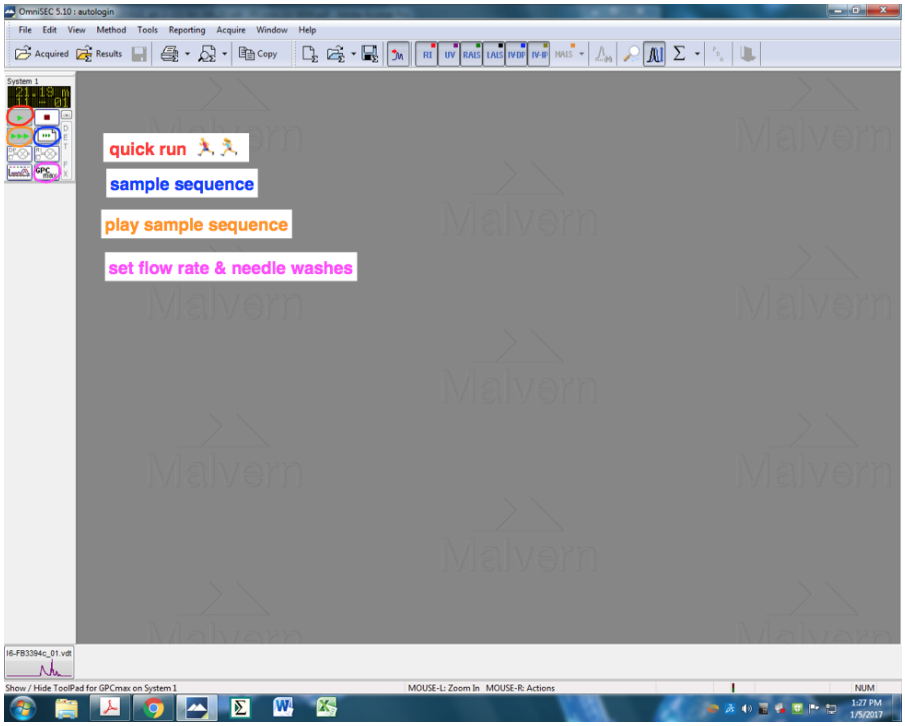
Malvern Viscotek GPC

Sample Prep

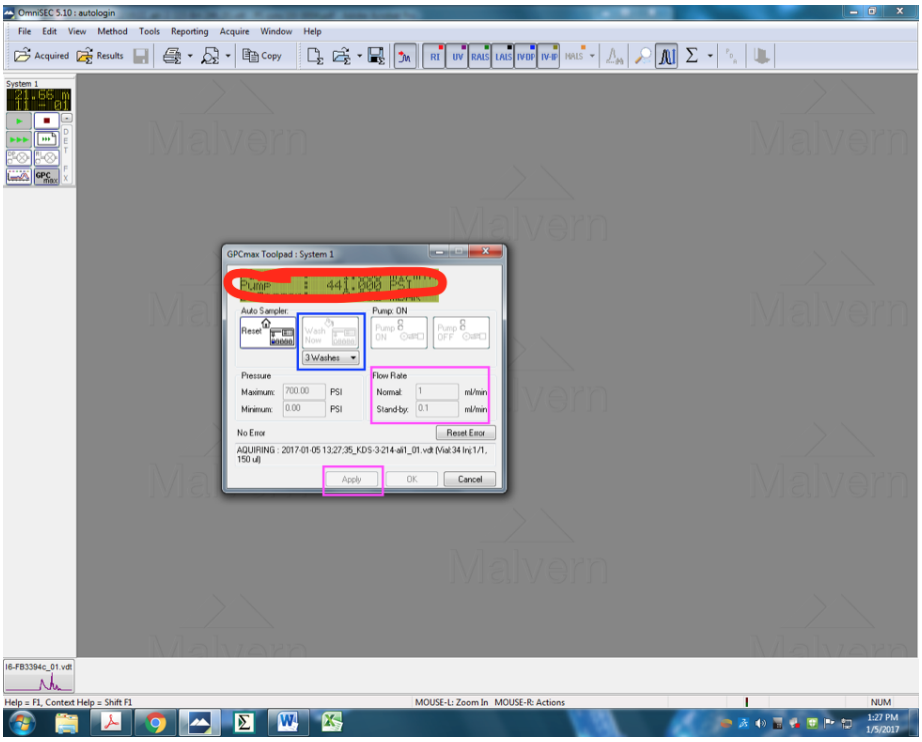
- Sample should be approximately 1mg (or less) per mL
- Dilute sample in GPC solvent (THF spiked with toluene) - use heat to help dissolve polymer
- Filter polymer through PTFE filter remove any undissolved particulates
- Sample vial is a 2 mL GPC/GC vial with septum

