Agilent 5900 ICP-OES Protocol

*Version 1 9/29/2020*

* Front left of instrument (soft power) should be illuminated
  + If not, main power switch on back left needs to be turned on and left to purge optics (min 1 hour?)
* Ensure SPS 4 Autosampler is on and illuminating all green lights in top left
* Ensure Argon is connected and flowing to instrument
* Turn on chiller (18°C)
* Clamp pump tubing down
  + Front white/black tubing = rinse solution
  + Middle white/black tubing = internal std (Y 5ppm)
  + Back blue tubing = waste line
* Open ICP Expert Software
  + Connect instrument (top left) to IP 192.168.1.128
  + Ensure all status lights are green
    - If Camera light is yellow, most likely that means Peltier temp is not going down on its own. Click the “Service Only” button and enter password: Manticore. Go into “Detector” tab and click “Peltier Control On”. Peltier temp should then reduce to –40C. Make sure to log out of service options so nothing else is changed.
* Select a “New From” Worksheet template or create a new one
  + Configuration tab
    - Enable: Autosampler & SVS 6/7 if using autosampler and auto-switching valve
    - Enable QC if using QCs
    - Enable Intelliquant
  + Elements tab
    - Select/verify all element wavelengths of interest
      * Take note of possible interferences in red
    - Select Y and mark as internal std instead of analyte
  + Conditions Tab
    - Under Measurement Conditions --> Viewing Mode --> Select SVDV for simultaneous radial/axial measurements
    - Sample loop is set at 1mL. If changing, use calculator and change sample loop & it will adjust all other common conditions accordingly
  + Standards Tab
    - Ensure all standard levels are added and include appropriate concentrations for each element
    - Ensure Max Calibration Error is above 10% to be able to see error data
  + QC Tab
    - Ensure QC is selected and approproate concentrations are entered on right side under Limits --> Defined Concentrations
  + Sequence Tab
    - Enter # of samples on right side (can copy & paste from an excel sheet)
    - To enter a QC, right click on sample/cal above it and choose Insert solution below --> CCV
* When analysis is completed, turn off plasma
  + Pull rinse & internal std tubes out of containers & run pump fast to dry out lines
* Turn off chiller
* Unlock pump tubing from peri pump (leave relaxed)
* Cap all samples & standards
* Save data