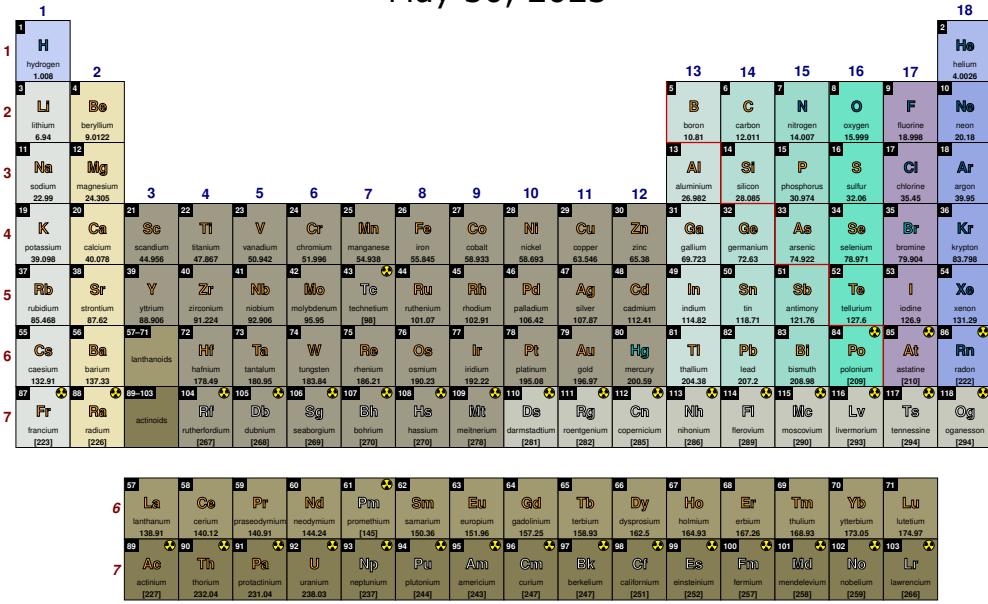


Manual for pgf-PeriodicTable 2.0.1

Hugo Gomes

hugo.parelho@gmail.com

May 30, 2023



\pgfPT[show title=false,show legend=false]

Abstract

The purpose of this package is to provide the Periodic Table of Elements in a simple way. It relies on pgf/TikZ to offer a full or partial periodic table with a variety of options and displaying the desired data. The data available, from all the actual 118 elements, is: atomic number, element name, chemical symbol, relative atomic mass, standard relative atomic mass, radioactivity, atomic radius (empirical), covalent radius, ionic radius, first ionization energy, electronegativity (Pauling), electroaffinity, oxidation states, melting point (in Kelvin and Celsius degrees), boiling point (in Kelvin and Celsius degrees), electron distribution, electronic configuration (increasing n and increasing $n + \ell$), density, specific heat capacity, thermal conductivity, lattice structure, lattice constants (a , b , c and c/a ratio), discovery year, discovery country and visible range spectral lines. It is possible to get the Periodic Table in six languages: English, French, German, Portuguese (from Portugal and from Brazil), Spanish and Italian.

Contents

Installation and usage	1
The data	2
The commands	3
\pgfPT	3
\pgfPTstyle[options list]	4
\pgfPTresetstyle	5
\pgfPTbuildcell(nrows,ncolumns)[entries]	6
\pgfPTresetcell	6
\pgfPTbuildcellstyle{name}(nrows,ncolumns)[entries]	6
\pgfPTpreviewcell	6
\pgfPTpreviewcellstyle{name}	7
\pgfPTnewColorScheme{name}{color list}	7
\pgfPTnewZlist{name}	9
\pgfPTsetLanguage{language flag}	10
Options for \pgfPT: creating a «Periodic Table»	11
✖ Periodic Table options: keys, styles and <i>pseudo styles</i>	11
➡ General layout	11
~~ Z list	11
~~ cell width	12
~~ cell height	12
➡ cell size	12
~~ cell line width	13
~~ cell line color	13
~~ cell style	13
➡ cell	14
~~ font	14
~~ back color scheme	15
~~ back color	16
➡ csSolid	17
➡ csSoft	18
➡ csJmol	18
➡ csCPK	19
➡ csRasmol	19
➡ csRasmolNew	20
➡ csWikipedia	20
➡ csMNM	21
➡ csPS	21
➡ csRadio	22
➡ csBlocks	22
➡ background	23
~~ IUPAC	23
~~ show label LaAc	25
~~ label LaAc font	26
~~ languages	26
~~ other languages font	27
~~ other languages color	28
➡ other lang	28
~~ show MNM line	28
~~ MNM line color	29
~~ MNM line width	30
➡ MNM	30

► Title and Legend	31
~~ show title	31
~~ title font	32
~~ title color	32
► title	32
~~ show legend	33
~~ legend acronyms	33
► legend box	34
~~ legend back color	35
~~ legend radio color	35
~~ legend CS color	36
~~ legend Z color	37
~~ show legend pins	38
► legend pins	38
~~ show extra legend	39
► extra legend	39
► legend	40
► Periods and Groups	41
~~ show period numbers	41
~~ show group numbers	41
~~ period label color	42
~~ group label color	42
~~ label font	43
► per	43
► gr	43
► per+gr	44
► Blocks and Families	44
~~ show blocks	44
~~ blocks font	46
~~ s block color	46
~~ s block font color	46
~~ s block line width	46
~~ p block color	46
~~ p block font color	46
~~ p block line width	46
~~ d block color	46
~~ d block font color	46
~~ d block line width	46
~~ f block color	46
~~ f block font color	46
~~ f block line width	47
► blocks font color	47
► blocks line width	47
► blocks	48
~~ show families	49
~~ families font	50
~~ r family color	50
~~ r family font color	50
~~ r family line width	51
~~ tm family color	51
~~ tm family font color	51
~~ tm family line width	51
~~ itm family color	51
~~ itm family font color	51
~~ itm family line width	51

» families font color	51
» families line width	51
» families	52
» Periodic variations	54
~~ show periodic variations	54
~~ varR color	55
~~ varR font	55
~~ varR font color	56
~~ varEi color	56
~~ varEi font	56
~~ varEi font color	56
~~ vareaff color	56
~~ vareaff font	56
~~ vareaff font color	56
» var font	56
» var color	57
» varR	57
» varEi	58
» vareaff	59
» Dark mode	60
» dark mode	60
» Exercise layout	60
~~ only cells	60
~~ only cells plus Z	61
~~ only cells with periods and group numbers	62
~~ only cells with periods and group numbers plus Z	63
~~ Z exercise list	63
~~ exercise list in capitals	64
~~ exercise list color	64
~~ exercise list font	64
» cells+Z	65
» cells+p+g	65
» cells+p+g+Z	66
» exnocaps	66
» exColor	66
» exFont	67
» ex	67
✖ Cell contents options: keys, styles and <i>pseudo styles</i>	67
» The atomic number	67
~~ Z backcolor	67
~~ Z color	68
~~ Z font	68
~~ Z use box width	68
~~ Z align	68
~~ Z padding	69
» Z box	69
» Z	69
» The chemical symbol	70
~~ CS solid	70
~~ CS liquid	70
~~ CS gas	71
~~ CS synt	71
» CS all	71
~~ CS font	72
~~ CS render mode	72

~~ CS outline color	73
~~ CS outline width	73
➡ CS	74
➡ The name	74
~~ name color	74
~~ name font	74
~~ name align	75
~~ capitalize element names	75
➡ name	75
➡ Name	76
➡ NAME	76
➡ The atomic weight	76
~~ Ar color	76
~~ Ar font	77
~~ Ar label	77
~~ Ar precision	77
➡ Ar	78
➡ The density	79
~~ d color	79
~~ d font	79
~~ d unit	80
~~ d precision	81
➡ d	83
➡ The lattice structure	83
~~ ls	83
~~ ls color	84
~~ ls font	84
~~ ls align	85
~~ ls unit	85
~~ ls precision	85
➡ lat	87
➡ The discovery year	87
~~ DiscY color	87
~~ DiscY font	87
~~ DiscY BC scale	88
➡ The electron distribution	88
~~ eDist color	88
~~ eDist font	89
~~ eDist sep	89
➡ The other contents	90
~~ <content name> color	90
~~ <content name> font	91
➡ cell font	91
➡ cell color	91
~~ E precision	92
~~ T precision	93
~~ Cp precision	95
~~ kT precision	96
Designing cells with \pgfPTbuildcell	99
✖ The cell contents	100
✖ Built-in cell styles	102
Designing color schemes	105
✖ Designing a color scheme with \pgfPTnewColorScheme	105
✖ Designing a color scheme with pgfPTcolorSchemes.html	105

Libraries	109
Color Schemes Library	109
\pgfPTGroupColors	109
\pgfPTPeriodColors	114
\pgfPTCScombine	117
\pgfPTCSwrite	120
A few more examples	122
Index	129

Installation and usage

`pgf-PeriodicTable` is placed under the terms of the L^AT_EX Project Public License, version 1.3 or later (<http://www.latex-project.org/lppl.txt>). `pgf-PeriodicTable` loads and only requires the `TikZ` package.

You need to put the package files (`pgf-PeriodicTable.sty` & *friends*) in a location where PDFL^AT_EX, LuaL^AT_EX or XeL^AT_EX can find them. According to the TDS conventions this may be a subdirectory named `tex/latex/pgf-PeriodicTable/` or `tex/latex/misc/` in your (site specific) installation tree (insert your appropriate directory delimiter instead of /, if needed).

If you are using PDFL^AT_EX, LuaL^AT_EX or XeL^AT_EX you can just simply include the style file without any option via the `\usepackage` command, `\usepackage{pgf-PeriodicTable}`

It can also be loaded with *one option* to select the desired language:

`\usepackage[language flag]{pgf-PeriodicTable}`

The *language flags* available are:

- ✓ **en** for English (default),
- ✓ **fr** for French,
- ✓ **de** for German,
- ✓ **pt** for Portuguese (Portugal),
- ✓ **br** for Portuguese (Brazil),
- ✓ **es** for Spanish and
- ✓ **it** for Italian.

The data

The data available in [pgf-PeriodicTable](#) was mainly compiled with selected and filtered data from Wikipedia, taken from November 2021 to July 2022.

acronym	description	unit	remarks (compiled from @date)
Ar	Relative Atomic Mass		(Wikidata @09/jan/2022)
Arstar	Standard Relative Atomic Mass		STANDARD ATOMIC WEIGHTS 2021, Commission on Isotopic Abundances and Atomic Weights, © CIAAW, 2007–2022 (https://ciaaw.org/impressum.htm)
radio	Radioactivity		(gperiodic-3.0.3, Dec 26 2018)
R	Atomic Radius	pm	Calculated (Wikidata @04/jul/2022)
Rcov	Covalente Radius	pm	Single bond, Wikidata @04/jul/2022)
Rion	Ionic Radius	pm	(Wikidata @04/jul/2022)
Ei	First Ionization Energy	kJ · mol ⁻¹	(Wikidata @04/jul/2022)
eneg	Electronegativity (Pauling)		(Wikidata @04/jul/2022)
eaff	Electroaffinity	kJ · mol ⁻¹	(Wikidata @04/jul/2022)
O	Oxidation States		(Wikidata @09/jan/2022)
Tmelt	Melting Point	K	at standard pressure (Wikidata @21/dez/2021)
TmeltC	Melting Point	°C	at standard pressure (Wikidata @21/dez/2021)
Tboil	Boiling Point	K	at standard pressure (Wikidata @21/dez/2021)
TboilC	Boiling Point	°C	at standard pressure (Wikidata @21/dez/2021)
eDist	Electron Distribution		(Wikidata @01/nov/2021)
eConfig	Electronic Configuration (increasing n)		(Wikidata @01/nov/2021)
eConfign	Electronic Configuration (increasing n + ℓ)		(Wikidata @01/nov/2021)
d	Density	g · dm ⁻³ for gases g · cm ⁻³ all other physical states	physical state at 25°C, 1 atm (Wikidata @01/nov/2021)
Cp	Specific heat capacity	J · mol ⁻¹ · K ⁻¹	at 25°C and 100 kPa (Wikidata @20/nov/2021)
kT	Thermal Conductivity	W · m ⁻¹ · K ⁻¹	at 25°C (Wikidata @21/nov/2021)
ls	Lattice Structure		(Wikidata @20/dez/2021 and University of Bielefeld)
Isa	Lattice constant: a	pm	(University of Bielefeld @21/dez/2021)
Isb	Lattice constant: b	pm	(University of Bielefeld @21/dez/2021)
lsc	Lattice constant: c	pm	(University of Bielefeld @21/dez/2021)
Isca	Lattice c/a ratio		Calculated from available data and rounded to two digits
DiscY	Discover Year		(Wikidata @22/dez/2021)
DiscC	Discover Country		(Wikidata @22/dez/2021)
spectra	Visible range spectral lines		Elements spectrum made with \pgfspectra. See the pgf-spectra manual for more details

The utilization of the *acronyms* will be explained in [Designing cells with \pgfPTbuildcell](#).

The commands

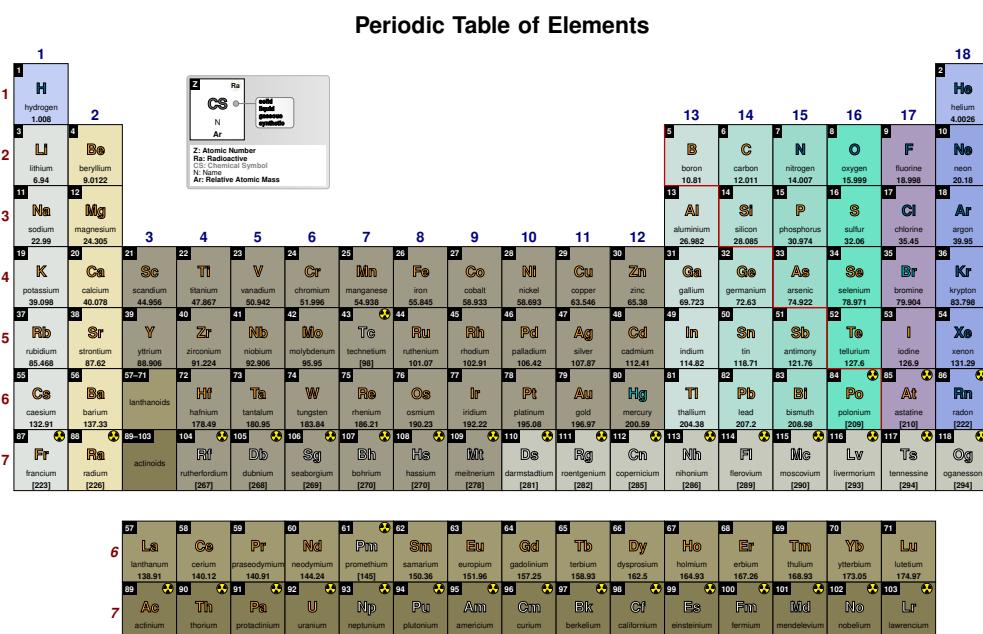
The commands to achieve the Periodic Table of Elements are:

- `\pgfPT` or `\pgfPT[options list]` – draws a full or partial graphical Periodic Table controlled by the optional keys.
- `\pgfPTstyle[options list]` – sets the global style for the Periodic Table.
- `\pgfPTresetstyle` – resets the style for the Periodic Table with the default values.
- `\pgfPTbuildcell(nrows,ncolumns)[entries]` – builds the contents of each cell in the Periodic Table.
- `\pgfPTresetcell` – resets the cell to its default layout.
- `\pgfPTbuildcellstyle{name}(nrows,ncolumns)[entries]` – builds the contents of each cell in the Periodic Table and stores it in a named style.
- `\pgfPTpreviewcell` or `\pgfPTpreviewcell[scale factor]` – preview the last unnamed built cell with an optional scale factor. If no cells have yet been built, the default cell is shown.
- `\pgfPTpreviewcellstyle{name}` or `\pgfPTpreviewcellstyle[scale factor]{name}` – preview the named builded cell with an optional scale factor.
- `\pgfPTnewcolorscheme[trailing color]{name}{color list}` – makes a color scheme to fill the cells along the Periodic Table.
- `\pgfPTnewZlist{name}` – create a user defined atomic numbers (Z) **named** list.
- `\pgfPTsetLanguage{language flag}` – globally change the default language.

► Utilization of `\pgfPT`

Use this command to draw the Periodic Table of Elements in the language selected at package inclusion (`\usepackage[language flag]{pgf-PeriodicTable}`):

```
\pgfPT
```



This command can also be used with options – as described in section Options for \pgfPT: creating a «Periodic Table» – to modify, for instance, the font of the Periodic Table or the colors of the cells:

```
\pgfPT[font=pnc,back color scheme=MNM]
```

Periodic Table of Elements

► Utilization of \pgfPTstyle[options list]

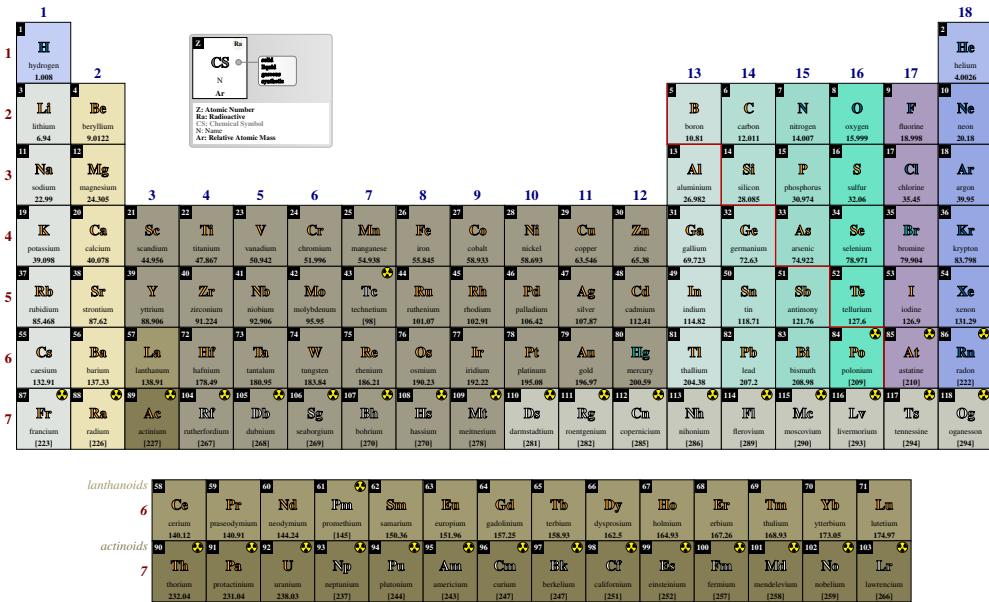
This command globally sets a style for the Periodic Table:

```
\pgfPTstyle[font=ptm,IUPAC=false,show title=false]
\pgfPT
```

It is possible to locally override the *global style* defined:

```
\pgfPT[show title]
```

Periodic Table of Elements



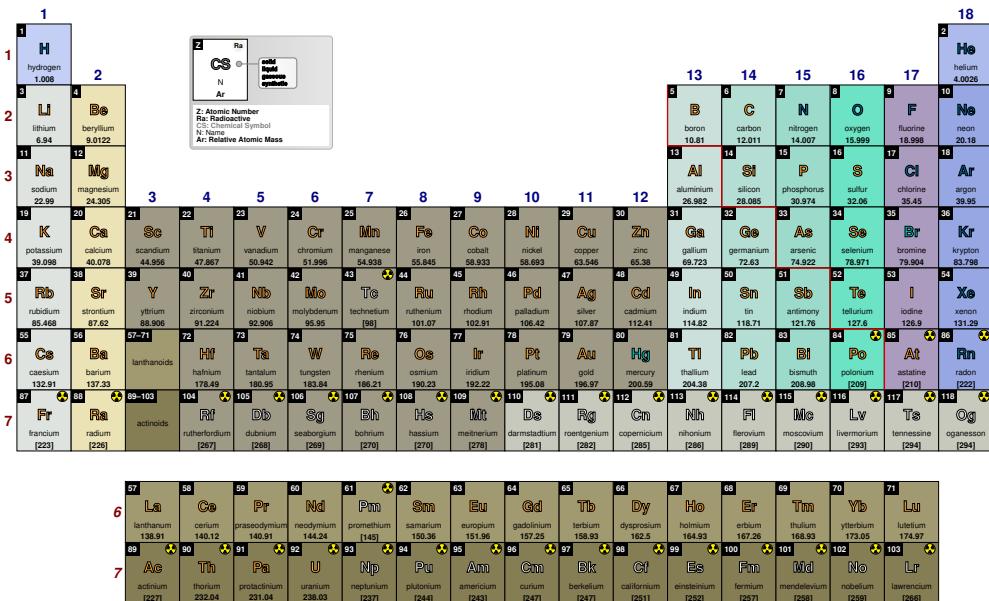
► Utilization of \pgfPTresetstyle

This command resets the style used in the Periodic Table to default values:

```
\pgfPTresetstyle
```

```
\pgfPT
```

Periodic Table of Elements



► Utilization of `\pgfPTbuildcell(nrows,ncolumns)[entries]`

With `\pgfPTbuildcell` it is possible to customize the *elementar* cell of the Periodic Table. Each cell is built on the given *number of rows* and *number of columns*. After that, each *entry* is constructed according to the structure `row;column;what` or `initial row-final row;initial column-final column;what`.

- ✓ The first *syntax* – `row;column;what` – puts «`what`» in the «`row`» row and in the «`column`» column with the height of one row and the width of one column:
 - for example, `1;1;Z` puts the atomic number `Z` in row `1` and column `1`, which actually corresponds to a box anchored to the top left corner of the cell and that goes below and to the right of that corner.
- ✓ The second *syntax* – `initial row-final row;initial column-final column;what` – puts «`what`» from «`initial row`» to «`final row`» with the height of final row – initial row + 1 and from «`initial column`» to «`final column`» with the width of final column – initial column + 1. It is important to keep in mind that when using this syntax the `row` and `column` could have any value between `1` and **number of rows** and **number of columns**, respectively.
 - for example, `1;1-2.1;Z` puts the atomic number `Z` in row `1` with the height of one row and from column `1` to *column 2.1*, with the width of $2.1 \times \text{column}$. Note that in this example the two *syntaxes* are mixed up.

The **default cell** of the Periodic Table is constructed with the command:

```
\pgfPTbuildcell(5,3)% 5 rows by 3 columns
[(1;1-2;Z),(1;3;radio),(2-3;1.5-2.5;CS),(4;1-3;name),(5;1-3;Ar)]
```

► Utilization of `\pgfPTresetcell`

The `\pgfPTresetcell` resets the cell to its default layout.

► Utilization of `\pgfPTbuildcellstyle{name}{nrows,ncol...}[entr...]`

The `\pgfPTbuildcellstyle` command works like `\pgfPTbuildcell`, but stores the cell style under the `name` provided. It is only used when called via the `cell style` passed as an option to `\pgfPT`. Otherwise it remains unavailable, unlike the `\pgfPTbuildcell` command which immediately affects the cells of the Periodic Table.

► Utilization of `\pgfPTpreviewcell`

The main purpose of this command is to show the built cell for *debugging*.

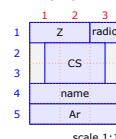
With `\pgfPTpreviewcell` you can preview the last unnamed built cell with an optional `scale factor`. If no cells have yet been built, the default cell is shown.

```
\pgfPTpreviewcell
```

Using the last cell built

The build command:

```
\pgfPTbuildcell(5,3)%
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-3;Ar)]
```



```
\pgfPTbuildcell(8,3)% 8 rows by 3 columns
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4-5;1-3;name),(6;1-3;spectra),(7;1-
3;DiscC),(8;1-3;DiscY)]
```

```
\pgfPTpreviewcell[1.8]
```

Using the last cell built

The build command:

```
\pgfPTbuildcell(8,3)%
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4-5;1-3;name),(6;1-3;spectra),(7;1-3;DiscC),(8;1-3;DiscY)]
```

	1	2	3
1	Z	radio	
2		CS	
3			
4		name	
5			
6		spectra	
7		DiscC	
8		DiscY	

scale 1.8:1

► Utilization of `\pgfPTpreviewcellstyle{name}`

This previews a *named* cell, again with the optional `scale` factor.

```
\pgfPTpreviewcellstyle{myname}
```

User style myname doesn't exist!

```
\pgfPTbuilcellstyle{myname}(5,3)% 5 rows by 3 columns
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-3;Ar*)]
\pgfPTpreviewcellstyle[2]{myname}
```

User style myname

The build command:

```
\pgfPTbuildcell(5,3)%
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-3;Ar*)]
```

	1	2	3
1	Z	radio	
2		CS	
3			
4		name	
5		Arstar	

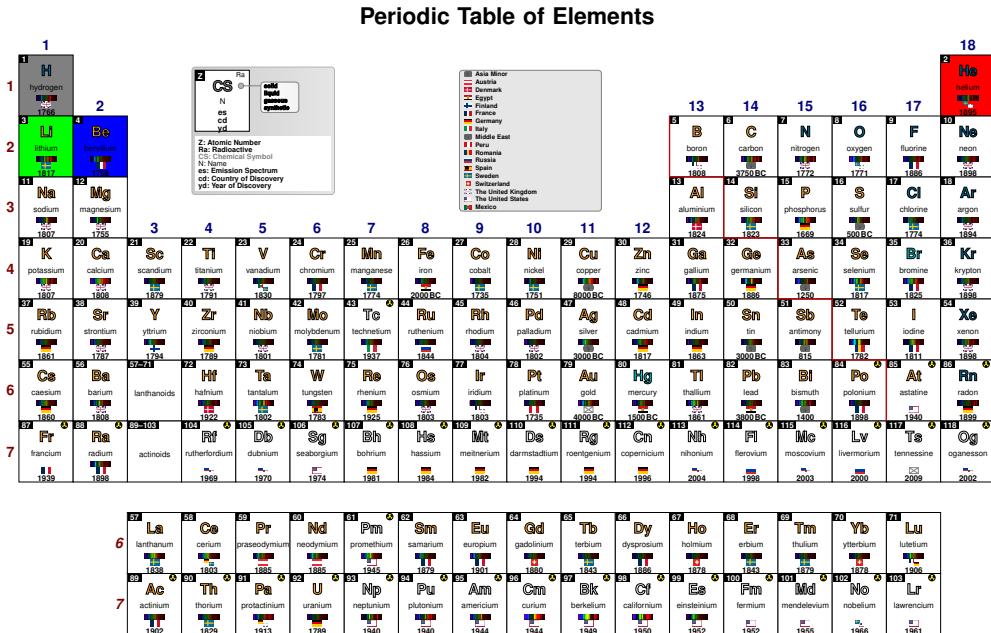
scale 2:1

► Utilization of `\pgfPTnewColorScheme{name}{color list}`

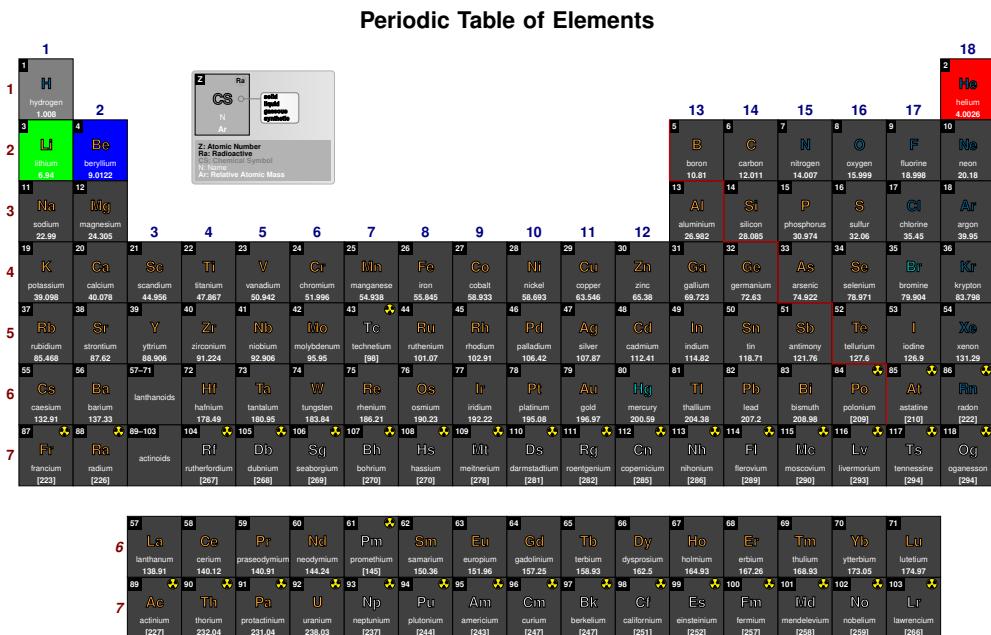
Use this command to create a *color scheme* for cells in the Periodic Table. It has two mandatory arguments – `name` and `color list` – and an optional argument – `trailing color`.

The `name` is used to identify the *color scheme*. The `color list` is a comma-separated list of red, green and blue values written as r/g/b, defined in ascending order of Z and starting at Z=1. The optional argument `trailing color` is appended to the end of the list and is used for all cells starting from this point on. It also has the form r/g/b and its default value is 1/1/1 (white).

\pgfPTnewColorScheme{myname}{.5/.5/.5,1/0/0,0/1/0,0/0/1}
\pgfPT[back color scheme=myname]



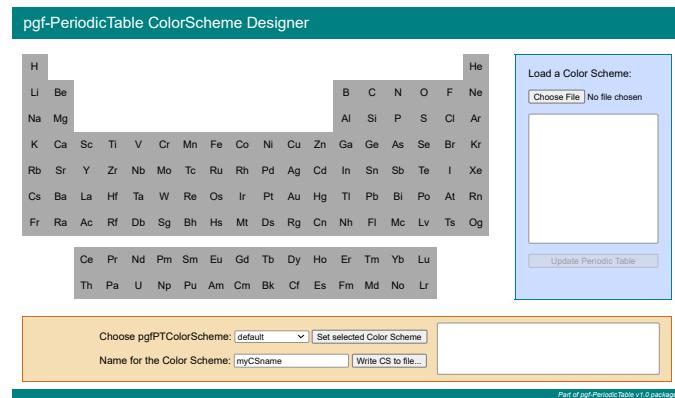
\pgfPTnewColorScheme[.25/.25/.25]{myname}{.5/.5/.5,1/0/0,0/1/0,0/0/1}
\pgfPTresetcell
\pgfPT[back color scheme=myname,name color=white, Ar color=white,legend back color=black!30]



There are a few *color schemes* predefined:

- ✓ **default**, the default built-in color scheme, which is loaded if no value is passed to the `back` color scheme key.
- ✓ **Soft**, a soft color pattern for cells, differentiating metals, non metals, semimetals, lanthanides and actinides.
- ✓ **Jmol**, a color scheme based upon [Jmol: an open-source Java viewer for chemical structures in 3D](#).
- ✓ **CPK**, a color scheme that is based upon the colors of the popular plastic spacefilling models which were developed by Corey, Pauling and later improved by Kultun.
- ✓ **Rasmol** and **RasmolNew**, two color schemes based upon the computer program [RasMol](#).
- ✓ **Wikipedia**, a color scheme built on the Periodic Table of Elements available at [Wikipedia](#).
- ✓ **MNM**, a color pattern which distinguishes between **Metals**, semimetals and **Non Metals**.
- ✓ **PS**, a color scheme depicting the **Physical State** at room temperature.
- ✓ **Radio**, a two color color scheme showing the radioactivity of the elements.
- ✓ **Blocks**, a four colored color scheme showing the *s*, *p*, *d* and *f* blocks of the Periodic Table.

Writing a color scheme can be painstaking work, so a *script* is provided for that:



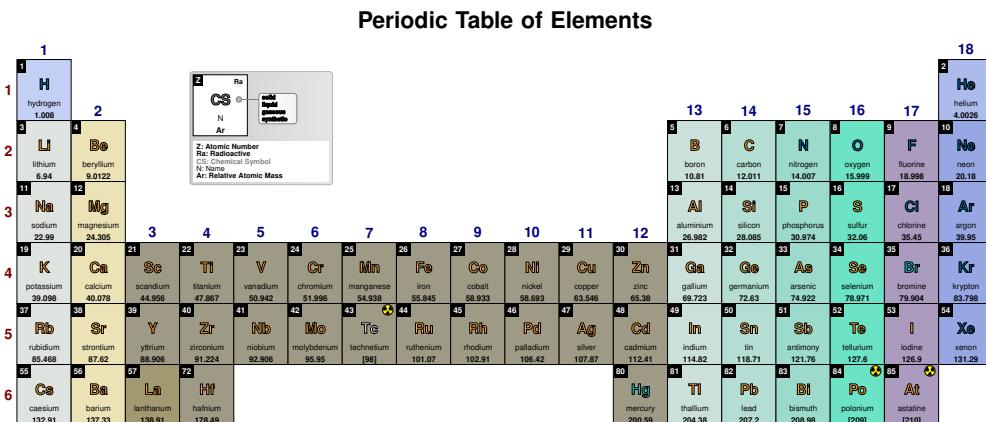
[pgfPTcolorSchemes.html](#)

► Utilization of `\pgfPTnewZlist{name}`

This command makes a user defined atomic numbers' list with the provided `name`. The list can be anything that the `\foreach` loop, defined in the `TikZ` package, can understand.

For more information on how to use `\foreach` loop refer to the section *Repeating Things: The Foreach Statement* in the [pgfmanual](#).

```
\pgfPTnewZlist{myZlist}{1,...,57,72,80,81,...,85}
\pgfPT[Z list=myZlist,IUPAC=false]
```



► Utilization of \pgfPTsetLanguage{language flag}

This command globally changes the default language of the Periodic Table.

```
\pgfPTsetLanguage{pt}
\pgfPT
```

Tabela Periódica dos Elementos

1	1	2	18
1	H hidrogênio 1.008	2	He hélio 4.0026
2	Li litíio 6.94	3	He berílio 9.0122
3	Na sódio 22.99	4	Be magnésio 24.305
4	K potássio 39.098	5	Ca cálcio 40.078
5	Rb rubidio 85.468	6	Sc esórdio 44.956
6	Ce césio 132.91	7	Tl estronídio 47.867
7	Fr francium [223]	8	Y estrônio 87.62
8	Ra rádio [226]	9	Zr zirconíio 91.224
9		10	Nb niobio 92.906
10		11	Cr molibdeno 95.95
11		12	Mn manganeso 54.938
12		13	Fe ferro 55.845
13		14	Co cobalto 58.933
14		15	Ni níquel 58.693
15		16	Cu cobre 63.546
16		17	Zn zinco 65.38
17		18	Ga galio 69.723
18		19	Ge germanio 72.63
19		20	Al aluminio 26.982
20		21	Si silicio 28.085
21		22	P fósforo 30.974
22		23	S enxofre 32.06
23		24	O oxigénio 15.999
24		25	F flúor 18.998
25		26	Ne néon 20.18
26		27	Ar argón 39.95
27		28	Kr krypton 83.788
28		29	Xe xénon 131.29
29		30	Rn rádon [222]
30		31	
31		32	
32		33	
33		34	
34		35	
35		36	
36		37	
37		38	
38		39	
39		40	
40		41	
41		42	
42		43	
43		44	
44		45	
45		46	
46		47	
47		48	
48		49	
49		50	
50		51	
51		52	
52		53	
53		54	
54		55	
55		56	
56		57	
57		58	
58		59	
59		60	
60		61	
61		62	
62		63	
63		64	
64		65	
65		66	
66		67	
67		68	
68		69	
69		70	
70		71	
71		13	
13		14	
14		15	
15		16	
16		17	
17		18	
18		19	
19		20	
20		21	
21		22	
22		23	
23		24	
24		25	
25		26	
26		27	
27		28	
28		29	
29		30	
30		31	
31		32	
32		33	
33		34	
34		35	
35		36	
36		37	
37		38	
38		39	
39		40	
40		41	
41		42	
42		43	
43		44	
44		45	
45		46	
46		47	
47		48	
48		49	
49		50	
50		51	
51		52	
52		53	
53		54	
54		55	
55		56	
56		57	
57		58	
58		59	
59		60	
60		61	
61		62	
62		63	
63		64	
64		65	
65		66	
66		67	
67		68	
68		69	
69		70	
70		71	
71		13	
13		14	
14		15	
15		16	
16		17	
17		18	
18		19	
19		20	
20		21	
21		22	
22		23	
23		24	
24		25	
25		26	
26		27	
27		28	
28		29	
29		30	
30		31	
31		32	
32		33	
33		34	
34		35	
35		36	
36		37	
37		38	
38		39	
39		40	
40		41	
41		42	
42		43	
43		44	
44		45	
45		46	
46		47	
47		48	
48		49	
49		50	
50		51	
51		52	
52		53	
53		54	
54		55	
55		56	
56		57	
57		58	
58		59	
59		60	
60		61	
61		62	
62		63	
63		64	
64		65	
65		66	
66		67	
67		68	
68		69	
69		70	
70		71	
71		13	
13		14	
14		15	
15		16	
16		17	
17		18	
18		19	
19		20	
20		21	
21		22	
22		23	
23		24	
24		25	
25		26	
26		27	
27		28	
28		29	
29		30	
30		31	
31		32	
32		33	
33		34	
34		35	
35		36	
36		37	
37		38	
38		39	
39		40	
40		41	
41		42	
42		43	
43		44	
44		45	
45		46	
46		47	
47		48	
48		49	
49		50	
50		51	
51		52	
52		53	
53		54	
54		55	
55		56	
56		57	
57		58	
58		59	
59		60	
60		61	
61		62	
62		63	
63		64	
64		65	
65		66	
66		67	
67		68	
68		69	
69		70	
70		71	
71		13	
13		14	
14		15	
15		16	
16		17	
17		18	
18		19	
19		20	
20		21	
21		22	
22		23	
23		24	
24		25	
25		26	
26		27	
27		28	
28		29	
29		30	
30		31	
31		32	
32		33	
33		34	
34		35	
35		36	
36		37	
37		38	
38		39	
39		40	
40		41	
41		42	
42		43	
43		44	
44		45	
45		46	
46		47	
47		48	
48		49	
49		50	
50		51	
51		52	
52		53	
53		54	
54		55	
55		56	
56		57	
57		58	
58		59	
59		60	
60		61	
61		62	
62		63	
63		64	
64		65	
65		66	
66		67	
67		68	
68		69	
69		70	
70		71	
71		13	
13		14	
14		15	
15		16	
16		17	
17		18	
18		19	
19		20	
20		21	
21		22	
22		23	
23		24	
24		25	
25		26	
26		27	
27		28	
28		29	
29		30	
30		31	
31		32	
32		33	
33		34	
34		35	
35		36	
36		37	
37		38	
38		39	
39		40	
40		41	
41		42	
42		43	
43		44	
44		45	
45		46	
46		47	
47		48	
48		49	
49		50	
50		51	
51		52	
52		53	
53		54	
54		55	
55		56	
56		57	
57		58	
58		59	
59		60	
60		61	
61		62	
62		63	
63		64	
64		65	
65		66	
66		67	
67		68	
68		69	
69		70	
70		71	
71		13	
13		14	
14		15	
15		16	
16		17	
17		18	
18		19	
19		20	
20		21	
21		22	
22		23	
23		24	
24		25	
25		26	
26		27	
27		28	
28		29	
29		30	
30		31	
31		32	
32		33	
33		34	
34		35	
35		36	
36		37	
37		38	
38		39	
39		40	
40		41	
41			

Options for \pgfPT: creating a «Periodic Table»

For the commands `\pgfPT` and `\pgfPTstyle` there are a set of options available to draw the Periodic Table or any portion of the Periodic Table, as described below.

