

```

%_mprintto;
options notes nosource;
proc datasets lib=work nolist memtype=data kill; quit;
%put NOTE:
=====;
%put NOTE: Covance Study Number : 000000106326;
%put NOTE: Client Protocol ID   : ZRHM-PK-05-JP;
%put NOTE: Program Name        : f_pkconc3_1.sas;
%put NOTE: Purpose              : Figure of plasma nicotine
concentrations Group-1 upto 1hr;
%put NOTE: ;
%put NOTE: Input Data           : ADAM.ADPC;
%put NOTE: Output               : f_15_1_2_2_1_1(pkconc);
%put NOTE: Macros Called        : _MPRINTTO;
%put NOTE: ;
%put NOTE: Programmed by        : cvn_jhardman;
%put NOTE: Creation Date        : 2014-08-12;
%put NOTE: SAS Version          : 9.3;
%put NOTE: ;
%put NOTE: == Latest Run
=====;
%put NOTE: Run by                : &sysuserid;
%put NOTE: Date/Time             :
%sysfunc(putn(%sysfunc(date()),e8601da.))T%sysfunc(putn(%sysfunc(time()),
e86011z.));
%put NOTE: ;
%put NOTE: == Modification History
=====;
%put NOTE: Date      Initials   No. Reason;
%put NOTE: 13Aug2014  JMH        1) Amended handling of BLQ values;
%put NOTE: 22Sept14   Ck         2) output excel file;
%put NOTE: 22Sept14   CK         3) move titles and foontoos outside
graph area;
%put NOTE: 22Sept14   CK         4) Use PACTIME;
%put NOTE:
=====;
options notes source source2 nofullstimer validvarname=upcase missing='
';
ods _all_ close;
ods listing;

*=====;
* START OF PROGRAM CODE                                     ;
*=====;

/* Standard - just change the number to match the listing you're working
on. Also change the letters in the*/
/* bracket, eg ccb = current cigarette brands. Make sure to do this at
the top of the code too. */
%let tflno=F_15_01_02_02_01_01(pkconc);

/* Standard - leave this */
%let TFL_Part=%scan(&_SASPROGRAMFILE,-3,%str(/));

```

```

/* Standard - leave this */
data _null_;
    tmp="&TFL_Part";
    if tmp not in ("dev" "qc") then call symput("TFL_Part", "prod");
    call symput('TFLpath', compress("&_SASPROGRAMFILE", ""));
run;

/* Example of basic GTL syntax */
ods _all_ close;
%let temp=/cvn/projects/prj/development/000000106326/dev/macro/;

/* Ensure ODS listing, html etc is turned off to prevent */
/* temporary or junk image files being produced */
options notes source source2 nofullstimer validvarname=upcase
nonumber nodate orientation=portrait papersize=&p_pgsz missing=' ';
ods graphics on; /* As we are effectively using ODS graphics we need to
ensure that it is turned on */
ods graphics / height=18cm width=18cm noborder noscale; /* Removes border
around the image */
ods path reset;
/* please include styles template */
%include "&temp.figtmp.sas";

ods rtf toc_data
file="/cvn/projects/prj/data/000000106326/TFL/&TFL_Part/&tflno..rtf"
style=t106326_g startpage=yes headery=1440 footery=1440 ;

ods exclude all;

proc sort data = adam.adpc(where=(analgr1 = "Group-1" and paramcd='NIC'
and pprotfl ='Y' and pcstat ne 'NOT DONE' and anl01fl='Y')) out = adpc;
    by param avalu trtan trta atptn atpt;
run;

data adpc1;
    set adpc;
    timeh=/* pnomtime*/ PACTIME/60; /* 4) CK 22Sept14 */
    if /*aval ge 0.2*/ DTYPE NE 'BLQZERO' and not missing(aval) then
logaval=aval; /* 1) JMH 13Aug2014 */

    if atptn gt 13 then delete; /*We only want timepoints upto T0+1h*/
    tpt=pnomtime;

    IF TIMEH LT 0 THEN TIMEH=0; /* 4) CK 22Sep2014 */

run;

/* 2) START CK 22Sep2014 */
PROC SQL;
CREATE TABLE ADPCX AS
SELECT USUBJID, PARAM, TRTA, TIMEH, AVAL, LOGAVAL

