

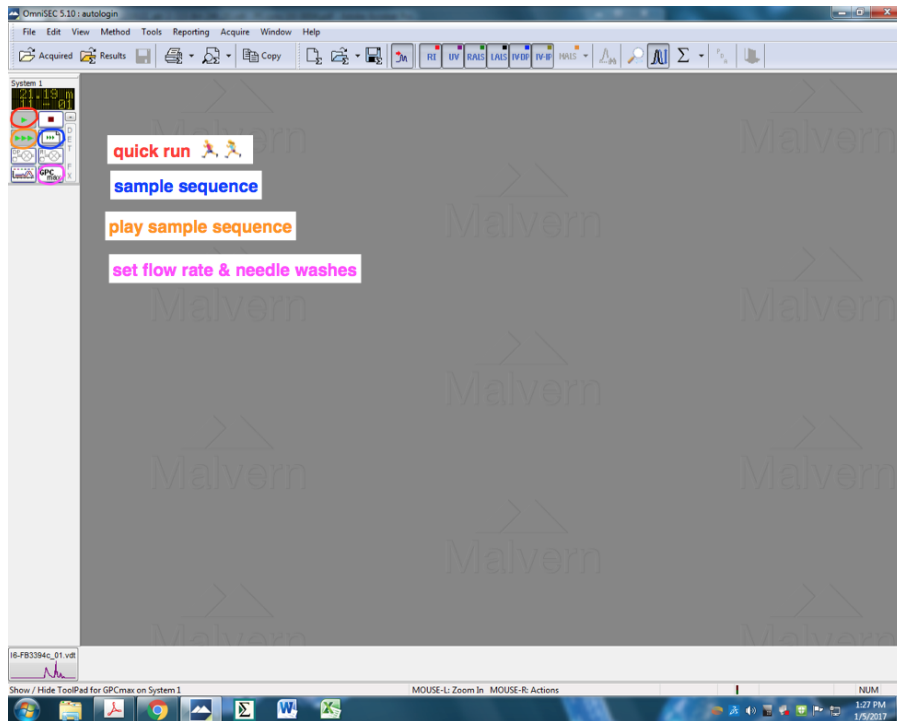
## Malvern Viscotek GPC

### Sample Prep

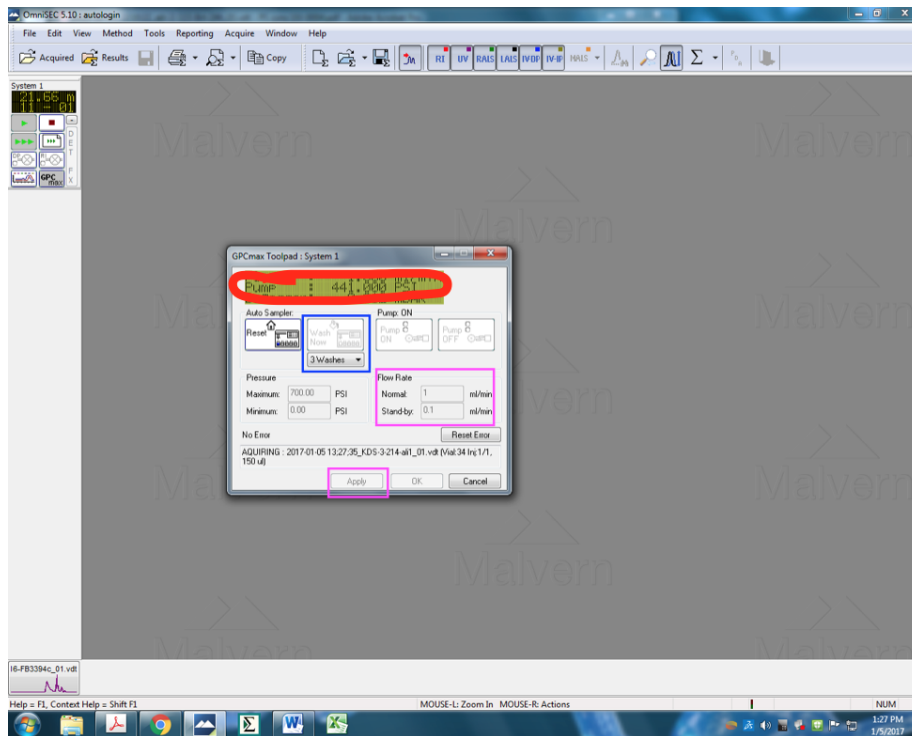
- Sample should be approximately 1mg (or less) per mL
- Dilute sample in GPC solvent (THF spiked with toluene) - use heat to help dissolve polymer
- Filter polymer through PTFE filter remove any undissolved particulates
- Sample vial is a 2 mL GPC/GC vial with septum