The list of options is a comma separated list of any of the following elements:

- ~~ a 'key' or a 'key=value' pair,
- » a 'style' or a 'style=value' pair,
- » a *pseudo style* with a proper syntax: 'style={key 1=value 1, key 2=value 2, ... , key n=value n}', where none of the 'keys' are mandatory.

The options *can be divided* in two subsets, one that affects the *appearance* of the *entire* Periodic Table, the other that concerns the *contents* of each cell of the Periodic Table.

☒ Periodic Table options: keys, styles and pseudo styles

The following options and styles are used to *control* the Periodic Table *as a whole* in various aspects, such as the **cell width** or **cell height**, which elements are displayed (**Z list**), whether the title or legend are shown – **show title** or **show legend** – among others.

» General layout

Z list

default: *all*

Set's the list of the elements to display in the Periodic Table. It could be a **name** or a **comma separated** list of atomic numbers, which in turn supports the *dots notation* as explained in the section *Repeating Things: The Foreach Statement* in the *pgfmanual*.

`\pgfPT[Z list={1,...,36}]`

Periodic Table of Elements

1	H	2	He
1	hydrogen	1.008	4.0026
2	Li	beryllium	9.0122
3	lithium	6.94	20.18
4	B	boron	10.81
5	Mg	magnesium	12.011
6	sodium	22.99	14.007
7	Mg	aluminum	15.999
8	24.305	silicon	18.998
9	13	phosphorus	30.974
10	Ti	sulfur	32.06
11	V	nitrogen	35.45
12	Cr	oxygen	39.95
13	Mn	fluorine	40.026
14	Fe	chlorine	40.96
15	Co	neon	40.96
16	Ni	argon	40.96
17	Cu	krypton	40.96
18	Zn	bromine	40.96
19	K	selenium	40.96
20	Ca	iodine	40.96
21	Sc	rubidium	40.96
22	Tl	strontium	40.96
23	V	yttrium	40.96
24	Cr	lanthanum	40.96
25	Mn	cerium	40.96
26	Fe	praseodymium	40.96
27	Co	neodymium	40.96
28	Ni	europium	40.96
29	Cu	gadolinium	40.96
30	Zn	thulium	40.96
31	Ga	ytterbium	40.96
32	Ge	lutetium	40.96
33	As	hafnium	40.96
34	Se	rhenium	40.96
35	Br	osmium	40.96
36	Kr	rhodium	40.96

The possible **name** is one of the following:

✓ built-in:

- ▷ 'all' is equivalent to `Z list={1,...,118}`, i.e., all known elements.
- ▷ 's', 'p', 'd' or 'f', for the elements in the corresponding blocks.
- ▷ 'sp', 'spd', for the elements resulting from merging the corresponding blocks.
- ▷ 'lanthanoids' or simply 'La', for lanthanoids [†].
- ▷ 'actinoids' or 'Ac', for actinoids [†].
- ▷ 'G1*', 'G1', ..., 'G18', which are used, respectively, for the elements of *group 1 without hydrogen*, *group 1, ..., group 18*.
- ▷ 'P1', ..., 'P7', 'P6*', 'P7*', which are used, respectively, for the elements of the *1st period*, ..., *7th period*, *6th period and lanthanoids* [†], *7th period and actinoids* [†].

[†] Depending on the value of the **IUPAC** key, the Lanthanum or Actinium are or are not included.

✓ any **user defined** name via `\pgfPTnewZlist{name}{list}`

cell width

default: 34pt

Sets the width of each base cell of the Periodic Table.

\pgfPT[Z list={1,...,36},cell width=40pt]

Periodic Table of Elements

1	H	He
hydrogen		helium
1.008		4.026
2	Be	Ne
lithium	beryllium	neon
6.94	9.0122	20.18
3	Mg	Ar
sodium	magnesium	argon
22.99	24.305	35.95
4	K	Br
potassium	calcium	bromine
39.098	40.078	79.904
5	Ca	Kr
scandium	titanium	krypton
44.956	47.867	83.798
6	Cr	Ra
vaniadium	chromium	rutherfordium
50.942	51.996	
7	Mn	Zs
manganese	iron	zirconium
54.938	55.845	
8	Fe	Fr
cobalt	nickel	francium
59.933	58.693	
9	Co	N
nickel	copper	nitrogen
58.693	63.546	14.007
10	Ni	O
copper	zinc	oxygen
63.546	65.38	15.999
11	Cu	F
zinc	germanium	fluorine
65.38	69.723	18.998
12	Zn	Ne
germanium	silicon	neon
69.723	28.085	20.18
13	B	P
boron	aluminum	phosphorus
10.81	26.982	30.974
14	C	S
carbon	silicon	sulfur
12.011	28.085	32.06
15	N	Cl
nitrogen	phosphorus	chlorine
14.007	30.974	35.45
16	O	Ar
oxygen	sulfur	argon
15.999	32.06	39.95
17	F	Kr
fluorine	chlorine	krypton
18.998	35.45	

cell height

default: 38.25pt

Sets the height of each base cell of the Periodic Table.

```
\pgfPT[Z list={1,...,36},cell height=50pt]
```

Periodic Table of Elements

cell size

default: 38.25pt

Style to set both the width and the height of each base cell of the Periodic Table.

```
\pgfPT[Z list={1,...,36},cell size=40pt]
```

Periodic Table of Elements

1	H hydrogen 1.008											18							
2	He helium 4.0026											2							
3	Li lithium 6.94	Be beryllium 9.0122	Ar Ar: Relative Atomic Mass	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
4	Na sodium 22.99	Mg magnesium 24.305	Sc scandium 44.956	Ti titanium 47.867	V vanadium 50.942	Cr chromium 51.996	Mn manganese 54.938	Fe iron 55.845	Co cobalt 58.933	Ni nickel 58.692	Cu copper 63.546	Zn zinc 65.38	B boron 10.81	C carbon 12.011	N nitrogen 14.007	O oxygen 15.999	F fluorine 18.998	Ne neon 20.18	Ar argon 39.95
5	K potassium 39.098	Ca calcium 40.078	Sc scandium 44.956	Ti titanium 47.867	V vanadium 50.942	Cr chromium 51.996	Mn manganese 54.938	Fe iron 55.845	Co cobalt 58.933	Ni nickel 58.692	Cu copper 63.546	Zn zinc 65.38	Ga gallium 69.723	Ge germanium 72.63	As arsenic 74.922	Se selenium 78.971	Br bromine 79.904	Kr krypton 83.798	
6	Rb rubidium 84.994	Ca calcium 40.078	Sc scandium 44.956	Ti titanium 47.867	V vanadium 50.942	Cr chromium 51.996	Mn manganese 54.938	Fe iron 55.845	Co cobalt 58.933	Ni nickel 58.692	Cu copper 63.546	Zn zinc 65.38	Ga gallium 69.723	Ge germanium 72.63	As arsenic 74.922	Se selenium 78.971	Br bromine 79.904	Kr krypton 83.798	
7	Rb rubidium 84.994	Ca calcium 40.078	Sc scandium 44.956	Ti titanium 47.867	V vanadium 50.942	Cr chromium 51.996	Mn manganese 54.938	Fe iron 55.845	Co cobalt 58.933	Ni nickel 58.692	Cu copper 63.546	Zn zinc 65.38	Ga gallium 69.723	Ge germanium 72.63	As arsenic 74.922	Se selenium 78.971	Br bromine 79.904	Kr krypton 83.798	
8	Rb rubidium 84.994	Ca calcium 40.078	Sc scandium 44.956	Ti titanium 47.867	V vanadium 50.942	Cr chromium 51.996	Mn manganese 54.938	Fe iron 55.845	Co cobalt 58.933	Ni nickel 58.692	Cu copper 63.546	Zn zinc 65.38	Ga gallium 69.723	Ge germanium 72.63	As arsenic 74.922	Se selenium 78.971	Br bromine 79.904	Kr krypton 83.798	

cell line widthdefault: *0.4pt*

Sets the width of the line surrounding the base cell of the Periodic Table.

\pgfPT[Z list={1,...,36},cell line width=2pt]

Periodic Table of Elements

Periodic Table of Elements																																					
1	H	2	He	3	Li	4	Be	5	Cs	6	Ra	7	B	8	C	9	N	10	O	11	F	12	Ne	13	14	15	16	17	18								
1	hydrogen 1.008	2	helium 4.0026	3	lithium 6.94	4	beryllium 9.0122	5	cesium 35.45	6	radon 22.98	7	boron 10.81	8	carbon 12.011	9	nitrogen 14.007	10	oxygen 15.999	11	fluorine 18.998	12	neon 20.18	13	14	15	16	17	18								
19	K	20	Ca	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr		
4	potassium 39.098	5	calcium 40.078	6	scandium 44.956	7	titanium 47.867	8	vanadium 50.942	9	chromium 51.996	10	manganese 54.938	11	iron 55.845	12	cobalt 58.933	13	nickel 58.693	14	copper 63.546	15	zinc 65.38	16	aluminum 26.982	17	silicon 28.085	18	phosphorus 30.974	19	sulfur 32.06	20	chlorine 35.45	21	bromine 79.904	22	krypton 83.798
22	Na	23	Mg	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr								
3	sodium 22.99	4	magnesium 24.305	5	chromium 51.996	6	manganese 54.938	7	iron 55.845	8	cobalt 58.933	9	nickel 58.693	10	copper 63.546	11	zinc 65.38	12	aluminum 26.982	13	silicon 28.085	14	germanium 72.63	15	arsenic 74.922	16	sulfur 78.971	17	chlorine 79.904	18	krypton 83.798						

cell line colordefault: *black*

Sets the color of the line surrounding the base cell of the Periodic Table.

\pgfPT[Z list={1,...,36},cell line color=red]

Periodic Table of Elements

Periodic Table of Elements																																					
1	H	2	He	3	Li	4	Be	5	Cs	6	Ra	7	B	8	C	9	N	10	O	11	F	12	Ne	13	14	15	16	17	18								
1	hydrogen 1.008	2	helium 4.0026	3	lithium 6.94	4	beryllium 9.0122	5	cesium 35.45	6	radon 22.98	7	boron 10.81	8	carbon 12.011	9	nitrogen 14.007	10	oxygen 15.999	11	fluorine 18.998	12	neon 20.18	13	14	15	16	17	18								
19	K	20	Ca	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr		
4	potassium 39.098	5	calcium 40.078	6	scandium 44.956	7	titanium 47.867	8	vanadium 50.942	9	chromium 51.996	10	manganese 54.938	11	iron 55.845	12	cobalt 58.933	13	nickel 58.693	14	copper 63.546	15	zinc 65.38	16	aluminum 26.982	17	silicon 28.085	18	phosphorus 30.974	19	sulfur 32.06	20	chlorine 35.45	21	bromine 79.904	22	krypton 83.798
22	Na	23	Mg	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr								
3	sodium 22.99	4	magnesium 24.305	5	chromium 51.996	6	manganese 54.938	7	iron 55.845	8	cobalt 58.933	9	nickel 58.693	10	copper 63.546	11	zinc 65.38	12	aluminum 26.982	13	silicon 28.085	14	germanium 72.63	15	arsenic 74.922	16	sulfur 78.971	17	chlorine 79.904	18	krypton 83.798						

cell styledefault: *{}*

Loads a named cell style, built via \pgfPTbuildcellstyle, to use as a layout for each cell of the Periodic Table.

\pgfPTbuilcellstyle{myname}(5,3)% 5 rows by 3 columns
 [(1;1-2;Z),(1;3;ls),(2-3;1.5-2.5;CS),(4;1-3;name),(5;1-3;eConfig1)]
 \pgfPT[Z list={1,...,36},cell style=myname]

Periodic Table of Elements

Periodic Table of Elements																																					
1	H	2	He	3	Li	4	Be	5	Cs	6	Ra	7	B	8	C	9	N	10	O	11	F	12	Ne	13	14	15	16	17	18								
1	hydrogen 1.008	2	helium 4.0026	3	lithium 6.94	4	beryllium 9.0122	5	cesium 35.45	6	radon 22.98	7	boron 10.81	8	carbon 12.011	9	nitrogen 14.007	10	oxygen 15.999	11	fluorine 18.998	12	neon 20.18	13	14	15	16	17	18								
19	K	20	Ca	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr		
4	potassium 39.098	5	calcium 40.078	6	scandium 44.956	7	titanium 47.867	8	vanadium 50.942	9	chromium 51.996	10	manganese 54.938	11	iron 55.845	12	cobalt 58.933	13	nickel 58.693	14	copper 63.546	15	zinc 65.38	16	aluminum 26.982	17	silicon 28.085	18	phosphorus 30.974	19	sulfur 32.06	20	chlorine 35.45	21	bromine 79.904	22	krypton 83.798
22	Na	23	Mg	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr								
3	sodium 22.99	4	magnesium 24.305	5	chromium 51.996	6	manganese 54.938	7	iron 55.845	8	cobalt 58.933	9	nickel 58.693	10	copper 63.546	11	zinc 65.38	12	aluminum 26.982	13	silicon 28.085	14	germanium 72.63	15	arsenic 74.922	16	sulfur 78.971	17	chlorine 79.904	18	krypton 83.798						

celldefault: `{w=34pt,h=38.25pt,lw=.4pt,lc=black}`

Pseudo style to set the cell **width**, the cell **height**, the cell **size**, the cell **line width**, the cell **line color** and/or the cell **style**. None of the keys – w, h, s, lw, lc and style – are mandatory.

USAGE: `cell={w=<length>,h=<length>,s=<length>,lw=<length>,lc=<color>,style=<name>}`

`\pgfPT[Z list={1,...,36},cell={w=40pt,h=50pt,lw=.6pt,lc=blue}]`

Periodic Table of Elements

1 H hydrogen 1.008	2 He helium 4.0026
3 Li lithium 6.94	4 Be beryllium 9.0122
5 Na sodium 22.99	6 Mg magnesium 24.305
7 K potassium 39.098	8 Ca calcium 40.078
9 Sc scandium 44.956	10 Ti titanium 47.867
11 V vanadium 50.942	12 Cr chromium 51.996
13 Mn manganese 54.938	14 Fe iron 55.845
15 Co cobalt 58.933	16 Ni nickel 58.693
17 Cu copper 63.546	18 Zn zinc 65.38
19 Ga gallium 69.723	20 Ge germanium 72.63
21 As arsenic 74.922	22 Se selenium 78.971
23 Br bromine 79.904	24 Kr krypton 83.798
25 B boron 10.81	26 C carbon 12.011
27 N nitrogen 14.007	28 O oxygen 15.999
29 P phosphorus 30.974	30 S sulfur 32.06
31 Cl chlorine 35.45	32 Ar argon 39.95
33 F fluorine 18.998	34 Ne neon 20.18
35 S sulfur 32.06	36 Kr krypton 83.798
37 Cl chlorine 35.45	38 Ar argon 39.95
39 F fluorine 18.998	40 Ne neon 20.18

fontdefault: `phv`

Sets the font family, via the proper *LATEX* font name, to use in the Periodic Table. The default font is `phv`, i.e., the Helvetica font. The value of the `font` key can be any *LATEX* font name known to the local *LATEX* installation.

See *LATEX* font names below for further details.

`\pgfPT[Z list={1,...,36},font=ptm]`

Periodic Table of Elements

1 H hydrogen 1.008	2 He helium 4.0026
3 Li lithium 6.94	4 Be beryllium 9.0122
5 Na sodium 22.99	6 Mg magnesium 24.305
7 K potassium 39.098	8 Ca calcium 40.078
9 Sc scandium 44.956	10 Ti titanium 47.867
11 V vanadium 50.942	12 Cr chromium 51.996
13 Mn manganese 54.938	14 Fe iron 55.845
15 Co cobalt 58.933	16 Ni nickel 58.693
17 Cu copper 63.546	18 Zn zinc 65.38
19 Ga gallium 69.723	20 Ge germanium 72.63
21 As arsenic 74.922	22 Se selenium 78.971
23 Br bromine 79.904	24 Kr krypton 83.798
25 B boron 10.81	26 C carbon 12.011
27 N nitrogen 14.007	28 O oxygen 15.999
29 P phosphorus 30.974	30 S sulfur 32.06
31 Cl chlorine 35.45	32 Ar argon 39.95
33 F fluorine 18.998	34 Ne neon 20.18
35 S sulfur 32.06	36 Kr krypton 83.798
37 Cl chlorine 35.45	38 Ar argon 39.95
39 F fluorine 18.998	40 Ne neon 20.18

`\pgfPT[Z list={1,...,36},font=RobotoSlab-TLF]`

Periodic Table of Elements

1 H hydrogen 1.008	2 He helium 4.0026
3 Li lithium 6.94	4 Be beryllium 9.0122
5 Na sodium 22.99	6 Mg magnesium 24.305
7 K potassium 39.098	8 Ca calcium 40.078
9 Sc scandium 44.956	10 Ti titanium 47.867
11 V vanadium 50.942	12 Cr chromium 51.996
13 Mn manganese 54.938	14 Fe iron 55.845
15 Co cobalt 58.933	16 Ni nickel 58.693
17 Cu copper 63.546	18 Zn zinc 65.38
19 Ga gallium 69.723	20 Ge germanium 72.63
21 As arsenic 74.922	22 Se selenium 78.971
23 Br bromine 79.904	24 Kr krypton 83.798
25 B boron 10.81	26 C carbon 12.011
27 N nitrogen 14.007	28 O oxygen 15.999
29 P phosphorus 30.974	30 S sulfur 32.06
31 Cl chlorine 35.45	32 Ar argon 39.95
33 F fluorine 18.998	34 Ne neon 20.18
35 S sulfur 32.06	36 Kr krypton 83.798
37 Cl chlorine 35.45	38 Ar argon 39.95
39 F fluorine 18.998	40 Ne neon 20.18

LaTeX font names:

- ✓ The L^AT_EX font names commonly available in L^AT_EX distributions are:

- Serif fonts

- ▷ cmr – Computer Modern Roman
 - ▷ lmr – Latin Modern Roman
 - ▷ pbk – Bookman
 - ▷ bch – Charter
 - ▷ pnc – New Century Schoolbook
 - ▷ ppl – Palatino
 - ▷ ptm – Times

- Sans Serif fonts

- ▷ cmss – Computer Modern Sans Serif
 - ▷ lmss – Latin Modern Sans Serif
 - ▷ pag – Avant Garde
 - ▷ phv – Helvetica

- ✓ There are other fonts available to LATEX that require installation of the corresponding packages:

- ▷ the `roboto` package provides the following font

- Roboto-TLF – Roboto tabular lining
 - Roboto-LF – Roboto proportional lining
 - Roboto-OsF – Roboto proportional oldstyle
 - Roboto-TOsF – Roboto tabular oldstyle
 - RobotoSlab-TLF – RobotoSlab proportional lining
 - Roboto-Slab-OsF – RobotoSlab proportional oldstyle
 - RobotoSlab-TOsF – RobotoSlab tabular oldstyle
 - RobotoMono-TLF – RobotoMono proportional lining

- ▷ the `frcursive package` provides the `frc` - French Cursive font.

- ▷ the `miamia package` provides the *From - Miama Nuera* font.

▶

For more information about fonts visit the [TUG Font Catalogue](#)

back color scheme

default: *default*

Sets a named back color scheme for the Periodic Table.

\pqrPT[back color scheme=Soft]

Periodic Table of Elements

The possible **name** is one of the following:

✓ **built-in**:

- ▷ 'Soft', a soft color scheme that distinguishes metal, non metals, silicon and germanium, lanthanoids and actinoids.
- ▷ 'Jmol', is the color scheme used in the computer software **Jmol**: an open-source Java viewer for chemical structures in 3D.
- ▷ 'CPK', is the color scheme of the popular color convention for distinguishing atoms of different chemical elements in molecular models. The scheme is named after the CPK molecular models designed by chemists Robert Corey and Linus Pauling, and improved by Walter Koltun.
- ▷ 'Rasmol', is the color scheme used in the computer software **RasMol**, a program for molecular graphics visualization originally developed by Roger Sayle.
- ▷ 'RasmolNew', is a color scheme used in RasMol with revision of CPK colors made by C. Chigbo (RasMol 2.7.3).
- ▷ 'Wikipedia', is the color scheme based on the [Wikipedia Periodic Table of Elements](#).
- ▷ 'MNM', is designed to show **Metals** and **Non Metals** in two different colors, showing also the semi-metals in a third color.
- ▷ 'PS', is designed to show the **Physical State** of the elements at normal temperature and pressure (NTP) in different colors.
- ▷ 'Radio', is designed to show the **Radioactive** elements in one color and the non radioactive elements in another color.
- ▷ 'Blocks', for showing the elements in each block of the Periodic Table with the same color.
- ▷ 'solid', to show the background of each cell of the Periodic Table with the same color specified by the key '**back color**'.

✓ any **user defined** name via \pgfPTnewColorScheme{name}{color list}

back color

default: *white*

Sets the background of each cell of the Periodic Table. It only takes effect if the **back color scheme** key is set to **solid**

\pgfPT[Z list={1,...,36},back color=black!15]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95

\pgfPT[Z list={1,...,36},back color scheme=solid,back color=black!15]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95

*It is possible to set the **back color scheme** key with the built-in names using the following styles:*

csSoliddefault: *white*

A style equivalent to back color scheme=solid,back color=#1

\pgfPT[csSolid]

Periodic Table of Elements

1 H hydrogen 1.008	2 He helium 4.0026
3 Li lithium 6.94	4 Be beryllium 9.0122
5 Na sodium 22.99	6 Mg magnesium 24.305
7 K potassium 39.098	8 Ca calcium 40.078
9 Sc scandium 44.956	10 Ti titanium 47.867
11 Cr chromium 51.996	12 V vanadium 50.942
13 Mn manganese 54.938	14 Mn iron 55.845
15 Fe cobalt 58.933	16 Co nickel 58.693
17 Ni copper 63.546	18 Cu zinc 65.38
19 Zn gallium 69.723	20 Ga germanium 72.63
21 Al aluminum 26.982	22 Ge arsenic 74.922
23 Si silicon 28.085	24 P phosphorus 30.974
25 P sulfur 32.06	26 S chlorine 35.45
27 Cl chlorine 39.95	28 Ar argon 36.26
29 Ar neon 20.18	30 Kr krypton 83.798
31 Ne neon 20.18	32 He helium 4.0026
33 B boron 10.81	34 C carbon 12.011
35 N nitrogen 14.007	36 O oxygen 15.999
37 F fluorine 18.998	38 Ne neon 20.18
39 Ne neon 20.18	40 Ar argon 36.26
41 Y yttrium 91.224	42 Zr zirconium 92.908
43 Nb niobium 95.95	44 Mo molybdenum 95.95
45 Ru rhodium 101.07	46 Rh rhodium 102.91
47 Pd palladium 106.42	48 Ag silver 107.87
49 Cd cadmium 112.41	50 In indium 114.82
51 Sn tin 118.71	52 Sb antimony 121.76
53 Te tellurium 127.6	54 I iodine 126.9
55 Cs cesium 132.91	56 Rb barium 137.33
57 Ba barium 137.33	58 La lanthanoids 138.91
59 Ce cerium 140.12	60 Pr praseodymium 140.91
61 Nd neodymium 144.24	62 Pm promethium 145
63 Sm samarium 150.36	64 Eu europium 151.96
65 Gd gadolinium 157.25	66 Tb terbium 158.93
67 Dy dysprosium 162.5	68 Ho holmium 164.93
69 Er erbium 167.28	70 Tm thulium 169.93
71 Lu lutetium 174.97	72 Yb ytterbium 173.05
73 Ta tantalum 178.49	74 W tungsten 180.95
75 Re rhenium 183.84	76 Os osmium 190.23
77 Ir iridium 192.22	78 Pt platinum 195.08
79 Au gold 196.97	80 Hg mercury 200.59
81 Tl thallium 204.36	82 Pb lead 207.2
83 Bi bismuth 208.98	84 Po polonium 209
85 At astatine 210	86 Rn radon 222
87 Fr francium [223]	88 Ra radium [226]
89 Ra radium [226]	90 Ac actinoids [227]
91 Th thorium 232.04	92 Pa protactinium 231.04
93 U protactinium 238.03	94 Np neptunium [237]
95 Pu plutonium [244]	96 Am americium [243]
97 Cm curium [247]	98 Bk berkelium [247]
99 Cf californium [251]	100 Es einsteinium [252]
101 Fm fermium [257]	102 Md mendelevium [258]
103 No nobelium [259]	104 Lr lawrencium [266]
105 Nh nihonium [286]	106 Fl florium [289]
107 Mc moscovium [290]	108 Lv livemorium [293]
109 Ts ternesine [294]	110 Ts ternesine [294]
111 Og oganespon [294]	112 Og oganespon [294]
113 Lu lutetium [266]	114 Lu lutetium [266]
115 Yb ytterbium [174.97]	116 Yb ytterbium [174.97]
117 Ts ternesine [294]	118 Ts ternesine [294]
119 Og oganespon [294]	120 Og oganespon [294]
121 Lu lutetium [174.97]	122 Lu lutetium [174.97]
123 Yb ytterbium [174.97]	124 Yb ytterbium [174.97]
125 Ts ternesine [294]	126 Ts ternesine [294]
127 Og oganespon [294]	128 Og oganespon [294]
129 Lu lutetium [174.97]	130 Lu lutetium [174.97]

\pgfPT[csSolid=black!15]

Periodic Table of Elements

1 H hydrogen 1.008	2 He helium 4.0026
3 Li lithium 6.94	4 Be beryllium 9.0122
5 Na sodium 22.99	6 Mg magnesium 24.305
7 K potassium 39.098	8 Ca calcium 40.078
9 Sc scandium 44.956	10 Ti titanium 47.867
11 Cr chromium 51.996	12 V vanadium 50.942
13 Mn manganese 54.938	14 Mn iron 55.845
15 Fe cobalt 58.933	16 Co nickel 58.693
17 Ni copper 63.546	18 Cu zinc 65.38
19 Zn gallium 69.723	20 Ga germanium 72.63
21 Al aluminum 26.982	22 Ge arsenic 74.922
23 Si silicon 28.085	24 P phosphorus 30.974
25 P sulfur 32.06	26 S chlorine 35.45
27 Cl chlorine 39.95	28 Ar argon 36.26
29 Ne neon 20.18	30 Kr krypton 83.798
31 B boron 10.81	32 C carbon 12.011
33 N nitrogen 14.007	34 O oxygen 15.999
35 F fluorine 18.998	36 Ne neon 20.18
37 Ne neon 20.18	38 Ar argon 36.26
39 Y yttrium 91.224	40 Zr zirconium 92.908
41 Nb niobium 95.95	42 Mo molybdenum 95.95
43 Ru rhodium 101.07	44 Rh rhodium 102.91
45 Pd palladium 106.42	46 Ag silver 107.87
47 Cd cadmium 112.41	48 In indium 114.82
49 Sn tin 118.71	50 Sb antimony 121.76
51 Te tellurium 127.6	52 I iodine 126.9
53 Cs cesium 132.91	54 Rb barium 137.33
55 Ba barium 137.33	56 La lanthanoids 138.91
57 Ce cerium 140.12	58 Pr praseodymium 140.91
59 Nd neodymium 144.24	60 Pm promethium 145
61 Sm samarium 150.36	62 Eu europium 151.96
63 Gd gadolinium 157.25	64 Tb terbium 158.93
65 Dy dysprosium 162.5	66 Ho holmium 164.93
67 Er erbium 167.28	68 Tm thulium 169.93
69 Lu lutetium 174.97	70 Yb ytterbium 173.05
71 Ta tantalum 178.49	72 W tungsten 180.95
73 Re rhenium 183.84	74 Os osmium 190.23
75 Ir iridium 192.22	76 Pt platinum 195.08
77 Au gold 196.97	78 Hg mercury 200.59
79 Tl thallium 204.36	80 Pb lead 207.2
81 Bi bismuth 208.98	82 Po polonium 209
83 At astatine 210	84 Rn radon 222
85 Fr francium [223]	86 Ra radium [226]
87 Ra radium [226]	88 Ac actinoids [227]
89 Th thorium 232.04	90 Pa protactinium 231.04
91 U protactinium 238.03	92 Np neptunium [237]
93 Pu plutonium [244]	94 Am americium [243]
95 Cm curium [247]	96 Bk berkelium [247]
97 Cf californium [251]	98 Es einsteinium [252]
99 Fm fermium [257]	100 Md mendelevium [258]
101 No nobelium [259]	102 Lr lawrencium [266]
103 Nh nihonium [286]	104 Fl florium [289]
105 Mc moscovium [290]	106 Lv livemorium [293]
107 Ts ternesine [294]	108 Ts ternesine [294]
109 Og oganespon [294]	110 Og oganespon [294]
111 Lu lutetium [174.97]	112 Lu lutetium [174.97]
113 Yb ytterbium [174.97]	114 Yb ytterbium [174.97]
115 Ts ternesine [294]	116 Ts ternesine [294]
117 Og oganespon [294]	118 Og oganespon [294]
119 Lu lutetium [174.97]	120 Lu lutetium [174.97]

csSoft

no value

A style equivalent to back color scheme=Soft

\pgfPT[csSoft]

Periodic Table of Elements

1	H	2	He
1	hydrogen 1.008	2	helium 4.0026
2	Li	3	B
2	lithium 6.94	3	boron 10.81
4	Be	4	C
4	beryllium 9.0122	4	carbon 12.011
11	Na	5	N
3	Na	5	nitrogen 14.007
3	sodium 22.99	6	O
3	magnesium 24.305	6	oxygen 15.999
19	K	7	F
4	K	7	fluorine 18.998
4	potassium 39.098	8	Ne
4	calcium 40.078	8	neon 20.18
20	Ca	9	Al
20	calcium 40.078	9	aluminum 26.982
21	Sc	10	Si
21	scandium 44.958	10	silicon 28.085
22	Ti	11	P
22	titanium 47.867	11	phosphorus 30.974
23	V	12	S
23	vandium 50.942	12	sulfur 32.06
24	Cr	13	Cl
24	chromium 51.998	13	chlorine 35.45
25	Mn	14	Ar
25	manganese 54.938	14	argon 39.95
26	Fe	15	Kr
26	iron 55.845	15	krypton 83.798
27	Co	16	Ge
27	cobalt 58.933	16	germanium 78.971
28	Ni	17	As
28	nickel 58.693	17	arsenic 74.922
29	Cu	18	Se
29	copper 63.546	18	selenium 79.904
30	Zn	19	Br
30	zinc 65.38	19	bromine 80.904
31	Ga	20	Rn
31	gallium 69.723	20	radon 222
32	Ge	21	Xe
32	germanium 69.723	21	xenon 131.29
33	B	22	I
33	boron 10.81	22	iodine 126.9
13	C	23	Ts
13	carbon 12.011	23	terrasine 127.6
14	N	24	Og
14	nitrogen 14.007	24	oganeson 174.97
15	O	25	
15	oxygen 15.999	25	
16	F	26	
16	fluorine 18.998	26	
17	Ne	27	
17	neon 20.18	27	
18	He	28	
18	helium 4.0026	28	

6	La	58	Ce	59	Pr	60	Nd	61	Pm	62	Sm	63	Eu	64	Gd	65	Tb	66	Dy	67	Ho	68	Er	69	Tm	70	Yb	71	Lu								
6	lanthanum 138.91	58	cerium 140.12	59	praseodymium 140.91	60	neodymium 144.24	61	promethium [145]	62	samarium 150.36	63	euroium 151.96	64	gadolinium 157.25	65	terbium 158.93	66	dysprosium 162.5	67	holmium 164.93	68	erbium 167.26	69	thulium 168.93	70	ytterbium 173.05	71	lutetium 174.97								
7	Ac	59	Th	90	Pa	91	U	92	Np	93	Pu	94	Am	95	Cm	96	Bk	97	Cf	98	Es	99	Fm	100	Md	101	No	102	Lr								
7	actinium 227	59	thorium 232.04	90	protactinium 231.04	91	uranium 238.03	92	neptunium [237]	93	plutonium [244]	94	americium [243]	95	curium [247]	96	berkelium [247]	97	californium [251]	98	einsteinium [252]	99	fermium [257]	100	mendelevium [258]	101	nobelium [259]	102	roentgenium [260]	103	radon [222]						
6	Cs	56	La	57-71	Sc	72	Ti	73	V	74	Cr	75	Mn	76	Fe	77	Co	78	Pt	79	Os	80	In	81	Sn	82	Sb	83	Ts	84	Og						
6	cesium 132.91	56	lanthanoids 137.33	57-71	lanthanoids 137.33	72	lanthanoids 137.33	73	lanthanoids 137.33	74	lanthanoids 137.33	75	lanthanoids 137.33	76	lanthanoids 137.33	77	lanthanoids 137.33	78	lanthanoids 137.33	79	lanthanoids 137.33	80	lanthanoids 137.33	81	lanthanoids 137.33	82	lanthanoids 137.33	83	lanthanoids 137.33	84	lanthanoids 137.33	85	lanthanoids 137.33				
7	Fr	88	Ra	89-103	Ac	104	Th	105	Pa	106	U	107	Np	108	Pu	109	Am	110	Cm	111	Bk	112	Cf	113	Es	114	Fm	115	Md	116	No	117	Lr				
7	francium [223]	88	radium [226]	89-103	actinoids [227]	104	rutherfordium [270]	105	duburnium [258]	106	seaborgium [259]	107	bethmornium [270]	108	bohrium [270]	109	hsium [270]	110	meitnerium [280]	111	darmstadtium [281]	112	roentgenium [282]	113	copernicium [285]	114	nihonium [286]	115	florium [286]	116	moscovium [289]	117	livernovium [293]	118	tennessine [294]	119	oganeson [294]

csJmol

no value

A style equivalent to back color scheme=Jmol

\pgfPT[csJmol]

Periodic Table of Elements

1	H	2	He
1	hydrogen 1.008	2	helium 4.0026
2	Li	3	B
2	lithium 6.94	3	boron 10.81
4	Be	4	C
4	beryllium 9.0122	4	carbon 12.011
11	Na	5	N
3	Na	5	nitrogen 14.007
3	sodium 22.99	6	O
3	magnesium 24.305	6	oxygen 15.999
19	K	7	F
4	K	7	fluorine 18.998
4	potassium 39.098	8	Ne
4	calcium 40.078	8	neon 20.18
20	Ca	9	Al
20	calcium 40.078	9	aluminum 26.982
21	Sc	10	Si
21	scandium 44.958	10	silicon 28.085
22	Ti	11	P
22	titanium 47.867	11	phosphorus 30.974
23	V	12	S
23	vandium 50.942	12	sulfur 32.06
24	Cr	13	Cl
24	chromium 51.998	13	chlorine 35.45
25	Mn	14	Ar
25	manganese 54.938	14	argon 39.95
26	Fe	15	Kr
26	iron 55.845	15	krypton 83.798
27	Co	16	Ge
27	cobalt 58.933	16	germanium 78.971
28	Ni	17	As
28	nickel 58.693	17	arsenic 74.922
29	Cu	18	Se
29	copper 63.546	18	selenium 79.904
30	Zn	19	Br
30	zinc 65.38	19	bromine 80.904
31	Ga	20	Rn
31	gallium 69.723	20	radon 222
32	Ge	21	Xe
32	germanium 69.723	21	xenon 131.29
33	B	22	I
33	boron 10.81	22	iodine 126.9
13	C	23	Ts
13	carbon 12.011	23	terrasine 127.6
14	N	24	Og
14	nitrogen 14.007	24	oganeson 174.97
15	O	25	
15	oxygen 15.999	25	
16	F	26	
16	fluorine 18.998	26	
17	Ne	27	
17	neon 20.18	27	
18	He	28	
18	helium 4.0026	28	

