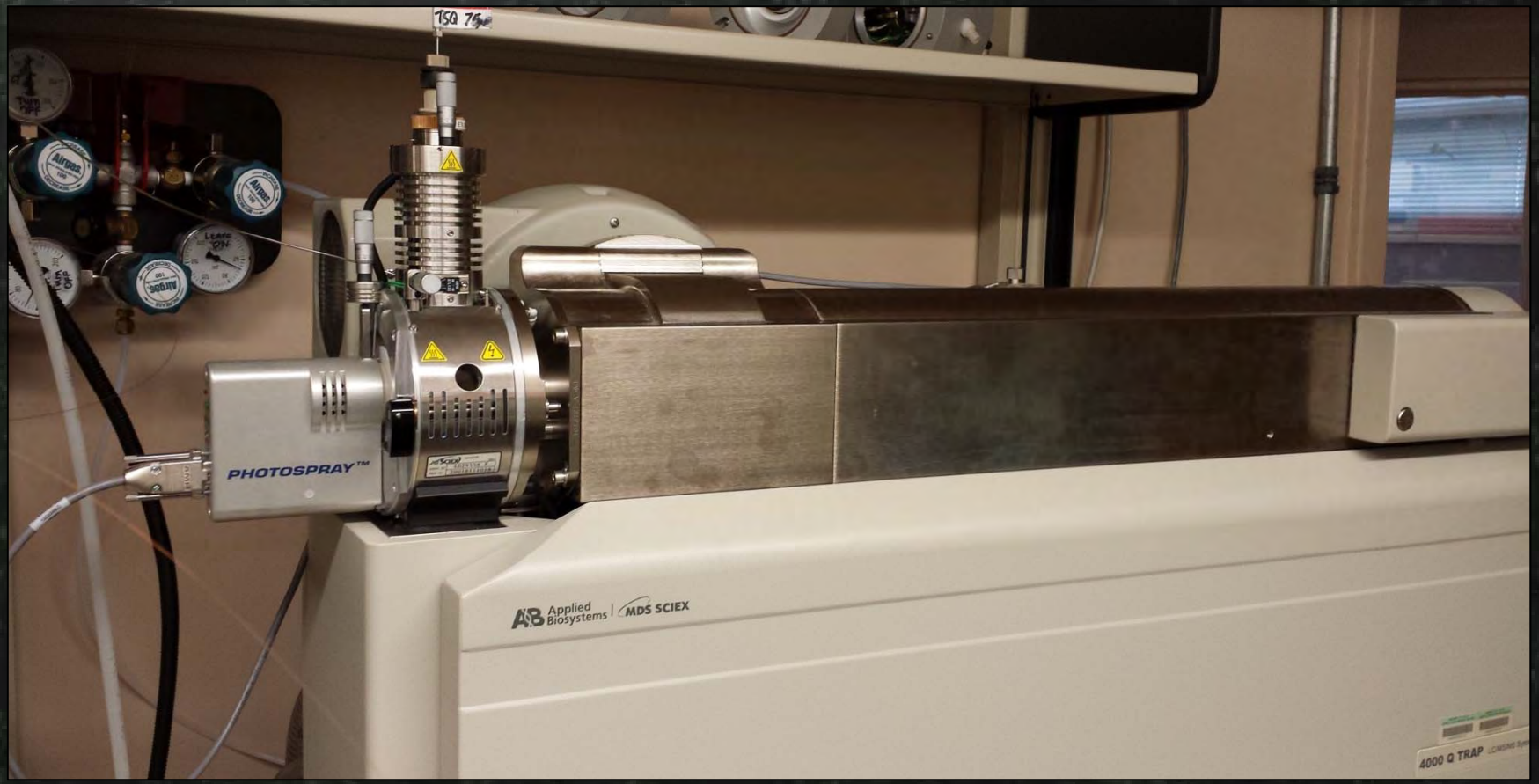
Agilent 1200

Quaternary Pump/Autosampler/Column Thermostat/UV Detector/Corona CAD/ELSD

LCQ Deca XP + TSQ Vantage EMR

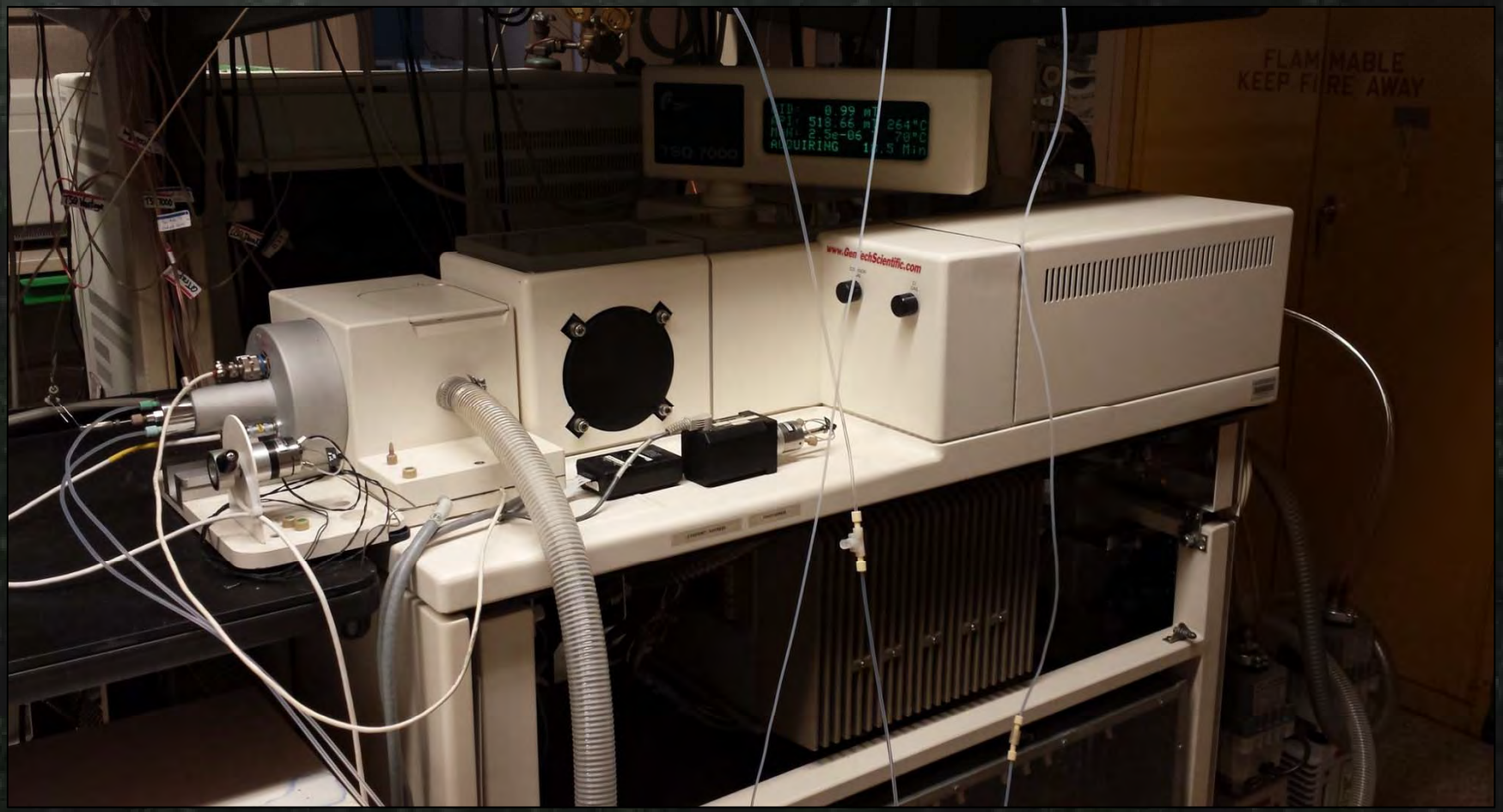
ESI-MS/MS/MS, w/ NH_4OCOH + APCI-MS (SIM, MRM, Full-scan, MS/MS)

QTrap 4000



APPI-MS (SIM, MRM, Full-scan, MS/MS)

TSQ 7000



Full-scan APCI-MS

Syringe Pumps and Water wash pump

50 mM NH_4OCOH @ 40 µL/min for ESI-MS + D.I. H_2O for source wash between runs

Summary, Tips, & Tricks for Parallel MS

- ✓ Multiple Parallel MS can be implemented using simple 'off-the-shelf' components
- ✓ The primary obstacles are preconceptions
- ✓ Simultaneous acquisition using multiple API-MS methods saves time, labor, & resources, plus eliminates run-to-run T_R uncertainties
- ✓ APCI, APPI, and ESI provide different and complementary data
- ✓ Two-dimensional detectors are easily incorporated, and UV detection can be more sensitive than MS
- ✓ Analytical-scale HPLC is more suited to Parallel MS than UHPLC
- ✓ Some API techniques discriminate between molecule classes more than others

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Summary, Tips, & Tricks for Parallel MS

- ✓ Sources from different manufacturers show differences in fragment formation, even for the same API type (differences even from the same manufacturer, and can be affected by tuning/optimization)
- ✓ Keep old instruments online as auxiliary detectors after upgrades (mechanical aptitude helps)
- ✓ Used instruments can be purchased very affordably for use as auxiliary detectors
- ✓ It is helpful to synchronize system clocks on multiple instruments
- ✓ It is helpful to show analysis times in data headers
- ✓ Disadvantage: You accumulate an avalanche of data!

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Thank You for Your Attention!

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