LC and LC/MS User Responsibilities

The LC/MS is a very powerful instrument, but routine maintenance is required to ensure high-quality data and minimize repair costs and downtime. The lists below outline the responsibilities of the Maintenance Representative (currently Diana) and the individual LC/MS users. All LC-specific items are applicable to both the instrument in our lab and in the Stephanopoulos lab.

Maintenance Representative Responsibilities (performed by Diana)

- Weekly inspection of the MS
  1. Check N_2 tank level – order and replace tank when necessary
  2. Check rough pump oil level – fill if necessary
  3. Drain oil from rough pump filter
  4. Visually inspect spray chamber
     - Perform minor cleaning if necessary
     - Delegate major cleaning to last MS user
- Place service calls and coordinate repair visits
- Manage reservation calendars
- Manage TSM data backup (66-425 instrument only)
- Preventive maintenance

User Responsibilities

- Inform Maintenance Representative of problems **immediately**
- Order LC vials and caps
  - Caps: Agilent P/N **5185-5820** (Blue screw caps PTFE/red silicone septa; pack of 500)
  - Vials: Agilent P/N **5183-2069** (2-mL amber screw-top vials; case of 1000 -- 10 packs of 100)
- Label waste and request EHS pickup
- Don't allow system to sit idle in corrosive solvents (H_2SO_4, pure DI water, high-salt buffers)
  - Flush with water then isopropanol for long periods of downtime (DI water is ok for short periods of downtime)
- Flush system with appropriate solvent before installing column and running sequence
- Column-specific care and maintenance (e.g. backflushing, regeneration, etc.)
- Understand how to properly disconnect the MS before performing LC-only runs
- Only use MS-compatible solvents for LC/MS runs
- Clean MS spray chamber before and after MS runs
- Ensure you have enough N_2 for your MS run and do not leave tank lower than ¼ full after run. Be aware that the MS will consume significantly more N_2 when it is not in standby mode.
  - N_2 can be ordered from Airgas (on ECAT). The part number is **NI 230LT230** (industrial grade liquid nitrogen, 230-liter cylinder, 230 psi) and it should cost about $54.