6	La	58	Ce	59	Pr	60	Nd	61	Pm	62	Sm	63	Eu	64	Gd	65	Tb	66	Dy	67	Ho	68	Er	69	Tm	70	Yb	71	Lu								
6	lanthanum 138.91	58	cerium 140.12	59	praseodymium 140.91	60	neodymium 144.24	61	promethium [145]	62	samarium 150.36	63	euroium 151.96	64	gadolinium 157.25	65	terbium 158.93	66	dysprosium 162.5	67	holmium 164.93	68	erbium 167.26	69	thulium 168.93	70	ytterbium 173.05	71	lutetium 174.97								
7	Ac	90	Th	91	Pa	92	U	93	Np	94	Pu	95	Am	96	Cm	97	Bk	98	Cf	99	Es	100	Fm	101	Md	102	No	103	Lr								
7	actinium [227]	90	thorium 232.04	91	protactinium 231.04	92	uranium 238.03	93	neptunium [237]	94	plutonium [244]	95	americium [243]	96	curium [247]	97	berkelium [247]	98	californium [251]	99	einsteinium [252]	100	fermium [257]	101	mendelevium [258]	102	nobelium [259]	103	roentgenium [260]	104	radon [222]						
6	Cs	56	La	57-71	Sc	72	Ti	73	V	74	Cr	75	Mn	76	Fe	77	Co	78	Pt	79	Os	80	In	81	Sn	82	Sb	83	Ts	84	Og						
6	cesium 132.91	56	lanthanoids 137.33	57-71	lanthanoids 137.33	72	lanthanoids 137.33	73	lanthanoids 137.33	74	lanthanoids 137.33	75	lanthanoids 137.33	76	lanthanoids 137.33	77	lanthanoids 137.33	78	lanthanoids 137.33	79	lanthanoids 137.33	80	lanthanoids 137.33	81	lanthanoids 137.33	82	lanthanoids 137.33	83	lanthanoids 137.33	84	lanthanoids 137.33	85	lanthanoids 137.33				
7	Fr	88	Ra	89-103	Ac	104	Th	105	Pa	106	U	107	Np	108	Pu	109	Am	110	Cm	111	Bk	112	Cf	113	Es	114	Fm	115	Md	116	No	117	Lr				
7	francium [223]	88	radium [226]	89-103	actinoids [227]	104	rutherfordium [270]	105	duburnium [258]	106	seaborgium [259]	107	bethmornium [270]	108	bohrium [270]	109	hsium [270]	110	meitnerium [280]	111	darmstadtium [281]	112	roentgenium [282]	113	copernicium [285]	114	nihonium [286]	115	florium [286]	116	moscovium [289]	117	livernovium [293]	118	tennessine [294]	119	oganeson [294]

csCPK*no value*

A style equivalent to back color scheme=CPK

\pgfPT[csCPK]

Periodic Table of Elements

1	H	2	He	18	He											
1	hydrogen 1.008	2	helium 4.0026													
2	Li	Be														
3	Na	Mg														
4	K	Ca														
5	Rb	Sr														
6	Cs	Ba														
7	Fr	Ra														
1	lithium 6.94	beryllium 8.0122														
2	sodium 22.99	magnesium 24.305														
3	potassium 39.098	calcium 40.078														
4	rubidium 85.468	strontium 87.62														
5	cesium 132.91	barium 137.33														
6	francium 223	radium 226														
7																
1	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
2	scandium 44.955	stannium 47.867	vandium 50.942	chromium 51.996	manganese 54.939	iron 55.845	cobalt 56.933	nickel 58.693	copper 63.546	zinc 65.38	gallium 69.723	germanium 74.922	arsenic 78.971	selenium 79.904	bromine 80.904	kronton 83.798
3	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
4	Yttrium 88.903	zirconium 91.224	niobium 92.906	molybdenum 95.95	technetium [98]	ruthenium 101.07	rhodium 102.91	palladium 106.42	silver 107.87	cadmium 112.41	indium 114.82	tin 116.71	antimony 121.76	telurium 127.8	iodine 126.9	xeon 131.29
5	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
6	lanthanoids	hafnium 178.49	tantalum 180.95	tungsten 183.84	rhenium 186.21	osmium 190.23	iridium 192.22	platinum 195.08	gold 196.97	mercury 200.59	thallium 204.38	lead 207.2	bismuth 208.98	polonium [209]	astatine [210]	
7	actinoids	rutherfordium [267]	dubium [268]	seaborgium [269]	bhium [270]	hsium [270]	mtium [278]	dsium [281]	rgium [282]	cnium [285]	nihilium [286]	florium [289]	moscovium [290]	livemorium [293]	temesine [294]	oganeson [294]
6	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	
7	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	
1	cerium 138.91	praseodymium 140.12	neodymium 144.24	promethium [145]	samarium 150.36	euroopium 151.98	gadolinium 157.25	terbium 158.93	dysprosium 162.5	holmium 164.93	erbium 167.26	thulium 168.93	ytterbium 173.05	lutetium 174.97		
2	thorium 232.04	protactinium 231.04	uranium 238.03	neptunium [237]	plutonium [244]	americium [243]	curium [247]	berkelium [247]	einsteinium [251]	fonderium [252]	fermium [257]	mendelevium [258]	nobelium [259]	lawrencium [266]		
3	barium 137.33															
4	actinium [227]															
5	thorium 232.04															
6	actinium [227]															
7	thorium 232.04															

csRasmol*no value*

A style equivalent to back color scheme=Rasmol

\pgfPT[csRasmol]

Periodic Table of Elements

1	H	2	He	18	He											
1	hydrogen 1.008	2	helium 4.0026													
2	Li	Be														
3	Na	Mg														
4	K	Ca														
5	Rb	Sr														
6	Cs	Ba														
7	Fr	Ra														
1	lithium 6.94	beryllium 8.0122														
2	sodium 22.99	magnesium 24.305														
3	potassium 39.098	calcium 40.078														
4	rubidium 85.468	strontium 87.62														
5	cesium 132.91	barium 137.33														
6	francium 223	radium 226														
7																
1	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
2	scandium 44.955	stannium 47.867	vandium 50.942	chromium 51.996	manganese 54.939	iron 55.845	cobalt 56.933	nickel 58.693	copper 63.546	zinc 65.38	gallium 69.723	germanium 74.922	arsenic 78.971	selenium 79.904	bromine 80.904	kronton 83.798
3	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
4	Yttrium 88.903	zirconium 91.224	niobium 92.906	molybdenum 95.95	technetium [98]	ruthenium 101.07	rhodium 102.91	palladium 106.42	silver 107.87	cadmium 112.41	indium 114.82	tin 116.71	antimony 121.76	telurium 127.8	iodine 126.9	xeon 131.29
5	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
6	lanthanoids	hafnium 178.49	tantalum 180.95	tungsten 183.84	rhenium 186.21	osmium 190.23	iridium 192.22	platinum 195.08	gold 196.97	mercury 200.59	thallium 204.38	lead 207.2	bismuth 208.98	polonium [209]	astatine [210]	
7	actinoids	rutherfordium [267]	dubium [268]	seaborgium [269]	bhium [270]	hsium [270]	mtium [278]	dsium [281]	rgium [282]	cnium [285]	nihilium [286]	florium [289]	moscovium [290]	livemorium [293]	temesine [294]	oganeson [294]
6	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	
7	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	
1	cerium 138.91	praseodymium 140.12	neodymium 144.24	promethium [145]	samarium 150.36	euroopium 151.98	gadolinium 157.25	terbium 158.93	dysprosium 162.5	holmium 164.93	erbium 167.26	thulium 168.93	ytterbium 173.05	lutetium 174.97		
2	thorium 232.04	protactinium 231.04	uranium 238.03	neptunium [237]	plutonium [244]	americium [243]	curium [247]	berkelium [247]	einsteinium [251]	fonderium [252]	fermium [257]	mendelevium [258]	nobelium [259]	lawrencium [266]		
3	barium 137.33															
4	actinium [227]															
5	thorium 232.04															
6	actinium [227]															
7	thorium 232.04															

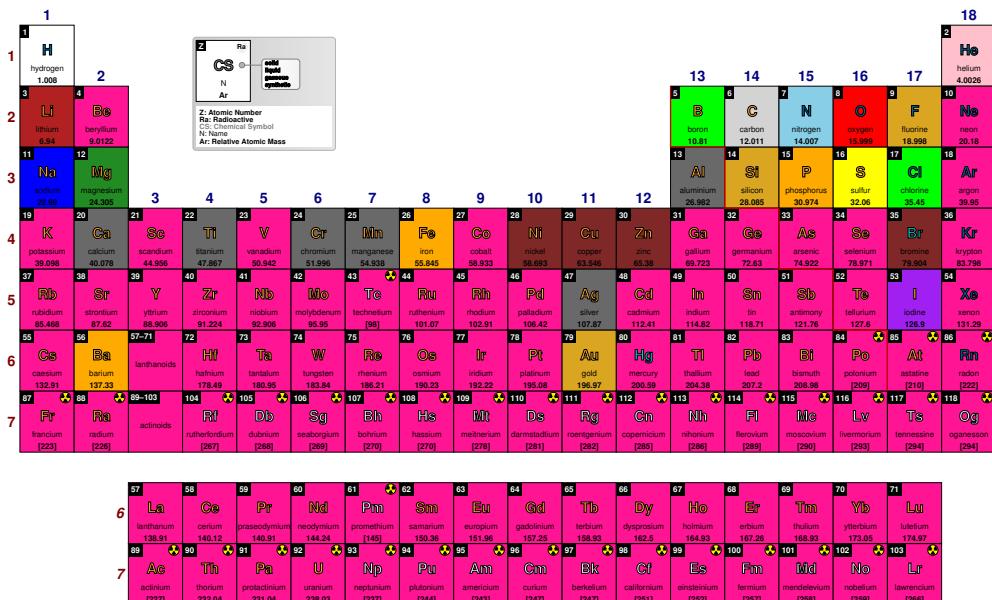
csRasmolNew

no value

A style equivalent to back color scheme=RasmolNew

\pgfPT[csRasmolNew]

Periodic Table of Elements

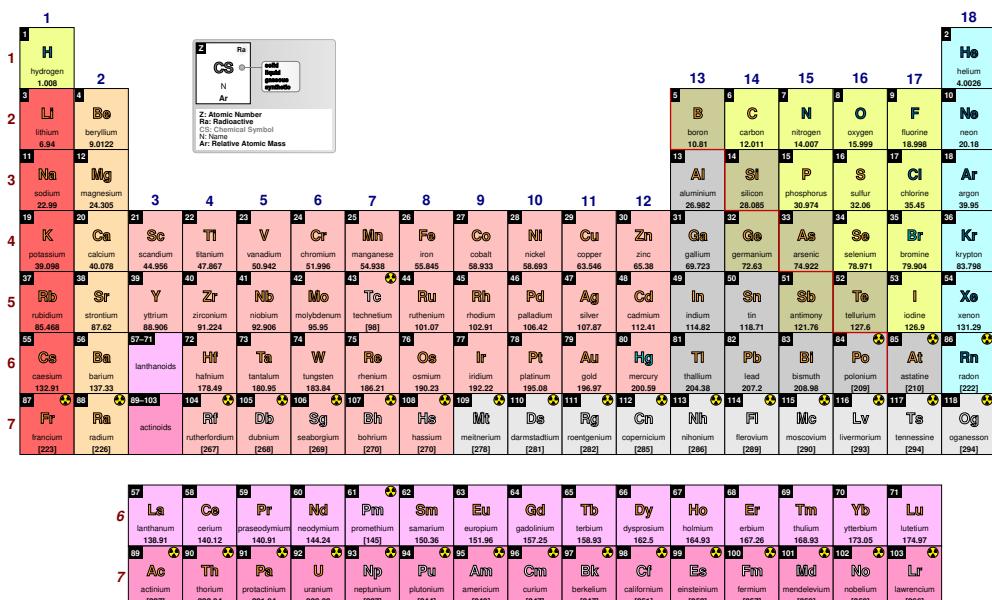
**csWikipedia**

no value

A style equivalent to back color scheme=Wikipedia

\pgfPT[csWikipedia]

Periodic Table of Elements



csMNM

no value

A style equivalent to back color scheme=MNM

\pgfPT[csMNM]

Periodic Table of Elements

1	H	2	He	18
1	hydrogen 1.008	2	helium 4.0026	
2	Li	Be	C	
3	lithium 6.94	beryllium 9.0122	N	
4	Mg	Na	O	
5	magnesium 24.305	sodium 22.99	F	
6	K	Ca	Ne	
7	potassium 40.078	calcium 39.098	Ar	
8	Sc	Ti	He	
9	Scandium 44.956	Titanium 50.942		
10	V	Cr		
11	Cr	Mn		
12	Fe	Fe		
13	Co	Co		
14	Ni	Ni		
15	Cu	Cu		
16	Zn	Zn		
17	Ga	Ga		
18	Ge	Ge		
19	B	Boron 10.81		
20	Ru	Ru		
21	Ti	Ti		
22	V	Cr		
23	Cr	Mn		
24	Mo	Mo		
25	Tc	Tc		
26	Ru	Ru		
27	Rh	Rh		
28	Pd	Pd		
29	Ag	Ag		
30	Cd	Cd		
31	In	In		
32	Sn	Sn		
33	Sb	Sb		
34	Te	Te		
35	I	I		
36	Xe	Xe		
37	Rb	Zr		
38	Y	Nb		
39	Sc	Mo		
40	Tl	Tc		
41	Y	Nb		
42	Zr	Mo		
43	Mo	Tc		
44	Tc	Ru		
45	Ru	Rh		
46	Pd	Pd		
47	Ag	Ag		
48	Cd	Cd		
49	In	In		
50	Sn	Sn		
51	Sb	Sb		
52	Te	Te		
53	I	I		
54	Xe	Xe		
55	Ca	Os		
56	Ba	Ir		
57	La	Pt		
58	Eu	Au		
59	Pr	Os		
60	Sm	Ir		
61	Nd	Pt		
62	Eu	Au		
63	Gd	Dy		
64	Tb	Ho		
65	Dy	Tm		
66	Ho	Yb		
67	Er	Lu		
68	Th	Er		
69	Pa	Lu		
70	U	Yb		
71	Np	Lu		
72	Pu	Yb		
73	Am	Lu		
74	Cm	Yb		
75	Bk	Lu		
76	Cf	Yb		
77	Es	Lu		
78	Fm	Yb		
79	Md	Lu		
80	No	Yb		
81	Lr	Lu		
82	Fr	Fr		
83	Ra	Ra		
84	Ac	Ac		
85	Th	Th		
86	Pa	Pa		
87	U	U		
88	Np	Np		
89	Pu	Pu		
90	Am	Am		
91	Cm	Cm		
92	Bk	Bk		
93	Cf	Cf		
94	Es	Es		
95	Fm	Fm		
96	Md	Md		
97	No	No		
98	Lr	Lr		
99	Og	Og		
100	Fr	Fr		
101	Ra	Ra		
102	Ac	Ac		
103	Th	Th		
104	Pa	Pa		
105	U	U		
106	Np	Np		
107	Pu	Pu		
108	Am	Am		
109	Cm	Cm		
110	Bk	Bk		
111	Cf	Cf		
112	Es	Es		
113	Fm	Fm		
114	Md	Md		
115	No	No		
116	Lr	Lr		
117	Og	Og		
118	Fr	Fr		
119	Ra	Ra		
120	Ac	Ac		
121	Th	Th		
122	Pa	Pa		
123	U	U		
124	Np	Np		
125	Pu	Pu		
126	Am	Am		
127	Cm	Cm		
128	Bk	Bk		
129	Cf	Cf		
130	Es	Es		
131	Fm	Fm		
132	Md	Md		
133	No	No		
134	Lr	Lr		
135	Og	Og		
136	Fr	Fr		
137	Ra	Ra		
138	Ac	Ac		
139	Th	Th		
140	Pa	Pa		
141	U	U		
142	Np	Np		
143	Pu	Pu		
144	Am	Am		
145	Cm	Cm		
146	Bk	Bk		
147	Cf	Cf		
148	Es	Es		
149	Fm	Fm		
150	Md	Md		
151	No	No		
152	Lr	Lr		
153	Og	Og		
154	Fr	Fr		
155	Ra	Ra		
156	Ac	Ac		
157	Th	Th		
158	Pa	Pa		
159	U	U		
160	Np	Np		
161	Pu	Pu		
162	Am	Am		
163	Cm	Cm		
164	Bk	Bk		
165	Cf	Cf		
166	Es	Es		
167	Fm	Fm		
168	Md	Md		
169	No	No		
170	Lr	Lr		
171	Og	Og		
172	Fr	Fr		
173	Ra	Ra		
174	Ac	Ac		
175	Th	Th		
176	Pa	Pa		
177	U	U		
178	Np	Np		
179	Pu	Pu		
180	Am	Am		
181	Cm	Cm		
182	Bk	Bk		
183	Cf	Cf		
184	Es	Es		
185	Fm	Fm		
186	Md	Md		
187	No	No		
188	Lr	Lr		
189	Og	Og		
190	Fr	Fr		
191	Ra	Ra		
192	Ac	Ac		
193	Th	Th		
194	Pa	Pa		
195	U	U		
196	Np	Np		
197	Pu	Pu		
198	Am	Am		
199	Cm	Cm		
200	Bk	Bk		
201	Cf	Cf		
202	Es	Es		
203	Fm	Fm		
204	Md	Md		
205	No	No		
206	Lr	Lr		
207	Og	Og		
208	Fr	Fr		
209	Ra	Ra		
210	Ac	Ac		
211	Th	Th		
212	Pa	Pa		
213	U	U		
214	Np	Np		
215	Pu	Pu		
216	Am	Am		
217	Cm	Cm		
218	Bk	Bk		
219	Cf	Cf		
220	Es	Es		
221	Fm	Fm		
222	Md	Md		
223	No	No		
224	Lr	Lr		
225	Og	Og		
226	Fr	Fr		
227	Ra	Ra		
228	Ac	Ac		
229	Th	Th		
230	Pa	Pa		
231	U	U		
232	Np	Np		
233	Pu	Pu		
234	Am	Am		
235	Cm	Cm		
236	Bk	Bk		
237	Cf	Cf		
238	Es	Es		
239	Fm	Fm		
240	Md	Md		
241	No	No		
242	Lr	Lr		
243	Og	Og		
244	Fr	Fr		
245	Ra	Ra		
246	Ac	Ac		
247	Th	Th		
248	Pa	Pa		
249	U	U		
250	Np	Np		
251	Pu	Pu		
252	Am	Am		
253	Cm	Cm		
254	Bk	Bk		
255	Cf	Cf		
256	Es	Es		
257	Fm	Fm		
258	Md	Md		
259	No	No		
260	Lr	Lr		
261	Og	Og		
262	Fr	Fr		
263	Ra	Ra		
264	Ac	Ac		
265	Th	Th		
266	Pa	Pa		
267	U	U		
268	Np	Np		
269	Pu	Pu		
270	Am	Am		
271	Cm	Cm		
272	Bk	Bk		
273	Cf	Cf		
274	Es	Es		
275	Fm	Fm		
276	Md	Md		
277	No	No		
278	Lr	Lr		
279	Og	Og		
280	Fr	Fr		
281	Ra	Ra		
282	Ac	Ac		
283	Th	Th		
284	Pa	Pa		
285	U	U		
286	Np	Np		
287	Pu	Pu		
288	Am	Am		
289	Cm	Cm		
290	Bk	Bk		
291	Cf	Cf		
292	Es	Es		
293	Fm	Fm		
294	Md	Md		
295	No	No		
296	Lr	Lr		
297	Og	Og		
298	Fr	Fr		
299	Ra	Ra		
300	Ac	Ac		
301	Th	Th		
302	Pa	Pa		
303	U	U		
304	Np	Np		
305	Pu	Pu		
306	Am	Am		
307	Cm	Cm		
308	Bk	Bk		
309	Cf	Cf		
310	Es	Es		
311	Fm	Fm		
312	Md	Md		
313	No	No		
314	Lr	Lr		
315	Og	Og		
316	Fr	Fr		
317	Ra	Ra		
318	Ac	Ac		
319	Th	Th		
320	Pa	Pa		
321	U	U		
322	Np	Np		
323	Pu	Pu		
324	Am	Am		
325	Cm	Cm		
326	Bk	Bk		
327	Cf	Cf		
328	Es	Es		
329	Fm	Fm		
330	Md	Md		
331	No	No		
332	Lr	Lr		
333	Og	Og		
334	Fr			

csRadio

no value

A style equivalent to back color scheme=Radio

\pgfPT[csRadio]

Periodic Table of Elements

1	H	2	He	18
1	hydrogen 1.008	2	helium 4.0026	
2	Li	Be		
3	lithium 6.94	beryllium 9.0122		
11	Na	Mg		
3	sodium 22.99	magnesium 24.305		
19	K	Ca		
4	potassium 39.098	calcium 40.078		
37	Rb	Sc		
5	rubidium 85.468	scandium 44.958		
38	Sr	Ti		
6	strontium 87.62	titanium 47.867		
39	Y	V		
7	yttrium 88.906	vanadium 50.942		
40	Zr	Cr		
5	zirconium 91.224	chromium 51.986		
41	Nb	Mo		
5	niobium 92.906	molybdenum 95.95		
42	Tc	Tc		
5	technetium [98]	technetium [98]		
43	Ru	Ru		
5	ruthenium [107]	ruthenium 101.07		
44	Rh	Rh		
5	rhodium 102.91	rhodium 106.42		
45	Pd	Pd		
5	palladium 106.42	palladium 107.87		
46	Ag	Ag		
5	silver 112.41	silver 112.41		
47	Cd	Cd		
5	cadmium 112.41	cadmium 114.82		
48	In	In		
5	indium 114.82	indium 116.71		
49	Hg	Hg		
5	mercury 196.97	mercury 200.59		
50	Ge	Ge		
5	germanium 72.63	germanium 74.922		
51	As	As		
5	arsenic 78.971	arsenic 80.971		
52	Se	Se		
5	selenium 79.904	selenium 83.798		
53	Br	Br		
5	bromine 83.798	bromine 86.904		
54	Kr	Kr		
5	krypton 83.798	krypton 86.904		
55	Cs	Tl		
6	caesium 132.91	thallium 178.49		
56	Ba	W		
6	barium 137.33	tungsten 180.95		
57	Hf	Re		
6	hafnium 178.49	rhenium 186.21		
58	Ta	Os		
6	tantalum 180.95	osmium 190.23		
59	Dub	Ir		
6	dubium [268]	iridium 192.22		
60	Sg	Pt		
6	seaborgium [269]	platinum 195.08		
61	Bh	Au		
6	bohrium [270]	gold 196.97		
62	Mt	Hg		
6	meitnerium [278]	mercury 200.59		
63	Ds	Tl		
6	darmstadtium [281]	thallium 204.38		
64	Rg	Pb		
6	roentgenium [282]	lead 207.2		
65	Cn	Bi		
6	copernicium [285]	bismuth 208.98		
66	Nh	Po		
6	nihonium [286]	polonium 209.00		
67	Fm	At		
6	fermium [287]	astatine 210.00		
68	Ra	Rn		
7	radium [226]	radon [222]		
69	Fr	Ac		
7	francium [223]	actinium [227]		
70	Yb	Th		
7	ytterbium 173.05	thorium 232.04		
71	Lu	Pa		
7	lutetium 174.97	protactinium 231.04		
6	La	U		
6	lanthanum 138.91	uranium 238.03		
57	Ce	Np		
6	cerium 140.12	neptunium 238.03		
58	Pr	Pu		
6	praseodymium 140.91	plutonium 238.03		
59	Nd	Am		
6	neodymium 144.24	americium 243		
60	Pm	Cm		
6	promethium [145]	curium [247]		
61	Sm	Bk		
6	samarium 150.36	berkelium [247]		
62	Eu	Cf		
6	europerium 151.96	californium [251]		
63	Gd	Esn		
6	gadolinium 157.25	einstenium [252]		
64	Tb	Fm		
6	terbium 158.93	fermium [257]		
65	Dy	Md		
6	dysprosium 162.5	mendelevium [258]		
66	Ho	No		
6	holmium 164.93	nobelium [259]		
67	Tm	Lr		
6	thulium 166.93	lawrencium [266]		
68	Yb	Og		
6	ytterbium 173.05	oganeson [294]		
69	Lu			
7	lutetium 174.97			

csBlocks

no value

A style equivalent to back color scheme=Blocks

\pgfPT[csBlocks]

Periodic Table of Elements

1	H	2	He	18
1	hydrogen 1.008	2	helium 4.0026	
2	Li	Be		
3	lithium 6.94	beryllium 9.0122		
11	Na	Mg		
3	sodium 22.99	magnesium 24.305		
19	K	Ca		
4	potassium 39.098	calcium 40.078		
37	Rb	Sc		
5	rubidium 85.468	scandium 44.958		
38	Sr	Ti		
6	strontium 87.62	titanium 47.867		
39	Y	V		
7	yttrium 88.906	vanadium 50.942		
40	Zr	Cr		
5	zirconium 91.224	chromium 51.986		
41	Nb	Mo		
5	niobium 92.906	molybdenum 95.95		
42	Tc	Tc		
5	technetium [98]	technetium [98]		
43	Ru	Ru		
5	ruthenium [107]	ruthenium 101.07		
44	Rh	Rh		
5	rhodium 102.91	rhodium 106.42		
45	Pd	Pd		
5	palladium 106.42	palladium 107.87		
46	Ag	Ag		
5	silver 112.41	silver 112.41		
47	Cd	Cd		
5	cadmium 112.41	cadmium 114.82		
48	In	In		
5	indium 114.82	indium 116.71		
49	Hg	Hg		
5	mercury 196.97	mercury 200.59		
50	Ge	Ge		
5	germanium 72.63	germanium 74.922		
51	As	As		
5	arsenic 78.971	arsenic 80.971		
52	Se	Se		
5	selenium 79.904	selenium 83.798		
53	Br	Br		
5	bromine 83.798	bromine 86.904		
54	Kr	Kr		
5	krypton 83.798	krypton 86.904		
55	Cs	Tl		
6	caesium 132.91	thallium 178.49		
56	Ba	W		
6	barium 137.33	tungsten 180.95		
57	Hf	Re		
6	hafnium 178.49	rhenium 186.21		
58	Ta	Os		
6	tantalum 180.95	osmium 190.23		
59	Dub	Ir		
6	dubium [268]	iridium 192.22		
60	Sg	Pt		
6	seaborgium [269]	platinum 195.08		
61	Bh	Au		
6	bohrium [270]	gold 196.97		
62	Mt	Hg		
6	meitnerium [278]	mercury 200.59		
63	Ds	Tl		
6	darmstadtium [281]	thallium 204.38		
64	Rg	Pb		
6	roentgenium [282]	lead 207.2		
65	Cn	Bi		
6	copernicium [285]	bismuth 208.98		
66	Nh	Po		
6	nihonium [286]	polonium 209.00		
67	Fm	At		
6	fermium [287]	astatine 210.00		
68	Ra	Rn		
7	radium [226]	radon [222]		
69	Fr	Ac		
7	francium [223]	actinium [227]		
70	Yb	Th		
7	ytterbium 173.05	thorium 232.04		
71	Lu	Pa		
7	lutetium 174.97	protactinium 231.04		
6	La	U		
6	lanthanum 138.91	uranium 238.03		
57	Ce	Np		
6	cerium 140.12	neptunium 238.03		
58	Pr	Pu		
6	praseodymium 140.91	plutonium 238.03		
59	Nd	Am		
6	neodymium 144.24	americium 243		
60	Pm	Cm		
6	promethium [145]	curium [247]		
61	Sm	Bk		
6	samarium 150.36	berkelium [247]		
62	Eu	Cf		
6	europerium 151.96	californium [251]		
63	Gd	Esn		
6	gadolinium 157.25	einstenium [252]		
64	Tb	Fm		
6	terbium 158.93	fermium [257]		
65	Dy	Md		
6	dysprosium 162.5	mendelevium [258]		
66	Ho	No		
6	holmium 164.93	nobelium [259]		
67	Tm	Lr		
6	thulium 166.93	lawrencium [266]		
68	Yb	Og		
6	ytterbium 173.05	oganeson [294]		
69	Lu			
70	Lu			

background

default: {}

A style to set the background of the Periodic Table, built with any of the TikZ keys that can be applied to a path construction.

```
\pgfPT[background={draw=red,line width=2pt,fill=red!10}]
```

Periodic Table of Elements																					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18				
H hydrogen 1.008	Be beryllium 9.0122	Li lithium 6.94	Na sodium 22.99	Mg magnesium 24.305	Ca calcium 40.078	Sc scandium 44.956	Ti titanium 49.042	V vanadium 51.996	Cr chromium 54.938	Mn manganese 55.845	Fe iron 55.893	Co cobalt 58.933	Ni nickel 58.693	Cu copper 63.546	Zn zinc 65.38	B boron 10.81	C carbon 12.011	N nitrogen 14.007	O oxygen 15.999	F fluorine 18.998	He helium 4.0026
K potassium 39.098	Ca calcium 40.078	Sc scandium 44.956	Ti titanium 49.042	V vanadium 51.996	Cr chromium 54.938	Mn manganese 55.845	Fe iron 55.893	Co cobalt 58.933	Ni nickel 58.693	Cu copper 63.546	Zn zinc 65.38	Al aluminum 26.982	Si silicon 28.085	P phosphorus 30.974	S sulfur 32.06	Cl chlorine 35.45	Ar argon 39.95				
Rb rubidium 85.468	Sr strontium 87.62	Y yttrium 88.905	Zr zirconium 91.224	Nb niobium 92.908	Mo molybdenum 95.95	Tc technetium [98]	Ru ruthenium 101.07	Rh rhodium 102.91	Pd palladium 106.42	Ag silver 107.87	Cd cadmium 112.41	In indium 114.82	Ga gallium 69.723	Ge germanium 72.63	As arsenic 74.922	Se selenium 78.971	Br bromine 79.904	Kr krypton 83.798			
Cs cesium 132.91	Ba barium 137.33	La lanthanum 138.91	Eu europium 140.12	Pr praseodymium 140.91	Sm samarium 144.24	Nd neodymium 144.24	Pm promethium [145]	Eu europium 150.36	Gd gadolinium 151.96	Tb terbium 157.25	Dy dysprosium 162.5	Ho holmium 164.93	Er erbium 167.26	Tm thulium 168.93	Yb ytterbium 173.05	Lu lutetium 174.97					
Ra radium [226]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]					
Ac actinium [227]	Th thorium 232.04	Pa protactinium 231.04	U uranium 238.03	Ne neptunium [237]	Pu plutonium [244]	Am americium [243]	Cm curium [247]	Bk berkelium [247]	Cf californium [251]	Esn einsteinium [252]	Fm fermium [257]	Md mendelevium [258]	No nobelium [259]	Lr lawrencium [266]	At astatine [210]	Rn radon [222]	Og oganesson [294]				
6	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	18					
Ac actinium [227]	Th thorium 232.04	Pa protactinium 231.04	U uranium 238.03	Ne neptunium [237]	Pu plutonium [244]	Am americium [243]	Cm curium [247]	Bk berkelium [247]	Cf californium [251]	Esn einsteinium [252]	Fm fermium [257]	Md mendelevium [258]	No nobelium [259]	Lr lawrencium [266]	At astatine [210]	Rn radon [222]	Og oganesson [294]				
7	56	57-71	72	73	74	75	76	77	78	79	80	81	82	83	84	18					
Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]						

```
\usetikzlibrary{shadows}
```

```
\pgfPT[background={left color=red!10,right color=green!10,postaction={drop shadow={left color=red!10,right color=green!10}}}]
```

Periodic Table of Elements																					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18				
H hydrogen 1.008	Be beryllium 9.0122	Li lithium 6.94	Na sodium 22.99	Mg magnesium 24.305	Ca calcium 40.078	Sc scandium 44.956	Ti titanium 49.042	V vanadium 51.996	Cr chromium 54.938	Mn manganese 55.845	Fe iron 55.893	Co cobalt 58.933	Ni nickel 58.693	Cu copper 63.546	Zn zinc 65.38	Al aluminum 26.982	Si silicon 28.085	P phosphorus 30.974	S sulfur 32.06	Cl chlorine 35.45	Ar argon 39.95
K potassium 39.098	Ca calcium 40.078	Sc scandium 44.956	Ti titanium 49.042	V vanadium 51.996	Cr chromium 54.938	Mn manganese 55.845	Fe iron 55.893	Co cobalt 58.933	Ni nickel 58.693	Cu copper 63.546	Zn zinc 65.38	Al aluminum 26.982	Si silicon 28.085	P phosphorus 30.974	S sulfur 32.06	Cl chlorine 35.45	Ar argon 39.95				
Rb rubidium 85.468	Sr strontium 87.62	Y yttrium 88.905	Zr zirconium 91.224	Nb niobium 92.908	Mo molybdenum 95.95	Tc technetium [98]	Ru ruthenium 101.07	Rh rhodium 102.91	Pd palladium 106.42	Ag silver 107.87	Cd cadmium 112.41	In indium 114.82	Ga gallium 69.723	Ge germanium 72.63	As arsenic 74.922	Se selenium 78.971	Br bromine 79.904	Kr krypton 83.798			
Cs cesium 132.91	Ba barium 137.33	La lanthanum 138.91	Eu europium 140.12	Pr praseodymium 140.91	Sm samarium 144.24	Nd neodymium 144.24	Pm promethium [145]	Eu europium 150.36	Gd gadolinium 151.96	Tb terbium 157.25	Dy dysprosium 162.5	Ho holmium 164.93	Er erbium 167.26	Tm thulium 168.93	Yb ytterbium 173.05	Lu lutetium 174.97					
Ra radium [226]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]					
6	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	18					
Ac actinium [227]	Th thorium 232.04	Pa protactinium 231.04	U uranium 238.03	Ne neptunium [237]	Pu plutonium [244]	Am americium [243]	Cm curium [247]	Bk berkelium [247]	Cf californium [251]	Esn einsteinium [252]	Fm fermium [257]	Md mendelevium [258]	No nobelium [259]	Lr lawrencium [266]	At astatine [210]	Rn radon [222]	Og oganesson [294]				
7	56	57-71	72	73	74	75	76	77	78	79	80	81	82	83	84	18					
Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]	Fr francium [223]						

IUPAC

default: true

When set to true draws the periodic table with *lanthanum* and *actinium* appended to block f and the labels *lanthanoids* and *actinoids* are placed at group 3, substituting *lanthanum* and *actinium*. When **IUPAC** is set to false, *lanthanum* and *actinium* are shown in group 3 and the labels *lanthanoids* and *actinoids* are place near the *f* block (if the key **show label LaAc** is set to true).