### Warming up the GPC

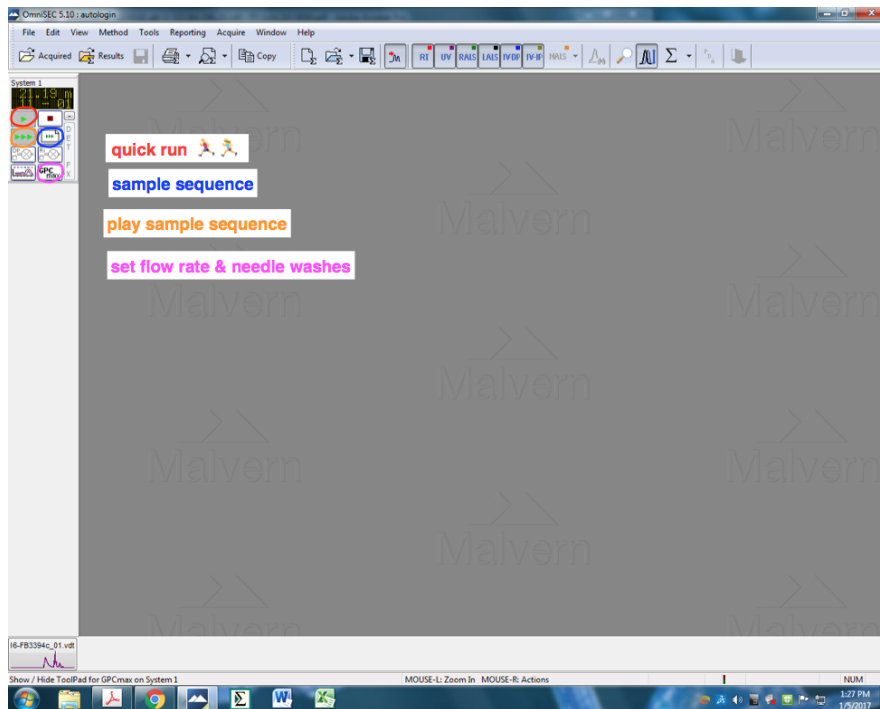
- 1) Check GPC solvent and waste
  - a) If low on solvent, talk to Amanda
  - b) If the waste is full, CHANGE IT. We do not want the line to be contaminated with old polymer samples.
- 2) Increase flow rate from 0.1 mL/min (resting flow) to 1.0 mL/min (in the GPC max window) (pink box)



- 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)

The screenshot shows the OmniSEC 5.10 software interface. The main window displays a sequence of samples with the following columns: Sample ID, Conc (mg/ml), Inj Vol (µl), Injs, dn/dc, dA/dC, Pre-Injection Commands, Post-Run Commands, and Notes. The first 10 samples are highlighted in red, indicating they are complete. A blue box highlights a dropdown menu for sample 10, showing options like 'Set Vial No.', 'Purge RI', 'Purge DP', 'Delay', and 'Invert RI'. A red box highlights the text 'red when complete' on the right side of the screen.

