Demo Doc - pipe interface

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1 Data

Mostly working with this data; but some others come in later to illustrate certain features.

```
library(pmtables)
library(yspec)
spec <- ys_help$spec()</pre>
pmdata <- readRDS("datasets/pmdata.RDS")</pre>
head(pmdata)
## # A tibble: 6 x 9
    STUDYf
                DOSEf FORMf WT
                                     CRCL AGE
                                                 N
                                                       ALB
                                                             SCR
##
     <chr>
                <chr> <chr>
                               <chr> <chr> <chr> <chr> <chr> <chr> <chr>
## 1 12-DEMO-001 100 mg tablet 71.4 104
                                           33.7 80
                                                       4.20 1.06
## 2 12-DEMO-001 150 mg capsule 89.4 122
                                           24.4 16
                                                       4.63 1.12
## 3 12-DEMO-001 150 mg tablet 81.7 104
                                           34.4 48
                                                       3.83 0.910
## 4 12-DEMO-001 150 mg troche 94.0 93.2 27.4 16
                                                       4.94 1.25
## 5 12-DEMO-001 200 mg tablet 67.9 100
                                           27.5 64
                                                       4.25 1.10
## 6 12-DEMO-001 200 mg troche 76.6 99.2 22.8 16
                                                       4.54 1.15
data <- select(pmdata, STUDY = STUDYf, DOSE = DOSEf, WT, AGE, CRCL, ALB, SCR)
```

2 Simple table

```
data %>% st_new() %>% st_make(col_bold = TRUE, .cat = TRUE)
```

STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910
12-DEMO-001	150 mg	94.0	27.4	93.2	4.94	1.25
12-DEMO-001	200 mg	67.9	27.5	100	4.25	1.10
12-DEMO-001	200 mg	76.6	22.8	99.2	4.54	1.15
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28
12-DEMO-002	100 mg	77.6	29.9	106	4.31	0.981
12-DEMO-002	50 mg	74.1	37.1	112	4.44	0.900
12-DEMO-002	50 mg	71.2	34.1	106	4.63	0.868
12-DEMO-002	75 mg	72.4	38.2	105	3.89	0.900
12-DEMO-002	75 mg	71.6	34.2	98.9	4.49	0.991
12-DEMO-002	75 mg	73.6	49.2	103	4.52	0.930

3 Annotate

- Arguments to identify the name of the generating R script and the output file name
- The output file name is retained as an attribute to be used later when saving the table data
- Arbitrary notes are also allowed (encouraged)

```
data %>%
  st_data() %>%
  st_files(r = "foo.R", output = "foo.tex") %>%
  st_notes(
    "Data were analyzed in quadruplicate.",
    "The results are very clear."
) %>%
  st_make(.cat =TRUE)
```

STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910
12-DEMO-001	150 mg	94.0	27.4	93.2	4.94	1.25
12-DEMO-001	200 mg	67.9	27.5	100	4.25	1.10
12-DEMO-001	200 mg	76.6	22.8	99.2	4.54	1.15
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28
12-DEMO-002	100 mg	77.6	29.9	106	4.31	0.981
12-DEMO-002	50 mg	74.1	37.1	112	4.44	0.900
12-DEMO-002	50 mg	71.2	34.1	106	4.63	0.868
12-DEMO-002	75 mg	72.4	38.2	105	3.89	0.900
12-DEMO-002	75 mg	71.6	34.2	98.9	4.49	0.991
12-DEMO-002	75 mg	73.6	49.2	103	4.52	0.930

Data were analyzed in quadruplicate.

The results are very clear.

Source code: foo.R Source file: foo.tex

4 Notes in minipage

- By default, notes are put in the 3rd part of threeparttable
- Alternatively, we can put them in a minipage just below the table

```
data %>%
  st_new() %>%
  st_files("foo.R", "foo.tex") %>%
  st_noteconf(type = "minipage", width = 0.65) %>%
  st_notes(
    "Data were analyzed in quadruplicate.",
    "The results are very clear."
) %>%
  st_make(.cat = TRUE)
```

STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910
12-DEMO-001	150 mg	94.0	27.4	93.2	4.94	1.25
12-DEMO-001	200 mg	67.9	27.5	100	4.25	1.10
12-DEMO-001	200 mg	76.6	22.8	99.2	4.54	1.15
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28
12-DEMO-002	100 mg	77.6	29.9	106	4.31	0.981
12-DEMO-002	50 mg	74.1	37.1	112	4.44	0.900
12-DEMO-002	50 mg	71.2	34.1	106	4.63	0.868
12-DEMO-002	75 mg	72.4	38.2	105	3.89	0.900
12-DEMO-002	75 mg	71.6	34.2	98.9	4.49	0.991
12-DEMO-002	75 mg	73.6	49.2	103	4.52	0.930

Data were analyzed in quadruplicate.