\pgfPT

Periodic Table of Elements

1	1 H	2 He	18
1	hydrogen 1.008	helium 4.0026	
2	Li	Be	
3	lithium 6.94	beryllium 9.0122	
4	Na	Mg	
3	sodium 22.99	magnesium 24.305	
4	K	Ca	
4	potassium 39.098	calcium 40.078	
5	Rb	Sr	
5	rubidium 85.468	strontium 87.62	
6	Cs	Ba	
6	caesium 132.91	barium 137.33	
7	Fr	Ra	
7	francium [223]	radium [226]	
1	Sc	Ti	
2	Scandium 44.958	Titanium 47.867	
3	Zr	V	
3	zirconium 91.224	vandium 50.942	
4	Nb	Cr	
4	niobium 92.906	chromium 51.996	
5	Mo	Mn	
5	molybdenum 95.95	manganese 54.938	
6	Tc	Fe	
6	technetium [98]	iron 55.845	
7	Ru	Co	
7	ruthenium 101.07	cobalt 58.933	
8	Rh	Ni	
8	rhodium 102.91	nickel 58.693	
9	Pd	Cu	
9	palladium 106.42	copper 63.546	
10	Ag	Zn	
10	silver 107.87	zinc 65.36	
11	Cd	Ga	
11	cadmium 112.41	gallium 69.723	
12	In	Ge	
12	indium 114.82	germanium 72.63	
13	Sn	As	
13	tin 116.71	arsenic 74.922	
14	Sb	Se	
14	antimony 121.76	selenium 76.971	
15	Te	Br	
15	tellurium 127.8	bromine 79.904	
16	I	Kr	
16	iodine 126.9	krypton 83.798	
17	Xe		
17	xenon 131.29		
18	Og		
18	oganeson [294]		
1	La	Ce	
2	lanthanum 138.91	cerium 140.12	
3	Pr	Praseodymium 140.91	
4	Nd	Neodymium 144.24	
5	Pm	Promethium [145]	
6	Sm	Samarium 150.36	
7	Eu	Europium 151.96	
8	Gd	Gadolinium 157.25	
9	Tb	Terbium 158.93	
10	Dy	Dysprosium 162.5	
11	Ho	Holmium 164.93	
12	Er	Erbium 167.28	
13	Tm	Thulium 168.93	
14	Yb	Ytterbium 173.05	
15	Lu	Lutetium 174.97	
16			
17			
18			
1	La	Ce	
2	lanthanum 138.91	cerium 140.12	
3	Pr	Praseodymium 140.91	
4	Nd	Neodymium 144.24	
5	Pm	Promethium [145]	
6	Sm	Samarium 150.36	
7	Eu	Europium 151.96	
8	Gd	Gadolinium 157.25	
9	Tb	Terbium 158.93	
10	Dy	Dysprosium 162.5	
11	Ho	Holmium 164.93	
12	Er	Erbium 167.28	
13	Tm	Thulium 168.93	
14	Yb	Ytterbium 173.05	
15	Lu	Lutetium 174.97	
16			
17			
18			

Periodic Table of Elements

1	1 H	2 He	18
1	hydrogen 1.008	helium 4.0026	
2	Li	Be	
3	lithium 6.94	beryllium 9.0122	
4	Na	Mg	
3	sodium 22.99	magnesium 24.305	
4	K	Ca	
4	potassium 39.098	calcium 40.078	
5	Rb	Sr	
5	rubidium 85.468	strontium 87.62	
6	Cs	Ba	
6	caesium 132.91	barium 137.33	
7	Fr	Ra	
7	francium [223]	radium [226]	
1	Sc	Ti	
2	Scandium 44.958	Titanium 47.867	
3	Zr	V	
3	zirconium 91.224	vandium 50.942	
4	Nb	Cr	
4	niobium 92.906	chromium 51.996	
5	Mo	Mn	
5	molybdenum 95.95	manganese 54.938	
6	Tc	Fe	
6	technetium [98]	iron 55.845	
7	Ru	Co	
7	ruthenium 101.07	cobalt 58.933	
8	Rh	Ni	
8	rhodium 102.91	nickel 58.693	
9	Pd	Cu	
9	palladium 106.42	copper 63.546	
10	Ag	Zn	
10	silver 107.87	zinc 65.36	
11	Cd	Ga	
11	cadmium 112.41	gallium 69.723	
12	In	Ge	
12	indium 114.82	germanium 72.63	
13	Sn	As	
13	tin 116.71	arsenic 74.922	
14	Sb	Se	
14	antimony 121.76	selenium 76.971	
15	Te	Br	
15	tellurium 127.8	bromine 79.904	
16	I	Kr	
16	iodine 126.9	krypton 83.798	
17	Xe		
17	xenon 131.29		
18	Og		
18	oganeson [294]		
1	La	Ce	
2	lanthanum 138.91	cerium 140.12	
3	Pr	Praseodymium 140.91	
4	Nd	Neodymium 144.24	
5	Pm	Promethium [145]	
6	Sm	Samarium 150.36	
7	Eu	Europium 151.96	
8	Gd	Gadolinium 157.25	
9	Tb	Terbium 158.93	
10	Dy	Dysprosium 162.5	
11	Ho	Holmium 164.93	
12	Er	Erbium 167.28	
13	Tm	Thulium 168.93	
14	Yb	Ytterbium 173.05	
15	Lu	Lutetium 174.97	
16			
17			
18			
1	La	Ce	
2	lanthanum 138.91	cerium 140.12	
3	Pr	Praseodymium 140.91	
4	Nd	Neodymium 144.24	
5	Pm	Promethium [145]	
6	Sm	Samarium 150.36	
7	Eu	Europium 151.96	
8	Gd	Gadolinium 157.25	
9	Tb	Terbium 158.93	
10	Dy	Dysprosium 162.5	
11	Ho	Holmium 164.93	
12	Er	Erbium 167.28	
13	Tm	Thulium 168.93	
14	Yb	Ytterbium 173.05	
15	Lu	Lutetium 174.97	
16			
17			
18			

show label LaAc

default: {}

Determines when the labels 'lanthanoids' and 'actinoids' are shown (**true**) or not shown (**false**) near the f block. When the **IUPAC** key is set to true, the default behavior is to show the labels and when the **IUPAC** key is set to false, the default behavior is to hide the labels. This **default behavior can be overridden by this key** setting it to true, to show the labels, or to false to hide them, independently of the value of the **IUPAC** key.

```
\pgfPTnewZlist{myZlist}{55,...,118}
\pgfPTstyle[show title=false,show legend=false,show group numbers=false]
\pgfPT[Z list=myZlist]
```

6	55	56	57-71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
	Cs	Ba	lanthanoids	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
	caesium	barium	lanthanum	hafnium	tantalum	tungsten	rhenium	osmium	iridium	platinum	gold	mercury	thallium	lead	bismuth	polonium	astatine	radon
	[132.91]	[137.33]	[138.9]	[178.49]	[180.95]	[183.84]	[186.21]	[190.23]	[192.22]	[195.08]	[196.97]	[200.59]	[204.38]	[207.2]	[206.98]	[209]	[210]	[222]
7	87	88	89-103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118
	Fr	Ra	actinoids	rutherfordium	dubium	seaborgium	bohrium	hsasium	meitnerium	darmstadtium	roentgenium	copernicium	nihonium	florium	moscovium	livemorium	tennessine	oganeson
	[223]	[226]	[227]	[257]	[268]	[269]	[270]	[270]	[278]	[281]	[282]	[285]	[286]	[289]	[290]	[293]	[294]	[294]

6	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71		
	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu		
	lanthanum	cerium	praseodymium	neodymium	promethium	samarium	europeum	gadolinium	terbium	dysprosium	holmium	erbium	thulium	yterbium	lutetium		
	[138.9]	[140.12]	[140.91]	[144.24]	[145]	[150.36]	[151.96]	[157.25]	[158.93]	[162.5]	[164.93]	[167.26]	[168.93]	[173.05]	[174.97]		
7	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	
	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr		
	actinium	thorium	protactinium	uranium	neptunium	plutonium	americium	curium	berkelium	californium	einsteinium	fermium	moscovium	meitnerium	nobelium	lawrencium	
	[227]	[232.04]	[231.04]	[238.03]	[237]	[244]	[243]	[247]	[247]	[251]	[252]	[257]	[258]	[259]	[266]		

```
\pgfPT[Z list=myZlist,show label LaAc=true]
```

6	55	56	57-71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
	Cs	Ba	lanthanoids	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
	caesium	barium	lanthanum	hafnium	tantalum	tungsten	rhenium	osmium	iridium	platinum	gold	mercury	thallium	lead	bismuth	polonium	astatine	radon
	[132.91]	[137.33]	[138.9]	[178.49]	[180.95]	[183.84]	[186.21]	[190.23]	[192.22]	[195.08]	[196.97]	[200.59]	[204.38]	[207.2]	[206.98]	[209]	[210]	[222]
7	87	88	89-103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118
	Fr	Ra	actinoids	rutherfordium	dubium	seaborgium	bohrium	hsasium	meitnerium	darmstadtium	roentgenium	copernicium	nihonium	florium	moscovium	livemorium	tennessine	oganeson
	[223]	[226]	[227]	[257]	[268]	[269]	[270]	[270]	[278]	[281]	[282]	[285]	[286]	[289]	[290]	[293]	[294]	[294]

6	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71		
	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu		
	lanthanum	cerium	praseodymium	neodymium	promethium	samarium	europeum	gadolinium	terbium	dysprosium	holmium	erbium	thulium	yterbium	lutetium		
	[138.9]	[140.12]	[140.91]	[144.24]	[145]	[150.36]	[151.96]	[157.25]	[158.93]	[162.5]	[164.93]	[167.26]	[168.93]	[173.05]	[174.97]		
7	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	
	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr			
	thorium	protactinium	uranium	neptunium	plutonium	americium	curium	berkelium	californium	einsteinium	fermium	moscovium	meitnerium	nobelium	lawrencium		
	[232.04]	[231.04]	[238.03]	[237]	[244]	[243]	[247]	[247]	[251]	[252]	[257]	[258]	[259]	[266]			

```
\pgfPT[Z list=myZlist,IUPAC=false]
```

6	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	
	Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
	caesium	barium	lanthanum	hafnium	tantalum	tungsten	rhenium	osmium	iridium	platinum	gold	mercury	thallium	lead	bismuth	polonium	astatine	radon
	[132.91]	[137.33]	[138.9]	[178.49]	[180.95]	[183.84]	[186.21]	[190.23]	[192.22]	[195.08]	[196.97]	[200.59]	[204.38]	[207.2]	[206.98]	[209]	[210]	[222]
7	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
	Fr	Ra	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	
	[223]	[226]	[227]	[232.04]	[231.04]	[238.03]	[237]	[244]	[243]	[247]	[247]	[251]	[252]	[257]	[258]	[259]	[266]	

6	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71		
	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
	barium	lanthanum	hafnium	tantalum	tungsten	rhenium	osmium	iridium	platinum	gold	mercury	thallium	lead	bismuth	polonium	astatine	radon	
	[137.33]	[138.9]	[178.49]	[180.95]	[183.84]	[186.21]	[190.23]	[192.22]	[195.08]	[196.97]	[200.59]	[204.38]	[207.2]	[206.98]	[209]	[210]	[222]	
7	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
	Fr	Ra	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	
	[226]	[227]	[227]	[232.04]	[231.04]	[238.03]	[237]	[244]	[243]	[247]	[247]	[251]	[252]	[257]	[258]	[259]	[266]	

6	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	
	Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
	caesium	barium	lanthanum	hafnium	tantalum	tungsten	rhenium	osmium	iridium	platinum	gold	mercury	thallium	lead	bismuth	polonium	astatine	radon
	[132.91]	[137.33]	[138.9]	[178.49]	[180.95]	[183.84]	[186.21]	[190.23]	[192.22]	[195.08]	[196.97]	[200.59]	[204.38]	[207.2]	[206.98]	[209]	[210]	[222]
7	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
	Fr	Ra	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	
	[223]	[226]	[227]	[232.04]	[231.04]	[238.03]	[237]	[244]	[243]	[247]	[247]	[251]	[252]	[257]	[258]	[259]	[266]	

6	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71		
	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
	barium	lanthanum	hafnium	tantalum	tungsten	rhenium	osmium	iridium	platinum	gold	mercury	thallium	lead	bismuth	polonium	astatine	radon	
	[137.33]	[138.9]	[178.49]	[180.95]	[183.84]	[186.21]	[190.23]	[192.22]	[195.08]	[196.97]	[200.59]	[204.38]	[207.2]	[206.98]	[209]	[210]	[222]	
7	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
	Fr	Ra	Ac	rutherfordium	dubium	seaborgium	bohrium	hsasium										

label LaAc fontdefault: `\footnotesize\itshape`

Sets the font for the labels 'lanthanoids' and 'actinoids'.

`\pgfPT[label LaAc font=\bfseries,Z list=myZlist,IUPAC=false]`

The main periodic table shows elements from 1 to 118. Below it, a separate table lists lanthanoids (Ce to Lu) with their atomic numbers and mass numbers. Another table lists actinoids (Th to Lr) with their atomic numbers and mass numbers.

\pgfPTresetstyle**languages**

default: {}

Sets a language list to use in the Periodic Table. It is a comma separated list of language flags: 'pt', 'en', 'fr', 'de', 'it', 'es' or 'br'. This key overrides the default language, that is, the language loaded at package inclusion.

`\pgfPT[Z list={1,...,54},languages=pt]`

Tabela Periódica dos Elementos

This table is a Portuguese version of the first 54 elements. It includes a legend for Z (Número Atómico), Ra (Número Relativo), SQ (Símbolo Químico), and Ar (Massa Atómica Relativa).

`\pgfPT[Z list={1,...,54},cell style=pgfPT2lang,languages={en,fr}]`
Periodic Table of Elements
Tableau Périodique des Éléments

This table is a bilingual English/French periodic table for the first 54 elements. It includes a legend for Z (Atomic Number), Ra (Relative Reductivity), CS (Chemical Symbol), and Ar (Relative Atomic Mass/Mass Atomic Relative).

```
\pgfPT[Z list={1,...,54},cell style=pgfPT3lang,languages={pt,fr,it}]
```

Tabela Periódica dos Elementos																																										
Tableau Périodique des Éléments																																										
Tavola Periodica degli Elementi																																										
1	H	hidrogénio hydrogen hydrogène idrogeno	2	Be	boro beryllium beryllium	3	Li	lítio lithium lisium	4	SQ	Ra	N	Ar	18	He	hélio helium hélium	4.0026																									
2	Be	boro beryllium beryllium	3	Li	lítio lithium lisium	4	SQ	Ra	N	Ar	18	He	hélio helium hélium	4.0026																												
3	Na	sódio sodium sodium	4	Mg	magnésio magnesium magnésium	5	Al	álumínio aluminum aluminium	6	Si	silício silicon silicium	7	P	fósforo phosphore fosforo	8	F	flúor fluor fluor	10	Ne	neônio argon neon	20.18																					
4	K	potássio potassium potassium	5	Ca	calcio calcium calcium	6	Sc	escândio scandium scandium	7	Cr	cromo chromium chromium	8	Fe	ferro iron ferro	9	Ni	níquel nickel nickel	10	O	oxigénio oxygène ossigeno	15.999																					
5	Rb	rubidio rubidium rubidio	6	Zr	zirconio zirconium zirconio	7	Ti	titânio titanium titânio	8	Mo	molibdénio molybdenum molibdeno	9	Co	cobalto cobalt cobalto	10	Cu	cobre copper cobre	11	Zn	zinc zinc zinc	12	Ga	gálio gallium gallium	13	B	boro boron boron	14	C	carbono carbone carbono	15	N	azoto azote azoto	16	S	enxofre soufre sulfur	17	F	flúor fluor fluor	18	He	hélio helium hélium	4.0026
6	Y	iterbio yttrium yttrio	7	Nb	níobi niobium niobio	8	V	vanádio vanadium vanadio	9	Cr	cromo chromium chromium	10	Fe	ferro iron ferro	11	Ni	níquel nickel nickel	12	Cu	cobre copper cobre	13	Al	álumínio aluminum aluminium	14	Si	silício silicon silicium	15	P	fósforo phosphore fosforo	16	S	enxofre soufre sulfur	17	Cl	clorofórmio chloroform chloroform	18	Ar	árgeon argon argón	39.95			
7	Rb	rubidio rubidium rubidio	8	Zr	zirconio zirconium zirconio	9	Ti	titânio titanium titânio	10	Mo	molibdénio molybdenum molibdeno	11	Co	cobalto cobalt cobalto	12	Cu	cobre copper cobre	13	Zn	zinc zinc zinc	14	Ga	gálio gallium gallium	15	B	boro boron boron	16	C	carbono carbone carbono	17	N	azoto azote azoto	18	F	flúor fluor fluor	19	He	hélio helium hélium	4.0026			
8	Y	iterbio yttrium yttrio	9	Nb	níobi niobium niobio	10	V	vanádio vanadium vanadio	11	Cr	cromo chromium chromium	12	Fe	ferro iron ferro	13	Ni	níquel nickel nickel	14	Cu	cobre copper cobre	15	Zn	zinc zinc zinc	16	Ga	gálio gallium gallium	17	B	boro boron boron	18	C	carbono carbone carbono	19	N	azoto azote azoto	20	F	flúor fluor fluor	21	He	hélio helium hélium	4.0026
9	Rb	rubidio rubidium rubidio	10	Zr	zirconio zirconium zirconio	11	Ti	titânio titanium titânio	12	Mo	molibdénio molybdenum molibdeno	13	Co	cobalto cobalt cobalto	14	Cu	cobre copper cobre	15	Zn	zinc zinc zinc	16	Ga	gálio gallium gallium	17	B	boro boron boron	18	C	carbono carbone carbono	19	N	azoto azote azoto	20	F	flúor fluor fluor	21	He	hélio helium hélium	4.0026			
10	Y	iterbio yttrium yttrio	11	Nb	níobi niobium niobio	12	V	vanádio vanadium vanadio	13	Cr	cromo chromium chromium	14	Fe	ferro iron ferro	15	Ni	níquel nickel nickel	16	Cu	cobre copper cobre	17	Zn	zinc zinc zinc	18	Ga	gálio gallium gallium	19	B	boro boron boron	20	C	carbono carbone carbono	21	N	azoto azote azoto	22	F	flúor fluor fluor	23	He	hélio helium hélium	4.0026
11	Rb	rubidio rubidium rubidio	12	Zr	zirconio zirconium zirconio	13	Ti	titânio titanium titânio	14	Mo	molibdénio molybdenum molibdeno	15	Co	cobalto cobalt cobalto	16	Cu	cobre copper cobre	17	Zn	zinc zinc zinc	18	Ga	gálio gallium gallium	19	B	boro boron boron	20	C	carbono carbone carbono	21	N	azoto azote azoto	22	F	flúor fluor fluor	23	He	hélio helium hélium	4.0026			
12	Y	iterbio yttrium yttrio	13	Nb	níobi niobium niobio	14	V	vanádio vanadium vanadio	15	Cr	cromo chromium chromium	16	Fe	ferro iron ferro	17	Ni	níquel nickel nickel	18	Cu	cobre copper cobre	19	Zn	zinc zinc zinc	20	Ga	gálio gallium gallium	21	B	boro boron boron	22	C	carbono carbone carbono	23	N	azoto azote azoto	24	F	flúor fluor fluor	25	He	hélio helium hélium	4.0026
13	Rb	rubidio rubidium rubidio	14	Zr	zirconio zirconium zirconio	15	Ti	titânio titanium titânio	16	Mo	molibdénio molybdenum molibdeno	17	Co	cobalto cobalt cobalto	18	Cu	cobre copper cobre	19	Zn	zinc zinc zinc	20	Ga	gálio gallium gallium	21	B	boro boron boron	22	C	carbono carbone carbono	23	N	azoto azote azoto	24	F	flúor fluor fluor	25	He	hélio helium hélium	4.0026			
14	Y	iterbio yttrium yttrio	15	Nb	níobi niobium niobio	16	V	vanádio vanadium vanadio	17	Cr	cromo chromium chromium	18	Fe	ferro iron ferro	19	Ni	níquel nickel nickel	20	Cu	cobre copper cobre	21	Zn	zinc zinc zinc	22	Ga	gálio gallium gallium	23	B	boro boron boron	24	C	carbono carbone carbono	25	N	azoto azote azoto	26	F	flúor fluor fluor	27	He	hélio helium hélium	4.0026
15	Rb	rubidio rubidium rubidio	16	Zr	zirconio zirconium zirconio	17	Ti	titânio titanium titânio	18	Mo	molibdénio molybdenum molibdeno	19	Co	cobalto cobalt cobalto	20	Cu	cobre copper cobre	21	Zn	zinc zinc zinc	22	Ga	gálio gallium gallium	23	B	boro boron boron	24	C	carbono carbone carbono	25	N	azoto azote azoto	26	F	flúor fluor fluor	27	He	hélio helium hélium	4.0026			
16	Y	iterbio yttrium yttrio	17	Nb	níobi niobium niobio	18	V	vanádio vanadium vanadio	19	Cr	cromo chromium chromium	20	Fe	ferro iron ferro	21	Ni	níquel nickel nickel	22	Cu	cobre copper cobre	23	Zn	zinc zinc zinc	24	Ga	gálio gallium gallium	25	B	boro boron boron	26	C	carbono carbone carbono	27	N	azoto azote azoto	28	F	flúor fluor fluor	29	He	hélio helium hélium	4.0026
17	Rb	rubidio rubidium rubidio	18	Zr	zirconio zirconium zirconio	19	Ti	titânio titanium titânio	20	Mo	molibdénio molybdenum molibdeno	21	Co	cobalto cobalt cobalto	22	Cu	cobre copper cobre	23	Zn	zinc zinc zinc	24	Ga	gálio gallium gallium	25	B	boro boron boron	26	C	carbono carbone carbono	27	N	azoto azote azoto	28	F	flúor fluor fluor	29	He	hélio helium hélium	4.0026			
18	Y	iterbio yttrium yttrio	19	Nb	níobi niobium niobio	20	V	vanádio vanadium vanadio	21	Cr	cromo chromium chromium	22	Fe	ferro iron ferro	23	Ni	níquel nickel nickel	24	Cu	cobre copper cobre	25	Zn	zinc zinc zinc	26	Ga	gálio gallium gallium	27	B	boro boron boron	28	C	carbono carbone carbono	29	N	azoto azote azoto	30	F	flúor fluor fluor	31	He	hélio helium hélium	4.0026
19	Rb	rubidio rubidium rubidio	20	Zr	zirconio zirconium zirconio	21	Ti	titânio titanium titânio	22	Mo	molibdénio molybdenum molibdeno	23	Co	cobalto cobalt cobalto	24	Cu	cobre copper cobre	25	Zn	zinc zinc zinc	26	Ga	gálio gallium gallium	27	B	boro boron boron	28	C	carbono carbone carbono	29	N	azoto azote azoto	30	F	flúor fluor fluor	31	He	hélio helium hélium	4.0026			
20	Y	iterbio yttrium yttrio	21	Nb	níobi niobium niobio	22	V	vanádio vanadium vanadio	23	Cr	cromo chromium chromium	24	Fe	ferro iron ferro	25	Ni	níquel nickel nickel	26	Cu	cobre copper cobre	27	Zn	zinc zinc zinc	28	Ga	gálio gallium gallium	29	B	boro boron boron	30	C	carbono carbone carbono	31	N	azoto azote azoto	32	F	flúor fluor fluor	33	He	hélio helium hélium	4.0026
21	Rb	rubidio rubidium rubidio	22	Zr	zirconio zirconium zirconio	23	Ti	titânio titanium titânio	24	Mo	molibdénio molybdenum molibdeno	25	Co	cobalto cobalt cobalto	26	Cu	cobre copper cobre	27	Zn	zinc zinc zinc	28	Ga	gálio gallium gallium	29	B	boro boron boron	30	C	carbono carbone carbono	31	N	azoto azote azoto	32	F	flúor fluor fluor	33	He	hélio helium hélium	4.0026			
22	Y	iterbio yttrium yttrio	23	Nb	níobi niobium niobio	24	V	vanádio vanadium vanadio	25	Cr	cromo chromium chromium	26	Fe	ferro iron ferro	27	Ni	níquel nickel nickel	28	Cu	cobre copper cobre	29	Zn	zinc zinc zinc	30	Ga	gálio gallium gallium	31	B	boro boron boron	32	C	carbono carbone carbono	33	N	azoto azote azoto	34	F	flúor fluor fluor	35	He	hélio helium hélium	4.0026
23	Rb	rubidio rubidium rubidio	24	Zr	zirconio zirconium zirconio	25	Ti	titânio titanium titânio	26	Mo	molibdénio molybdenum molibdeno	27	Co	cobalto cobalt cobalto	28	Cu	cobre copper cobre	29	Zn	zinc zinc zinc	30	Ga	gálio gallium gallium	31	B	boro boron boron	32	C	carbono carbone carbono	33	N	azoto azote azoto	34	F	flúor fluor fluor	35	He	hélio helium hélium	4.0026			
24	Y	iterbio yttrium yttrio	25	Nb	níobi niobium niobio	26	V	vanádio vanadium vanadio	27	Cr	cromo chromium chromium	28	Fe	ferro iron ferro	29	Ni	níquel nickel nickel	30	Cu	cobre copper cobre	31	Zn	zinc zinc zinc	32	Ga	gálio gallium gallium	33	B	boro boron boron	34	C	carbono carbone carbono	35	N	azoto azote azoto	36	F	flúor fluor fluor	37	He	hélio helium hélium	4.0026
25	Rb	rubidio rubidium rubidio	26	Zr	zirconio zirconium zirconio	27	Ti	titânio titanium titânio	28	Mo	molibdénio molybdenum molibdeno	29	Co	cobalto cobalt cobalto	30	Cu	cobre copper cobre	31	Zn	zinc zinc zinc	32	Ga	gálio gallium gallium	33	B	boro boron boron	34	C	carbono carbone carbono	35	N	azoto azote azoto	36	F	flúor fluor fluor	37	He	hélio helium hélium	4.0026			
26	Y	iterbio yttrium yttrio	27	Nb	níobi niobium niobio	28	V	vanádio vanadium vanadio	29	Cr	cromo chromium chromium	30	Fe	ferro iron ferro	31	Ni	níquel nickel nickel	32	Cu	cobre copper cobre	33	Zn	zinc zinc zinc	34	Ga	gálio gallium gallium	35	B	boro boron boron	36	C	carbono carbone carbono	37	N	azoto azote azoto	38	F	flúor fluor fluor	39	He	hélio helium hélium	4.0026
27	Rb	rubidio rubidium rubidio	28	Zr	zirconio zirconium zirconio	29	Ti	titânio titanium titânio	30	Mo	molibdénio molybdenum molibdeno	31	Co	cobalto cobalt cobalto	32	Cu	cobre copper cobre	33	Zn	zinc zinc zinc	34	Ga	gálio gallium gallium	35	B	boro boron boron	36	C	carbono carbone carbono	37	N	azoto azote azoto	38	F	flúor fluor fluor	39	He	hélio helium hélium	4.0026			
28	Y	iterbio yttrium yttrio	29	Nb	níobi niobium niobio	30	V	vanádio vanadium vanadio	31	Cr	cromo chromium chromium	32	Fe	ferro iron ferro	33	Ni	níquel nickel nickel	34	Cu	cobre copper cobre	35	Zn	zinc zinc zinc	36	Ga	gálio gallium gallium	37	B	boro boron boron	38	C</											

\pgfPT[Z list={1,...,36},cell style=pgfPT3lang,languages={en,es,br}, other languages font=\tiny\bfseries]

Periodic Table of Elements																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Tabla Periódica de los Elementos																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Tabela Periódica dos Elementos																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1	H	hydrogen hidrógeno hidrogénio	1.008	2													18																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
1	Li	lithium litio	6.941	2	Be	beryllium berilio	9.0122											2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
2	Na	sodium sodio	22.99	3	Mg	magnesium magnésio	24.305	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
3	K	potassium potássio	39.098	4	Ca	calcium calcio	40.078	21	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
4				22	Scandium	Titanio	Vanadio	23	Vanadium	Vanadi	24	Crómio	25	Manganês	26	Iron	27	Cobalto	28	Níquel	29	Cobre	30	Zinc	31	Gálio	32	Germanio	33	Fósforo	34	Sulfur	35	Clorina	36	Argônio	37	Neônio	38	Helíum	39	Flúor	40	Neônio	41	Neônio	42	Neônio	43	Neônio	44	Neônio	45	Neônio	46	Neônio	47	Neônio	48	Neônio	49	Neônio	50	Neônio	51	Neônio	52	Neônio	53	Neônio	54	Neônio	55	Neônio	56	Neônio	57	Neônio	58	Neônio	59	Neônio	60	Neônio	61	Neônio	62	Neônio	63	Neônio	64	Neônio	65	Neônio	66	Neônio	67	Neônio	68	Neônio	69	Neônio	70	Neônio	71	Neônio	72	Neônio	73	Neônio	74	Neônio	75	Neônio	76	Neônio	77	Neônio	78	Neônio	79	Neônio	80	Neônio	81	Neônio	82	Neônio	83	Neônio	84	Neônio	85	Neônio	86	Neônio	87	Neônio	88	Neônio	89	Neônio	90	Neônio	91	Neônio	92	Neônio	93	Neônio	94	Neônio	95	Neônio	96	Neônio	97	Neônio	98	Neônio	99	Neônio	100	Neônio	101	Neônio	102	Neônio	103	Neônio	104	Neônio	105	Neônio	106	Neônio	107	Neônio	108	Neônio	109	Neônio	110	Neônio	111	Neônio	112	Neônio	113	Neônio	114	Neônio	115	Neônio	116	Neônio	117	Neônio	118	Neônio	119	Neônio	120	Neônio	121	Neônio	122	Neônio	123	Neônio	124	Neônio	125	Neônio	126	Neônio	127	Neônio	128	Neônio	129	Neônio	130	Neônio	131	Neônio	132	Neônio	133	Neônio	134	Neônio	135	Neônio	136	Neônio	137	Neônio	138	Neônio	139	Neônio	140	Neônio	141	Neônio	142	Neônio	143	Neônio	144	Neônio	145	Neônio	146	Neônio	147	Neônio	148	Neônio	149	Neônio	150	Neônio	151	Neônio	152	Neônio	153	Neônio	154	Neônio	155	Neônio	156	Neônio	157	Neônio	158	Neônio	159	Neônio	160	Neônio	161	Neônio	162	Neônio	163	Neônio	164	Neônio	165	Neônio	166	Neônio	167	Neônio	168	Neônio	169	Neônio	170	Neônio	171	Neônio	172	Neônio	173	Neônio	174	Neônio	175	Neônio	176	Neônio	177	Neônio	178	Neônio	179	Neônio	180	Neônio	181	Neônio	182	Neônio	183	Neônio	184	Neônio	185	Neônio	186	Neônio	187	Neônio	188	Neônio	189	Neônio	190	Neônio	191	Neônio	192	Neônio	193	Neônio	194	Neônio	195	Neônio	196	Neônio	197	Neônio	198	Neônio	199	Neônio	200	Neônio	201	Neônio	202	Neônio	203	Neônio	204	Neônio	205	Neônio	206	Neônio	207	Neônio	208	Neônio	209	Neônio	210	Neônio	211	Neônio	212	Neônio	213	Neônio	214	Neônio	215	Neônio	216	Neônio	217	Neônio	218	Neônio	219	Neônio	220	Neônio	221	Neônio	222	Neônio	223	Neônio	224	Neônio	225	Neônio	226	Neônio	227	Neônio	228	Neônio	229	Neônio	230	Neônio	231	Neônio	232	Neônio	233	Neônio	234	Neônio	235	Neônio	236	Neônio	237	Neônio	238	Neônio	239	Neônio	240	Neônio	241	Neônio	242	Neônio	243	Neônio	244	Neônio	245	Neônio	246	Neônio	247	Neônio	248	Neônio	249	Neônio	250	Neônio	251	Neônio	252	Neônio	253	Neônio	254	Neônio	255	Neônio	256	Neônio	257	Neônio	258	Neônio	259	Neônio	260	Neônio	261	Neônio	262	Neônio	263	Neônio	264	Neônio	265	Neônio	266	Neônio	267	Neônio	268	Neônio	269	Neônio	270	Neônio	271	Neônio	272	Neônio	273	Neônio	274	Neônio	275	Neônio	276	Neônio	277	Neônio	278	Neônio	279	Neônio	280	Neônio	281	Neônio	282	Neônio	283	Neônio	284	Neônio	285	Neônio	286	Neônio	287	Neônio	288	Neônio	289	Neônio	290	Neônio	291	Neônio	292	Neônio	293	Neônio	294	Neônio	295	Neônio	296	Neônio	297	Neônio	298	Neônio	299	Neônio	300	Neônio	301	Neônio	302	Neônio	303	Neônio	304	Neônio	305	Neônio	306	Neônio	307	Neônio	308	Neônio	309	Neônio	310	Neônio	311	Neônio	312	Neônio	313	Neônio	314	Neônio	315	Neônio	316	Neônio	317	Neônio	318	Neônio	319	Neônio	320	Neônio	321	Neônio	322	Neônio	323	Neônio	324	Neônio	325	Neônio	326	Neônio	327	Neônio	328	Neônio	329	Neônio	330	Neônio	331	Neônio	332	Neônio	333	Neônio	334	Neônio	335	Neônio	336	Neônio

other languages color

default: black!70

Sets the color of the font used in *other languages*.

\pgfPT[Z list={1,...,36},cell style=pgfPT3lang,languages={en,pt,br}, other languages color=purple]

Periodic Table of Elements																																																																																																																																																																																																																																
Tabla Periódica dos Elementos																																																																																																																																																																																																																																
Tabela Periódica dos Elementos																																																																																																																																																																																																																																
1	H	hydrogen hidrógeno hidrogénio	1.008	2													18																																																																																																																																																																																																															
1	Li	lithium litio	6.941	2	Be	beryllium berilio	9.0122											2																																																																																																																																																																																																														
2	Na	sodium sodio	22.99	3	Mg	magnesium magnésio	24.305	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18																																																																																																																																																																																																									
3	K	potassium potássio	39.098	4	Ca	calcium calcio	40.078	21	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr																																																																																																																																																																																																								
4				22	Scandium	Titanio	Vanadio	23	Vanadium	Vanadi	24	Crómio	25	Manganês	26	Iron	27	Cobalto	28	Níquel	29	Cobre	30	Zinc	31	Gálio	32	Germanio	33	Fósforo	34	Sulfur	35	Clorina	36	Argônio	37	Neônio	38	Helíum	39	Flúor	40	Neônio	41	Neônio	42	Neônio	43	Neônio	44	Neônio	45	Neônio	46	Neônio	47	Neônio	48	Neônio	49	Neônio	50	Neônio	51	Neônio	52	Neônio	53	Neônio	54	Neônio	55	Neônio	56	Neônio	57	Neônio	58	Neônio	59	Neônio	60	Neônio	61	Neônio	62	Neônio	63	Neônio	64	Neônio	65	Neônio	66	Neônio	67	Neônio	68	Neônio	69	Neônio	70	Neônio	71	Neônio	72	Neônio	73	Neônio	74	Neônio	75	Neônio	76	Neônio	77	Neônio	78	Neônio	79	Neônio	80	Neônio	81	Neônio	82	Neônio	83	Neônio	84	Neônio	85	Neônio	86	Neônio	87	Neônio	88	Neônio	89	Neônio	90	Neônio	91	Neônio	92	Neônio	93	Neônio	94	Neônio	95	Neônio	96	Neônio	97	Neônio	98	Neônio	99	Neônio	100	Neônio	101	Neônio	102	Neônio	103	Neônio	104	Neônio	105	Neônio	106	Neônio	107	Neônio	108	Neônio	109	Neônio	110	Neônio	111	Neônio	112	Neônio	113	Neônio	114	Neônio	115	Neônio	116	Neônio	117	Neônio	118	Neônio	119	Neônio	120	Neônio	121	Neônio	122	Neônio	123	Neônio	124	Neônio	125	Neônio	126	Neônio	127	Neônio	128	Neônio	129	Neônio	130	Neônio

other lang

default: {f=\tiny,c=black!70}

Pseudo style to set the keys: other languages font and/or other languages color. None of the keys – f and c – are mandatory.