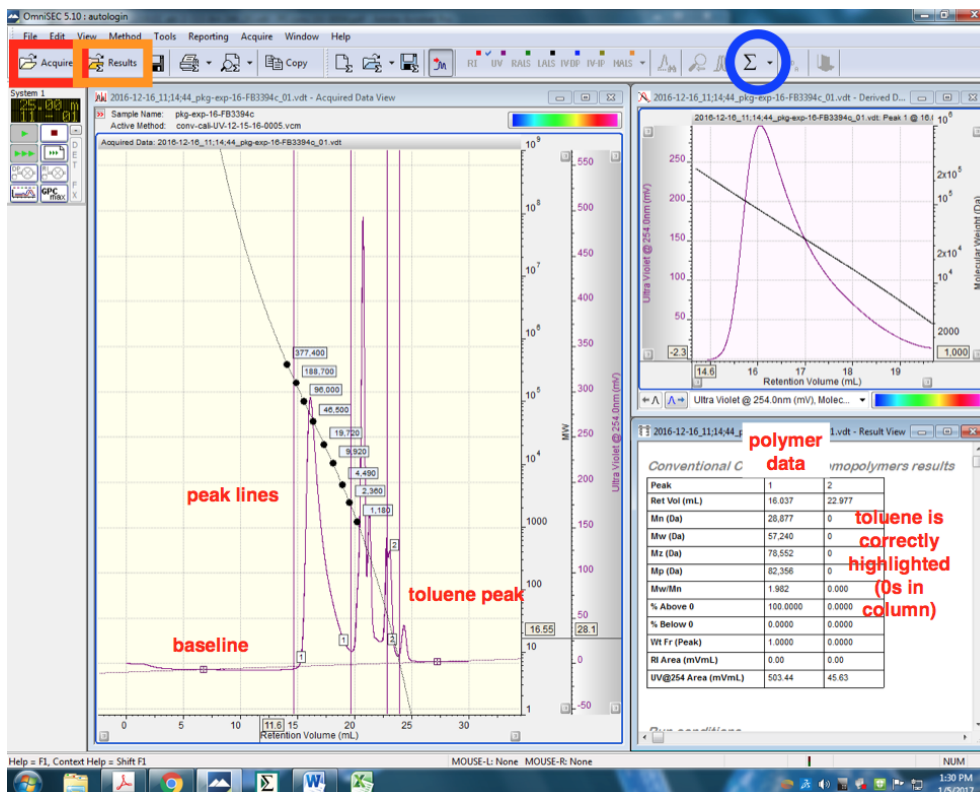
Sample ID	Conc (mg/ml)	Inj Vol (µl)	Injs	dn/dc	dA/dC	Pre-Injection Commands	Post-Run Commands	Notes
1 pkg-exp-17-FK3204a-Mon-HCl	1.0000	150.0	1	0.0000	0.0000	26		
2 pkg-exp-17-FK3205a-PEPPI-HCl	1.0000	150.0	1	0.0000	0.0000	27		
3 pkg-exp-17-FK3202a-dppe-HCl	1.0000	150.0	1	0.0000	0.0000	26		
4 pkg-exp-17-FK3203a-dppp-HCl	1.0000	150.0	1	0.0000	0.0000	27		
5 pkg-exp-17-FK3205a-PPh3-HCl	1.0000	150.0	1	0.0000	0.0000	28		
6 pkg-exp-17-FK3203a-dppp-HCl...	1.0000	150.0	1	0.0000	0.0000	28		
7 pkg-exp-17-FK3205a-PPh3-HCl...	1.0000	150.0	1	0.0000	0.0000	30		
8 pkg-exp-17-FK3202c-dppe-15_50	1.0000	150.0	1	0.0000	0.0000	31		
9 pkg-exp-17-FK3205c-PEPPI-15_...	1.0000	150.0	1	0.0000	0.0000	32		
10 pkg-exp-17-FK3204c-Mon-15_50	1.0000	150.0	1	0.0000	0.0000	33		
11 KDS-3-214-ali1	1.0000	150.0	1	0.0000	0.0000	34		
12 KDS-3-214-ali2-1h	1.0000	150.0	1					
13 KDS-3-215-1	1.0000	150.0	1					
14 KDS-3-215-2	1.0000	150.0	1					
15 KDS-3-215-3	1.0000	150.0	1					
16 KDS-3-215-4	1.0000	150.0	1					
17 KDS-3-215-5	1.0000	150.0	1					
18 KDS-3-215-6	1.0000	150.0	1					