Warming up the GPC

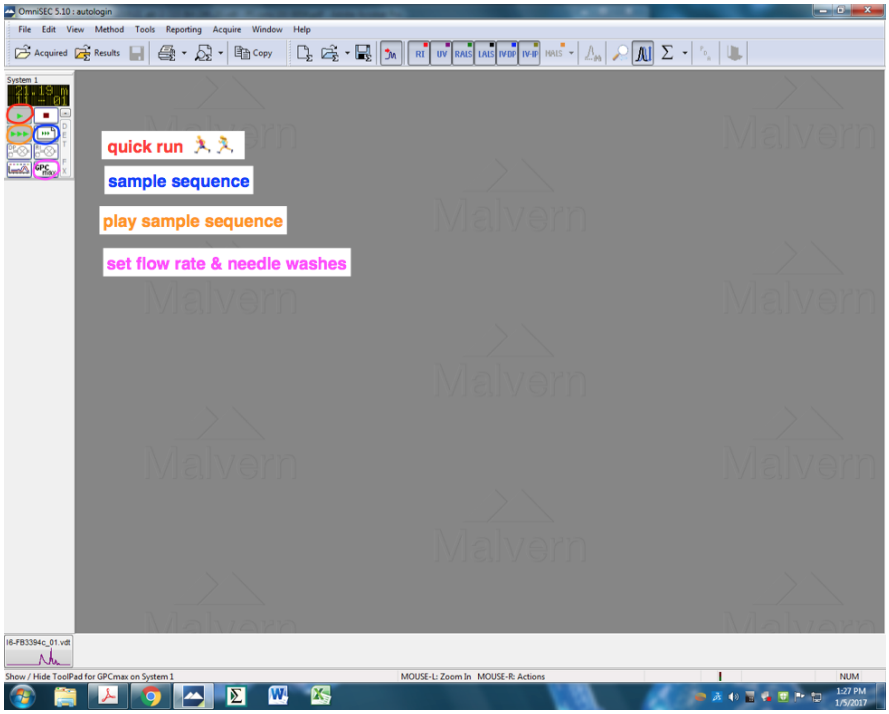
1) Check GPC solvent and waste
    a) If low on solvent, talk to Amanda
    b) If the waste is full, CHANGE IT. We do not want the line to be contaminated with old polymer samples.
2) Increase flow rate from 0.1 mL/min (resting flow) to 1.0 mL/min (in the GPC max window) (pink box)



3) Indicate Pump Pressure - Find amanda if pressure >500 (circled in red below)