```

```
FROM ADPC1 (WHERE=(NOT MISSING(USUBJID))) ORDER BY TRTAN, USUBJID, TIMEH;  
QUIT;
```

```
PROC EXPORT  
DATA=ADPCX  
DBMS=XLSX  
OUTFILE="/cvn/projects/prj/data/000000106326/TFL/&TFL_Part./&tflno..xlsx"  
REPLACE;  
SHEET=Sheet1;  
/* 2) END CK 22Sep2014 */
```

```
proc format;  
value xaxis
```

```
0="0"  
2="2"  
4="4"  
6="6"  
8="8"  
10="10"  
15="15"  
30="30"  
45="45"  
60="60";
```

```
run;
```

```
title;  
footnote;
```

```
data paging; /* paging is derived normally as with RTF type TFL */
```

```
set adpc1 end=last;  
flag=1;
```

```
if trta='THS 2.2 Menthol' then page=1;  
else if trta='mCC' then page=2;
```

```
if last then call symput("maxpage", compress(page));
```

```
run;
```

```
ods escapechar='|';
```

```
%macro graph();
```

```
%do i=1 %to &maxpage; /* paging can either be done through a do loop or  
multiple macro calls */
```

```
data plot;  
set paging;  
where page = &i;  
call symput("unit",strip(avalu));  
call symput('trta',strip(trta));  
run;
```

```

proc template;
define statgraph splot /store = work.templat;

    begingraph / border=false ;
        /* 3) CK 22Sept14 */
        /* entrytitle halign=left "Figure 15.1.2.2.1.1 Nicotine Plasma
Concentration (ng/mL) Profiles for All Subjects - Group-1 PK Population";
            entrytitle halign=left " ";

            entryfootnote halign=left " ";
            ENTRYFOOTNOTE HALIGN=LEFT "----- Lower limit of
quantification (0.2 ng/mL)";
            entryfootnote halign=left "Note: mCC = menthol conventional
cigarettes; THS = Tobacco Heating System.";
            entryfootnote halign=left " ";
            entryfootnote halign=left "Appendix 15.3.3.2";
            entryfootnote halign=left "Path: &TFLpath." halign=right "(Page
&i of &maxpage)";
            entryfootnote halign=left "Program Run: &sysdate  &sysuserid
Program Status: &status"; */

/* needs to be wrapped by an extra layout lattice to be able to set plots
side by side or one on top of the other */
        layout lattice / columns=1 rows=2 columngutter=2px
columnndatarange=union rowndatarange=union;

        cell;
            cellheader;
                entry halign=left " ";
                entry halign=left "Product: &trta.";
                entry halign=left " ";
            endcellheader;
            layout overlay /

                                xaxisopts=(tickvalueattrs=(size=9pt)
linearopts=(tickvaluelist=(0 2 4 6 8 10 15 30 45 60))
                                label="Time post-
product (minutes)")
                                yaxisopts=(type=linear
linearopts=(tickvaluesequence=(start=0 end=60 increment=10)
                                viewmin=0 viewmax=60)
                                label="Nicotine
(&unit)"
                                labelattrs=(size=10pt))
                                cycleattrs=false;

                                referenceline y=0.2 / lineattrs=(pattern=shortdash);

        /* Error bars only available on scatterplot, overlay scatterplot
and seriesplot to get SE bars */
            seriesplot x=tpt y=aval / primary=true
group=subjid lineattrs=(color=black pattern=1 thickness=0.7)
markerattrs=(color=black symbol=triangledownfilled size=9)
legendlabel="mean" name="series";
        endlayout;

```

```

endcell;

cell;
  cellheader;
    entry halign=left " ";
    entry halign=left "Semi-logarithmic scale";
    entry halign=left " ";
  endcellheader;
  layout overlay /
                                xaxisopts=(tickvalueattrs=(size=9pt)
linearopts=(tickvaluelist=(0 2 4 6 8 10 15 30 45 60))
                                label="Time post-
product (minutes)")
                                yaxisopts=(type=log label= "Nicotine
(&unit)" labelattrs=(size=10pt)
                                logopts=(tickintervalstyle=logexpand
viewmin=0.1 viewmax=100 base=10)

                                tickvalueattrs=(size=8pt))
                                cycleattrs=false;

                                referenceline y=0.2 /
lineattrs=(pattern=shortdash);

/* Error bars only available on scatterplot, overlay scatterplot
and seriesplot to get SE bars */
                                seriesplot x=tpt y=logaval / primary=true
group=subjid break=true lineattrs=(color=black pattern=1)
markerattrs=(color=black symbol=triangledownfilled size=9)
legendlabel="mean" name="series";
                                endlayout;
  endcell;

endLayout;

endgraph;
end;
run;

ods select all;

/* 3) START CK 22Sep2014 */
ODS ESCAPECHAR='^';
ODS RTF PREPAGE="^S={outputwidth=100% just=1 font_size=12pt
font_weight=bold background=white foreground=black
font_face=arial}^R/RTF'\QL' Figure 15.1.2.2.1.1 Nicotine Plasma
Concentration (ng/mL) Profiles for All Subjects - Group-1 PK Population";
/* 3) END KB 22Sep2014 */

proc sgrender data=plot template=spplot; /* applies the above
template to the specified data */

```

```

        format tpt xaxis.;

run;
/* 3) START CK 22Sep2014 */
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL'";
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL'----- Lower limit of
quantification (0.2 ng/mL)";
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL' Note: mCC = menthol
conventional cigarettes; THS = Tobacco Heating System.";
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL'";
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL' Appendix 15.3.3.2";
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL' Path: &TFLpath.
(Page &i of &maxpage)";
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL' Program Run: &sysdate
&sysuserid Program Status: &status";
/* 3) END CK 22Sep2014 */
ods exclude all;

%end;

%mend graph;

%graph;

proc printto;
run;

ods rtf close;
ods listing;
ods select all;

*=====;
* END OF PROGRAM CODE;
*=====;

```