- 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

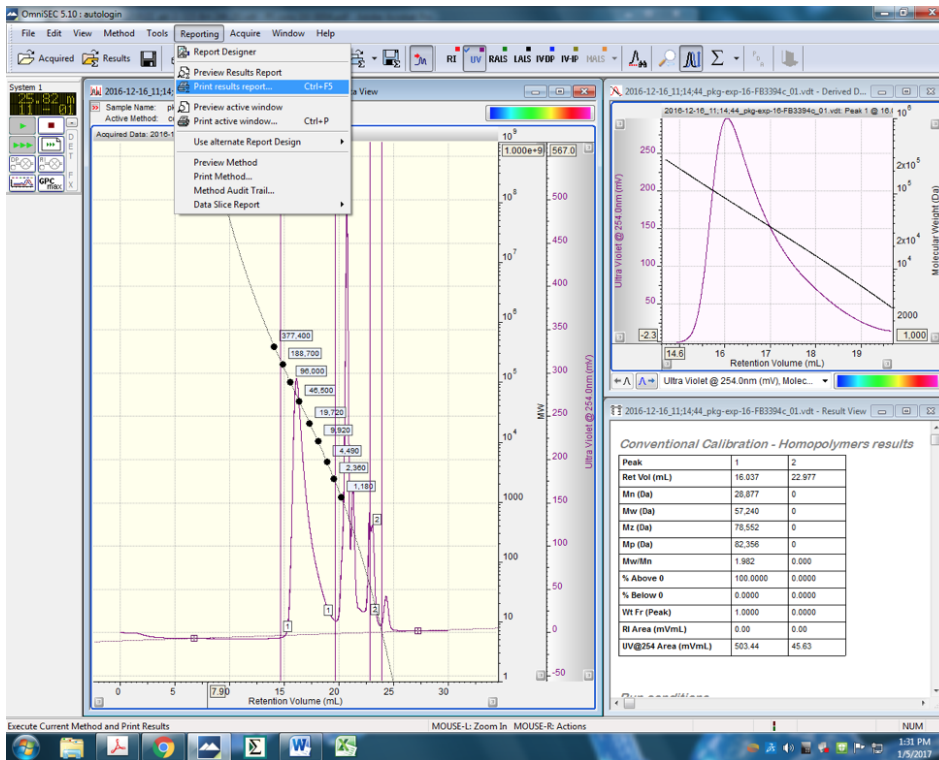
- 1) First time opening file choose the Acquired tab (red box top left) (after saving results, saved results are in the Results tab (orange box top left))



