



# EcoSEC RI/UV GPC

## Standard Operating Procedure

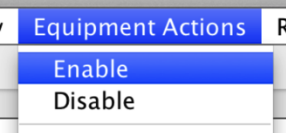


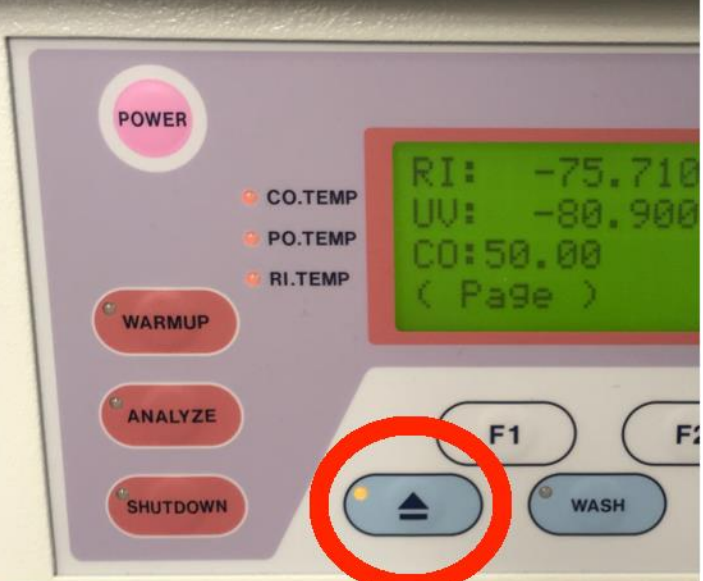


These instructions are intended for reference only, and will *not* replace the thorough training required for proper system operation. Contact a superuser/ staff member with questions or to report a system problem.

Written by Dr. Daniel Paley, updated by Dr. Manju Rajeswaran (June, 2021)





<p><b>1.</b></p>	<p>Enable the tool in <b>BADGER</b></p>	
<p><b>2.</b></p>	<p>Check the solvent supply. Make sure at least 200 mL of solvent is available. If not, contact staff to refill. (NOTE: Your sample must be completely soluble in DMF w/ 0.01M LiBr).</p>	
<p><b>3.</b></p>	<p>Sample preparation: Dissolve ~0.1 mg of sample in 1 mL of mobile phase. Filter the sample through a 0.2 um PTFE syringe filter. Your sample must be transparent with no particulates. Place the sample in a 2mL vial with a septum cap.</p>	
<p><b>4.</b></p>	<p>Open the sample tray with the "eject" button.</p>	





<p><b>5.</b> Place your sample in the tray. Remember the vial number.</p>	
<p><b>6.</b> Start the EcoSEC software by double-clicking the EcoSEC icon.</p>	
<p><b>7.</b> Start the EcoSEC application. Click on the blue diamond icon and login with username <b>Labuser</b> and password <b>polymer1</b>.</p>	
<p><b>8.</b> Press Power to start power →</p>	







<p><b>13.</b> On the flow diagram, right click on the UV detector and select “Lamp ON/OFF”. Allow the UV lamp to warm-up for 30 minutes before running your sample. NOTE: when the lamp has turned on the UV detector icon should be illuminated. <b>DO NOT FORGET TO TURN THE LAMP OFF AFTER YOUR RUN.</b></p>													
<p><b>14.</b> To set up your samples, first enter the sample info. Click on the vial icon.</p>													
<p><b>15.</b> The most recently run queue will be displayed on screen. To start a new queue, click “new” and enter the name for your sample queue. Note: all of the samples you run today will be saved under this queue name.</p>													
<p><b>16.</b> For each sample: enter the proper cup number (position on the auto sampler tray), and name. The rest use the default settings. Double check to make sure your sample(s) is loaded into the proper position(s) in the auto sampler.</p>	<table border="1" data-bbox="860 1680 1494 1806"> <thead> <tr> <th>Cup</th> <th>Sample Name</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>testrun</td> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>3</td> <td></td> </tr> <tr> <td>4</td> <td></td> </tr> <tr> <td>5</td> <td></td> </tr> </tbody> </table>	Cup	Sample Name	1	testrun	2		3		4		5	
Cup	Sample Name												
1	testrun												
2													
3													
4													
5													







17.	Select Monitor	
18.	It is recommended to wait (about 30 minutes) till baseline is linear and stabilized before starting – all pressure, temp and RI and UV signals are stable.	
19.	To initiate the run, click the analysis dropdown menu and select Start.	
20.	Each sample will run for ~ 50 minutes. When your run(s) have finished, select power off from main menu.	
21.	Process your data (steps 22-27) and disable the instrument.	





<p><b>22.</b> To analyze your samples, start the analysis application. Double click on the EcoSEC desktop icon and then select the red diamond application. Log in with username <b>LabUser</b> and password <b>polymer1</b>.</p>	
<p><b>23.</b> Note: The analysis application will first populate a previously analyzed sample(s). To locate your sample, click on the browse button and find your queue on the day it was run. Then click on the sample you want to analyze.</p>	
<p><b>24.</b> Select the most current calibration method for analysis.</p>	
<p><b>25.</b> To determine the Mn, Mw, and dispersity index of your samples, click “Peak Edit.” Use the Draw, Move, and Delete buttons to edit your peaks.</p>	





<p><b>26.</b> Finally, select "Calculation--Edited Peak". For each selected peak, the software will use the calibration curve to calculate the Mn, Mw, and dispersity index.</p>	
<p><b>27.</b> Record the calculated values. To generate a PDF report, save your data (Chromatogram--Save; type anything in the "reason" dialog), then Report--Print Chromatogram Report.</p>	
<p><b>28.</b> Before disabling the instrument, double-check that the UV Lamp is off.</p>	
<p><b>29.</b> <b>BADGER LOGOUT:</b> Don't forget to disable the tool in badger after you're done.</p>	

