Shimadzu Prominence-I LC-2030 Plus w/ ELSD-LT 2

Rochester Institute of Technology

Department of Chemistry and Material Science

SOP prepared by William Charbonneau on December 1, 2018

I. Purpose
To promote the effective use of the Shimadzu GPC Prominence-I Series LC-2030 with ELSD Detector

II. Scope
This SOP is intended for in-group use by trained and certified personnel in the Chemistry Department

III. Prerequisites
The experimenter must be trained in proper instrument techniques before using this SOP.

IV. Responsibilities
The responsibility for this instrument lies with Tom Allston
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V. Procedure and information

1. Double click **"Lab Solutions"** to start the GPC program. A window will pop up asking for Username and Password. The username is **"Admin"** and there is no password. Then click **"OK"**.

2. On the left side bar, Click **"Instruments"**, then double click "**ISeries UV and ELSD"** to open up the instrument parameters to create a run.

3. Under **"Data Acquisition"** tab you can set the time of the run, and what detectors will be used to monitor the runs. **"LC Stop Time"** sets the length of the run. "**Acquisition time (Detector A)"** is the PDA, and the "**Acquisition time (AD1)"** is the ELSD. Clicking on the check box will turn on/off a detector for the run. If both are set, make sure that the line is split to allow for the eluent to go to each detector.

4. Under the **"LC Time Program"** tab, it allows you to create a pumping program for solvents through the system. To start the parameters, click the first **"Module"** box which will bring up a dropdown window, and select the "**Controller"** module and do the same for command and set the **"Command"** box to start. Do these to each step to set up the pump program.

5. Make sure at the end of the time program that there is a **"Controller"** module at the end with the command "**Stop"** that is set .01s after the final pump time. This will stop the pump flow through the column.

6. Once the pump program is set, click **"Draw Curve"** which will cause a linear time program to appear in the graph, which you can use to see if there are any errors in the time program made.

7. Under the **"Pump"** tab, you can set the pump mode between isocratic and gradient flow, the flow rate, and the mobile phases used. When adding the mobile phases, make sure the correct lines are in the correct bottles. The **"Flow"** should be set above .01 mL/min, and the optimal flow is determined by the column used.

8. Start to set a run by clicking "**File"** which will bring up a drop down window, then click **"New Method File"** which will bring up a secondary window which allows the user to set the run parameters for the run.

9. After parameters are set, click **"File"**, then click **"Save Method File as"** and name the method and set where the file will be saved under.