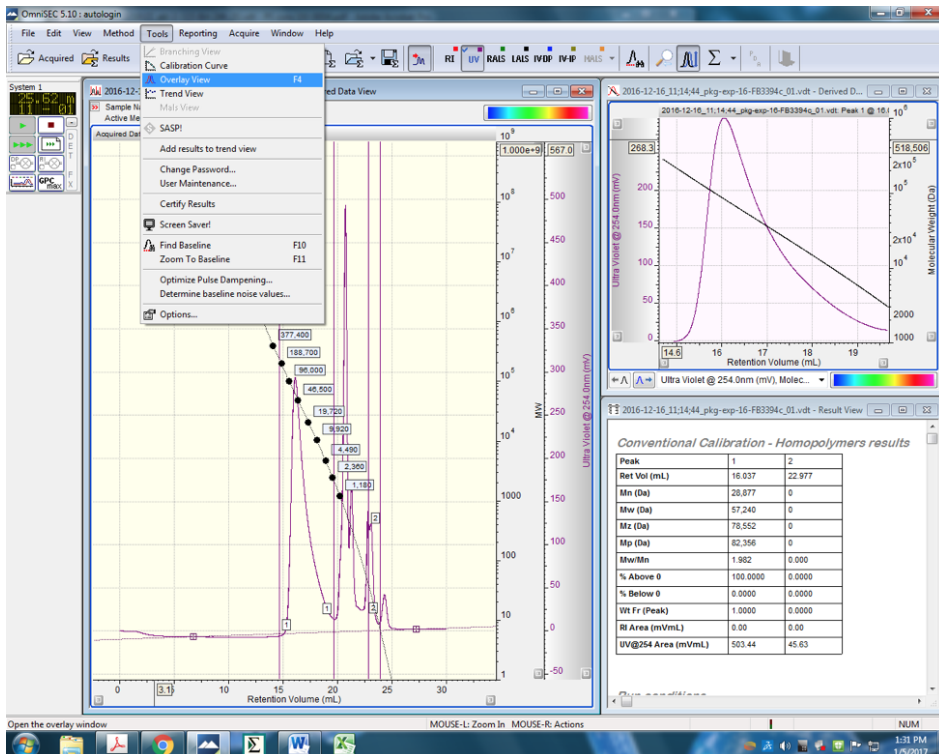
- 2) Select baseline (shift and right click) and peak lines (shift and left click)
- 3) Select toluene peak (~22-23 min)
- 4) Select method for analyzing (subsequent samples will automatically use the last used method)
- 5) Execute method
  - a) Click sum key (blue circle top right) OR F5
  - b) window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

# Saving Results

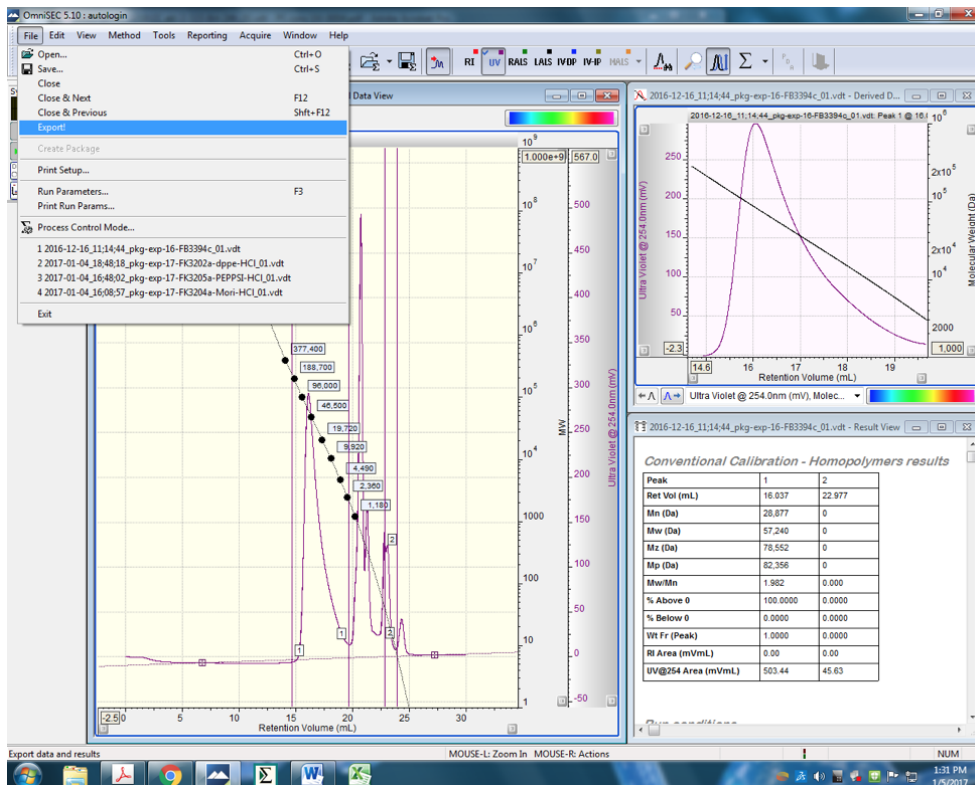
1) Reporting -> print results report (or cntrl+F5)



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