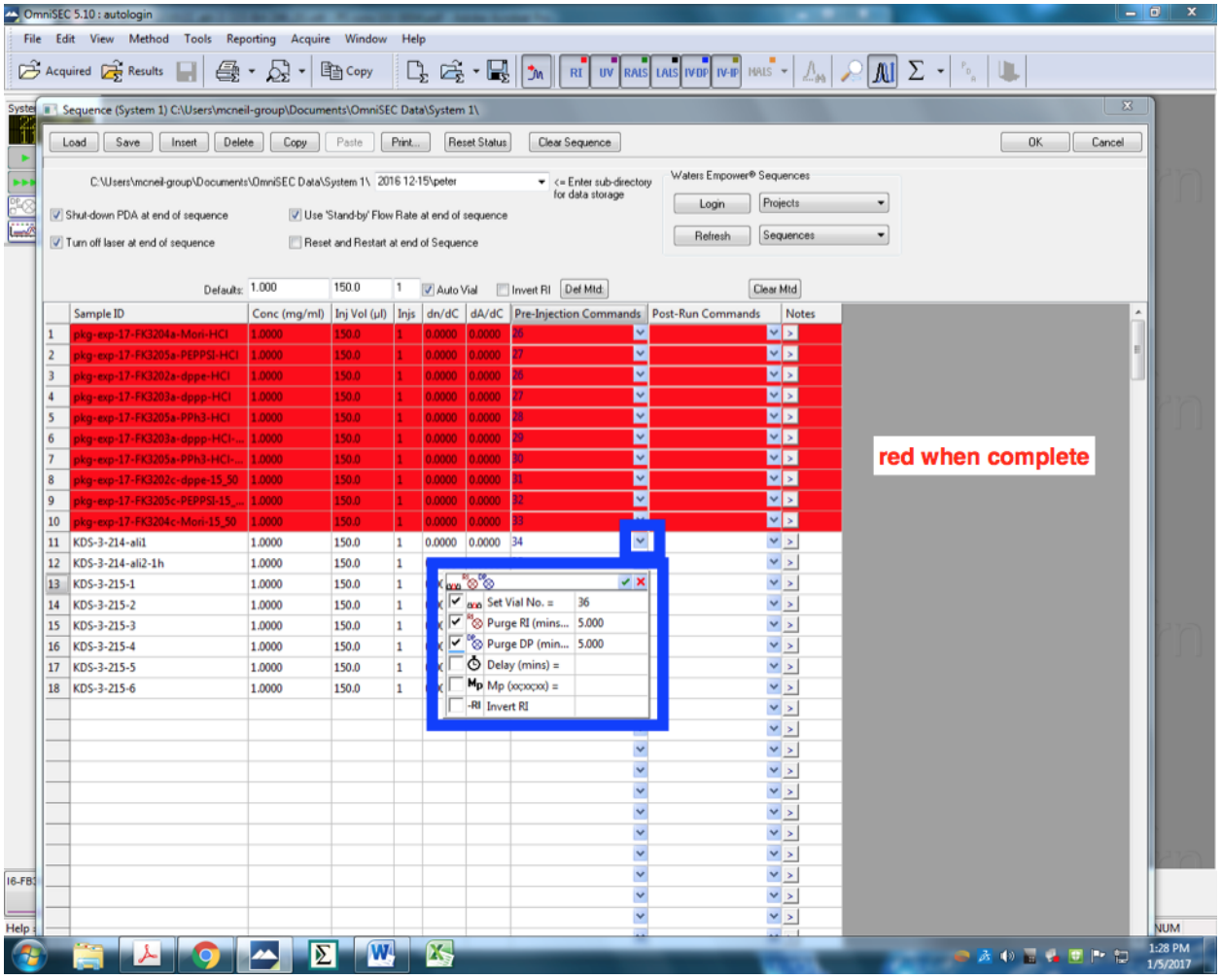
4) Set needle washes (2-3) (in blue box, above figure)
5) TRANSFER WASTE LINE
    a) Waste line should be flush against side of waste jar (for optimal RI baselines)
6) Quick Run (green single arrow - in red circle)



Sample Run

Setting your sample list:

1) Check that vials are in the correct place
2) Open sample sequence - click on button in blue circle above (3 arrows and a bent corner)
3) Enter file name (in sample ID column)
4) Set correct vial number (click down arrow highlighted in blue box, close by clicking check)
5) Do 5 min RI and DP purge before first sample (if many samples do purges after ~5 samples) (click down arrow in blue box, when closing click green check mark)

