoz wipe samples from the driveway with time and area labels. a) and b) are the first and second data acquisitions, respectively.

DispEventFig10a.tiff

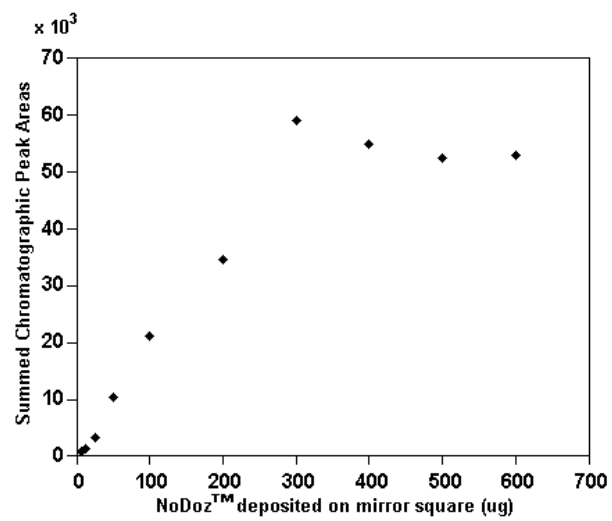


Figure 11. Average (N=3) of summed leading and trailing edge peak areas for wipe samples of NoDoz deposited on mirror squares.

DispEventFig11.tiff

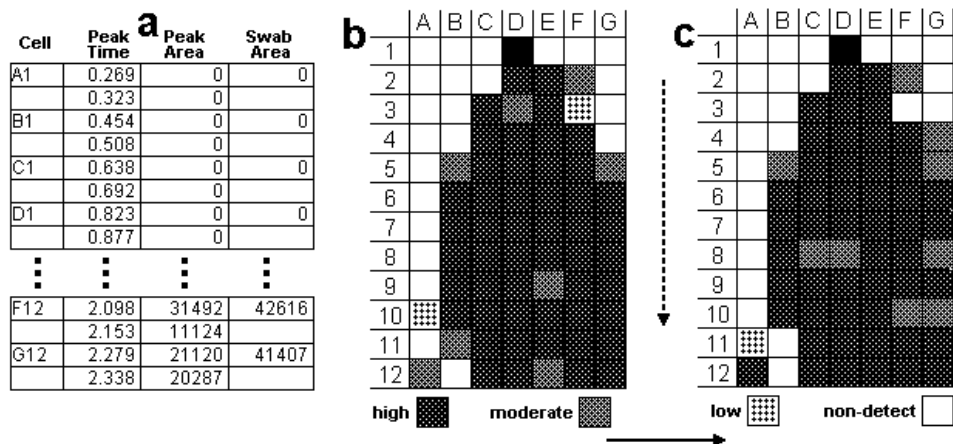


Figure 12. a) A portion of the table containing the cell addresses and paired areas, b) the semi-quantitation map for the first data acquisition, and c) the map from the second data set. The horizontal arrow estimates the wind direction and the vertical arrow indicates the dispersal direction.

DispEventFig12.tiff