USAGE: other lang={f=,c=<color>}

\pgfPT[Z list={1,...,36},cell style=pgfPT3lang,languages={en,fr,de}, other lang={f=\tiny\itshape,c=blue}]

Periodic Table of Elements																							
Tableau Périodique des Éléments																							
Periodensystem der Elemente																							
1	H	hydrogen hidrógeno hidrogénio	1.008	2													18						
1	Li	lithium litio	6.941	2	Be	beryllium berilio	9.0122											2					
2	Na	sodium sodio	22.99	3	Mg	magnesium magnésio	24.305	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
3	K	potassium potássio	3																				

\pgfPT[Z list=spd]

Periodic Table of Elements

1	H	hydrogen	1.008
2	Be	beryllium	9.0122
3	Li	lithium	6.94
4	Mg	magnesium	24.305
5	Na	sodium	22.99
6	K	potassium	39.098
7	Rb	rubidium	85.468
8	Fr	francium	[223]
9	Ca	calcium	40.078
10	Sr	strontium	87.62
11	Sc	actinoids	[89-103]
12	Ti	rutherfordium	[287]
13	V	dubnium	[288]
14	Cr	seaborgium	[289]
15	Mn	bh	[270]
16	Fe	bohrium	[270]
17	Co	hassium	[270]
18	B	mestnerium	[281]
19	Al	darmstadtium	[282]
20	Si	roentgenium	[285]
21	P	copernicium	[286]
22	Ge	nihonium	[289]
23	As	florium	[290]
24	S	moscovium	[293]
25	Cu	livornium	[294]
26	Zn	ts	[294]
27	Ni	oganeson	[294]
28	Co		
29	Cu		
30	Zn		
31	Ga		
32	Ge		
33	As		
34	Se		
35	Br		
36	Kr		
37	Y		
38	Zr		
39	Hf		
40	Ta		
41	W		
42	Re		
43	Os		
44	Pt		
45	Au		
46	Ru		
47	Rh		
48	Pd		
49	Ag		
50	In		
51	Tl		
52	Pb		
53	Hg		
54	Bi		
55	Os		
56	Ir		
57	Ir		
58	Db		
59	Sg		
60	Bh		
61	Hs		
62	Mt		
63	Ds		
64	Rg		
65	Cn		
66	Nh		
67	Fm		
68	Mc		
69	Lv		
70	Yb		
71	Lu		
72	La		
73	Ce		
74	Pr		
75	Nd		
76	Pm		
77	Sm		
78	Eu		
79	Gd		
80	Tb		
81	Dy		
82	Ho		
83	Er		
84	Tm		
85	Yb		
86	Lu		
87	Ac		
88	Tb		
89	Pa		
90	U		
91	Np		
92	Pu		
93	Am		
94	Cm		
95	Bk		
96	Cf		
97	Esn		
98	Fm		
99	Md		
100	No		
101	Lu		
102	Yb		
103	Lu		
104	Ac		
105	Tb		
106	Pa		
107	U		
108	Np		
109	Pu		
110	Am		
111	Cm		
112	Bk		
113	Cf		
114	Esn		
115	Fm		
116	Md		
117	No		
118	Lu		
119	Yb		
120	Lu		
121	Ac		
122	Tb		
123	Pa		
124	U		
125	Np		
126	Pu		
127	Am		
128	Cm		
129	Bk		
130	Cf		
131	Esn		
132	Fm		
133	Md		
134	No		
135	Lu		
136	Yb		
137	Lu		
138	Ac		
139	Tb		
140	Pa		
141	U		
142	Np		
143	Pu		
144	Am		
145	Cm		
146	Bk		
147	Cf		
148	Esn		
149	Fm		
150	Md		
151	No		
152	Lu		
153	Yb		
154	Lu		
155	Ac		
156	Tb		
157	Pa		
158	U		
159	Np		
160	Pu		
161	Am		
162	Cm		
163	Bk		
164	Cf		
165	Esn		
166	Fm		
167	Md		
168	No		
169	Lu		
170	Yb		
171	Lu		
172	Ac		
173	Tb		
174	Pa		
175	U		
176	Np		
177	Pu		
178	Am		
179	Cm		
180	Bk		
181	Cf		
182	Esn		
183	Fm		
184	Md		
185	No		
186	Lu		
187	Yb		
188	Lu		
189	Ac		
190	Tb		
191	Pa		
192	U		
193	Np		
194	Pu		
195	Am		
196	Cm		
197	Bk		
198	Cf		
199	Esn		
200	Fm		
201	Md		
202	No		
203	Lu		
204	Yb		
205	Lu		
206	Ac		
207	Tb		
208	Pa		
209	U		
210	Np		
211	Pu		
212	Am		
213	Cm		
214	Bk		
215	Cf		
216	Esn		
217	Fm		
218	Md		
219	No		
220	Lu		
221	Yb		
222	Lu		
223	Ac		
224	Tb		
225	Pa		
226	U		
227	Np		
228	Pu		
229	Am		
230	Cm		
231	Bk		
232	Cf		
233	Esn		
234	Fm		
235	Md		
236	No		
237	Lu		
238	Yb		
239	Lu		
240	Ac		
241	Tb		
242	Pa		
243	U		
244	Np		
245	Pu		
246	Am		
247	Cm		
248	Bk		
249	Cf		
250	Esn		
251	Fm		
252	Md		
253	No		
254	Lu		
255	Yb		
256	Lu		
257	Ac		
258	Tb		
259	Pa		
260	U		
261	Np		
262	Pu		
263	Am		
264	Cm		
265	Bk		
266	Cf		
267	Esn		
268	Fm		
269	Md		
270	No		
271	Lu		
272	Yb		
273	Lu		
274	Ac		
275	Tb		
276	Pa		
277	U		
278	Np		
279	Pu		
280	Am		
281	Cm		
282	Bk		
283	Cf		
284	Esn		
285	Fm		
286	Md		
287	No		
288	Lu		
289	Yb		
290	Lu		
291	Ac		
292	Tb		
293	Pa		
294	U		
295	Np		
296	Pu		
297	Am		
298	Cm		
299	Bk		
300	Cf		
301	Esn		
302	Fm		
303	Md		
304	No		
305	Lu		
306	Yb		
307	Lu		
308	Ac		
309	Tb		
310	Pa		
311	U		
312	Np		
313	Pu		
314	Am		
315	Cm		
316	Bk		
317	Cf		
318	Esn		
319	Fm		
320	Md		
321	No		
322	Lu		
323	Yb		
324	Lu		
325	Ac		
326	Tb		
327	Pa		
328	U		
329	Np		
330	Pu		
331	Am		
332	Cm		
333	Bk		
334	Cf		
335	Esn		
336	Fm		
337	Md		
338	No		
339	Lu		
340	Yb		
341	Lu		
342	Ac		
343	Tb		
344	Pa		
345	U		
346	Np		
347	Pu		
348	Am		
349	Cm		
350	Bk		
351	Cf		
352	Esn		
353	Fm		
354	Md		
355	No		
356	Lu		
357	Yb		
358	Lu		
359	Ac		
360	Tb		
361	Pa		
362	U		
363	Np		
364	Pu		
365	Am		
366	Cm		
367	Bk		
368	Cf		
369	Esn		
370	Fm		
371	Md		
372	No		
373	Lu		
374	Yb		
375	Lu		
376	Ac		
377	Tb		
378	Pa		
379	U		
380	Np		
381	Pu		
382	Am		
383	Cm		
384	Bk		
385	Cf		
386	Esn		
387	Fm		
388	Md		
389	No		
390	Lu		
391	Yb		
392	Lu		
393	Ac		
394	Tb		
395	Pa		
396	U		
397	Np		
398	Pu		
399	Am		
400	Cm		
401	Bk		
402	Cf		
403	Esn		
404	Fm		
405	Md		
406	No		
407	Lu		
408	Yb		
409	Lu		
410	Ac		

MNM line colorSets the color of the *MNM line*.default: *red!80!black*

\pgfPT[MNM line color=green]

Periodic Table of Elements

1	H	hydrogen 1.008	2
2	Li	lithium 6.94	Be
3	Na	sodium 22.99	Mg
4	K	potassium 39.098	Ca
5	Rb	rubidium 85.468	Sc
6	Cs	cesium 132.91	Ti
7	Fr	francium [223]	V
8			Cr
9			Mn
10			Fe
11			Co
12			Ni
13			Cu
14			Zn
15			Ga
16			Ge
17			As
18			Se
19			Br
20			Kr
21			He
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			
61			
62			
63			
64			
65			
66			
67			
68			
69			
70			
71			
72			
73			
74			
75			
76			
77			
78			
79			
80			
81			
82			
83			
84			
85			
86			
87			
88			
89			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			
100			
101			
102			
103			
104			
105			
106			
107			
108			
109			
110			
111			
112			
113			
114			
115			
116			
117			
118			
119			
120			
121			
122			
123			
124			
125			
126			
127			
128			
129			
130			
131			
132			
133			
134			
135			
136			
137			
138			
139			
140			
141			
142			
143			
144			
145			
146			
147			
148			
149			
150			
151			
152			
153			
154			
155			
156			
157			
158			
159			
160			
161			
162			
163			
164			
165			
166			
167			
168			
169			
170			
171			
172			
173			
174			
175			
176			
177			
178			
179			
180			
181			
182			
183			
184			
185			
186			
187			
188			
189			
190			
191			
192			
193			
194			
195			
196			
197			
198			
199			
200			
201			
202			
203			
204			
205			
206			
207			
208			
209			
210			
211			
212			
213			
214			
215			
216			
217			
218			
219			
220			
221			
222			
223			
224			
225			
226			
227			
228			
229			
230			
231			
232			
233			
234			
235			
236			
237			
238			
239			
240			
241			
242			
243			
244			
245			
246			
247			
248			
249			
250			
251			
252			
253			
254			
255			
256			
257			
258			
259			
260			
261			
262			
263			
264			
265			
266			
267			
268			
269			
270			
271			
272			
273			
274			
275			
276			
277			
278			
279			
280			
281			
282			
283			
284			
285			
286			
287			
288			
289			
290			
291			
292			
293			
294			
295			
296			
297			
298			
299			
300			
301			
302			
303			
304			
305			
306			
307			
308			
309			
310			
311			
312			
313			
314			
315			
316			
317			
318			
319			
320			
321			
322			
323			
324			
325			
326			
327			
328			
329			
330			
331			
332			
333			
334			
335			
336			
337			
338			
339			
340			
341			
342			
343			
344			
345			
346			
347			
348			
349			
350			
351			
352			
353			
354			
355			
356			
357			
358			
359			
360			
361			
362			
363			
364			
365			
366			
367			
368			
369			
370			
371			
372			
373			
374			
375			
376			
377			
378			
379			
380			
381			
382			
383			
384			
385			
386			
387			
388			
389			
390			
391			
392			
393			
394			
395			
396			
397			
398			
399			
400			
401			
402			
403			
404			
405			
406			
407			
408			
409			
410			
411			
412			
413			
414			
415			
416			
417			
418			
419			
420			
421			
422			
423			
424			
425			
426			
427			
428			
429			
430			
431			
432			
433			
434			
435			
436			
437			
438			
439			
440			
441			
442			
443			
4			

MNM

default: `{c=red!80!black, w=.8pt}`

Pseudo style to set the *MNM line* color and/or width. None of the keys – `c` and `w` – are mandatory. The key `show MNM line` is set to `true`.

USAGE: MNM={c=<color>,w=<length>}

```
\pgfPT[MNM={w=1.5pt,c=red}]
```

Periodic Table of Elements

1	H													18	
1	hydrogen 1.008													He	
2	Li	B	C	N	O	F	Ne								helium 4.0026
3	Be	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	Se	lithium 6.94
4	Mg	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	Se	beryllium 9.0122
5	Na	Al	Si	P	S	Cl	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	sodium 22.99
6	Mg	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	Se	magnesium 24.305
7	Al	Si	P	S	Cl	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
8	Si	P	S	Cl	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
9	Cl	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
10	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
11	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
12	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
13	Al	Si	P	S	Cl	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
14	Si	P	S	Cl	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
15	P	S	Cl	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
16	S	Cl	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
17	Cl	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
18	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
19	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
20	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
21	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
22	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
23	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
24	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
25	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
26	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
27	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
28	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
29	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
30	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
31	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
32	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
33	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
34	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
35	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
36	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
37	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
38	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
39	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
40	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
41	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
42	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
43	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
44	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
45	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
46	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
47	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
48	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
49	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
50	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
51	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
52	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
53	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
54	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	
55	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	He
56	cerium 140.12	praseodymium 141.01	neodymium 144.24	neptunium [145]	europium 150.36	europeum 151.96	gadolinium 157.25	terbium 158.93	dysprosium 160.93	holmium 164.93	erbium 167.28	thulium 168.93	ytterbium 172.05	lutetium 174.97	helium 4.0026
57	La	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	He
58	lanthanum 138.91	thorium 232.04	protactinium 231.04	uranium 238.03	neptunium [237]	plutonium [244]	americium [243]	curium [247]	berkelium [247]	californium [251]	einsteiniun [252]	fermium [258]	mandelstevium [259]	nobelium [266]	lithium 6.94
59	Pr	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	He
60	praseodymium 141.01	thorium 232.04	protactinium 231.04	uranium 238.03	neptunium [237]	plutonium [244]	americium [243]	curium [247]	berkelium [247]	californium [251]	einsteiniun [252]	fermium [258]	mandelstevium [259]	nobelium [266]	lithium 6.94
61	Nd	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	He
62	neodymium 144.24	thorium 232.04	protactinium 231.04	uranium 238.03	neptunium [237]	plutonium [244]	americium [243]	curium [247]	berkelium [247]	californium [251]	einsteiniun [252]	fermium [258]	mandelstevium [259]	nobelium [266]	lithium 6.94
63	Eu	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	He
64	europium 151.96	thorium 232.04	protactinium 231.04	uranium 238.03	neptunium [237]	plutonium [244]	americium [243]	curium [247]	berkelium [247]	californium [251]	einsteiniun [252]	fermium [258]	mandelstevium [259]	nobelium [266]	lithium 6.94
65	Gd	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	He
66	gadolinium 157.25	thorium 232.04	protactinium 231.04	uranium 238.03	neptunium [237]	plutonium [244]	americium [243]	curium [247]	berkelium [247]	californium [251]	einsteiniun [252]	fermium [258]	mandelstevium [259]	nobelium [266]	lithium 6.94
67	Tb	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	He
68	terbium 158.93	thorium 232.04	protactinium 231.04	uranium 238.03	neptunium [237]	plutonium [244]	americium [243]	curium [247]	berkelium [247]	californium [251]	einsteiniun [252]	fermium [258]	mandelstevium [259]	nobelium [266]	lithium 6.94
69	Dy	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	He
70	dysprosium 159.93	thorium 232.04	protactinium 231.04	uranium 238.03	neptunium [237]	plutonium [244]	americium [243]	curium [247]	berkelium [247]	californium [251]	einsteiniun [252]	fermium [258]	mandelstevium [259]	nobelium [266]	lithium 6.94
71	Ho	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	He
72	holmium 164.93	thorium 232.04	protactinium 231.04	uranium 238.03	neptunium [237]	plutonium [244]	americium [243]	curium [247]	berkelium [247]	californium [251]	einsteiniun [252]	fermium [258]	mandelstevium [259]	nobelium [266]	lithium 6.94
73	Er	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	He
74	erb														

→ Title and Legend

show title

default: *true*

When set to `true` the title is shown, otherwise the title (Periodic Table of elements) is not shown.

```
\pgfPT[Z list={1,...,36}]
```

Periodic Table of Elements

1	H hydrogen 1.008	2	He helium 4.0026
3	Li lithium 6.94	4	Be beryllium 9.0122
5	B boron 10.81	6	C carbon 12.011
7	N nitrogen 14.007	8	O oxygen 15.999
9	F fluorine 18.998	10	Ne neon 20.18
11	Mg magnesium 24.305	12	Ar argon 39.95
13	B boron 10.81	14	C carbon 12.011
15	N nitrogen 14.007	16	O oxygen 15.999
17	F fluorine 18.998	18	He helium 4.0026
19	K potassium 39.098	20	Ca calcium 40.078
21	Sc scandium 44.956	22	Ti titanium 47.867
23	V vanadium 50.942	24	Cr chromium 51.996
25	Mn manganese 54.938	26	Fe iron 55.845
27	Co cobalt 58.933	28	Ni nickel 58.693
29	Cu copper 63.546	30	Zn zinc 65.38
31	Ga gallium 69.723	32	Ge germanium 72.63
33	As arsenic 74.922	34	Se selenium 78.971
35	Br bromine 79.904	36	Kr krypton 83.798

\pgfPT[Z list={1,...,36},show title=false]

title font

default: \Large\bfseries

Sets the font used in the title.

\pgfPT[Z list={1,...,36},title font=\Huge\itshape]

Periodic Table of Elements

title color

default: black

Sets the title color.

\pgfPT[Z list={1,...,36},title color=green!50!black]

Periodic Table of Elements

title

default: {f=\Large\bfseries,c=black}

Pseudo style to set the keys: title font and/or title color. None of the keys – f and c – are mandatory. The key show title is set to true.

USAGE: title={f=,c=<color>]}

```
\pgfPT[Z list={1,...,36},title={f=\Huge,c=teal}]
```

Periodic Table of Elements

1	H hydrogen 1.008	2	He helium 4.0026
3	Li lithium 6.94	4	Be beryllium 9.0122
5	B boron 10.81	6	C carbon 12.011
7	N nitrogen 14.007	8	O oxygen 15.999
9	F fluorine 18.998	10	Ne neon 20.18
11	Na sodium 22.99	12	Mg magnesium 24.305
13	Al aluminum 26.982	14	Si silicon 28.085
15	P phosphorus 30.974	16	S sulfur 32.06
17	Cl chlorine 35.45	18	Ar argon 39.95
19	K potassium 39.098	20	Ca calcium 40.078
21	Sc scandium 44.956	22	Ti titanium 47.867
23	V vanadium 50.942	24	Cr chromium 51.998
25	Mn manganese 54.938	26	Fe iron 55.845
27	Co cobalt 58.933	28	Ni nickel 58.693
29	Cu copper 63.546	30	Zn zinc 65.38
31	Ga gallium 69.723	32	Ge germanium 72.63
33	As arsenic 74.922	34	Se selenium 78.971
35	Br bromine 80.904	36	Kr krypton 83.798
37	Ra radioactive solid liquid vapour evident	38	
39	Cs radioactive solid liquid vapour evident	40	
41	N radioactive solid liquid vapour evident	42	
43	Ar radioactive solid liquid vapour evident	44	
45	Fr radioactive solid liquid vapour evident	46	
47	Rn radioactive solid liquid vapour evident	48	
49	At radioactive solid liquid vapour evident	50	
51	Pb radioactive solid liquid vapour evident	52	
53	Tl radioactive solid liquid vapour evident	54	
55	Bi radioactive solid liquid vapour evident	56	
57	Po radioactive solid liquid vapour evident	58	
59	Au radioactive solid liquid vapour evident	60	
61	Hg radioactive solid liquid vapour evident	62	
63	Tl radioactive solid liquid vapour evident	64	
65	Bi radioactive solid liquid vapour evident	66	
67	Po radioactive solid liquid vapour evident	68	
69	Au radioactive solid liquid vapour evident	70	
71	Hg radioactive solid liquid vapour evident	72	
73	Tl radioactive solid liquid vapour evident	74	
75	Bi radioactive solid liquid vapour evident	76	
77	Po radioactive solid liquid vapour evident	78	
79	Au radioactive solid liquid vapour evident	80	
81	Hg radioactive solid liquid vapour evident	82	
83	Tl radioactive solid liquid vapour evident	84	
85	Bi radioactive solid liquid vapour evident	86	
87	Po radioactive solid liquid vapour evident	88	
89	Au radioactive solid liquid vapour evident	90	
91	Hg radioactive solid liquid vapour evident	92	
93	Tl radioactive solid liquid vapour evident	94	
95	Bi radioactive solid liquid vapour evident	96	
97	Po radioactive solid liquid vapour evident	98	
99	Au radioactive solid liquid vapour evident	100	

show legend

default: *true*

When set to **true** the legend is shown, otherwise it is not shown.

```
\pgfPT[Z list={1,...,36}]
```

Periodic Table of Elements

1	H hydrogen 1.008			2	He helium 4.0026			18
1	Li lithium 6.94	2	Be beryllium 9.0122					
3	Na sodium 22.99	4	Mg magnesium 24.305					
5	Sc scandium 44.956	6	Ti titanium 47.867	7	V vanadium 50.946	8	Cr chromium 51.996	9
19	K potassium 39.098	20	Ca calcium 40.078	21	Sc scandium 44.956	22	Ti titanium 47.867	23
4	Mn manganese 54.938	5	Fe iron 55.845	6	Co cobalt 58.933	7	Ni nickel 58.693	8
13	B boron 10.81	14	C carbon 12.011	15	N nitrogen 14.007	16	O oxygen 15.999	17
15	Al aluminum 26.982	14	Si silicon 28.085	15	P phosphorus 30.974	16	S sulfur 32.06	17
31	Ga gallium 69.723	32	Ge germanium 72.63	33	As arsenic 74.922	34	Se selenium 78.971	35
36	Br bromine 80.916							
1	Ra radioactive chemical symbol	2	CS solid carbon synthesis	3	Z Atomic Number Ra: Radioactive N: Nitrogen Ar: Relative Atomic Mass	4	He helium 4.0026	18

```
\pgfPT[Z list={1,...,36},show legend=false]
```

Periodic Table of Elements

1	1	18																	
1	H hydrogen 1.008	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
2	Li lithium 6.94	Be beryllium 8.0122	3	4	5	6	7	8	9	10	11	12	B boron 10.81	C carbon 12.011	N nitrogen 14.007	O oxygen 15.999	F fluorine 18.998	He helium 4.0026	
3	Na sodium 22.99	Mg magnesium 24.305	3	4	5	6	7	8	9	10	11	12	Al aluminum 26.982	Si silicon 28.085	P phosphorus 30.974	S sulfur 32.06	Cl chlorine 35.455	No neon 20.18	
4	K potassium 39.098	Ca calcium 40.078	21	Sc scandium 44.956	Ti titanium 47.867	V vanadium 50.942	Cr chromium 51.986	Mn manganese 54.938	Fe iron 55.845	Co cobalt 58.933	Ni nickel 58.693	Zn zinc 65.456	Ga gallium 69.723	Ge germanium 72.63	As arsenic 74.922	Se selenium 78.971	Br bromine 79.904	Kr krypton 83.798	

legend acronyms

default: *true*

When set to **true**, the legend consists of a cell using acronyms for its contents and the corresponding descriptions below that cell. When set to **false**, only the cell is displayed with the descriptions in place of the acronyms. In the latter case, the description font size is automatically adjusted to the available box, which can *spoil the appearance of the whole caption*, depending on the described content.

\pgfPT[Z list={1,...,36}]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 Be beryllium 9.0122	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 He helium 4.0026
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.955	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 He helium 4.0026		
1 H hydrogen 1.008	2 Be beryllium 9.0122	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 He helium 4.0026

\pgfPT[Z list={1,...,36},legend acronym=false]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 Be beryllium 9.0122	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 He helium 4.0026
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.955	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 He helium 4.0026		
1 H hydrogen 1.008	2 Be beryllium 9.0122	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 He helium 4.0026

legend boxdefault: `left color=black!20,right color=black!10,draw=black!30`

Style to define the appearance of the box around the legend, legend pins and acronym descriptions, built with any of the TikZ keys that can be applied to a path construction. *It only works when the key `legend acronym` is set to true.*

\pgfPT[Z list={1,...,36}]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 Be beryllium 9.0122	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 He helium 4.0026
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.955	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 He helium 4.0026		
1 H hydrogen 1.008	2 Be beryllium 9.0122	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 He helium 4.0026

\pgfPT[Z list={1,...,36},legend box={draw=blue!20,fill=blue!10}]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 Be beryllium 9.0122	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 He helium 4.0026
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.955	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 He helium 4.0026		
1 H hydrogen 1.008	2 Be beryllium 9.0122	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 He helium 4.0026

\pgfPT[Z list={1,...,36},legend box={draw=blue!20,fill=blue!10,legend acronyms=false}]

Periodic Table of Elements																	
1 1 H hydrogen 1.008	2 2 Be beryllium 9.0122	3 3 Li lithium 6.94	4 4 B boron 10.81	5 5 C carbon 12.011	6 6 N nitrogen 14.007	7 7 O oxygen 15.999	8 8 F fluorine 18.998	9 9 Ne neon 20.18	10 10 He helium 4.0026	11 11 Mg magnesium 24.305	12 12 Al aluminum 26.982	13 13 Si silicon 28.085	14 14 P phosphorus 30.974	15 15 S sulfur 32.06	16 16 Cl chlorine 35.45	17 17 Ar argon 39.95	18 18 Kr krypton 83.798
19 19 K potassium 39.098	20 20 Ca calcium 40.078	21 21 Sc scandium 44.955	22 22 Ti titanium 47.867	23 23 V vanadium 50.942	24 24 Cr chromium 51.996	25 25 Mn manganese 54.938	26 26 Fe iron 55.845	27 27 Co cobalt 58.933	28 28 Ni nickel 58.693	29 29 Cu copper 63.546	30 30 Zn zinc 65.38	31 31 Ga gallium 69.723	32 32 Ge germanium 72.63	33 33 As arsenic 74.922	34 34 Se selenium 78.971	35 35 Br bromine 79.904	36 36 Kr krypton 83.798
19 19 K potassium 39.098	20 20 Ca calcium 40.078	21 21 Sc scandium 44.955	22 22 Ti titanium 47.867	23 23 V vanadium 50.942	24 24 Cr chromium 51.996	25 25 Mn manganese 54.938	26 26 Fe iron 55.845	27 27 Co cobalt 58.933	28 28 Ni nickel 58.693	29 29 Cu copper 63.546	30 30 Zn zinc 65.38	31 31 Ga gallium 69.723	32 32 Ge germanium 72.63	33 33 As arsenic 74.922	34 34 Se selenium 78.971	35 35 Br bromine 79.904	36 36 Kr krypton 83.798

\pgfPT[Z list={1,...,36},legend box={}]

Periodic Table of Elements																	
1 1 H hydrogen 1.008	2 2 Be beryllium 9.0122	3 3 Li lithium 6.94	4 4 B boron 10.81	5 5 C carbon 12.011	6 6 N nitrogen 14.007	7 7 O oxygen 15.999	8 8 F fluorine 18.998	9 9 Ne neon 20.18	10 10 He helium 4.0026	11 11 Mg magnesium 24.305	12 12 Al aluminum 26.982	13 13 Si silicon 28.085	14 14 P phosphorus 30.974	15 15 S sulfur 32.06	16 16 Cl chlorine 35.45	17 17 Ar argon 39.95	18 18 Kr krypton 83.798
19 19 K potassium 39.098	20 20 Ca calcium 40.078	21 21 Sc scandium 44.955	22 22 Ti titanium 47.867	23 23 V vanadium 50.942	24 24 Cr chromium 51.996	25 25 Mn manganese 54.938	26 26 Fe iron 55.845	27 27 Co cobalt 58.933	28 28 Ni nickel 58.693	29 29 Cu copper 63.546	30 30 Zn zinc 65.38	31 31 Ga gallium 69.723	32 32 Ge germanium 72.63	33 33 As arsenic 74.922	34 34 Se selenium 78.971	35 35 Br bromine 79.904	36 36 Kr krypton 83.798
19 19 K potassium 39.098	20 20 Ca calcium 40.078	21 21 Sc scandium 44.955	22 22 Ti titanium 47.867	23 23 V vanadium 50.942	24 24 Cr chromium 51.996	25 25 Mn manganese 54.938	26 26 Fe iron 55.845	27 27 Co cobalt 58.933	28 28 Ni nickel 58.693	29 29 Cu copper 63.546	30 30 Zn zinc 65.38	31 31 Ga gallium 69.723	32 32 Ge germanium 72.63	33 33 As arsenic 74.922	34 34 Se selenium 78.971	35 35 Br bromine 79.904	36 36 Kr krypton 83.798

legend back color

default: white

Sets the legend background color.

\pgfPT[Z list={1,...,36}]

Periodic Table of Elements																	
1 1 H hydrogen 1.008	2 2 Be beryllium 9.0122	3 3 Li lithium 6.94	4 4 B boron 10.81	5 5 C carbon 12.011	6 6 N nitrogen 14.007	7 7 O oxygen 15.999	8 8 F fluorine 18.998	9 9 Ne neon 20.18	10 10 He helium 4.0026	11 11 Mg magnesium 24.305	12 12 Al aluminum 26.982	13 13 Si silicon 28.085	14 14 P phosphorus 30.974	15 15 S sulfur 32.06	16 16 Cl chlorine 35.45	17 17 Ar argon 39.95	18 18 Kr krypton 83.798
19 19 K potassium 39.098	20 20 Ca calcium 40.078	21 21 Sc scandium 44.955	22 22 Ti titanium 47.867	23 23 V vanadium 50.942	24 24 Cr chromium 51.996	25 25 Mn manganese 54.938	26 26 Fe iron 55.845	27 27 Co cobalt 58.933	28 28 Ni nickel 58.693	29 29 Cu copper 63.546	30 30 Zn zinc 65.38	31 31 Ga gallium 69.723	32 32 Ge germanium 72.63	33 33 As arsenic 74.922	34 34 Se selenium 78.971	35 35 Br bromine 79.904	36 36 Kr krypton 83.798
19 19 K potassium 39.098	20 20 Ca calcium 40.078	21 21 Sc scandium 44.955	22 22 Ti titanium 47.867	23 23 V vanadium 50.942	24 24 Cr chromium 51.996	25 25 Mn manganese 54.938	26 26 Fe iron 55.845	27 27 Co cobalt 58.933	28 28 Ni nickel 58.693	29 29 Cu copper 63.546	30 30 Zn zinc 65.38	31 31 Ga gallium 69.723	32 32 Ge germanium 72.63	33 33 As arsenic 74.922	34 34 Se selenium 78.971	35 35 Br bromine 79.904	36 36 Kr krypton 83.798

\pgfPT[Z list={1,...,36},legend back color=blue!10]

Periodic Table of Elements																	
1 1 H hydrogen 1.008	2 2 Be beryllium 9.0122	3 3 Li lithium 6.94	4 4 B boron 10.81	5 5 C carbon 12.011	6 6 N nitrogen 14.007	7 7 O oxygen 15.999	8 8 F fluorine 18.998	9 9 Ne neon 20.18	10 10 He helium 4.0026	11 11 Mg magnesium 24.305	12 12 Al aluminum 26.982	13 13 Si silicon 28.085	14 14 P phosphorus 30.974	15 15 S sulfur 32.06	16 16 Cl chlorine 35.45	17 17 Ar argon 39.95	18 18 Kr krypton 83.798
19 19 K potassium 39.098	20 20 Ca calcium 40.078	21 21 Sc scandium 44.955	22 22 Ti titanium 47.867	23 23 V vanadium 50.942	24 24 Cr chromium 51.996	25 25 Mn manganese 54.938	26 26 Fe iron 55.845	27 27 Co cobalt 58.933	28 28 Ni nickel 58.693	29 29 Cu copper 63.546	30 30 Zn zinc 65.38	31 31 Ga gallium 69.723	32 32 Ge germanium 72.63	33 33 As arsenic 74.922	34 34 Se selenium 78.971	35 35 Br bromine 79.904	36 36 Kr krypton 83.798
19 19 K potassium 39.098	20 20 Ca calcium 40.078	21 21 Sc scandium 44.955	22 22 Ti titanium 47.867	23 23 V vanadium 50.942	24 24 Cr chromium 51.996	25 25 Mn manganese 54.938	26 26 Fe iron 55.845	27 27 Co cobalt 58.933	28 28 Ni nickel 58.693	29 29 Cu copper 63.546	30 30 Zn zinc 65.38	31 31 Ga gallium 69.723	32 32 Ge germanium 72.63	33 33 As arsenic 74.922	34 34 Se selenium 78.971	35 35 Br bromine 79.904	36 36 Kr krypton 83.798

legend radio colordefault: *black*

Sets the color of the radioactivity acronym and corresponding description.

\pgfPT[Z list={1,...,36}]

Periodic Table of Elements																																																																																																																																							
1	H	hydrogen	1.008	2														18																																																																																																																					
1	Li	lithium	6.94	2	Be	beryllium	9.0122											He																																																																																																																					
2	Na	sodium	22.99	3	Mg	magnesium	24.305											helium																																																																																																																					
3	K	potassium	39.098	4	Ca	calcium	40.078											4.0026																																																																																																																					
4				5	Sc	scandium	44.955	6	Ti	titanium	47.867	7	V	vandium	50.942	8	Cr	chromium	51.996	9	Mn	manganese	54.938	10	Fe	iron	55.845	11	Co	cobalt	58.933	12	Ni	nickel	58.693	13	Zn	zinc	65.346	14	B	boron	10.81	15	C	carbon	12.011	16	O	oxygen	15.999	17	F	fluorine	18.998	18	Ne	neon	20.18	19	Ga	gallium	69.723	20	Ge	germanium	72.63	21	As	arsenic	74.922	22	Se	selenium	78.971	23	Br	bromine	79.904	24	Kr	krypton	83.798	25	Al	aluminum	26.982	26	Si	silicon	28.085	27	P	phosphorus	30.974	28	S	sulfur	32.06	29	Cl	chlorine	35.45	30	Ar	argon	39.95	31	Zn	zinc	65.346	32	Ga	gallium	69.723	33	Ge	germanium	72.63	34	As	arsenic	74.922	35	Se	selenium	78.971	36	Br	bromine	79.904	37	Kr	krypton	83.798

\pgfPT[Z list={1,...,36},legend radio color=red]

Periodic Table of Elements																																																																																																																																							
1	H	hydrogen	1.008	2														18																																																																																																																					
1	Li	lithium	6.94	2	Be	beryllium	9.0122											He																																																																																																																					
2	Na	sodium	22.99	3	Mg	magnesium	24.305											helium																																																																																																																					
3	K	potassium	39.098	4	Ca	calcium	40.078											4.0026																																																																																																																					
4				5	Sc	scandium	44.955	6	Ti	titanium	47.867	7	V	vandium	50.942	8	Cr	chromium	51.996	9	Mn	manganese	54.938	10	Fe	iron	55.845	11	Co	cobalt	58.933	12	Ni	nickel	58.693	13	Zn	zinc	65.346	14	B	boron	10.81	15	C	carbon	12.011	16	O	oxygen	15.999	17	F	fluorine	18.998	18	Ne	neon	20.18	19	Ga	gallium	69.723	20	Ge	germanium	72.63	21	As	arsenic	74.922	22	Se	selenium	78.971	23	Br	bromine	79.904	24	Kr	krypton	83.798	25	Al	aluminum	26.982	26	Si	silicon	28.085	27	P	phosphorus	30.974	28	S	sulfur	32.06	29	Cl	chlorine	35.45	30	Ar	argon	39.95	31	Zn	zinc	65.346	32	Ga	gallium	69.723	33	Ge	germanium	72.63	34	As	arsenic	74.922	35	Se	selenium	78.971	36	Br	bromine	79.904	37	Kr	krypton	83.798

\pgfPT[Z list={1,...,36},legend radio color=red,legend acronyms=false]

Periodic Table of Elements																																																																																																																																							
1	H	hydrogen	1.008	2														18																																																																																																																					
1	Li	lithium	6.94	2	Be	beryllium	9.0122											He																																																																																																																					
2	Na	sodium	22.99	3	Mg	magnesium	24.305											helium																																																																																																																					
3	K	potassium	39.098	4	Ca	calcium	40.078											4.0026																																																																																																																					
4				5	Sc	scandium	44.955	6	Ti	titanium	47.867	7	V	vandium	50.942	8	Cr	chromium	51.996	9	Mn	manganese	54.938	10	Fe	iron	55.845	11	Co	cobalt	58.933	12	Ni	nickel	58.693	13	Zn	zinc	65.346	14	B	boron	10.81	15	C	carbon	12.011	16	O	oxygen	15.999	17	F	fluorine	18.998	18	Ne	neon	20.18	19	Ga	gallium	69.723	20	Ge	germanium	72.63	21	As	arsenic	74.922	22	Se	selenium	78.971	23	Br	bromine	79.904	24	Kr	krypton	83.798	25	Al	aluminum	26.982	26	Si	silicon	28.085	27	P	phosphorus	30.974	28	S	sulfur	32.06	29	Cl	chlorine	35.45	30	Ar	argon	39.95	31	Zn	zinc	65.346	32	Ga	gallium	69.723	33	Ge	germanium	72.63	34	As	arsenic	74.922	35	Se	selenium	78.971	36	Br	bromine	79.904	37	Kr	krypton	83.798

legend CS colordefault: *black!*50

Sets the color of the Chemical Symbol acronym and corresponding description.

\pgfPT[Z list={1,...,36}]

Periodic Table of Elements																																																																																																																																							
1	H	hydrogen	1.008	2														18																																																																																																																					
1	Li	lithium	6.94	2	Be	beryllium	9.0122											He																																																																																																																					
2	Na	sodium	22.99	3	Mg	magnesium	24.305											helium																																																																																																																					
3	K	potassium	39.098	4	Ca	calcium	40.078											4.0026																																																																																																																					
4				5	Sc	scandium	44.955	6	Ti	titanium	47.867	7	V	vandium	50.942	8	Cr	chromium	51.996	9	Mn	manganese	54.938	10	Fe	iron	55.845	11	Co	cobalt	58.933	12	Ni	nickel	58.693	13	Zn	zinc	65.346	14	B	boron	10.81	15	C	carbon	12.011	16	O	oxygen	15.999	17	F	fluorine	18.998	18	Ne	neon	20.18	19	Ga	gallium	69.723	20	Ge	germanium	72.63	21	As	arsenic	74.922	22	Se	selenium	78.971	23	Br	bromine	79.904	24	Kr	krypton	83.798	25	Al	aluminum	26.982	26	Si	silicon	28.085	27	P	phosphorus	30.974	28	S	sulfur	32.06	29	Cl	chlorine	35.45	30	Ar	argon	39.95	31	Zn	zinc	65.346	32	Ga	gallium	69.723	33	Ge	germanium	72.63	34	As	arsenic	74.922	35	Se	selenium	78.971	36	Br	bromine	79.904	37	Kr	krypton	83.798

\pgfPT[Z list={1,...,36},legend CS color=red]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798

\pgfPT[Z list={1,...,36},legend CS color=red,legend acronyms=false]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798

legend Z color

default: {}

Sets the color of the atomic number description (only applies when the key **legend acronyms** is set to **true**.)

\pgfPT[Z list={1,...,36}]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798

\pgfPT[Z list={1,...,36},legend Z color=red]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798

\pgfPT[Z list={1,...,36},legend Z color=red,legend acronyms=false]

Periodic Table of Elements																	
1 1 H hydrogen 1.008	2 2 Be beryllium 9.0122	3 3 Li lithium 6.94	4 4 Be beryllium 9.0122	5 5 V vanadium 50.942	6 6 Cr chromium 51.996	7 7 Mn manganese 54.938	8 8 Fe iron 55.845	9 9 Co cobalt 58.933	10 10 Ni nickel 58.693	11 11 Cu copper 63.546	12 12 Zn zinc 65.38	13 13 B boron 10.81	14 14 C carbon 12.011	15 15 N nitrogen 14.007	16 16 O oxygen 15.999	17 17 F fluorine 18.998	18 2 He helium 4.0026
3 11 Na sodium 22.99	4 12 Mg magnesium 24.305	3 21 Sc scandium 44.956	22 23 Ti titanium 47.867	24 Cr chromium 50.942	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798	
4 19 K potassium 39.098	5 20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798

show legend pins

default: true

When set to true the legend pins are shown, otherwise they are not shown.

\pgfPT[Z list={1,...,36}]

Periodic Table of Elements																	
1 1 H hydrogen 1.008	2 2 Be beryllium 9.0122	3 3 Li lithium 6.94	4 4 Be beryllium 9.0122	5 5 V vanadium 50.942	6 6 Cr chromium 51.996	7 7 Mn manganese 54.938	8 8 Fe iron 55.845	9 9 Co cobalt 58.933	10 10 Ni nickel 58.693	11 11 Cu copper 63.546	12 12 Zn zinc 65.38	13 13 B boron 10.81	14 14 C carbon 12.011	15 15 N nitrogen 14.007	16 16 O oxygen 15.999	17 17 F fluorine 18.998	18 2 He helium 4.0026
3 11 Na sodium 22.99	4 12 Mg magnesium 24.305	3 21 Sc scandium 44.956	22 23 Ti titanium 47.867	24 Cr chromium 50.942	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798	
4 19 K potassium 39.098	5 20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798

\pgfPT[Z list={1,...,36},show legend pins=false]

Periodic Table of Elements																	
1 1 H hydrogen 1.008	2 2 Be beryllium 9.0122	3 3 Li lithium 6.94	4 4 Be beryllium 9.0122	5 5 V vanadium 50.942	6 6 Cr chromium 51.996	7 7 Mn manganese 54.938	8 8 Fe iron 55.845	9 9 Co cobalt 58.933	10 10 Ni nickel 58.693	11 11 Cu copper 63.546	12 12 Zn zinc 65.38	13 13 B boron 10.81	14 14 C carbon 12.011	15 15 N nitrogen 14.007	16 16 O oxygen 15.999	17 17 F fluorine 18.998	18 2 He helium 4.0026
3 11 Na sodium 22.99	4 12 Mg magnesium 24.305	3 21 Sc scandium 44.956	22 23 Ti titanium 47.867	24 Cr chromium 50.942	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798	
4 19 K potassium 39.098	5 20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798

legend pins

default: {line width=.05pt,rounded corners=2pt,right color=black!15, left color=white,draw=black!50}

Style to define the appearance of the legend pins, built with any of the TikZ keys that can be applied to a path construction.