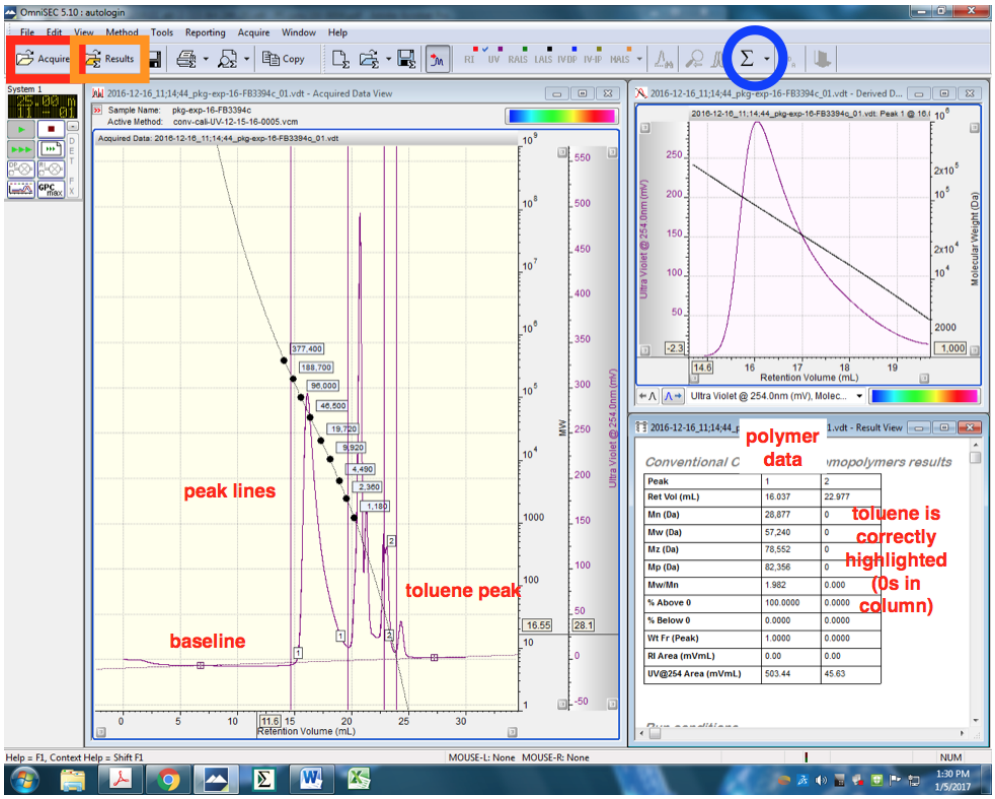


6) Check folder for saving (center top of screen)
7) Click OK (top right of screen)
8) After the run is complete (samples will be in red)
    a) CHANGE THE WASTE LINE to recycle
    b) Instrument automatically goes back to resting flow rate

Sample analysis

Files are saved in the folder set in the sample sequence

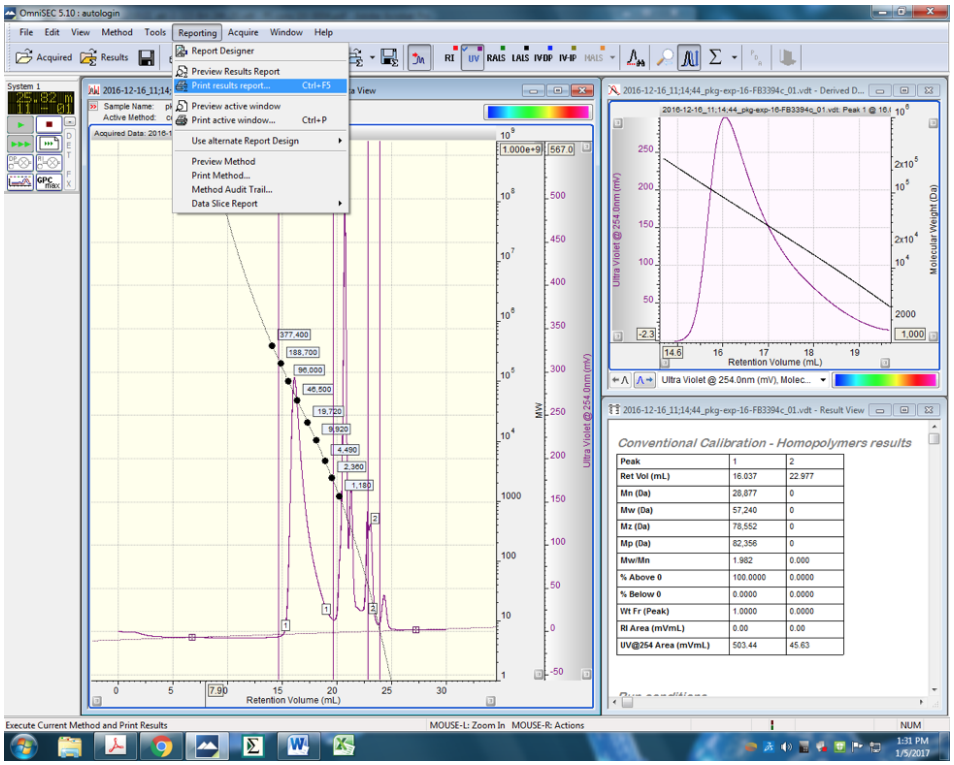
1) First time opening file choose the Acquired tab (red box top left) (after saving results, saved results are in the Results tab (orange box top left))