The results are very clear.

Source code: foo.R Source file: foo.tex

5 Align

- Center everything except for
- STUDY (left)
- DOSE and SCR (right)

```
data %>%
  st_new() %>%
  st_align("c", STUDY = 'l', .r = "DOSE,SCR") %>%
  st_make(.cat = TRUE)
```

STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910
12-DEMO-001	150 mg	94.0	27.4	93.2	4.94	1.25
12-DEMO-001	200 mg	67.9	27.5	100	4.25	1.10
12-DEMO-001	200 mg	76.6	22.8	99.2	4.54	1.15
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28
12-DEMO-002	100 mg	77.6	29.9	106	4.31	0.981
12-DEMO-002	50 mg	74.1	37.1	112	4.44	0.900
12-DEMO-002	50 mg	71.2	34.1	106	4.63	0.868
12-DEMO-002	75 mg	72.4	38.2	105	3.89	0.900
12-DEMO-002	75 mg	71.6	34.2	98.9	4.49	0.991
12-DEMO-002	75 mg	73.6	49.2	103	4.52	0.930

6 Units

• Automatically put units under the column name

```
data %>%
  st_new() %>%
  st_center(STUDY = 'l', .r = "DOSE,SCR") %>%
  st_units(WT = "kg", SCR = "mg/dL", DOSE = "mg") %>%
  st_make(.cat = TRUE)
```

	DOSE	WT				SCR
STUDY	(mg)	(kg)	AGE	CRCL	ALB	(mg/dL)
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910
12-DEMO-001	150 mg	94.0	27.4	93.2	4.94	1.25
12-DEMO-001	200 mg	67.9	27.5	100	4.25	1.10
12-DEMO-001	200 mg	76.6	22.8	99.2	4.54	1.15
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28
12-DEMO-002	100 mg	77.6	29.9	106	4.31	0.981
12-DEMO-002	50 mg	74.1	37.1	112	4.44	0.900
12-DEMO-002	50 mg	71.2	34.1	106	4.63	0.868
12-DEMO-002	75 mg	72.4	38.2	105	3.89	0.900
12-DEMO-002	75 mg	71.6	34.2	98.9	4.49	0.991
12-DEMO-002	75 mg	73.6	49.2	103	4.52	0.930

Alternatively

```
units <- ys_get_unit(spec, parens = TRUE)

data[1:3,] %>%
   st_new() %>%
   st_center(STUDY = 'l', .r = "DOSE,SCR") %>%
   st_units(units) %>%
   st_make(.cat = TRUE)
```

STUDY	DOSE	WT (kg)	AGE (years)	CRCL (ml/min)	ALB (g/dL)	SCR (mg/dL)
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910

7 Expand header rows

- Multiline table header
- Unlimited number
- Use . . . to break

```
data %>%
  st_new() %>%
  st_rename("Study...Number" = STUDY, "Serum...Albumin" = ALB) %>%
  st_units(units) %>%
  st_make(.cat = TRUE)
```

Study Number	DOSE	WT (kg)	AGE (years)	CRCL (ml/min)	Serum Albumin (g/dL)	SCR (mg/dL)
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910
12-DEMO-001	150 mg	94.0	27.4	93.2	4.94	1.25
12-DEMO-001	200 mg	67.9	27.5	100	4.25	1.10
12-DEMO-001	200 mg	76.6	22.8	99.2	4.54	1.15
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28
12-DEMO-002	100 mg	77.6	29.9	106	4.31	0.981
12-DEMO-002	50 mg	74.1	37.1	112	4.44	0.900
12-DEMO-002	50 mg	71.2	34.1	106	4.63	0.868
12-DEMO-002	75 mg	72.4	38.2	105	3.89	0.900
12-DEMO-002	75 mg	71.6	34.2	98.9	4.49	0.991
12-DEMO-002	75 mg	73.6	49.2	103	4.52	0.930