\pgfPT[Z list={1,...,36}]

Periodic Table of Elements																	
1 1 H hydrogen 1.008	2 2 Be beryllium 9.0122	3 3 Li lithium 6.94	4 4 Be beryllium 9.0122	5 5 V vanadium 50.942	6 6 Cr chromium 51.996	7 7 Mn manganese 54.938	8 8 Fe iron 55.845	9 9 Co cobalt 58.933	10 10 Ni nickel 58.693	11 11 Cu copper 63.546	12 12 Zn zinc 65.38	13 13 B boron 10.81	14 14 C carbon 12.011	15 15 N nitrogen 14.007	16 16 O oxygen 15.999	17 17 F fluorine 18.998	18 2 He helium 4.0026
3 11 Na sodium 22.99	4 12 Mg magnesium 24.305	3 21 Sc scandium 44.956	22 23 Ti titanium 47.867	24 Cr chromium 50.942	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798	
4 19 K potassium 39.098	5 20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798

```
\pgfPT[Z list={1,...,36},legend pins={draw=red,fill=red!10}]
```

Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95		
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95

```
\pgfPT[Z list={1,...,36},legend pins={draw=red,fill=red!10},legend acronyms=false]
```

Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95		
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95

show extra legend

default: true

When set to **true** the extra legend is shown, otherwise it is not shown.

```
\pgfPTbuilcellstyle{myname}(6,3)% 6 rows by 3 columns
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5.25-6.75;1-3;DiscC)]
\pgfPT[Z list={1,...,36},cell style=myname]
```

Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95		
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95

```
\pgfPT[Z list={1,...,36},cell style=myname,show extra legend=false]
```

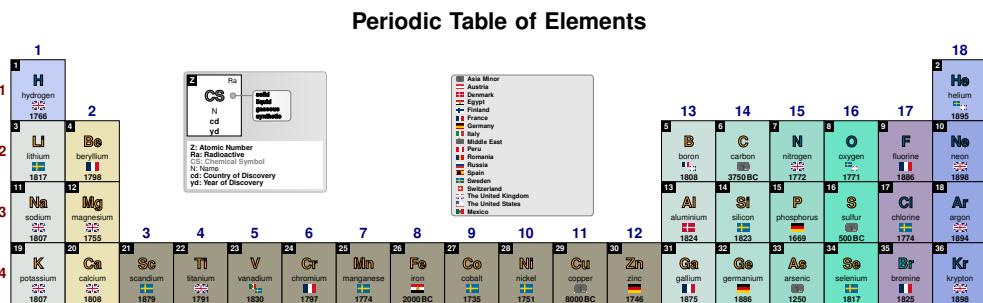
Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95		
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95

extra legend

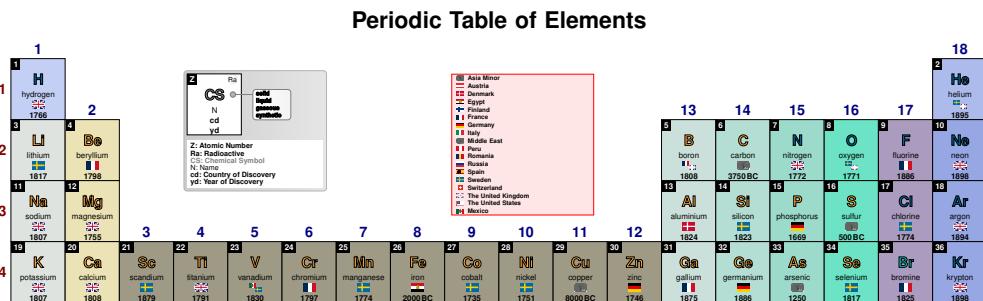
default: `{draw=black!50,fill=black!10,line width=.05pt, rounded corners=2pt}`

Style to define the appearance of the extra legend, built with any of the TikZ keys that can be applied to a path construction.

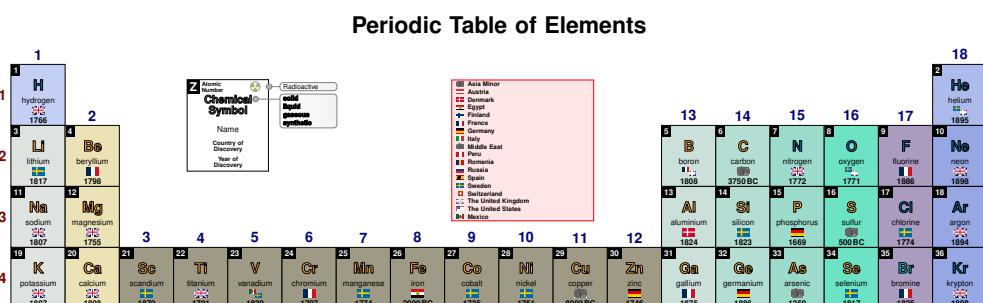
`\pgfPT[Z list={1,...,36},cell style=pgfPTdisc]`



`\pgfPT[Z list={1,...,36},cell style=pgfPTdisc,extra legend={draw=red,fill=red!10}]`



`\pgfPT[Z list={1,...,36},cell style=pgfPTdisc,legend acronyms=false,extra legend={draw=red,fill=red!10}]`

**legend**

default: `{bc=white,pins=true,extra=true,acro=true}`

Pseudo style to set the keys: legend **back color**, show legend **pins**, show **extra** legend, legend **acronyms**, legend **radio** color, legend **CS** color, legend **Z** color, legend **pins (style)**, **extra** legend (**style**) and/or legend **box** (**style**). None of the keys – bc, pins, extra, acro, radio, CS, Z, pins style, extra style and box – are mandatory. The key **show legend** is set to **true**.

USAGE:

```
legend={bc=<color>,pins=<true|false>,extra=<true|false>,acro=<true|false>,
radio=<color>,CS=<color>,Z=<color>,pins style=<tikz path keys>,
extra style=<tikz path keys>,box=<tikz path keys>}
```

```
\pgfPT[Z list={1,...,36},cell style=myname,legend={bc=black!10,extra=false}]
```

Periodic Table of Elements

```
\pgfPT[Z list={1,...,36},cell style=myname,legend={acro=false,extra=false}]
```

Periodic Table of Elements

1	H	hydrogen	2											18			
3	Li	lithium	4	Be	beryllium	5	B	boron	6	C	carbon	7	N	nitrogen	8		
9	Na	sodium	10	Mg	magnesium	11	Al	aluminum	12	Si	silicon	13	P	phosphorus	14		
19	K	potassium	20	Ca	calcium	21	Sc	scandium	22	Ti	titanium	23	V	vanadium	24		
4						25	Cr	chromium	26	Mn	manganese	27	Fe	iron	28		
							29	Co	cobalt	30	Ni	nickel	31	Zn	zinc	32	
								33	Ga	gallium		34	As	arsenic	35		
									36	Ge	germanium		37	Se	selenium	38	
													19	Br	bromine	20	
														21	Kr	krypton	22

► Periods and Groups

show period numbers

default: *true*

When set to **true** the period numbers are shown, otherwise they are not shown.

```
\pgfPT[Z list={1,...,36}]
```

Periodic Table of Elements

1	H hydrogen 1.008	2	He helium 4.0026
3	Li lithium 6.94	4	B boron 12.0112
5	Be beryllium 9.0122	6	C carbon 12.011
7	Mg magnesium 24.305	8	N nitrogen 14.007
9	Na sodium 22.99	10	O oxygen 15.999
11	K potassium 39.09	12	F fluorine 18.998
13	Ca calcium 40.078	14	Ne neon 20.19
15	Sc scandium 44.956	16	Ar argon 39.95
17	Ti titanium 47.867	18	Kr krypton 83.798
19	V vanadium 50.942	20	
21	Cr chromium 51.986	22	
23	Mn manganese 54.938	24	
25	Fe iron 55.845	26	
27	Co cobalt 58.933	28	
29	Ni nickel 58.693	30	
31	Zn zinc 65.398	32	
33	Ga gallium 69.723	34	
35	Ge germanium 72.63	36	
36	As arsenic 74.922	37	
37	Se selenium 78.971	38	
38	Br bromine 79.904	39	
39	Kr krypton 83.798	40	

```
\pgfPT[Z list={1,...,36},show period numbers=false]
```

Periodic Table of Elements

1	H hydrogen 1.008	2	He helium 4.0026
3	Li lithium 6.94	4	Be beryllium 9.0122
5	B boron 10.81	6	C carbon 12.011
7	N nitrogen 14.01	8	O oxygen 15.999
9	F fluorine 18.998	10	Ne neon 20.18
11	Na sodium 22.99	12	Mg magnesium 24.305
13	Al aluminum 26.982	14	Si silicon 28.085
15	P phosphorus 30.974	16	S sulfur 32.06
17	Cl chlorine 35.45	18	Ar argon 39.95
19	K potassium 39.09	20	Ca calcium 40.07
21	Sc scandium 44.955	22	Ti titanium 47.900
23	V vanadium 50.940	24	Cr chromium 51.996
25	Mn manganese 54.938	26	Fe iron 55.847
27	Co cobalt 58.933	28	Ni nickel 58.933
29	Cu copper 63.546	30	Zn zinc 65.401
31	Ga gallium 69.721	32	Ge germanium 72.600
33	As arsenic 74.920	34	Se selenium 78.962
35	Br bromine 79.903	36	Kr krypton 83.800

show group numbersdefault: *true*

When set to **true** the group numbers are shown, otherwise they are not shown.

\pgfPT[Z list={1,...,36}]

Periodic Table of Elements																		
1	H	hydrogen 1.008	2															18
1	Li	lithium 6.94	4	Be	beryllium 9.0122													He
2	Na	sodium 22.99	12	Mg	magnesium 24.305	3	4	5	6	7	8	9	10	11	12			helium 4.0026
3	K	potassium 39.098	20	Ca	calcium 40.078	21	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn		Neon 20.18
4			19			22	Scandium 44.956	23	24	25	26	27	28	29	30	31		
							27	28	29	30	31	32	33	34	35	36		
							28	29	30	31	32	33	34	35	36			
							29	30	31	32	33	34	35	36				
							30	31	32	33	34	35	36					
							31	32	33	34	35	36						
							32	33	34	35	36							
							33	34	35	36								
							34	35	36									
							35	36										
							36											

\pgfPT[Z list={1,...,36},show group numbers=false]

Periodic Table of Elements																		
1	H	hydrogen 1.008	2															18
1	Li	lithium 6.94	4	Be	beryllium 9.0122													He
2	Na	sodium 22.99	12	Mg	magnesium 24.305	3	4	5	6	7	8	9	10	11	12			helium 4.0026
3	K	potassium 39.098	20	Ca	calcium 40.078	21	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn		Neon 20.18
4			19			22	Scandium 44.956	23	24	25	26	27	28	29	30	31		
							27	28	29	30	31	32	33	34	35	36		
							28	29	30	31	32	33	34	35	36			
							29	30	31	32	33	34	35	36				
							30	31	32	33	34	35	36					
							31	32	33	34	35	36						
							32	33	34	35	36							
							33	34	35	36								
							34	35	36									
							35	36										

period label colordefault: *red!50!black*

Sets the period label color.

\pgfPT[Z list={1,...,36},period label color=black]

Periodic Table of Elements																		
1	H	hydrogen 1.008	2															18
1	Li	lithium 6.94	4	Be	beryllium 9.0122													He
2	Na	sodium 22.99	12	Mg	magnesium 24.305	3	4	5	6	7	8	9	10	11	12			helium 4.0026
3	K	potassium 39.098	20	Ca	calcium 40.078	21	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn		Neon 20.18
4			19			22	Scandium 44.956	23	24	25	26	27	28	29	30	31		
							27	28	29	30	31	32	33	34	35	36		
							28	29	30	31	32	33	34	35	36			
							29	30	31	32	33	34	35	36				
							30	31	32	33	34	35	36					
							31	32	33	34	35	36						
							32	33	34	35	36							
							33	34	35	36								
							34	35	36									
							35	36										

group label colordefault: *blue!50!black*

Sets the group label color.

\pgfPT[Z list={1,...,36},group label color=black]

Periodic Table of Elements																																											
1	H	2	He	3	Li	4	Be	5	B	6	C	7	N	8	O	9	F																										
1	hydrogen	1.008	2	lithium	6.94	3	beryllium	9.0122	5	boron	10.81	6	carbon	12.011	7	nitrogen	14.007	18	helium	4.0026																							
11	Na	12	Mg	13	Al	14	Si	15	P	16	S	17	Cl	18	Ne	19	Ar	20	Neon	20.18																							
3	sodium	22.99	4	magnesium	24.305	4	potassium	39.098	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr	37	krypton	39.95
19	Ca	20	Ca	21	Scandium	22	Titanium	23	Vanadium	24	Chromium	25	Manganese	26	Iron	27	Cobalt	28	Nickel	29	Copper	30	Zinc	31	Gallium	32	Germanium	33	Arsenic	34	Selenium	35	Bromine	36	Kr	37	krypton	39.95					
4	potassium	39.098	4	calcium	40.078	4	lithium	6.94	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr	37	krypton	39.95

label fontdefault: `\small\bfseries`

Sets the label font.

\pgfPT[Z list={1,...,36},label font=\itshape]

Periodic Table of Elements																																											
1	H	2	He	3	Li	4	Be	5	B	6	C	7	N	8	O	9	F																										
1	hydrogen	1.008	2	lithium	6.94	3	beryllium	9.0122	5	boron	10.81	6	carbon	12.011	7	nitrogen	14.007	18	helium	4.0026																							
11	Na	12	Mg	13	Al	14	Si	15	P	16	S	17	Cl	18	Ne	19	Ar	20	Neon	20.18																							
3	sodium	22.99	4	magnesium	24.305	4	potassium	39.098	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr	37	krypton	39.95
19	Ca	20	Ca	21	Scandium	22	Titanium	23	Vanadium	24	Chromium	25	Manganese	26	Iron	27	Cobalt	28	Nickel	29	Copper	30	Zinc	31	Gallium	32	Germanium	33	Arsenic	34	Selenium	35	Bromine	36	Kr	37	krypton	39.95					
4	potassium	39.098	4	calcium	40.078	4	lithium	6.94	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr	37	krypton	39.95

perdefault: `{gr=true,c=red!50!black,f=\small\bfseries}`Pseudo style to set the keys: show **group numbers**, period label **color** and/or label **font**. None of the keys – gr, c and f – are mandatory. The key **show period numbers** is set to **true**.USAGE: `per={gr=<true|false>,c=<color>,f=}`

\pgfPT[Z list={1,...,36},per={gr=false,c=green!50!black}]

Periodic Table of Elements																																											
1	H	2	He	3	Li	4	Be	5	B	6	C	7	N	8	O	9	F																										
1	hydrogen	1.008	2	lithium	6.94	3	beryllium	9.0122	5	boron	10.81	6	carbon	12.011	7	nitrogen	14.007	18	helium	4.0026																							
11	Na	12	Mg	13	Al	14	Si	15	P	16	S	17	Cl	18	Ne	19	Ar	20	Neon	20.18																							
3	sodium	22.99	4	magnesium	24.305	4	potassium	39.098	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr	37	krypton	39.95
19	Ca	20	Ca	21	Scandium	22	Titanium	23	Vanadium	24	Chromium	25	Manganese	26	Iron	27	Cobalt	28	Nickel	29	Copper	30	Zinc	31	Gallium	32	Germanium	33	Arsenic	34	Selenium	35	Bromine	36	Kr	37	krypton	39.95					
4	potassium	39.098	4	calcium	40.078	4	lithium	6.94	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr	37	krypton	39.95

grdefault: `{per=true,c=blue!50!black,f=\small\bfseries}`Pseudo style to set the keys: show **period numbers**, group label **color** and/or label **font**. None of the keys – per, c and f – are mandatory. The key **show group numbers** is set to **true**.USAGE: `gr={per=<true|false>,c=<color>,f=}`

```
\pgfPT[Z list={1,...,36},gr={per=false,c=green!50!black}]
```

Periodic Table of Elements

1	H hydrogen 1.008	2	He helium 4.0026
3	Li lithium 6.94	4	Be beryllium 9.0122
5	Mg magnesium 24.305	6	Ca calcium 40.078
7	Sc scandium 44.958	8	Ti titanium 47.867
9	V vanadium 50.942	10	Cr chromium 51.996
11	Mn manganese 54.938	12	Fe iron 55.845
13	Co cobalt 58.933	14	Ni nickel 58.693
15	Cu copper 63.546	16	Zn zinc 65.38
17	Ga gallium 69.723	18	Ge germanium 72.63
19	K potassium 39.098	20	As arsenic 74.922
21	Ca calcium 40.078	22	Se selenium 78.971
23	Sc scandium 44.958	24	Br bromine 79.904
25	Ti titanium 47.867	26	Kr krypton 83.798
27	V vanadium 50.942	28	Ar argon 39.95
29	Cr chromium 51.996	30	Cl chlorine 35.495
31	Mn manganese 54.938	32	Ne neon 20.18
33	Fe iron 55.845	34	F fluorine 18.998
35	Co cobalt 58.933	36	O oxygen 15.999
37	Ni nickel 58.693	38	N nitrogen 14.007
39	Cu copper 63.546	40	P phosphorus 30.974
41	Zn zinc 65.38	42	S sulfur 32.06
43	Ga gallium 69.723	44	Cl chlorine 35.495
45	Ge germanium 72.63	46	Ar argon 39.95
47	As arsenic 74.922	48	Br bromine 79.904
49	Se selenium 78.971	50	Kr krypton 83.798
51	Br bromine 79.904	52	He helium 4.0026
53	Kr krypton 83.798	54	H hydrogen 1.008
55	He helium 4.0026	56	Li lithium 6.94
57	Be beryllium 9.0122	58	Sc scandium 44.958
59	Ti titanium 47.867	60	V vanadium 50.942
61	Cr chromium 51.996	62	Cr chromium 51.996
63	Mn manganese 54.938	64	Fe iron 55.845
65	Co cobalt 58.933	66	Ni nickel 58.693
67	Cu copper 63.546	68	Zn zinc 65.38
69	Ga gallium 69.723	70	Ge germanium 72.63
71	As arsenic 74.922	72	As arsenic 74.922
73	Se selenium 78.971	74	Se selenium 78.971
75	Br bromine 79.904	76	Br bromine 79.904
77	Kr krypton 83.798	78	Kr krypton 83.798
79	He helium 4.0026	80	He helium 4.0026

per+gr

default: `{pc=red!50!black,gc=blue!50!black,f=\small\bfseries}`

Pseudo style: use **c** to set both keys group label color and period label color with the same color; use **pc** to set period label color, **gc** to set group label color and/or **f** to set label **font**. None of the keys – c, pc, gc and f – are mandatory. The keys **show period numbers** and **show group numbers** are set to **true**.

USAGE: per+gr={c=<color>,pc=<color>,gc=<color>,f=}

```
\pgfPT[Z list={1,...,36},per+gr={c=green!50!black,f=\fontfamily{frc}\selectfont\normalsize\bfseries}]
```

Periodic Table of Elements

1	H hydrogen 1.008	2	Ra CS Ra N Ar	13	B boron 10.81	14	C carbon 12.011	15	N nitrogen 14.07	16	O oxygen 15.999	17	F fluorine 18.998	18	
3	Li lithium 6.94	4	Be beryllium 9.0122	5	5	6	7	8	9	10	11	12	19		
2	Na sodium 22.99	Mg magnesium 24.305	3	4	5	6	7	8	9	10	11	12	20		
4	K potassium 39.098	Ca calcium 40.078	21	Sc scandium 44.956	Ti titanium 47.867	V vanadium 50.944	Cr chromium 52.000	Mn manganese 54.938	Fe iron 55.845	Co cobalt 58.932	Ni nickel 58.693	Zn zinc 65.39	Ge germanium 69.726	As arsenic 74.922	Se selenium 78.073
5	Br bromine 79.904	Kr krypton 83.799	36	37	38	39	40	41	42	43	44	45	46	47	

→ **Blocks and Families**

show blocks

default: *false*

When set to **true** the blocks **s**, **p**, **d** and **f** are drawn overlaying the Periodic Table and their labels are shown. Note that blocks are only shown when the **Z list** contains, at least, all elements of blocks **s**, **p** and **d**.

```
\p{pfPT[Z |list={1,...,36},show blocks=true,show title=false]}
```

1	H	He
hydrogen	1.008	helium
2	Be	Ne
boron	9.0122	neon
3	Mg	Ar
magnesium	24.305	argon
4	K	Br
potassium	39.09	bromine
5	Ca	Kr
calcium	40.08	krypton
6	Sc	Cs
scandium	45.0	cesium
7	Ti	Ra
titanium	47.867	radioactive
8	V	Zr
vanadium	50.941	zirconium
9	Cr	Nb
chromium	52.00	niobium
10	Mn	Ta
manganese	54.938	tautungsten
11	Fe	W
iron	55.85	tin
12	Co	Re
cobalt	58.93	rhenium
13	Ni	Pt
nickel	58.69	platimum
14	Cu	Ir
copper	63.55	iridium
15	Zn	Os
zinc	65.40	osmium
16	Ga	Rh
gallium	69.72	rhodium
17	Ge	Pd
germanium	72.61	palladium
18	As	Ag
arsenic	74.94	silver
19	Se	Sn
selenium	78.96	tin
20	Br	Bi
bromine	80.00	bismuth
21	Tl	Pb
tellurium	121.76	lead
22	V	Bi
vanadium	121.76	bismuth
23	Cr	Te
chromium	121.76	tellurium
24	Mn	At
manganese	121.76	astatine
25	Fe	Ra
iron	121.76	radioactive
26	Co	Zr
cobalt	121.76	zirconium
27	Ni	Nb
nickel	121.76	niobium
28	Cu	Ta
copper	121.76	tautungsten
29	Zn	W
zinc	121.76	tin
30	Ga	Re
gallium	121.76	rhenium
31	Ge	Pt
germanium	121.76	platimum
32	As	Ir
arsenic	121.76	iridium
33	Se	Os
selenium	121.76	osmium
34	Br	Pd
bromine	121.76	palladium
35	Kr	Ag
krypton	121.76	silver

\pgfPT[show blocks,show title=false]

A standard periodic table with colored blocks for s-block, d-block, and p-block elements. A legend in the top right corner defines the symbols: Z=Atomic Number, Ra=Radioactive, CS=Chemical Symbol, N=Name, and Ar=Relative Atomic Mass.

\pgfPT[Z list=spd,show blocks,show title=false]

A periodic table where only the s-block, d-block, and p-block elements are shown in their respective colored blocks. All other elements are removed.

\pgfPT[Z list=spd,show blocks,show title=false,IUPAC=false]

A periodic table where only the s-block, d-block, and p-block elements are shown in their respective colored blocks. The IUPAC column headers are removed.

blocks fontdefault: `\small\bfseries`

Sets the font used in the block labels.

```
\pgfPT[Z list=spd,show blocks,show title=false,blocks
font=\small\bfseries\fontfamily{ptm}\selectfont]
```

s block color

default: RGB: 255,231,132

Sets the block s color.

s block font color

default: {}

Sets the s block label font color. If no color is provided, the **s block color** will be used as the font color.**s block line width**

default: 0.8pt

Sets the width of the line surrounding the s block.

p block color

default: RGB: 170,255,172

Sets the block p color.

p block font color

default: {}

Sets the p block label font color. If no color is provided, the **p block color** will be used as the font color.**p block line width**

default: 0.8pt

Sets the width of the line surrounding the p block.

d block color

default: RGB: 255,187,187

Sets the block d color.

d block font color

default: {}

Sets the d block label font color. If no color is provided, the **d block color** will be used as the font color.**d block line width**

default: 0.8pt

Sets the width of the line surrounding the d block.

f block color

default: RGB: 177,203,228

Sets the block f color.

f block font color

default: {}

Sets the f block label font color. If no color is provided, the **f block color** will be used as the font color.

f block line width

default: 0.8pt

Sets the width of the line surrounding the f block.

blocks font color

default: black

Style to set a common color for the labels of s, p, d and f blocks. The key `show blocks` is set to true.

\pgfPT[blocks font color,show title=false]

blocks line width

default: 0.8pt

Style to set a common width of the lines surrounding the s, p, d and f blocks. The key `show blocks` is set to true.

\pgfPT[blocks line width=1.5pt]

blocks default: `{sc=blocos,pc=blocop,dc=blocod,fc=blocof,lw=.8pt,font=\small\bfseries}`

Pseudo style to set the keys: block **s** color, block **p** color, block **d** color, block **f** color, the common **line widths** of the blocks, the **s** block **line width**, the **p** block **line width**, the **d** block **line width**, the **f** block **line width**, blocks **font**, **s** block **font color**, **p** block **font color**, **d** block **font color** and/or **f** block **font color**. None of the keys – sc, pc, dc, fc, lw, slw, plw, dlw, flw, sfc, pfc, dfc and ffc – are mandatory. The key **show blocks** is set to true.

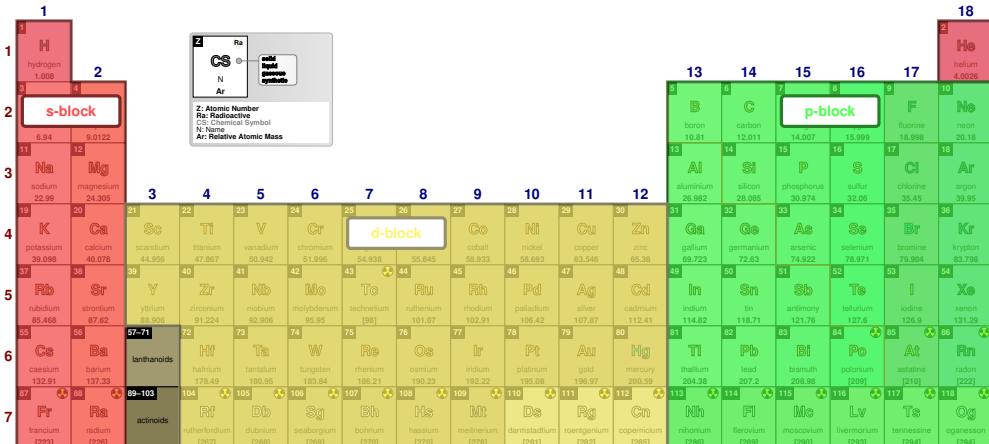
NOTE:

The colors provided to the color keys of the blocks – **sc**, **pc**, **dc** and **fc** – could be any defined color via the command `\definecolor` or by *mixing* colors, using, for instance, the syntax `color1!value!color2` or `color1!value`, as explained in the `xcolor` package documentation.

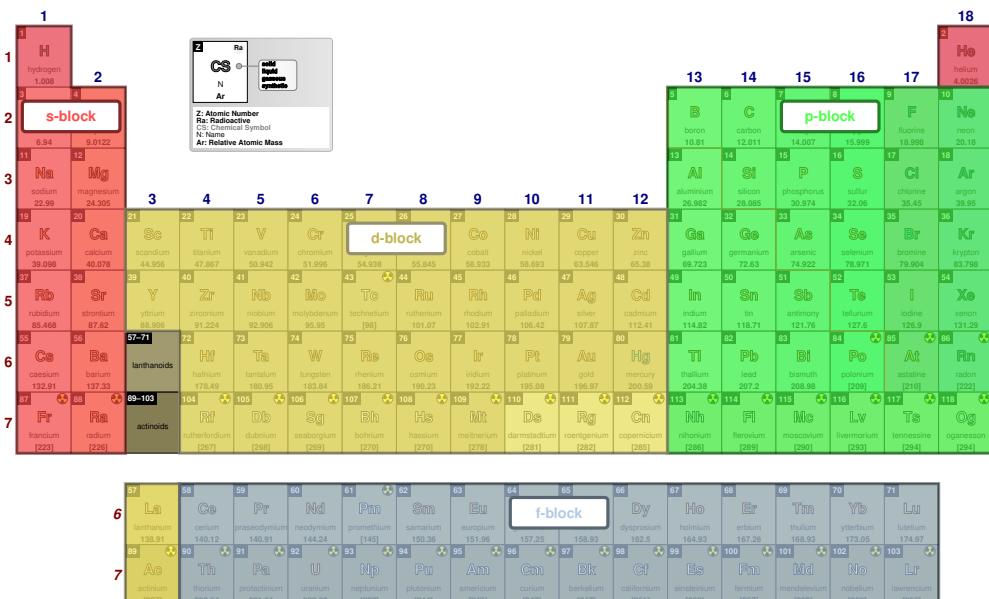
USAGE:

```
blocks={sc=<color>,pc=<color>,dc=<color>,fc=<color>,lw=<length>,
slw=<length>,plw=<length>,dlw=<length>,flw=<length>,f=⟨font commands⟩,
sfc=<color>,pfc=<color>,dfc=<color>,ffc=<color>})
```

```
\pgfPT[blocks={sc=red!70!white,pc=green!70!white,dc=yellow!70!white,lw=2pt},
show title=false,Z list=spd]
```



```
\pgfPT[blocks={sc=red!70!white,pc=green!70!white,dc=yellow!70!white,
dfc=yellow!70!black,lw=2pt},show title=false]
```



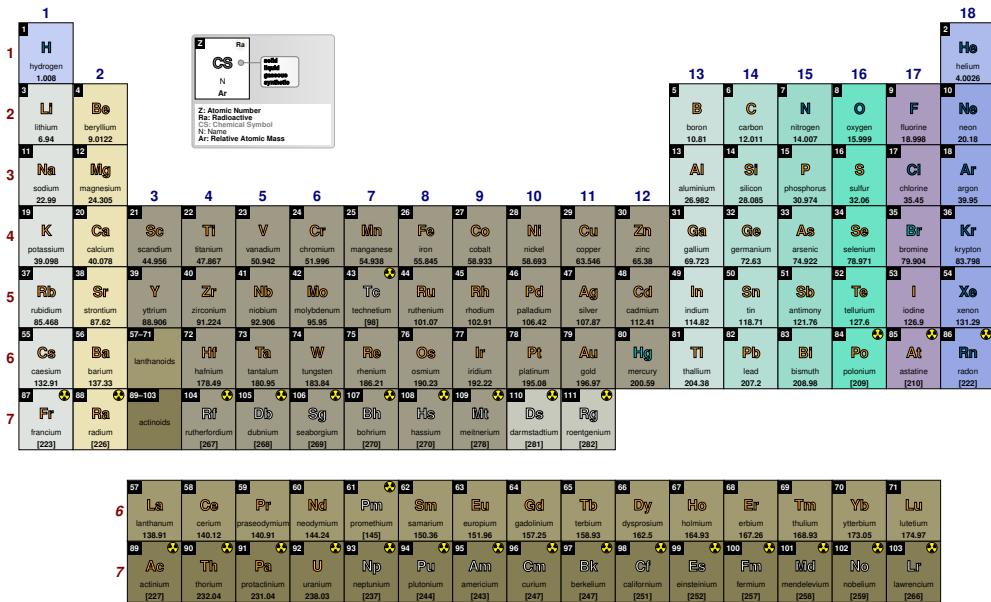
show families

default: false

When set to true the main families – representative elements, transition metals and internal transition metals – are drawn overlaying the Periodic Table and their labels are shown. Note that families are only shown when the Z list contains, at least, all elements of blocks s, p and d.

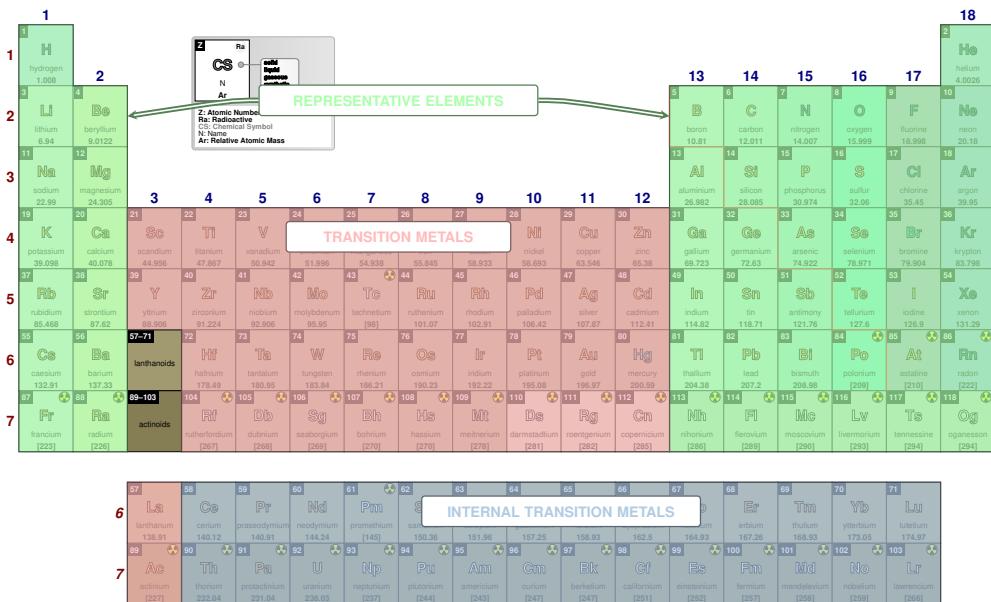
\pgfPT[Z list={1,...,111},show families]

Periodic Table of Elements



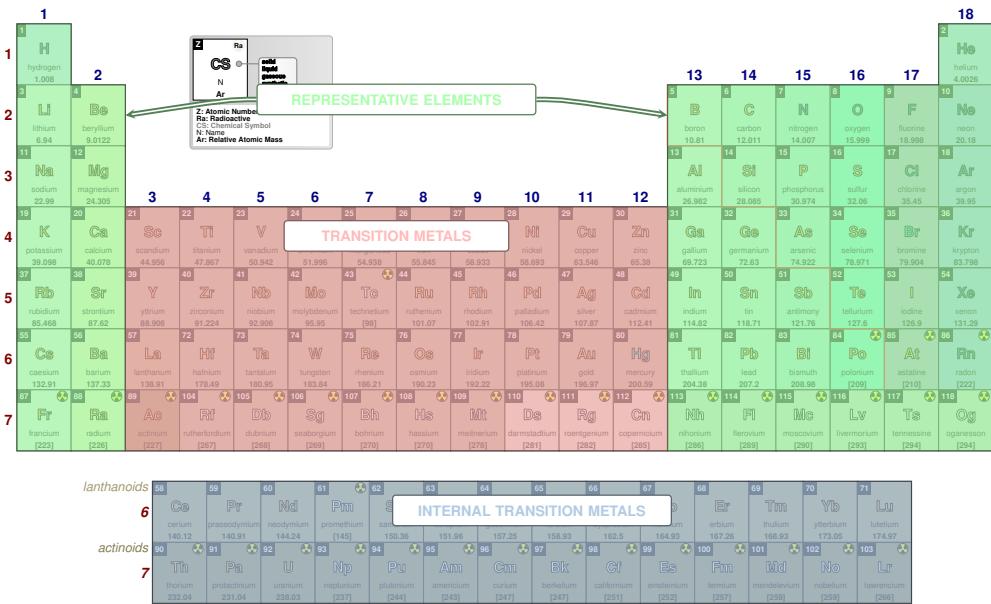
\pgfPT[show families]

Periodic Table of Elements



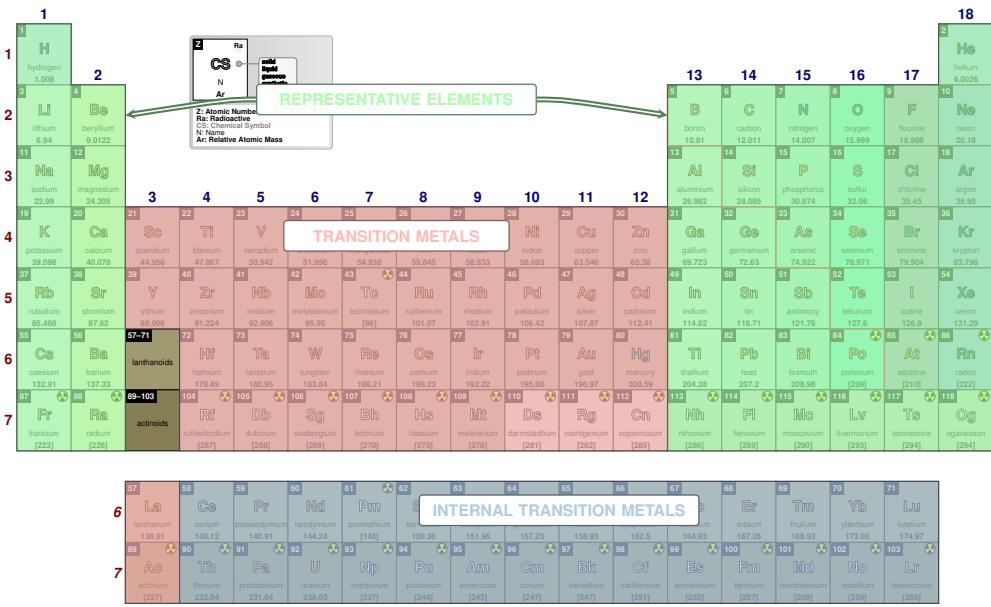
INTERNAL TRANSITION METALS

\pgfPT[show families,show title=false,IUPAC=false]

**families font**default: `\small\bfseries`

Sets the font used in the family labels.