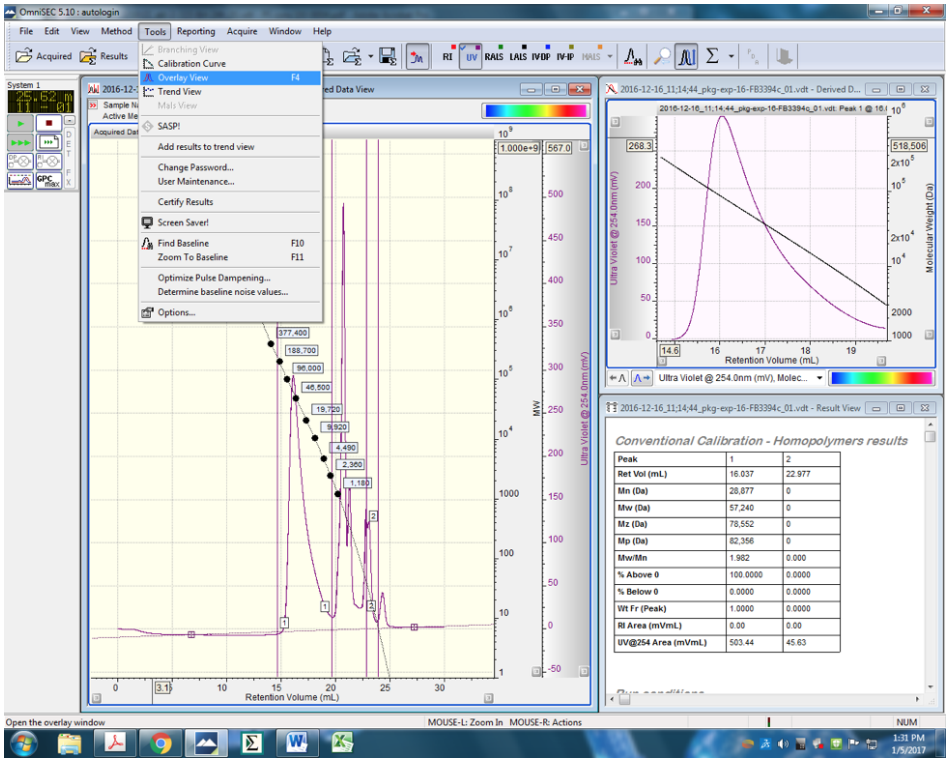
2) Select baseline (shift and right click) and peak lines (shift and left click)
3) Select toluene peak (~22-23 min)
4) Select method for analyzing (subsequent samples will automatically use the last used method)
5) Execute method
    a) Click sum key (blue circle top right) OR F5
    b) window will show up bottom right quadrant of screen

Saving Results

1) Reporting -> print results report (or cntrl+F5)

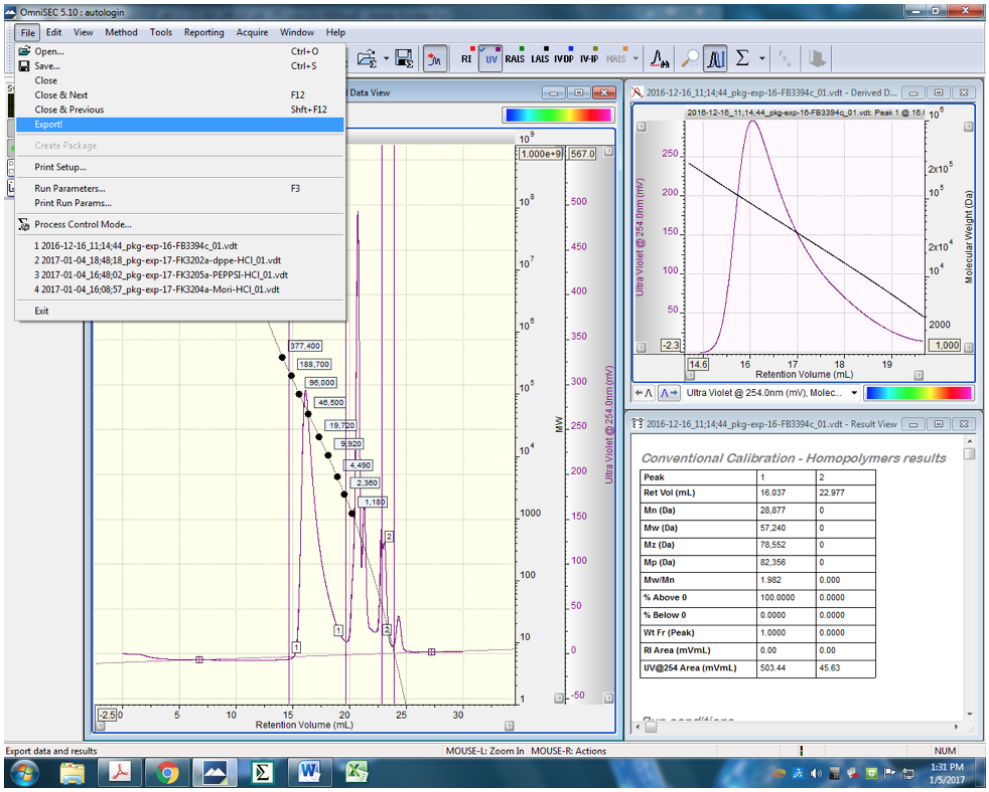


2) Tools -> overlay view



a) Select additional curves to view in overlay mode

3) File -> Export!



a) Provides the txt files: add this to your electronic notebook for simple access to raw data