Switching Variables between plots

Occasionally it is necessary to quickly switch variables between the Y1 axis and the Y2 axis. This is frequently necessary because the range of the variables plotted is vastly different. In this example, we are using the files created in Chapter 8. See: <u>http://wiki.olisystems.com/wiki/images/5/53/Chapter_08.zip</u> for the latest version of the worked file or **pH** (Mixer)in Chapter 8 on page 144 above.

In this example, we are mixing an acidic stream containing citric acid with a basic stream containing NaOH. Here is the resultant plot. Here is the resultant plot:



Figure 14 Chapter 8 citric acid survey

Perhaps we want to see an additional variable such as pH on this plot. Using the <u>Variables</u> button, select pH from the <u>Additional Stream Parameters</u> category.

Survey Variables			X Axis
Mix Parameters		\rightarrow	Multiplier - NaOH
Stream Parameters]
Calculation Results			Y1 Axis
. Inflows	=		C6H8O7 - Ag
- Additional Stream Parameters		>>	C6H707-1
Density - Aqueous			C6H6O7-2
Density - Total		<<	C6H5O7-3
Ionic Strength (m-based) - Aqueous	s —		
Ionic Strength (x-based) - Aqueous Init Advenues Standard Liquid Volume - Aqueous			Y2 Avis
- Phase Flow Properties			127905
Thermodynamic Properties		>>	
- Scaling Tendencies			
Pre-scaling Tendencies		<<	
Aqueous			
• Vapor			
E- Solid	-		Z Axis
(III)			- Select -
2			
Hide zero species			

Figure 15 Selecting pH from the Additional Stream Parameters

This will put the pH on the Y1 axis by default. Here is the resultant plot:



Figure 16 pH plotted, this skews the view

The variable "pH" has dominated the plot. Its values dwarf the vales of the ions. The pH variable should be plotted on the Y2 axis.

We can switch the variables easily. Using the **Variables** button. Highlight the pH variable in the Y1 axis box.

Y1 Axis		
рH		
C6H8O7 - Aq		
C6H707-1		
C6H6O7-2		
C6H5O7-3		

Figure 17

Now right-click the variable



Figure 18 Right-clicking "pH"

Select Move Selected Tag(s) to Y2 Axis



Figure 19 Variable moved

Here is the updated plot.



Figure 20 Updated plot with Y2 axis variable