\pgfPT[show families,show title=false,families font=\normalsize]

**r family color**default: `green` RGB: 170,255,172Sets the representative elements *block* color.**r family font color**

default: {}

Sets the representative elements *block* label font color. If no color is provided, the **r family color** will be used as the font color.

r family line widthdefault: *0.8pt*Sets the width of the line surrounding the representative elements *block*.**tm family color**

default: RGB: 255,187,187

Sets the transition metals *block* color.**tm family font color**

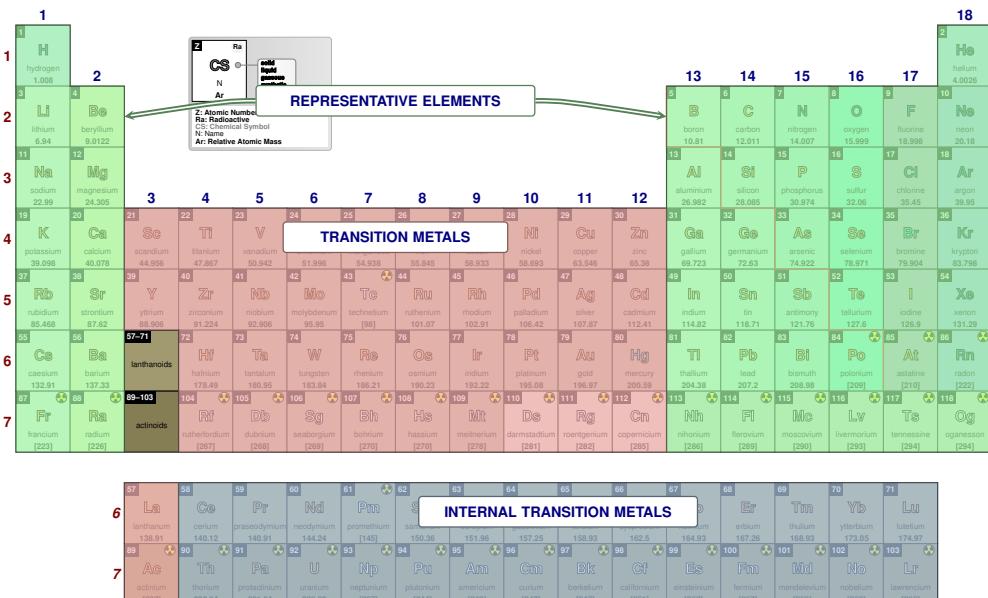
default: {}

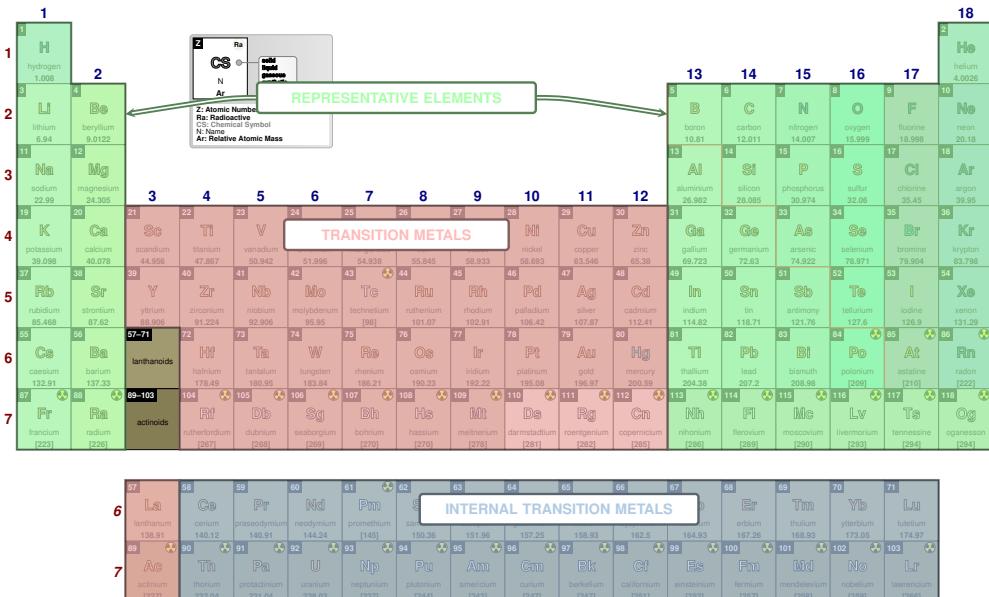
Sets the transition metals *block* label font color. If no color is provided, the **tm family color** will be used as the font color.**tm family line width**default: *0.8pt*Sets the width of the line surrounding the transition metals *block*.**itm family color**

default: RGB: 177,203,228

Sets the internal transition metals *block* color.**itm family font color**

default: {}

Sets the internal transition metals *block* label font color. If no color is provided, the **itm family color** will be used as the font color.**itm family line width**default: *0.8pt*Sets the width of the line surrounding the internal transition metals *block*.**families font color**default: *black*Style to set a common color for the labels of representative elements, transition metals and internal transition metals *blocks*. The key **show blocks** is set to **true**.\pgfPT[**show title=false,families font color=blue!50!black**]**families line width**default: *0.8pt*Style to set a common width of the lines surrounding the representative elements, transition metals and internal transition metals *blocks*. The key **show families** is set to **true**.\pgfPT[**show title=false,show families,families line width=1.5pt**]

**families**

default: {rc=blocor,tc=blocot,ic=blocoi,lw=.8pt,f=\small\bfseries}

Pseudo style to set the keys: **r** family color, **tm** family color, **itm** family color, the common **line width** of the families, the **r** family **line width**, the **tm** family **line width**, the **itm** family **line width**, the families **font**, **r** family **font color**, **tm** family **font color** and/or **itm** family **font color**. None of the keys – rc, tc, ic, lw, rlw, tlw, ilw, f, rfc, tfc and ifc – are mandatory. The key **show families** is set to **true**.

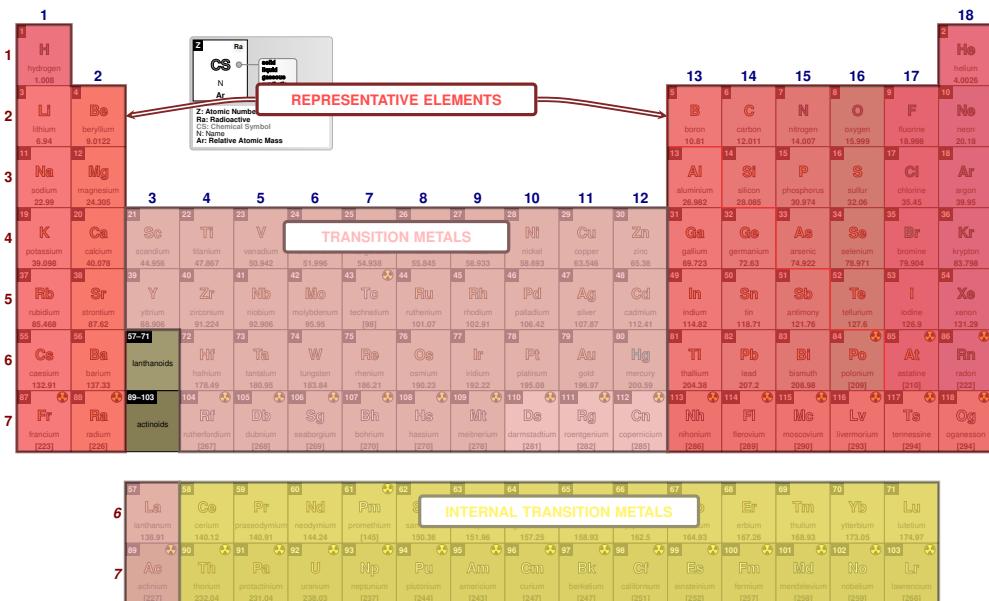
NOTE:

The colors provided to the color keys of the families could be any defined color via the command \definecolor or by *mixing* colors, using, for instance, the syntax color1!value!color2, as explained in the **xcolor** package documentation.

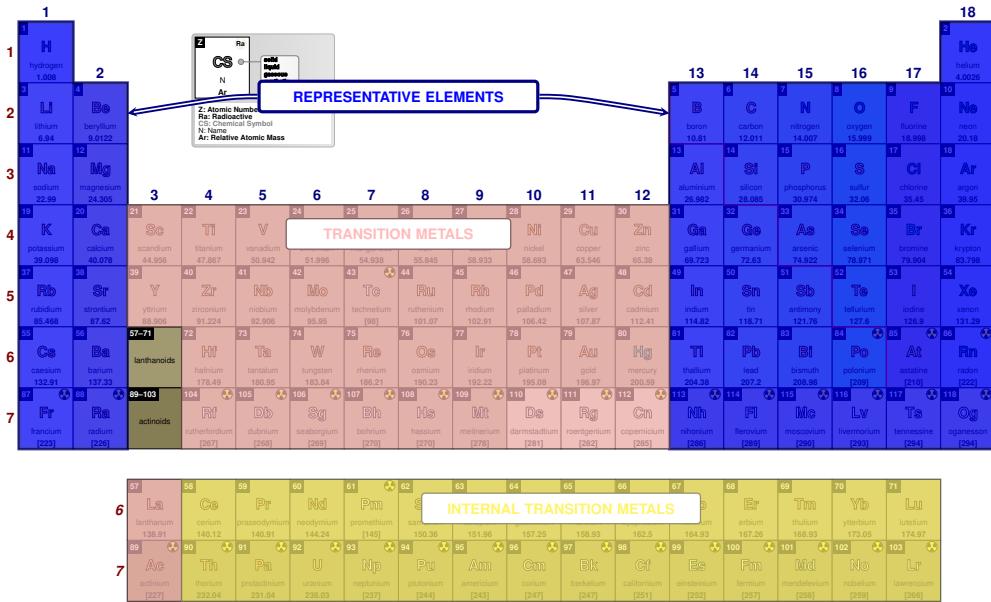
USAGE:

```
families={rc=<color>,tc=<color>,ic=<color>,lw=<length>,rlw=<length>,
tlw=<length>,ilw=<length>,f=<font commands>,rfc=<color>,
tfc=<color>,ifc=<color>}
```

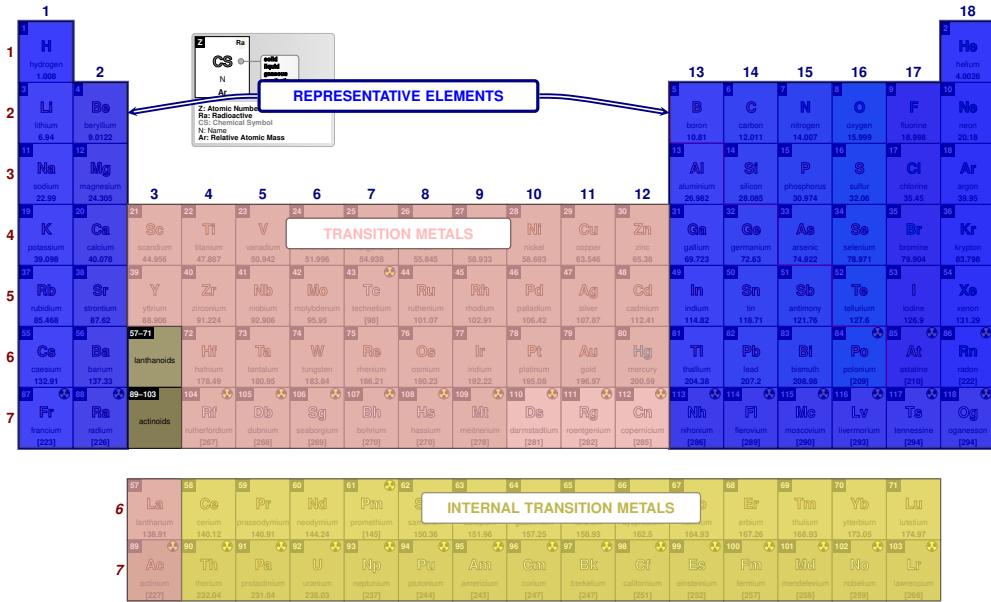
```
\pgfPT[families={rc=red!70!white,ic=yellow!70!white,lw=2pt},show title=false]
```



\pgfPT[families={rc=blue,ic=yellow!70!white,rlw=2pt},show title=false]



\pgfPT[families={rc=blue,ic=yellow!70!white,rlw=2pt,ifc=yellow!70!black},show title=false]



► Periodic variations

show periodic variations

default: *false*

When set to **true** the periodic variations – for atomic radius, ionization energy and/or electron affinity – are shown with two *arrows*. One horizontal arrow is placed at the top of the Periodic Table for the variation over the period and the other vertically to the left of the Periodic Table for the variation over the group.

NOTE:

The variations are only shown when the *base cell* of the Periodic Table contains the atomic radius, the ionization energy and/or the electron affinity. If none of them is present setting this key (**show periodic variations**) has no effect.

\pgfPTstyle[Z list=spd,show title=false]

\pgfPT[show periodic variations]

1	H	2	He
1	hydrogen 1.008	2	helium 4.0026
3	Li	4	Be
2	lithium 6.94	3	beryllium 10.0122
11	Na	12	Mg
3	sodium 22.99	4	magnesium 24.305
19	K	20	Ca
4	potassium 39.098	5	calcium 40.078
37	Rb	38	Sc
5	rubidium 85.468	39	scandium 44.956
55	Cs	56	Ti
6	caesium 132.91	57	titanium 47.867
87	Fr	88	V
7	francium [223]	89-103	Cr
		104	Mn
		105	Fe
		106	Co
		107	Ni
		108	Cu
		109	Zn
		110	Ga
		111	Ge
		112	As
		113	Se
		114	Br
		115	Kr
		116	
		117	
		118	

Z: Atomic Number
Ra: Radioactive
Cs: Chemical Symbol
N: Name
Ar: Relative Atomic Mass

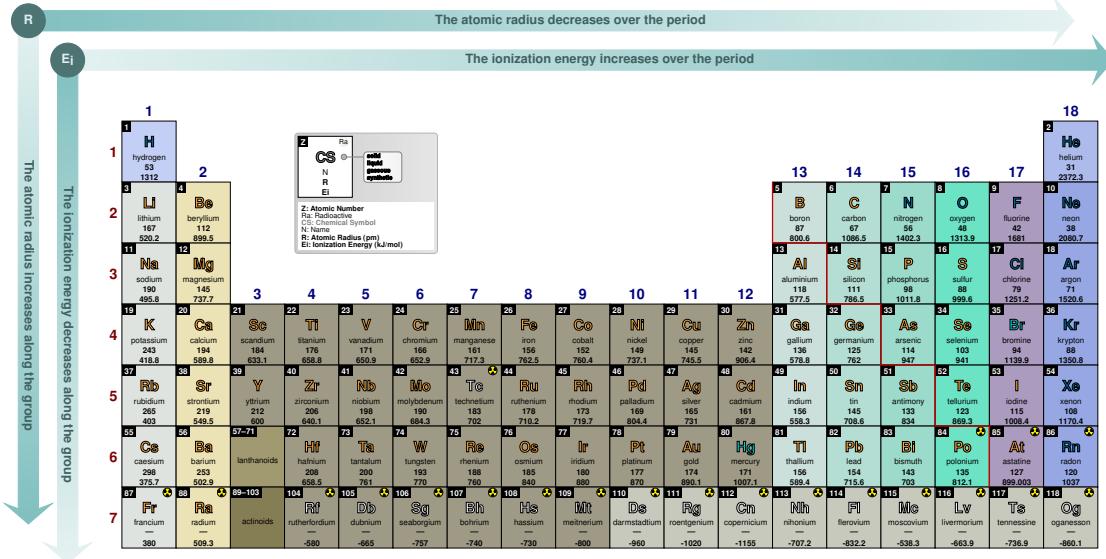
\pgfPT[show periodic variations,cell style=pgfPTR]

The atomic radius decreases over the period

1	H	2	He
1	hydrogen 53	2	helium 31
3	Li	4	Be
2	lithium 167	3	beryllium 112
11	Na	12	Mg
3	sodium 190	4	magnesium 145
19	K	20	Ca
4	potassium 243	5	calcium 194
37	Rb	38	Sc
5	rubidium 265	39	scandium 184
55	Cs	56	Ti
6	caesium 293	57	titanium 176
87	Fr	88	V
7	francium —	89-103	Cr
		104	Mn
		105	Fe
		106	Co
		107	Ni
		108	Cu
		109	Zn
		110	Ga
		111	Ge
		112	As
		113	Se
		114	Br
		115	Kr
		116	
		117	
		118	

Z: Atomic Number
Ra: Radioactive
Cs: Chemical Symbol
N: Name
Ar: Atomic Radius (pm)

\pgfPT[show periodic variations,cell style=pgfPTREI]

**varR color**

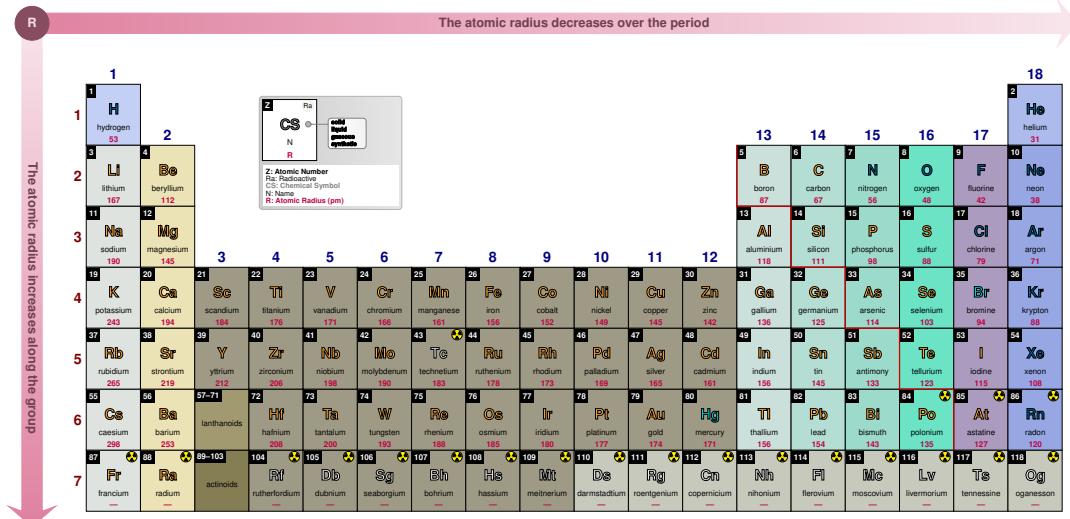
default: RGB: 128,191,191

Sets the color used in the filling of the arrows for the atomic radius variations.

NOTE:

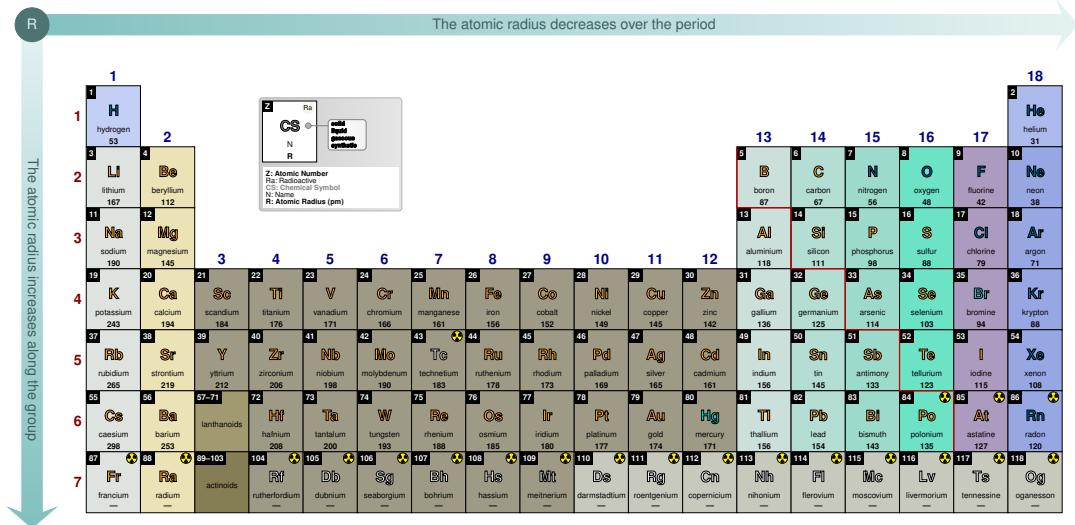
The color provided to **varR color** could be any defined color via the command `\definecolor` or by *mixing* colors, using, for instance, the syntax `color1!value!color2`, as explained in the **xcolor** package documentation.

\pgfPT[show periodic variations,cell style=pgfPTR,varR color=teal,R color=purple]

**varR font**default: `\footnotesize\bfseries`

Sets the font for the text displayed inside the arrow, describing the variation of the atomic radius.

\pgfPT[**show periodic variations,cell style=pgfPTR,varR font=\small\itshape**]



varR font color

default: (value of varR color)!50!black

Sets the color of the text showing the atomic radius variations displayed inside the corresponding arrows.

See the note in **varR color**.

varEi color

default: RGB: 128,191,191

Sets the color used in the filling of the arrows for the ionization energy variations.

See the note in **varR color**.

varEi font

default: \footnotesize\bfseries

Sets the font for the text displayed inside the arrow, describing the variation of the ionization energy.

varEi font color

default: (value of varEi color)!50!black

Sets the color of the text showing the ionization energy variations displayed inside the corresponding arrows.

See the note in **varR color**.

vareaff color

default: RGB: 128,191,191

Sets the color used in the filling of the arrows for the electron affinity variations.

See the note in **varR color**.

vareaff font

default: \footnotesize\bfseries

Sets the font for the text displayed inside the arrow, describing the variation of the electron affinity.

vareaff font color

default: (value of vareaff color)!50!black

Sets the color of the text showing the electron affinity variations displayed inside the corresponding arrows.

See the note in **varR color**.

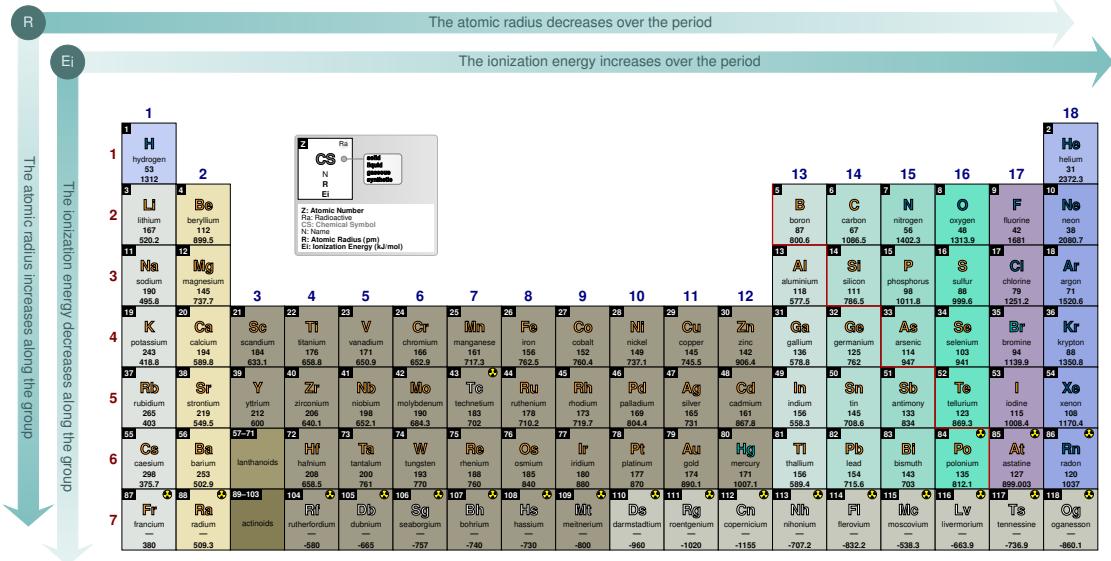
var font

default: \footnotesize\bfseries

Style to set a common font for the variations along the Periodic Table.

Setting **var font=** is equivalent to setting **{varR font=, varEi font=, vareaff font=}**.

\pgfPT[show periodic variations,cell style=pgfPTREi,var font=\small\itshape]



var color

default: RGB: 128,191,191

Style to set a common color for the variations along the Periodic Table.

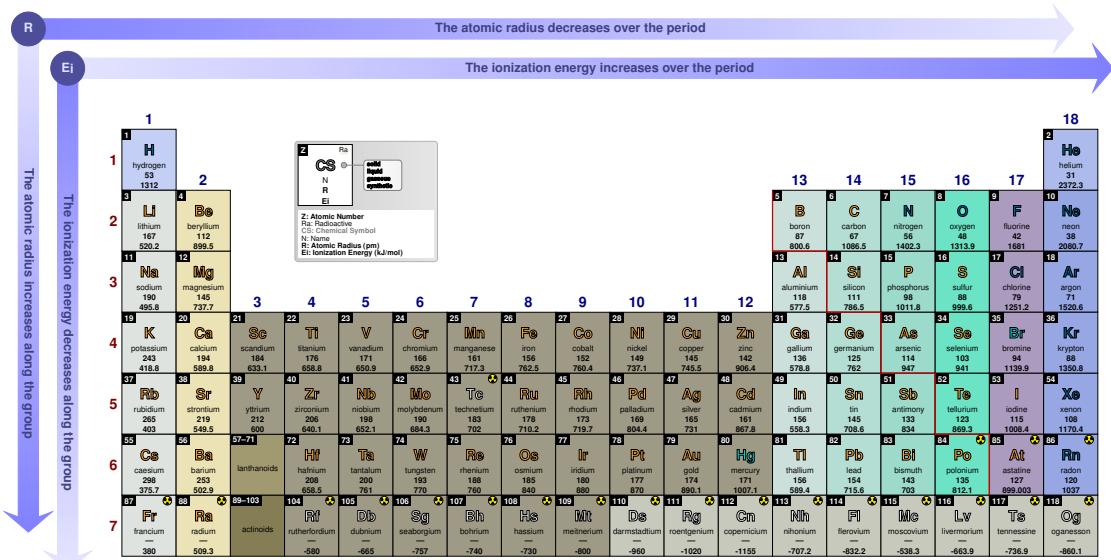
Setting `var color=<color>` is equivalent to setting `{varR color=<color>},varEi color=<color>, varEaff color=<color>}`.

NOTE:

The color provided to `var color` could be any defined color via the command `\definecolor` or by mixing colors, using, for instance, the syntax `color1!value!color2`, as explained in the `xcolor` package documentation.

Keep in mind that setting the variations colors also changes the default text colors for them.

\pgfPT[show periodic variations,cell style=pgfPTREi,var color=blue!50!white]

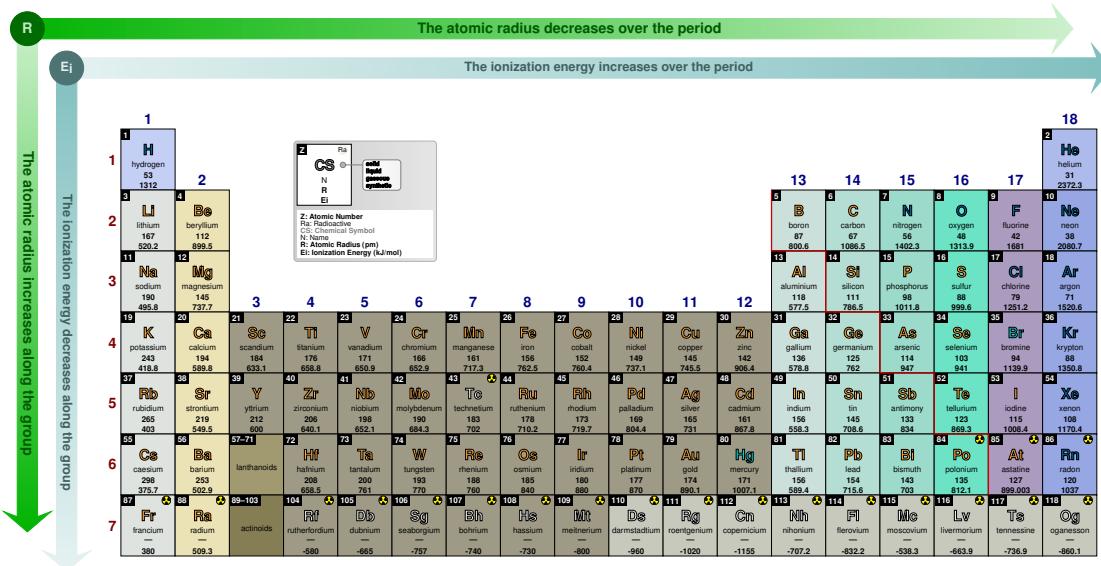


varRdefault: `{c=colorvariations,f=\footnotesize\bfseries}`*Pseudo style* to set the keys: varR **color**, varR **font** and/or varR **font color**. None of the keys – c, f and fc – are mandatory.**NOTE:**

The color provided to varR **color** could be any defined color via the command \definecolor or by *mixing* colors, using, for instance, the syntax `color1!value!color2`, as explained in the [xcolor](#) package documentation.

USAGE: `varR={c=<color>,f=,fc=<color>}`

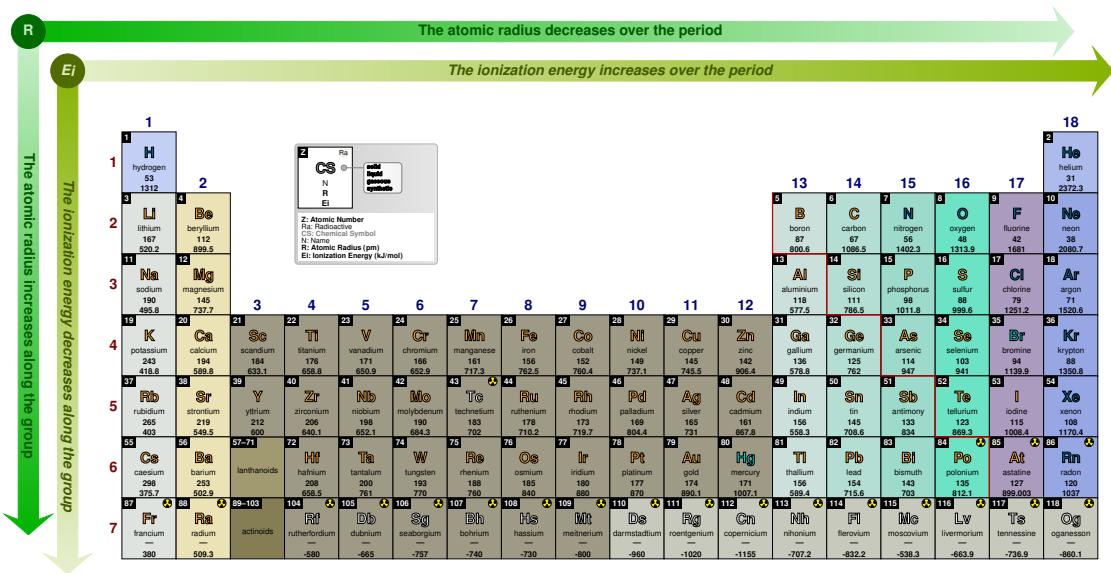
```
\pgfPT[show periodic variations,cell style=pgfPTREi,
varR={c=green!70!black,f=\small\bfseries}]
```

**varEi**default: `{c=colorvariations,f=\footnotesize\bfseries}`*Pseudo style* to set the keys: varEi **color**, varEi **font** and/or varEi **font color**. None of the keys – c, f and fc – are mandatory.**NOTE:**

The color provided to varEi **color** could be any defined color via the command \definecolor or by *mixing* colors, using, for instance, the syntax `color1!value!color2`, as explained in the [xcolor](#) package documentation.

USAGE: `varEi={c=<color>,f=,fc=<color>}`

```
\pgfPT[show periodic variations,cell style=pgfPTREi,
varR={c=green!70!black,f=\small\bfseries},
varEi={c=lime!70!black,f=\small\bfseries}]
```

**vareaff**default: `{c=colorvariations,f=\footnotesize\bfseries}`

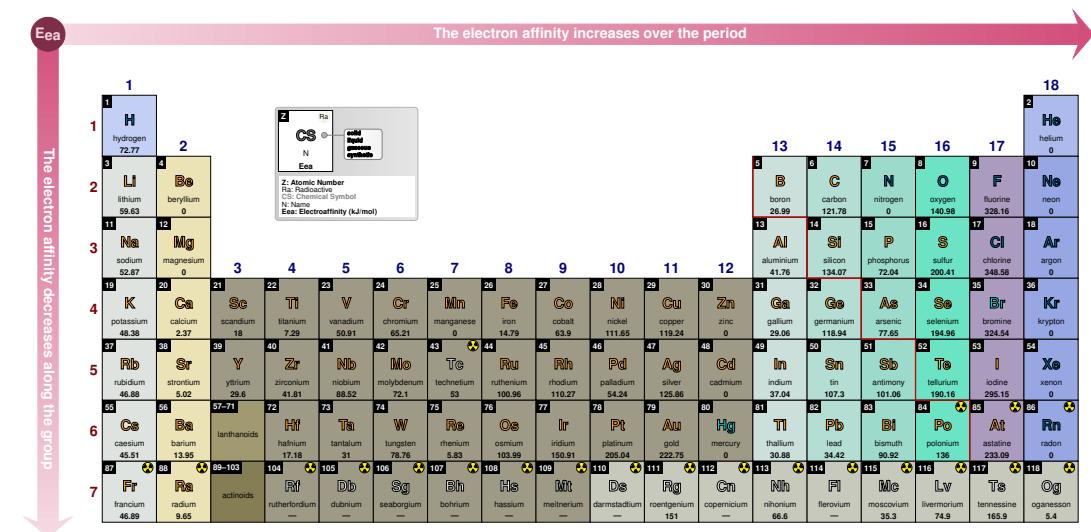
Pseudo style to set the keys: vareaff **color**, vareaff **font** and/or vareaff **font color**. None of the keys – c, f and fc – are mandatory.

NOTE:

The color provided to **vareaff color** could be any defined color via the command `\definecolor` or by *mixing* colors, using, for instance, the syntax `color1!value!color2`, as explained in the `xcolor` package documentation.

USAGE: `vareaff={c=<color>,f=,fc=<color>}`

`\pgfPT[show periodic variations,cell style=pgfPTeaff,
vareaff={c=purple!70!white,f=\small\bfseries,fc=white}]`



`\pgfPTresetstyle`

► Dark mode

dark mode

default: no value

Style to change the overall appearance of the Periodic Table to a dark mode suitable for on-screen viewing.

This style sets the following keys with the values:

```
back color scheme=solid, back color=black!80, cell line color=black!10, CS outline color=white, cell color=white,
Z backcolor=black!30, Z color=black, background={fill=black}, varR font color=black!20, varEi font color=black!20,
vareaff font color=black!20, per+gr={c=white}, title color=white, other languages color=black!40,
legend={bc=black!70,radio=white,CS=white,Z=white,pins style={draw=white,right color=black!75,
left color=black!60,line width=.05pt,rounded corners=2pt},extra style={draw=white,fill=black!70,line width=.05pt,
rounded corners=2pt},box={left color=black!70,right color=black!40,draw=white}}
```

\pgfPT[**dark mode**]

Periodic Table of Elements																		
1	1 H hydrogen 1.008	2	3 Li lithium 6.94	4 Be beryllium 9.0122	5	6	7	8	9	10	11	12	13	14	15	16	17	18
2	3 Ra radioactive isotopes	4 Cs cesium 39.098	5 Sc scandium 44.956	6 Ti titanium 47.867	7 V vanadium 50.942	8 Cr chromium 51.996	9 Mn manganese 54.938	10 Fe iron 55.845	11 Co cobalt 58.933	12 Ni nickel 58.693	13 Cu copper 63.546	14 Zn zinc 65.38	15 Ga gallium 69.723	16 Ge germanium 72.63	17 As arsenic 74.922	18 Se selenium 78.971	19 Ne neon 20.18	2 He helium 4.0026
3	4 Na sodium 22.99	5 Mg magnesium 24.305	6	7	8	9	10	11	12	13	14	15	16	17	18	19 Ar argon 39.95	20 Kr krypton 83.798	
4	5 K potassium 39.098	6 Ca calcium 40.078	7 Sc scandium 44.956	8 Ti titanium 47.867	9 V vanadium 50.942	10 Cr chromium 51.996	11 Mn manganese 54.938	12 Fe iron 55.845	13 Co cobalt 58.933	14 Ni nickel 58.693	15 Cu copper 63.546	16 Zn zinc 65.38	17 Ga gallium 69.723	18 Ge germanium 72.63	19 As arsenic 74.922	20 Se selenium 78.971	21 Br bromine 80.904	22 Rn radon 220
5	6 Rb rubidium 85.468	7 Sr strontium 87.62	8 Y yttrium 88.906	9 Zr zirconium 91.224	10 Nb niobium 92.906	11 Mo molybdenum 95.95	12 Tc technetium [96]	13 Ru ruthenium 101.07	14 Rh rhodium 102.91	15 Pd palladium 106.42	16 Ag silver 107.87	17 Cd cadmium 112.41	18 In indium 114.82	19 Sn antimony 116.71	20 Sb tellurium 121.76	21 Te iodine 127.6	22 I xenon 131.29	23 Xe xenon 131.29
6	7 Cs cesium 132.91	8 Ba barium 137.32	9 La lanthanoids 138.91	10 Hf hafnium 178.49	11 Ta tantalum 180.95	12 W tungsten 183.84	13 Re rhenium 186.21	14 Os osmium 190.23	15 Ir iridium 192.22	16 Pt platinum 195.08	17 Au gold 196.47	18 Hg mercury 200.50	19 Tl thallium 204.36	20 Pb lead 207.2	21 Bi bismuth 209.98	22 Po polonium 209	23 At astatine 210	24 Rn radon 220
7	8 Fr francium [223]	9 Rb radium [226]	10 Ac actinoids [227]	11 Th rutherfordium [267]	12 Db dubnium [268]	13 Sg seaborgium [269]	14 Bh bohrium [270]	15 Hs hassium [270]	16 Mt meitnerium [278]	17 Ds darmstadtium [281]	18 Rg roentgenium [282]	19 Cn copernicum [285]	20 Nh nihonium [286]	21 Fl florium [289]	22 Mc moscovium [290]	23 Lv livermoreum [293]	24 Ts ternesine [294]	25 Og oganeson [294]
6	7 La lanthanoids 138.91	8 Ce cerium 140.12	9 Pr praseodymium 140.91	10 Nd neodymium 144.24	11 Pm promethium [145]	12 Sm samarium 150.36	13 Eu europium 151.96	14 Gd gadolinium 157.25	15 Tb terbium 158.93	16 Dy dysprosium 162.5	17 Ho holmium 164.93	18 Er erbium 167.26	19 Tm thulium 168.93	20 Yb ytterbium 173.05	21 Lu lutetium 174.97	22 No nobelium 259	23 Md mendelevium [258]	24 Lr lawrencium [266]
7	8 Ac actinoids [227]	9 Th thorium 232.04	10 Pa protactinium 231.04	11 U uranium 238.03	12 Np neptunium [237]	13 Pu plutonium [244]	14 Am americium [245]	15 Cm curium [247]	16 Bk berkelium [247]	17 Cf californium [251]	18 Es einsteinium [252]	19 Fm fermium [257]	20 Md mendelevium [258]	21 No nobelium [259]	22 Lr lawrencium [266]	23 Rn radon [220]	24 Rn radon [220]	

► Exercise layout

The **keys** described in this section enable the *exercise layout* of the Periodic Table, i.e., in this mode the *structure* of the Periodic Table is drawn, but there are only a few contents available in the cells.

only cells

default: false

When set to **true** the Periodic Table is drawn with only the cells without any contents.

NOTE:

The following **keys** are also set: **back color scheme=solid**, **show title=false**, **show period numbers=false**, **show group numbers=false**, **show legend=false**, **show MNM line=false**

\pgfPT[only cells]

A large 10x10 grid of empty squares. In the top-left corner, there is a 3x3 cluster of squares that have been removed, leaving a gap. The rest of the grid is a continuous area of empty squares.

\pgfPT[Z list={1,...,54},only cells]

A large grid of 10 columns and 10 rows of empty boxes, designed for drawing or writing. The grid is bounded by thick black lines.

only cells plus Z

default: *false*

When set to **true** the Periodic Table is drawn with only the cells without any contents, except the atomic number (Z).

