

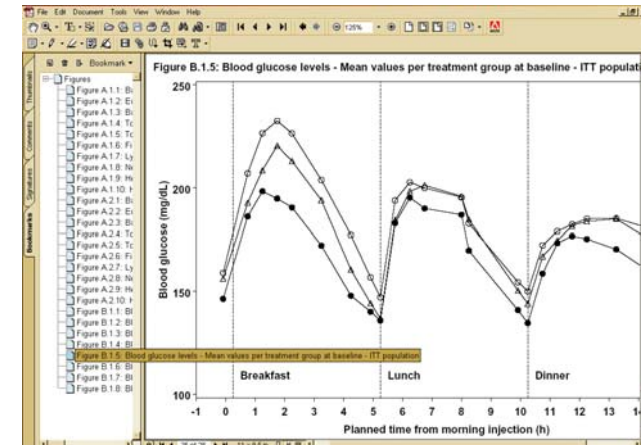
## Sort Your SAS Graphs and Create a Bookmarked PDF Document Using ODS PDF

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### Intro

In SAS there are different possibilities for creating and storing graphs. Bookmarked PDF documents are user-friendly. This poster describes a technique used to automate the sorting of graphs and the creation of bookmarked PDF documents containing all graphs using ODS PDF.

Example for bookmarked PDF with graphs:



### Create Your Graphs

✓ Store Graphs in SAS Catalog

```
PROC GPLOT... GOUT=graph.safety;
```

✓ Assign Unique Number as Description

```
PLOT hct*time/description=
"Figure A.1.10: Hematocrit";
```

The description is converted to a PDF bookmark.

### Sort Your Graphs

✓ Extract Metadata From SAS Catalog

Library Name (LIBNAME)	Member Name (MEMNAME)	Object Name (OBJNAME)	Object Description (OBJDESC)
GRAPH	SAFETY	GPLOT8	Figure A.1.9: Hemoglobin
GRAPH	SAFETY	GPLOT9	Figure A.1.10: Hematocrit

✓ Sort Metadata by Object Description

Example:  
OBJDESC=  
A.1.10

Character	Numeric
C1= "A"	N1= .
C2= ""	N2= 1
C3= ""	N3= 10

Sort by:  
C1 N1 C2 N2...

In our example we divide the figure number in its character and numeric parts to account for figure numbers containing a mixture of alphanumeric characters. These parts are then used for sorting.

### Create GREPLAY Code

✓ Use Sorted Metadata

```
PUT "IGOUT= " LIBNAME +(-1) "." MEMNAME " ";";
PUT "REPLAY " OBJNAME " ";";
PUT "RUN;";";
```

The generated code is written to an external file, which can later be included in the program.

### Create Bookmarked PDF

✓ Proc GREPLAY

```
ODS PROCLABEL= "Figures"; ❶
OPTIONS ORIENTATION=LANDSCAPE; ❷
ODS PDF FILE="..." STYLE=PRINTER; ❸
GOPTIONS HSIZE=... HORIGIN=...
TARGET=... ROTATE= LANDSCAPE; ❹
PROC GREPLAY NOFS; ❺
%INCLUDE "..."; ❻
QUIT;
ODS PDF CLOSE;
```

- ❶ High-level PDF bookmark.
- ❷ OPTION ORIENTATION must be the same as the value for the GOPTION ROTATE.
- ❸ Name of PDF output file. "STYLE= printer" option for white background.
- ❹ Set GOPTIONS for correct reproduction of the graphs.
- ❺ NOFS prevents default line mode.
- ❻ Include file with REPLAY statements.

### More Info

More details, the system requirements and some restrictions on the process are described in the paper CC01. For additional questions you can contact the authors:

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