8 Math

- Columns with at least two \$ are "math" and will not be sanitized
- Otherwise the are functions to "prime" the data frame
- The default is to convert every column to character
- Then walk the columns, look for non-math columns and sanitize them

```
ptab <- readRDS("datasets/ptab.RDS")</pre>
ptab
## # A tibble: 4 x 6
##
                                             Symbol
                                                                                    SE
     .type
                        Parameter
                                                       Math
                                                                       Estimate
##
     <chr>>
                         <chr>
                                             <chr>
                                                       <chr>
                                                                           <dbl> <dbl>
                                             CL (L/h~ "\\exp(\\thet~
## 1 Fixed-effects
                         Clearance
                                                                           1.22 0.4
## 2 Fixed-effects
                         Volume of distribu~ V2 (L)
                                                       "$\leq(\t \cdot )
                                                                           5.87 0.89
## 3 Fixed-effects
                        Absorption rate co~ KA (1/h~ "\ \\theta_3$"
                                                                           1.23 0.1
## 4 Unexplained varia~ Additive_error
                                             RUV
                                                       "$\\sigma_1$"
                                                                           0.02 0.01
ptab %>%
  st_data() %>%
  st_center(Parameter = col_ragged(3), .1 = "Symbol") %>%
  st_panel(".type") %>%
  st_make(.cat = TRUE)
```

Parameter	Symbol	Math	Estimate	SE
Fixed-effects				
Clearance	CL (L/hr)	$\exp(\theta_1)$	1.22	0.4
Volume of distribution	V2 (L)	$\exp(\theta_2)$	5.87	0.89
Absorption rate constant	KA (1/hr)	$ heta_3$	1.23	0.1
Unexplained variab	ility			
Additive_error	RUV	σ_1	0.02	0.01

9 hline from column

• Use the column to determine where the hline should go

```
st_new(data) %>%
st_hline(from = "STUDY") %>%
st_make(.cat = TRUE)
```

STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910
12-DEMO-001	150 mg	94.0	27.4	93.2	4.94	1.25
12-DEMO-001	200 mg	67.9	27.5	100	4.25	1.10
12-DEMO-001	200 mg	76.6	22.8	99.2	4.54	1.15
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28
12-DEMO-002	100 mg	77.6	29.9	106	4.31	0.981
12-DEMO-002	50 mg	74.1	37.1	112	4.44	0.900
12-DEMO-002	50 mg	71.2	34.1	106	4.63	0.868
12-DEMO-002	75 mg	72.4	38.2	105	3.89	0.900
12-DEMO-002	75 mg	71.6	34.2	98.9	4.49	0.991
12-DEMO-002	75 mg	73.6	49.2	103	4.52	0.930

10 hline anywhere

• Give row numbers for hline

```
st_new(data) %>%
st_hline(at = c(3,nrow(data))-1) %>%
st_make(.cat = TRUE)
```

STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910
12-DEMO-001	150 mg	94.0	27.4	93.2	4.94	1.25
12-DEMO-001	200 mg	67.9	27.5	100	4.25	1.10
12-DEMO-001	200 mg	76.6	22.8	99.2	4.54	1.15
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28
12-DEMO-002	100 mg	77.6	29.9	106	4.31	0.981
12-DEMO-002	50 mg	74.1	37.1	112	4.44	0.900
12-DEMO-002	50 mg	71.2	34.1	106	4.63	0.868
12-DEMO-002	75 mg	72.4	38.2	105	3.89	0.900
12-DEMO-002	75 mg	71.6	34.2	98.9	4.49	0.991
12-DEMO-002	75 mg	73.6	49.2	103	4.52	0.930

11 Remove duplicate values

• Discard repeating values in a column

```
data %>%
  st_new() %>%
  st_hline(from = "STUDY") %>%
  st_clear_reps("STUDY") %>%
  st_make(.cat = TRUE)
```

STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
	150 mg	89.4	24.4	122	4.63	1.12
	150 mg	81.7	34.4	104	3.83	0.910
	150 mg	94.0	27.4	93.2	4.94	1.25
	200 mg	67.9	27.5	100	4.25	1.10
	200 mg	76.6	22.8	99.2	4.54	1.15
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28
	100 mg	77.6	29.9	106	4.31	0.981
	50 mg	74.1	37.1	112	4.44	0.900
	50 mg	71.2	34.1	106	4.63	0.868
	75 mg	72.4	38.2	105	3.89	0.900
	75 mg	71.6	34.2	98.9	4.49	0.991

12 Panel

- Divide the table using column contents
- there's a bug somewhere there

```
data %>%
  st_new() %>%
  st_center(DOSE = 'l', SCR = 'r') %>%
  st_panel("STUDY", prefix = "Study number: ") %>%
  st_make(.cat = TRUE)
```

