

USE ORIGIN AND LENGTH TO PINPOINT AND MATCH UP MULTIPLE GRAPHS

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ABSTRACT

Comparison of two or more related graphical situations is often best done when the graphs are side by side. The example we look at here is two chromatograms or line graphs. These chromatograms can be lined up exactly on one page through precise placement of their respective origins and the identical length for each respective axis. The key here is to think of the layout of the graphical page in terms of percentage of screen area and not cells or inches.

PRODUCE THE FIRST GRAPH ON THE LEFT

The strategy overall here will be to use the technique of re-displaying graphs into one screen template using the GREPLAY procedure. The first step in doing this is to produce the graph and store it in a temporary graphics catalog. If the graph origin or (0,0) point is placed 15 percent of the screen from the left side and 25 percent up from the bottom, and if the horizontal axis then ends 40 percent from the left side, then this graph can be displayed in the left half of the screen. The GUNIT=PCT option in the GOPTIONS statement ensures that the units used (for H=, etc.) will be in percentage of the screen area. See figure 1 below for the first chromatogram.

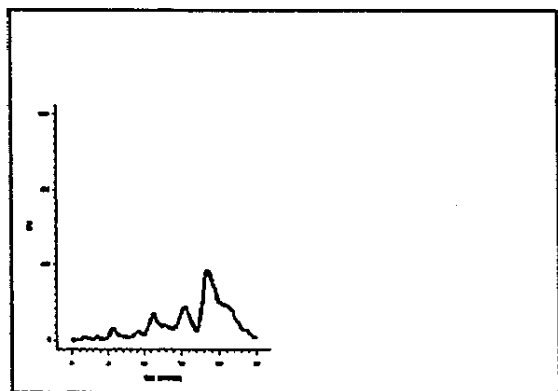


Figure 1

SAS Code:

```
GOPTIONS GUNIT=PCT DEVICE=PS300
          FTEXT=DUPLEX NODISPLAY ROTATE ;
PROC Gplot DATA=CHROM832
          GOUT=TEMPCAT ;
PLOT DPM * TIME = 1 /
      VAXIS=AXIS1 HAXIS=AXIS2 ;
AXIS1 LABEL = (A=90 R=0 H=0.7 'DPM')
      VALUE = (H=0.7) OFFSET = (2)
      ORDER = 0 TO 1200 BY 400
      ORIGIN = (15,25) LENGTH = 55 ;
AXIS2 LABEL = (H=0.7 'TIME (MINUTES)')
      VALUE = (H=0.7) OFFSET = (2)
      ORDER = 0 TO 26 BY 5
      ORIGIN = (15,25) LENGTH = 30 ;
SYMBOL1 V=NONE I=J C=BLACK W=2 ;
RUN ;
```

PRODUCE THE SECOND GRAPH ON THE RIGHT

The next step in doing this is to produce the second graph and store it in a temporary graphics catalog. If the graph origin or (0,0) point is placed 65 percent of the screen from the left side and 25 percent up from the bottom, and if the horizontal axis then ends 95 percent from the left side, then this graph will fit in the right half of the screen. See figure 2 below for the second chromatogram. Note that its title, the title of the other graph, and the overall title for the pair of graphs are also included. To conserve space, the SAS code used to produce this graph has not been reproduced. Aside from a different data set name in the Gplot line, the only difference is the ORIGIN=(65,25) option in each AXIS statement. Note also that the MOVE= option has been used to position the title for each graph at (27,77) and (75,77) respectively.

REPLAY TIME

Now is the time to invoke the GREPLAY procedure, paint the screen template, and replay each of the graphs. If you have included the NODISPLAY option in the previous GOPTIONS statement in your program, don't forget to put in another GOPTIONS statement with the

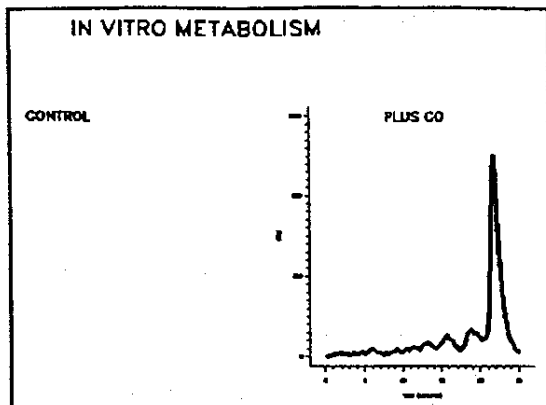


Figure 2

DISPLAY option in it at this point in your program. The final product is displayed in figure 3. The SAS code to produce this follows and is discussed in detail in reference [1].

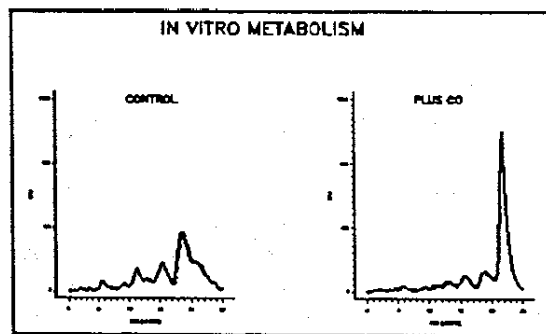


Figure 3

SAS code:

```
GOPTIONS GUNIT=PCT DEVICE=PS300 DISPLAY
ROTATE;
PROC GREPLAY IGOUT=TEMPCAT NOFS ;
DEVICE=PS300 ;
TC TEMPTEMP ;
TDEF LEFTRGT
      I/LLX=0      LLY=0
      ULX=0        ULY=100
      URX=100     URY=100
      LRX=100     LRY=0 ;
TEMPLATE LEFTRGT ;
TREPLAY 1:1 1:2 ;
RUN ;
```

CONCLUSION

Comparison of two or more related graphical situations is often best done when the graphs are side by side. The two chromatograms discussed in this paper can be lined up exactly on one page through precise placement of their respective origins and the identical length for each respective axis. This is done using the ORIGIN= and LENGTH= options on the AXIS statements for the vertical and horizontal axes of each graph. The easiest way to line up the two graphs is to think of the layout of the graphical page in terms of percentage of screen area.

REFERENCES

1. Mendelson, I., "Replay Your SAS Graphs into One Template", *NESUG '93: Proceedings of the Sixth Annual NorthEast SAS Users Group*. (1993), pp. 179-180
2. SAS/GRAPH® Software: Reference, Version 6, First Edition, Volumes 1 and 2

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