

# Formatting Tables with latexpdf

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## Introduction

The R package 'latexpdf' supports rich aesthetics for embedding tables in PDF documents, illustrated below. Be sure to set chunk option 'results' to 'tex'. Although illustrations use `as.ltable()`, many arguments are passed through to `as.tabular()`. See also `as.pdf()` for creating stand-alone table images.

## Examples

We make a sample data frame.

```
> x <- data.frame(
+   study=c(rep('PROT01', 5), NA),
+   subject=rep(c(1001, 1002), each=3),
+   time=c(0, 1, 2, 0, 1, 2),
+   conc=c(0.12, 34, 5.6, .5, 200, NA)
+ )
> x
```

```
   study subject time  conc
1 PROT01    1001    0  0.12
2 PROT01    1001    1 34.00
3 PROT01    1001    2   5.60
4 PROT01    1002    0   0.50
5 PROT01    1002    1 200.00
6  <NA>    1002    2    NA
```

Now we try various invocations.

```
> library(latexpdf)
> writeLines(as.ltable(x))
```

study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34.00
PROT01	1001	2	5.60
PROT01	1002	0	0.50
PROT01	1002	1	200.00
	1002	2	

```
> writeLines(as.ltable(x, environments=NULL))
```

study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34.00
PROT01	1001	2	5.60
PROT01	1002	0	0.50
PROT01	1002	1	200.00
	1002	2	

```
> writeLines(as.ltable(x,caption='Plasma Concentrations',label='pctab'))
```

Table 1: Plasma Concentrations

study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34.00
PROT01	1001	2	5.60
PROT01	1002	0	0.50
PROT01	1002	1	200.00
	1002	2	

```
> writeLines(as.ltable(x,caption='Plasma Concentrations',cap.top=FALSE))
```

study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34.00
PROT01	1001	2	5.60
PROT01	1002	0	0.50
PROT01	1002	1	200.00
	1002	2	

Table 2: Plasma Concentrations

```
> writeLines(as.ltable(x,grid=TRUE,caption='grid is TRUE'))
```

Table 3: grid is TRUE

study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34.00
PROT01	1001	2	5.60
PROT01	1002	0	0.50
PROT01	1002	1	200.00
	1002	2	

```
> writeLines(as.ltable(x,grid=TRUE,caption='Includes Walls',walls=1,rules=c(1,2,1)))
```

Table 4: Includes Walls

study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34.00
PROT01	1001	2	5.60
PROT01	1002	0	0.50
PROT01	1002	1	200.00
	1002	2	

```
> writeLines(as.ltable(x,grid=TRUE,caption='Custom Breaks',
+   colbreaks=c(0,2,0),rowgroups=x$subject
+ ))
```

Table 5: Custom Breaks

study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34.00
PROT01	1001	2	5.60
PROT01	1002	0	0.50
PROT01	1002	1	200.00
	1002	2	

```
> writeLines(as.ltable(x,grid=TRUE,caption='Custom Justify',
+   numjust='left',charjust='right'
+ ))
```

Table 6: Custom Justify

study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34.00
PROT01	1001	2	5.60
PROT01	1002	0	0.50
PROT01	1002	1	200.00
	1002	2	

```
> writeLines(as.ltable(x,grid=TRUE,caption='Decimal Align',
+   justify=c('center','left','right','decimal')
+ ))
```

Table 7: Decimal Align

study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34
PROT01	1001	2	5.6
PROT01	1002	0	0.5
PROT01	1002	1	200
	1002	2	

```
> writeLines(as.ltable(x,grid=TRUE,caption='Not Verbatim',
+   justify=c('center','left','right','decimal'),
+   verbatim=FALSE
+ ))
```

Table 8: Not Verbatim

study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34
PROT01	1001	2	5.6
PROT01	1002	0	0.5
PROT01	1002	1	200
	1002	2	

```
> writeLines(as.ltable(x,grid=TRUE,caption='Custom Column Width',
+   justify=c('center','left','right','decimal'),
+   colwidth=c(NA,NA,NA,'2cm')
+ ))
```

Table 9: Custom Column Width

study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34
PROT01	1001	2	5.6
PROT01	1002	0	0.5
PROT01	1002	1	200
	1002	2	

```
> writeLines(as.ltable(x,caption='Row Colors',rowcolors=c('white','lightgray')))
```

Table 10: Row Colors

study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34.00
PROT01	1001	2	5.60
PROT01	1002	0	0.50
PROT01	1002	1	200.00
	1002	2	

```

> writeLines(
+   as.ltable(
+     x,
+     caption='Row Groups',
+     rowgroups=as.character(x$subject),
+     rowgrouplabel='groups',
+     rowgrouprule = 2
+   )
+ )

```

Table 11: Row Groups

groups	study	subject	time	conc
\multirow{3}{*}{1001}	PROT01	1001	0	0.12
	PROT01	1001	1	34.00
	PROT01	1001	2	5.60
\multirow{3}{*}{1002}	PROT01	1002	0	0.50
	PROT01	1002	1	200.00
		1002	2	

```

> writeLines(
+   as.ltable(
+     x,
+     caption='Column Groups',
+     colgroups=c('demographic', 'demographic', 'clinical', 'clinical')
+   )
+ )

```

Table 12: Column Groups

demographic		clinical	
study	subject	time	conc
PROT01	1001	0	0.12
PROT01	1001	1	34.00
PROT01	1001	2	5.60
PROT01	1002	0	0.50
PROT01	1002	1	200.00
	1002	2	

```

> writeLines(
+   as.ltable(
+     x,
+     caption='Row and Column Groups',
+     rowgroups=as.character(x$subject),
+     colgroups=c('demographic', 'demographic', 'clinical', 'clinical'),
+     rowgrouprule = 1,
+     grid=TRUE
+   )
+ )

```

Table 13: Row and Column Groups

	demographic		clinical	
	study	subject	time	conc
\multirow{3}{*}{1001}	PROT01	1001	0	0.12
	PROT01	1001	1	34.00
	PROT01	1001	2	5.60
\multirow{3}{*}{1002}	PROT01	1002	0	0.50
	PROT01	1002	1	200.00
		1002	2	