DOSE	WT	AGE	CRCL	ALB	SCR
Study ni	umber	: 12-D	EMO-00	1	
100 mg	71.4	33.7	104	4.20	1.06
150 mg	89.4	24.4	122	4.63	1.12
150 mg	81.7	34.4	104	3.83	0.910
150 mg	94.0	27.4	93.2	4.94	1.25
200 mg	67.9	27.5	100	4.25	1.10
200 mg	76.6	22.8	99.2	4.54	1.15
Study no	ımber	: 12-D	EMO-00	2	
100 mg	61.3	38.3	113	4.04	1.28
100 mg	77.6	29.9	106	4.31	0.981
50 mg	74.1	37.1	112	4.44	0.900
50 mg	71.2	34.1	106	4.63	0.868
75 mg	72.4	38.2	105	3.89	0.900
75 mg	71.6	34.2	98.9	4.49	0.991
75 mg	73.6	49.2	103	4.52	0.930

13 Colspan

• Group columns

```
data %>%
  st_new() %>%
  st_left(.c = "WT,AGE,CRCL") %>%
  st_span("In final model", WT:CRCL) %>%
  st_make(.cat = TRUE)
```

In final model							
STUDY	DOSE	WT	AGE	CRCL	ALB	SCR	
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06	
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12	
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910	
12-DEMO-001	150 mg	94.0	27.4	93.2	4.94	1.25	
12-DEMO-001	200 mg	67.9	27.5	100	4.25	1.10	
12-DEMO-001	200 mg	76.6	22.8	99.2	4.54	1.15	
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28	
12-DEMO-002	100 mg	77.6	29.9	106	4.31	0.981	
12-DEMO-002	50 mg	74.1	37.1	112	4.44	0.900	
12-DEMO-002	50 mg	71.2	34.1	106	4.63	0.868	
12-DEMO-002	75 mg	72.4	38.2	105	3.89	0.900	
12-DEMO-002	75 mg	71.6	34.2	98.9	4.49	0.991	
12-DEMO-002	75 mg	73.6	49.2	103	4.52	0.930	

14 Colspan - multiple

- Multiple groupings
- Multiple levels

```
data %>%
  st_new() %>%
  st_span("Meh", DOSE:WT) %>%
  st_span("Hrm", AGE:CRCL) %>%
  st_span("Huh", ALB:SCR) %>%
  st_span("Expert opinion", CRCL:SCR, level = 2) %>%
  st_make(.cat = TRUE)
```

			Expe	ert opi	nion	
	Meh		Hrm		Huh	
STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910
12-DEMO-001	150 mg	94.0	27.4	93.2	4.94	1.25
12-DEMO-001	200 mg	67.9	27.5	100	4.25	1.10
12-DEMO-001	200 mg	76.6	22.8	99.2	4.54	1.15
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28
12-DEMO-002	100 mg	77.6	29.9	106	4.31	0.981
12-DEMO-002	50 mg	74.1	37.1	112	4.44	0.900
12-DEMO-002	50 mg	71.2	34.1	106	4.63	0.868
12-DEMO-002	75 mg	72.4	38.2	105	3.89	0.900
12-DEMO-002	75 mg	71.6	34.2	98.9	4.49	0.991
12-DEMO-002	75 mg	73.6	49.2	103	4.52	0.930

15 Colspan - from cols

• we have some columns of the form tag.name

```
dotdata <- readRDS("datasets/with-dots.RDS")</pre>
head(dotdata, n=2)
## # A tibble: 2 x 7
   STUDY
           Normal.WT Normal.CRCL Normal.ALB ESRD.WT ESRD.CRCL ESRD.ALB
##
     <chr>
                <chr>
                          <chr>
                                      <chr>
                                                 <chr>
                                                          <chr>
                                                                   <chr>>
## 1 12-DEMO-001 71.4
                                      4.20
                                                 78.5
                          104
                                                         26.0
                                                                   2.10
## 2 12-DEMO-001 81.7
                          104
                                      3.83
                                                 89.9
                                                         26.1
                                                                   1.92
dotdata %>%
  st_new() %>%
  st_span_split(sep = '.') %>%
 st_make(.cat = TRUE)
```

		Normal			ESRD		
STUDY	WT	CRCL	ALB	WT	CRCL	ALB	
12-DEMO-001	71.4	104	4.20	78.5	26.0	2.10	
12-DEMO-001	81.7	104	3.83	89.9	26.1	1.92	
12-DEMO-001	89.4	122	4.63	98.4	30.6	2.32	
12-DEMO-001	94.0	93.2	4.94	103	23.3	2.47	
12-DEMO-001	67.9	100	4.25	74.7	25.1	2.13	
12-DEMO-001	76.6	99.2	4.54	84.2	24.8	2.27	
12-DEMO-002	77.6	106	4.31	85.4	26.4	2.16	
12-DEMO-002	61.3	113	4.04	67.4	28.2	2.02	
12-DEMO-002	71.2	106	4.63	78.3	26.4	2.32	
12-DEMO-002	74.1	112	4.44	81.5	28.0	2.22	
12-DEMO-002	71.6	98.9	4.49	78.8	24.7	2.25	
12-DEMO-002	72.4	105	3.89	79.6	26.3	1.94	
12-DEMO-002	73.6	103	4.52	81.0	25.8	2.26	

16 Handle wide columns

16.1 descr is taking over the table

```
ptable <- readRDS("datasets/ptable.RDS")
ptable %>% st_new() %>% st_make(.cat = TRUE)
```

symbol	descr	estimate	standard.error
CL (L)	Metabolic clearance in adults who graduated high school before 1973 and live in Muncie.	100	200

16.2 Limit descr to 5 cm

```
ptable %>%
  st_new() %>%
  st_align(descr = col_ragged(5)) %>%
  st_make(.cat = TRUE)
```

symbol	descr	estimate	standard.error	rse
CL (L)	Metabolic clearance in adults who graduated high school before 1973 and live in Muncie.	100	200	2

17 Identify a summary row

We can point to one or more rows and style it up as a "summary row"

```
df.total <- readRDS(file = "datasets/with-total.RDS")</pre>
df.total
## # A tibble: 3 x 6
                     AGE CRCL ALB
##
    STUDY WT
                                       SCR
##
    <chr> <chr> <chr> <chr> <chr> <chr> <chr> <chr>
## 1 12-DEMO-001 80.2 28.4 104 4.40 1.10
## 2 12-DEMO-002 71.7 37.3 106 4.33 0.979
## 3 all
                75.9 32.8 105 4.37 1.04
st_new(df.total) %>%
 st_sumrow(.$data$STUDY=="all", label = "All studies", bold = TRUE) %>%
 st_make(.cat = TRUE)
```

STUDY	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	80.2	28.4	104	4.40	1.10
12-DEMO-002	71.7	37.3	106	4.33	0.979
All studies	75.9	32.8	105	4.37	1.04

18 Fontsize

• Where's my glasses?

```
data %>% st_new() %>% st_sizes(font = "tiny") %>% st_make(.cat = TRUE)
```

STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910
12-DEMO-001	150 mg	94.0	27.4	93.2	4.94	1.25
12-DEMO-001	200 mg	67.9	27.5	100	4.25	1.10
12-DEMO-001	200 mg	76.6	22.8	99.2	4.54	1.15
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28
12-DEMO-002	100 mg	77.6	29.9	106	4.31	0.981
12-DEMO-002	50 mg	74.1	37.1	112	4.44	0.900
12-DEMO-002	50 mg	71.2	34.1	106	4.63	0.868
12-DEMO-002	75 mg	72.4	38.2	105	3.89	0.900
12-DEMO-002	75 mg	71.6	34.2	98.9	4.49	0.991
12-DEMO-002	75 mg	73.6	49.2	103	4.52	0.930

19 Row space

STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910

```
sl %>% st_new() %>% st_sizes(row = 0.9) %>% st_make(.cat = TRUE)
```

STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910

```
sl %>% st_new() %>% st_sizes(row = 2 ) %>% st_make(.cat = TRUE)
```

STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910

20 Col space

data %>% st_new() %>% st_sizes(col = 20) %>% st_make(.cat = TRUE)

STUDY	DOSE	WT	AGE	CRCL	ALB	SCR
12-DEMO-001	100 mg	71.4	33.7	104	4.20	1.06
12-DEMO-001	150 mg	89.4	24.4	122	4.63	1.12
12-DEMO-001	150 mg	81.7	34.4	104	3.83	0.910
12-DEMO-001	150 mg	94.0	27.4	93.2	4.94	1.25
12-DEMO-001	200 mg	67.9	27.5	100	4.25	1.10
12-DEMO-001	200 mg	76.6	22.8	99.2	4.54	1.15
12-DEMO-002	100 mg	61.3	38.3	113	4.04	1.28
12-DEMO-002	100 mg	77.6	29.9	106	4.31	0.981
12-DEMO-002	50 mg	74.1	37.1	112	4.44	0.900
12-DEMO-002	50 mg	71.2	34.1	106	4.63	0.868
12-DEMO-002	75 mg	72.4	38.2	105	3.89	0.900
12-DEMO-002	75 mg	71.6	34.2	98.9	4.49	0.991
12-DEMO-002	75 mg	73.6	49.2	103	4.52	0.930