NOTE:

Note: The following keys are also set: back color scheme=solid, show title=false, show period numbers=false, show group numbers=false, show legend=false, show MNM line=false

\pgfPT[only cells plus Z]

1																									2
3	4																								
11	12																								
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36								
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54								
55	56	57-71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86								
87	88	89-103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118								
57	58	59	60	61	62	63	64	65	66	67	68	69	70	71											
89	90	91	92	93	94	95	96	97	98	99	100	101	102	103											

\pgfPT[only cells plus Z,IUPAC=false]

1																									2
3	4																								
11	12																								
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36								
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54								
55	56	57	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86								
87	88	89	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118								
58	59	60	61	62	63	64	65	66	67	68	69	70	71												
90	91	92	93	94	95	96	97	98	99	100	101	102	103												

only cells with periods and group numbersdefault: *false*

When set to **true** the Periodic Table is drawn with only the cells without any contents. The period and group numbers are shown.

NOTE:

The following keys are also set: **back color scheme=solid**, **show title=false**, **show legend=false**, **show MNM line=false**

\pgfPT[Z list={1,...,36},only cells with periods and group numbers]

1																	18
1	2																
2																	
3																	
4	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		

only cells with periods and group numbers plus Z

default: *false*

When set to **true** the Periodic Table is drawn with only the cells without any contents, except the atomic number (Z). The period and group numbers are shown.

NOTE:

NOTE: The following `keys` are also set: `back color scheme=solid`, `show title=false`, `show legend=false`, `show MNM line=false`

\pgfPT[Z list={1,...,36},only cells with periods and group numbers plus Z]

Z exercise list

default: {}

-Elements Sets the list of atomic numbers to display as letters instead of their chemical symbols.

NOTES

- ✓ When values are provided to the *Z exercise list* and none of the above *exercise layout* is set, the *exercise layout only cells* is used.
 - ✓ The line dots – ... – notation is not available in the *Z exercise list*, mainly to avoid *errors* on the desired list. For example `{1,...,4,8,...,16}` is expanded by the `\foreach` statement of *TiⁿKZ* to `{1,2,3,4,8,15}` instead of `{1,2,3,4,8,9,10,11,12,13,14,15,16}`. For achieving that purpose it must be typed `{1,...,4,8,9,...,16}`. Since the goal of *Z exercise list* is typing only a list of specific elements, it will often be easier to type element by element.

```
\pgfPT[Z exercise list={1,2,3,4,9,12,17,18,19,20,25,27,32,34,35,49,54,74,86,87},  
       cell size=3em,Z list={1.....36}]
```

A								B
C	D						E	
F							G	H
I	J			K	L		M	N O

\pgfPT[Z exercise list=\{1,2,3,4,9,12,17,18,19,20,25,27,32,34,35,49,54,74,86,87\},
cell size=3em,Z list=\{1,...,36\},only cells with periods and group numbers]

1	A	2																	18
2	C	D															E		
3	F		3	4	5	6	7	8	9	10	11	12					G	H	
4	I	J					K		L					M		N	O		

exercise list in capitals

default: *true*

When set to `true` the *letters* are typed in capitals, otherwise they are typed as lowercase letters.

```
\pgfPT[Z exercise list={1,2,3,4,9,12,17,18,19,20,25,27,32,34,35,49,54,74,86,87},  
       cell size=3em,Z list={1,...,36},exercise list in capitals=false]
```

a						b
c	d				e	
	f				g	h
i	j				m	n o
k		l				

exercise list color

default: *black*

Sets the color of the displayed *letters* in the *exercise layout*.

```
\pgfPT[Z exercise list={1,2,3,4,9,12,17,18,19,20,25,27,32,34,35,49,54,74,86,87},  
       cell size=3em,Z list={1,...,36}, exercise list color=blue!50!black]
```

exercise list font

default: \bfseries\large

Sets the font of the displayed *letters* in the exercise layout.

\pgfPT[Z exercise list=\{1,2,3,4,9,12,17,18,19,20,25,27,32,34,35,49,54,74,86,87\},
cell size=3em,Z list=\{1,...,36\}, exercise list font=\fontfamily{fmm}\selectfont]

\mathcal{A}										\mathcal{B}
\mathcal{C}	\mathcal{D}								\mathcal{E}	
	\mathcal{F}								\mathcal{G}	\mathcal{H}
\mathcal{I}	\mathcal{J}				\mathcal{K}	\mathcal{L}			\mathcal{N}	\mathcal{O}
								\mathcal{M}		

cells+Z*no value*Style to set the key **only cells plus Z** to true.\pgfPT[**cells+Z**]

The top grid displays the periodic table with element numbers 1 through 118. The first two rows (1 and 2) are single cells. Rows 3 through 6 contain two-cell spans. Row 7 contains a three-cell span. Rows 8 through 18 are standard one-cell spans. The bottom grid displays elements 57 through 103 in a similar grid format.

cells+p+g*no value*Style to set the key **only cells with periods and group numbers** to true.\pgfPT[**cells+p+g**]

The top grid displays the periodic table with element numbers 1 through 118. The first two rows have red numbers 1 and 2. Rows 3 through 6 have blue numbers 3 through 12. Rows 7 through 18 have black numbers 13 through 18. Red numbers 6 and 7 are also present in the bottom section.

cells+p+g+Z*no value*

Style to set the key only cells with periods and group numbers plus Z to true.

\pgfPT[**cells+p+g+Z**]

exnocaps*no value*

Style to set the key exercise list in capitals to false.

\pgfPT[Z exercise list={1,2,3,4,9,12,17,18,19,20,25,27,32,34,35,49,54,74,86,87},
cell size=3em,Z list={1,...,36},exnocaps]

exColordefault: *black*

Style to set the key exercise list color.

\pgfPT[Z exercise list={1,2,3,4,9,12,17,18,19,20,25,27,32,34,35,49,54,74,86,87},
cell size=3em,Z list={1,...,36},exColor=red!50!black]

exFont

default: \bfseries\large

Style to set the key exercise list font.

```
\pgfPT[Z exercise list={1,2,3,4,9,12,17,18,19,20,25,27,32,34,35,49,54,74,86,87},  
       cell size=3em,Z list={1,...,36},exFont=\Large]
```

A										B
C	D								E	
	F								G	H
I	J				K	L			M	N O

ex

default: `{caps=true,c=black,f=\bfseries\large}`

*Pseudo style to set the keys: exercise list in **capital**s, exercise list **color** and/or exercise list **font**. None of the **keys** – caps, c and f – are mandatory.*

USAGE: ex={caps=<true|false>,c=<color>,f=}

```
\pgfPT[Z exercise list={1,2,3,4,9,12,17,18,19,20,25,27,32,34,35,49,54,74,86,87},  
       cell size=3em,Z list={1,...,36},ex={c=blue,f=\Large\bfseries}]
```

A								B
C	D						E	
	F						G	H
I	J			K	L		M	N O

Crosstabulation

The following options and styles are used for customizing the contents available in each individual cell of the Periodic Table, like the *fonts* or the *colors* used in the shown contents.

→ The atomic number

z backcolor

default: *black*

Sets the background color of the box where the atomic number is displayed.

```
\pgfPT[Z list={1,...,36},Z backcolor=blue!70!black]
```

Periodic Table of Elements

1	H hydrogen 1.008	Z : Atomic Number Ra : Radioactive CS : Chemical Symbol N : Name Ar : Relative Atomic Mass	2	He helium 4.0026
3	Li lithium 6.94		4	Be beryllium 9.0122
5	Mg magnesium 24.305		6	Al aluminum 26.982
7			8	Si silicon 28.085
9			10	P phosphorus 30.974
11	Na sodium 22.99		12	S sulfur 32.06
13	K potassium 39.087		14	Cl chlorine 35.45
15	Ca calcium 40.078		16	Ar argon 39.95
17	Sc scandium 44.956		18	Kr krypton 83.738
19	Ti titanium 47.876		20	Br bromine 79.904
21	V vanadium 50.942		22	Ga gallium 69.723
23	Cr chromium 51.986		24	Ge germanium 72.63
25	Mn manganese 54.938		26	As arsenic 74.922
27	Fe iron 55.845		28	Se selenium 78.971
29	Co cobalt 58.933		30	Zn zinc 65.38
31	Ni nickel 58.693		32	Ga gallium 69.723
33	Cu copper 63.546		34	Ge germanium 72.63
35	Zn zinc 65.38		36	As arsenic 74.922

Z colordefault: *white*

Sets the color of the atomic number.

\pgfPT[Z list={1,...,36},Z backcolor=black!30,Z color=black]

Periodic Table of Elements																	
1 1 H hydrogen 1.008	2 2 Be beryllium 9.0122	3 3 Li lithium 6.94	4 4 B boron 10.81	5 5 Ti titanium 47.867	6 6 V vanadium 50.942	7 7 Cr chromium 51.996	8 8 Mn manganese 54.938	9 9 Fe iron 55.845	10 10 Co cobalt 58.933	11 11 Ni nickel 58.693	12 12 Cu copper 63.546	13 13 Zn zinc 65.38	14 14 Ga gallium 69.723	15 15 Ge germanium 72.63	16 16 As arsenic 74.922	17 17 Se selenium 78.971	18 18 He helium 4.0026
3 11 Na sodium 22.99	4 12 Mg magnesium 24.305	5 21 Sc scandium 44.956	6 22 Tl thallium 59.942	7 23 V vanadium 51.996	8 24 Cr chromium 54.938	9 25 Mn manganese 54.938	10 26 Fe iron 55.845	11 27 Co cobalt 58.933	12 28 Ni nickel 58.693	13 29 Cu copper 63.546	14 30 Zn zinc 65.38	15 31 Ga gallium 69.723	16 32 Ge germanium 72.63	17 33 As arsenic 74.922	18 34 Se selenium 78.971	19 35 Br bromine 79.904	
4 19 K potassium 39.098	5 20 Ca calcium 40.078	6 21 Sc scandium 44.956	7 22 Tl thallium 59.942	8 23 V vanadium 50.942	9 24 Cr chromium 51.996	10 25 Mn manganese 54.938	11 26 Fe iron 55.845	12 27 Co cobalt 58.933	13 28 Ni nickel 58.693	14 29 Cu copper 63.546	15 30 Zn zinc 65.38	16 31 Ga gallium 69.723	17 32 Ge germanium 72.63	18 33 As arsenic 74.922	19 34 Se selenium 78.971	20 35 Kr krypton 83.798	

Z fontdefault: *\tiny\bfseries*

Sets the font of the atomic number.

\pgfPT[Z list={1,...,36},Z font=\fontfamily{pag}\selectfont\tiny]

Periodic Table of Elements																	
1 1 H hydrogen 1.008	2 2 Be beryllium 9.0122	3 3 Li lithium 6.94	4 4 B boron 10.81	5 5 Ti titanium 47.867	6 6 V vanadium 50.942	7 7 Cr chromium 51.996	8 8 Mn manganese 54.938	9 9 Fe iron 55.845	10 10 Co cobalt 58.933	11 11 Ni nickel 58.693	12 12 Cu copper 63.546	13 13 Zn zinc 65.38	14 14 Ga gallium 69.723	15 15 Ge germanium 72.63	16 16 As arsenic 74.922	17 17 Se selenium 78.971	18 18 He helium 4.0026
3 11 Na sodium 22.99	4 12 Mg magnesium 24.305	5 21 Sc scandium 44.956	6 22 Tl thallium 59.942	7 23 V vanadium 50.942	8 24 Cr chromium 51.996	9 25 Mn manganese 54.938	10 26 Fe iron 55.845	11 27 Co cobalt 58.933	12 28 Ni nickel 58.693	13 29 Cu copper 63.546	14 30 Zn zinc 65.38	15 31 Ga gallium 69.723	16 32 Ge germanium 72.63	17 33 As arsenic 74.922	18 34 Se selenium 78.971	19 35 Br bromine 79.904	
4 19 K potassium 39.098	5 20 Ca calcium 40.078	6 21 Sc scandium 44.956	7 22 Tl thallium 59.942	8 23 V vanadium 50.942	9 24 Cr chromium 51.996	10 25 Mn manganese 54.938	11 26 Fe iron 55.845	12 27 Co cobalt 58.933	13 28 Ni nickel 58.693	14 29 Cu copper 63.546	15 30 Zn zinc 65.38	16 31 Ga gallium 69.723	17 32 Ge germanium 72.63	18 33 As arsenic 74.922	19 34 Se selenium 78.971	20 35 Kr krypton 83.798	

Z use box widthdefault: *false*If true, the width specified in the constructed cell is used, otherwise, the *natural* width of the box containing Z value is used.

\pgfPT[Z list={1,...,36},Z use box width]

Periodic Table of Elements																	
1 1 H hydrogen 1.008	2 2 Be beryllium 9.0122	3 3 Li lithium 6.94	4 4 B boron 10.81	5 5 Ti titanium 47.867	6 6 V vanadium 50.942	7 7 Cr chromium 51.996	8 8 Mn manganese 54.938	9 9 Fe iron 55.845	10 10 Co cobalt 58.933	11 11 Ni nickel 58.693	12 12 Cu copper 63.546	13 13 Zn zinc 65.38	14 14 Ga gallium 69.723	15 15 Ge germanium 72.63	16 16 As arsenic 74.922	17 17 Se selenium 78.971	18 18 He helium 4.0026
3 11 Na sodium 22.99	4 12 Mg magnesium 24.305	5 21 Sc scandium 44.956	6 22 Tl thallium 59.942	7 23 V vanadium 50.942	8 24 Cr chromium 51.996	9 25 Mn manganese 54.938	10 26 Fe iron 55.845	11 27 Co cobalt 58.933	12 28 Ni nickel 58.693	13 29 Cu copper 63.546	14 30 Zn zinc 65.38	15 31 Ga gallium 69.723	16 32 Ge germanium 72.63	17 33 As arsenic 74.922	18 34 Se selenium 78.971	19 35 Br bromine 79.904	
4 19 K potassium 39.098	5 20 Ca calcium 40.078	6 21 Sc scandium 44.956	7 22 Tl thallium 59.942	8 23 V vanadium 50.942	9 24 Cr chromium 51.996	10 25 Mn manganese 54.938	11 26 Fe iron 55.845	12 27 Co cobalt 58.933	13 28 Ni nickel 58.693	14 29 Cu copper 63.546	15 30 Zn zinc 65.38	16 31 Ga gallium 69.723	17 32 Ge germanium 72.63	18 33 As arsenic 74.922	19 34 Se selenium 78.971	20 35 Kr krypton 83.798	

Z aligndefault: *left*Sets the alignment of the atomic number value to *left*, *center* or *right* with respect to its containing box. It only takes effect when **Z use box width** is true.

\pgfPT[Z list={1,...,36},Z use box width,Z align=center]

Periodic Table of Elements																							
1	H	hydrogen 1.008	2															18					
3	Li	lithium 6.94	4	B	beryllium 9.0122													He					
11	Na	sodium 22.99	12	Mg	magnesium 24.305	3	4	5	6	7	8	9	10	11	12			helium 4.0026					
19	K	potassium 39.098	20	Ca	calcium 40.078	21	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	
41			42			43		44		45		46		47		48		49		50		51	
53			54			55		56		57		58		59		60		61		62		63	
71			72			73		74		75		76		77		78		79		80		81	
91			92			93		94		95		96		97		98		99		100		101	
107			108			109		110		111		112		113		114		115		116		117	
119			120			121		122		123		124		125		126		127		128		129	
131			132			133		134		135		136		137		138		139		140		141	
143			144			145		146		147		148		149		150		151		152		153	
155			156			157		158		159		160		161		162		163		164		165	
167			168			169		170		171		172		173		174		175		176		177	
179			180			181		182		183		184		185		186		187		188		189	
191			192			193		194		195		196		197		198		199		200		201	
199			200			201		202		203		204		205		206		207		208		209	
209			210			211		212		213		214		215		216		217		218		219	
219			220			221		222		223		224		225		226		227		228		229	
229			230			231		232		233		234		235		236		237		238		239	
239			240			241		242		243		244		245		246		247		248		249	
249			250			251		252		253		254		255		256		257		258		259	
259			260			261		262		263		264		265		266		267		268		269	
269			270			271		272		273		274		275		276		277		278		279	
279			280			281		282		283		284		285		286		287		288		289	
289			290			291		292		293		294		295		296		297		298		299	
299			300			301		302		303		304		305		306		307		308		309	
309			310			311		312		313		314		315		316		317		318		319	
319			320			321		322		323		324		325		326		327		328		329	
329			330			331		332		333		334		335		336		337		338		339	
339			340			341		342		343		344		345		346		347		348		349	
349			350			351		352		353		354		355		356		357		358		359	
359			360			361		362		363		364		365		366		367		368		369	
369			370			371		372		373		374		375		376		377		378		379	
379			380			381		382		383		384		385		386		387		388		389	
389			390			391		392		393		394		395		396		397		398		399	
399			400			401		402		403		404		405		406		407		408		409	
409			410			411		412		413		414		415		416		417		418		419	
419			420			421		422		423		424		425		426		427		428		429	
429			430			431		432		433		434		435		436		437		438		439	
439			440			441		442		443		444		445		446		447		448		449	
449			450			451		452		453		454		455		456		457		458		459	
459			460			461		462		463		464		465		466		467		468		469	
469			470			471		472		473		474		475		476		477		478		479	
479			480			481		482		483		484		485		486		487		488		489	
489			490			491		492		493		494		495		496		497		498		499	
499			500			501		502		503		504		505		506		507		508		509	
509			510			511		512		513		514		515		516		517		518		519	
519			520			521		522		523		524		525		526		527		528		529	
529			530			531		532		533		534		535		536		537		538		539	
539			540			541		542		543		544		545		546		547		548		549	
549			550			551		552		553		554		555		556		557		558		559	
559			560			561		562		563		564		565		566		567		568		569	
569			570			571		572		573		574		575		576		577		578		579	
579			580			581		582		583		584		585		586		587		588		589	
589			590			591		592		593		594		595		596		597		598		599	
599			600			601		602		603		604		605		606		607		608		609	
609			610			611		612		613		614		615		616		617		618		619	
619			620			621		622		623		624		625		626		627		628		629	
629			630			631		632		633		634		635		636		637		638		639	
639			640			641		642		643		644		645		646		647		648		649	
649			650			651		652		653		654		655		656		657		658		659	
659			660			661		662		663		664		665		666		667		668		669	
669			670			671		672		673		674		675		676		677		678		679	
679			680			681		682		683		684		685		686		687		688		689	
689			690			691		692		693		694		695		696		697		698		699	
699			700			701		702		703		704		705		706		707		708		709	
709			710			711		712		713		714		715		716		717		718		719	
719			720			721		722		723		724		725		726		727		728		729	
729			730			731		732		733		734		735		736		737		738		739	
739			740			741		742		743		744		745		746		747		748		749	
749			750			751		752		753		754		755		756		757		758		759	
759			760			761		762		763		764		765		766		767		768		769	
769			770			771		772		773		774		775		776		777		778		779	
779			780			781		782		783		784											

\pgfPT[Z list={1,...,36},Z={bc=blue,f=\tiny\bfseries\itshape}]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
37 Rb rubidium 85.468	38 Sr strontium 87.62	39 Y yttrium 88.906	40 Zr zirconium 91.224	41 Nb niobium 92.906	42 Mo molybdenum 95.95	43 Tc technetium [98]	44 Ru ruthenium 101.07	45 Rh rhodium 102.91	46 Pd palladium 106.42	47 Ag silver 107.87	48 Cd cadmium 112.41	49 In indium 114.82	50 Sn tin 116.71	51 Sb antimony 121.76	52 Te tellurium 127.6	53 I iodine 126.9	54 Xe xenon 131.29

► The chemical symbol

CS solid

default: RGB: 255,166,51

Sets the color of the chemical symbol for elements that are in the solid state at normal temperature and pressure (NTP).

\pgfPT[Z list={1,...,54},CS solid=red]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
37 Rb rubidium 85.468	38 Sr strontium 87.62	39 Y yttrium 88.906	40 Zr zirconium 91.224	41 Nb niobium 92.906	42 Mo molybdenum 95.95	43 Tc technetium [98]	44 Ru ruthenium 101.07	45 Rh rhodium 102.91	46 Pd palladium 106.42	47 Ag silver 107.87	48 Cd cadmium 112.41	49 In indium 114.82	50 Sn tin 116.71	51 Sb antimony 121.76	52 Te tellurium 127.6	53 I iodine 126.9	54 Xe xenon 131.29

CS liquid

default: RGB: 0,204,204

Sets the color of the chemical symbol for elements that are in a liquid state at normal temperature and pressure (NTP).

\pgfPT[Z list={1,...,54},CS liquid=red]

Periodic Table of Elements																	
1 H hydrogen 1.008	2 He helium 4.0026	3 Li lithium 6.94	4 Be beryllium 9.0122	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18	11 Na sodium 22.99	12 Mg magnesium 24.305	13 Al aluminum 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798
37 Rb rubidium 85.468	38 Sr strontium 87.62	39 Y yttrium 88.906	40 Zr zirconium 91.224	41 Nb niobium 92.906	42 Mo molybdenum 95.95	43 Tc technetium [98]	44 Ru ruthenium 101.07	45 Rh rhodium 102.91	46 Pd palladium 106.42	47 Ag silver 107.87	48 Cd cadmium 112.41	49 In indium 114.82	50 Sn tin 116.71	51 Sb antimony 121.76	52 Te tellurium 127.6	53 I iodine 126.9	54 Xe xenon 131.29

CS gas

default: RGB: 0,102,153

Sets the color of the chemical symbol for elements that are in a gaseous state at normal temperature and pressure (NTP).

\pgfPT[Z list={1,...,54},CS gas=red]

Periodic Table of Elements

Periodic Table of Elements																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
1	H	2	He	3	Li	4	Be	5	B	6	C	7	N	8	O	9	F																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
1	hydrogen	1.008	2	lithium	6.94	3	beryllium	9.0122	4	boron	10.81	5	carbon	12.011	6	nitrogen	14.007	7	oxygen	15.999																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
11	Na	12	Mg	13	Al	14	Si	15	P	16	S	17	Cl	18	He	19	helium	4.0026																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
3	sodium	22.99	4	magnesium	24.305	5	scandium	44.955	6	vanadium	50.942	7	chromium	51.996	8	manganese	54.938	9	iron	55.845																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
4	K	Ca	21	Tl	22	V	23	Cr	24	Mn	25	Fe	26	Co	27	Ru	28	Rh	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr	37	rubidium	39.098	38	strontium	40.078	39	yttrium	41	zirconium	42	niobium	43	mo	44	technetium	45	ruthenium	46	palladium	47	silver	48	cadmium	49	indium	50	tin	51	antimony	52	tellurium	53	iodine	54	xenon	55	cesium	56	barium	57	lanthanoids	58	yttrium	59	zirconium	60	niobium	61	mo	62	technetium	63	ruthenium	64	palladium	65	silver	66	cadmium	67	indium	68	tin	69	antimony	70	tellurium	71	iodine	72	xenon	73	francium	74	radium	75	actinoids	76	neptunium	77	curium	78	platinum	79	gold	80	mercury	81	thallium	82	lead	83	bismuth	84	polonium	85	astatine	86	radon	87	rubidium	88	strontium	89	yttrium	90	zirconium	91	niobium	92	mo	93	technetium	94	ruthenium	95	palladium	96	silver	97	cadmium	98	indium	99	tin	100	antimony	101	tellurium	102	iodine	103	xenon	104	actinium	105	thorium	106	protactinium	107	dubnium	108	seaborgium	109	bohrium	110	meitnerium	111	darmstadtium	112	roentgenium	113	einsteinium	114	copernicus	115	nihonium	116	florium	117	moscovium	118	livensine	119	tennessine	120	oganesson	121	lanthanum	122	cerium	123	praseodymium	124	neodymium	125	promethium	126	samarium	127	europium	128	gadolinium	129	terbium	130	dysprosium	131	holmium	132	erbium	133	thulium	134	yterbium	135	lutetium	136	actinium	137	thorium	138	protactinium	139	uranium	140	neptunium	141	plutonium	142	americium	143	curium	144	berkelium	145	californium	146	einsteinium	147	curium	148	berkelium	149	californium	150	einsteinium	151	curium	152	berkelium	153	californium	154	einsteinium	155	curium	156	berkelium	157	californium	158	einsteinium	159	curium	160	berkelium	161	californium	162	einsteinium	163	curium	164	berkelium	165	californium	166	einsteinium	167	curium	168	berkelium	169	californium	170	einsteinium	171	curium	172	berkelium	173	californium	174	einsteinium	175	curium	176	berkelium	177	californium	178	einsteinium	179	curium	180	berkelium	181	californium	182	einsteinium	183	curium	184	berkelium	185	californium	186	einsteinium	187	curium	188	berkelium	189	californium	190	einsteinium	191	curium	192	berkelium	193	californium	194	einsteinium	195	curium	196	berkelium	197	californium	198	einsteinium	199	curium	200	berkelium	201	californium	202	einsteinium	203	curium	204	berkelium	205	californium	206	einsteinium	207	curium	208	berkelium	209	californium	210	einsteinium	211	curium	212	berkelium	213	californium	214	einsteinium	215	curium	216	berkelium	217	californium	218	einsteinium	219	curium	220	berkelium	221	californium	222	einsteinium	223	curium	224	berkelium	225	californium	226	einsteinium	227	curium	228	berkelium	229	californium	230	einsteinium	231	curium	232	berkelium	233	californium	234	einsteinium	235	curium	236	berkelium	237	californium	238	einsteinium	239	curium	240	berkelium	241	californium	242	einsteinium	243	curium	244	berkelium	245	californium	246	einsteinium	247	curium	248	berkelium	249	californium	250	einsteinium	251	curium	252	berkelium	253	californium	254	einsteinium	255	curium	256	berkelium	257	californium	258	einsteinium	259	curium	260	berkelium	261	californium	262	einsteinium	263	curium	264	berkelium	265	californium	266	einsteinium	267	curium	268	berkelium	269	californium	270	einsteinium	271	curium	272	berkelium	273	californium	274	einsteinium	275	curium	276	berkelium	277	californium	278	einsteinium	279	curium	280	berkelium	281	californium	282	einsteinium	283	curium	284	berkelium	285	californium	286	einsteinium	287	curium	288	berkelium	289	californium	290	einsteinium	291	curium	292	berkelium	293	californium	294	einsteinium	295	curium	296	berkelium	297	californium	298	einsteinium	299	curium	300	berkelium	301	californium	302	einsteinium	303	curium	304	berkelium	305	californium	306	einsteinium	307	curium	308	berkelium	309	californium	310	einsteinium	311	curium	312	berkelium	313	californium	314	einsteinium	315	curium	316	berkelium	317	californium	318	einsteinium	319	curium	320	berkelium	321	californium	322	einsteinium	323	curium	324	berkelium	325	californium	326	einsteinium	327	curium	328	berkelium	329	californium	330	einsteinium	331	curium	332	berkelium	333	californium	334	einsteinium	335	curium	336	berkelium	337	californium	338	einsteinium	339	curium	340	berkelium	341	californium	342	einsteinium	343	curium	344	berkelium	345	californium	346	einsteinium	347	curium	348	berkelium	349	californium	350	einsteinium	351	curium	352	berkelium	353	californium	354	einsteinium	355	curium	356	berkelium	357	californium	358	einsteinium	359	curium	360	berkelium	361	californium	362	einsteinium	363	curium	364	berkelium	365	californium	366	einsteinium	367	curium	368	berkelium	369	californium	370	einsteinium	371	curium	372	berkelium	373	californium	374	einsteinium	375	curium	376	berkelium	377	californium	378	einsteinium	379	curium	380	berkelium	381	californium	382	einsteinium	383	curium	384	berkelium	385	californium	386	einsteinium	387	curium	388	berkelium	389	californium	390	einsteinium	391	curium	392	berkelium	393	californium	394	einsteinium	395	curium	396	berkelium	397	californium	398	einsteinium	399	curium	400	berkelium	401	californium	402	einsteinium	403	curium	404	berkelium	405	californium	406	einsteinium	407	curium	408	berkelium	409	californium	410	einsteinium	411	curium	412	berkelium	413	californium	414	einsteinium	415	curium	416	berkelium	417	californium	418	einsteinium	419	curium	420	berkelium	421	californium	422	einsteinium	423	curium	424	berkelium	425	californium	426	einsteinium	427	curium	428	berkelium	429	californium	430	einsteinium	431	curium	432	berkelium	433	californium	434	einsteinium	435	curium	436	berkelium	437	californium	438	einsteinium	439	curium	440	berkelium	441	californium	442	einsteinium	443	curium	444	berkelium	445	californium	446	einsteinium	447	curium	448	berkelium	449	californium	450	einsteinium	451	curium	452	berkelium	453	californium	454	einsteinium	455	curium	456	berkelium	457	californium	458	einsteinium	459	curium	460	berkelium	461	californium	462	einsteinium	463	curium	464	berkelium	465	californium	466	einsteinium	467	curium	468	berkelium	469	californium	470	einsteinium	471	curium	472	berkelium	473	californium	474	einsteinium	475	curium	476	berkelium	477	californium	478	einsteinium	479	curium	480	berkelium	481	californium	482	einsteinium	483	curium	484	berkelium	485	californium	486	einsteinium	487	curium	488	berkelium	489	californium	490	einsteinium	491	curium	492	berkelium	493	californium	494	einsteinium	495	curium	496	berkelium	497	californium	498	einsteinium	499	curium	500	berkelium	501	californium	502	einsteinium	503	curium	504	berkelium	505	californium	506	einsteinium	507	curium	508	berkelium	509	californium	510	einsteinium	511	curium	512	berkelium	513	californium	514	einsteinium	515	curium	516	berkelium	517	californium	518	einsteinium	519	curium	520	berkelium	521	californium	522	einsteinium	523	curium	524	berkelium	525	californium	526	einsteinium	527	curium	528	berkelium	529	californium	530	einsteinium	531	curium	532	berkelium	533	californium	534	einsteinium	535	curium	536	berkelium	537	californium	538	einsteinium	539	curium	540	berkelium	541	californium	542	einsteinium	543	curium	544	berkelium	545	californium	546	einsteinium	547	curium	548	berkelium	549	californium	550	einsteinium	551	curium	552	berkelium	553	californium	554	einsteinium	555	curium	556	berkelium	557	californium	558	einsteinium	559	curium	560	berkelium	561	californium	562	einsteinium	563	curium	564	berkelium	565	californium	566	einsteinium	567	curium	568	berkelium	569	californium	570	einsteinium	571	curium	572	berkelium	573	californium	574	einsteinium	575	curium	576	berkelium	577	californium	578	einsteinium	579	curium	580	berkelium	581	californium	582	einsteinium	583	curium	584	berkelium	585	californium	586	einsteinium	587	curium	588	berkelium	589	californium	590	einsteinium	591	curium	592	berkelium	593	californium	594	einsteinium	595	curium	596	berkelium	597	californium	598	einsteinium	599	curium	600	berkelium	601	californium	602	einsteinium	603	curium	604	berkelium	605	californium	606	einsteinium	607	curium	608	berkelium	609	californium	610	einsteinium	611	curium	612	berkelium	613	californium	614	einsteinium	615	curium	616	berkelium	617	californium	618	einsteinium	619	curium	620	berkelium	621	californium	622	einsteinium	623	curium	624	berkelium	625	californium	626	einsteinium	627	curium	628	berkelium	629	californium	630	einsteinium	631	curium	632	berkelium	633	californium	634	einsteinium	635	curium	636	berkelium	637	californium	638	einsteinium	639	curium	640	berkelium	641	californium	642	einsteinium	643	curium	644	berkelium	645	californium	646	einsteinium	647	curium	648	berkelium	649	californium	650	einsteinium	651	curium	652	berkelium	653	californium	654	einsteinium	655	curium	656	berkelium	657	californium	658	einsteinium	659	curium	660	berkelium	661	californium	662	einsteinium	66

\pgfPT[CS all=red]

Periodic Table of Elements

1	1	H	hydrogen	1.008	2	2	He	helium	4.0026
3	1	Li	lithium	6.94	4	Be	beryllium	9.0122	
2	2	Na	sodium	22.99	3	Mg	magnesium	24.305	
4	3	K	potassium	39.098	4	Ca	calcium	40.078	
5	5	Rb	rubidium	85.468	6	Sc	scandium	44.956	
6	7	Cs	caesium	132.91	8	Ti	titanium	47.867	
7	8	Ba	barium	137.33	9	V	vandium	50.942	
19	10	Fr	francium	[223]	11	Cr	chromium	51.996	
20	12	Ra	radium	[226]	12	Mn	manganese	54.938	
21	13	K	potassium	39.098	13	Fe	iron	55.845	
22	14	Ca	calcium	40.078	14	Co	cobalt	58.933	
23	15	Sc	scandium	44.956	15	Ni	nickel	58.693	
24	16	Ti	titanium	47.867	16	Cu	copper	63.546	
25	17	V	vandium	50.942	17	Zn	zinc	65.38	
26	18	Cr	chromium	51.996	18	Ga	gallium	69.723	
27	19	Mn	manganese	54.938	19	Ru	ruthenium	101.07	
28	20	Fe	iron	55.845	20	Rh	rhodium	102.91	
29	21	Co	cobalt	58.933	21	Pd	palladium	106.42	
30	22	Ni	nickel	58.693	22	Ag	silver	107.87	
31	23	Cu	copper	63.546	23	Cd	cadmium	112.41	
32	24	Zn	zinc	65.38	24	In	indium	114.82	
33	25	Ga	gallium	69.723	25	Sn	tin	116.71	
34	26	Ge	germanium	72.63	26	Sb	antimony	121.76	
35	27	As	arsenic	74.922	27	Te	tellurium	127.6	
36	28	Se	selenium	78.971	28	I	iodine	126.9	
37	29	Kr	krypton	83.798	29	Xe	xenon	131.29	
38	30	Rb	rubidium	85.468	30	Fr	francium	[223]	
39	31	Sr	strontium	88.906	31	Ra	radium	[226]	
40	32	Y	yttrium	91.224	41	Nb	niobium	95.95	
41	33	Zr	zirconium	91.224	42	Mo	molybdenum	[98]	
42	34	Tc	technetium	91.224	43	Tc	technetium	91.224	
43	35	Ru	ruthenium	101.07	44	Rh	rhodium	102.91	
44	36	Pd	palladium	106.42	45	Ag	silver	107.87	
45	37	Cd	cadmium	112.41	46	In	indium	114.82	
46	38	Zn	zinc	65.38	47	Sn	tin	116.71	
47	39	Ga	gallium	69.723	48	Sb	antimony	121.76	
48	40	Ge	germanium	72.63	49	Te	tellurium	127.6	
49	41	As	arsenic	74.922	50	I	iodine	126.9	
50	42	Se	selenium	78.971	51	Xe	xenon	131.29	
51	43	Kr	krypton	83.798	52	Og	oganesian	[294]	
52	44	Rb	rubidium	[88-103]	53	Ra	radon	[222]	
53	45	Sr	strontium	[88-103]	54	Fr	francium	[223]	
54	46	Y	yttrium	[88-103]	55	Ca	calcium	[226]	
55	47	Hf	hafnium	[174.9]	56	Ba	barium	[137.33]	
56	48	Ta	tautonium	[180.95]	57	La	lanthanoids	[138.91]	
57	49	W	wolfram	[183.84]	58	Ce	cerium	[140.12]	
58	50	Re	rhodium	[186.21]	59	Pr	praseodymium	[140.91]	
59	51	Ir	iridium	[190.23]	60	Nd	neodymium	[144.24]	
60	52	Pt	platinum	[195.08]	61	Pm	promethium	[145]	
61	53	Au	gold	[196.97]	62	Sm	samarium	[150.36]	
62	54	Hg	mercury	[200.59]	63	Eu	europtium	[151.96]	
63	55	Tl	thallium	[204.38]	64	Gd	gadolinium	[157.25]	
64	56	Pb	lead	[207.2]	65	Tb	terbium	[162.5]	
65	57	Bi	bismuth	[209.98]	66	Dy	dysprosium	[162.5]	
66	58	Po	polonium	[209]	67	Ho	holmium	[164.93]	
67	59	At	astatine	[210]	68	Er	erbium	[167.28]	
68	60	Rn	radon	[222]	69	Tm	thulium	[168.93]	
69	61	Lu	lutetium	[173.05]	70	Yb	ytterbium	[174.97]	
70	62	Lu	lutetium	[174.97]	71	Lu	lutetium	[174.97]	
71	63	La	lanthanum	[138.91]	72	Ce	cerium	[140.12]	
72	64	Pr	praseodymium	[140.91]	73	Th	protactinium	[231.04]	
73	65	Nd	neodymium	[144.24]	74	Pa	protactinium	[231.04]	
74	66	Pm	promethium	[145]	75	U	uranium	[238.03]	
75	67	Sm	samarium	[150.36]	76	Np	neptunium	[237]	
76	68	Eu	europtium	[151.96]	77	Pu	plutonium	[244]	
77	69	Gd	gadolinium	[157.25]	78	Am	americium	[243]	
78	70	Tb	terbium	[162.5]	79	Cm	curium	[247]	
79	71	Dy	dysprosium	[162.5]	80	Bk	berkelium	[247]	
80	72	Ho	holmium	[164.93]	81	Cf	californium	[251]	
81	73	Er	erbium	[167.28]	82	Es	einsteinium	[252]	
82	74	Tm	thulium	[168.93]	83	Fm	fermium	[257]	
83	75	Yb	ytterbium	[173.05]	84	Md	mendelevium	[258]	
84	76	Lu	lutetium	[174.97]	85	No	nobelium	[259]	
85	77	Lu	lutetium	[174.97]	86	Br	bromine	[79.904]	
86	78	Og	oganesian	[294]	87	Kr	krypton	[83.798]	

CS font

default: \small\bfseries

Sets the font for the chemical symbol.

\pgfPT[Z list={1,...,36},CS font=\small\fontfamily{fmm}\selectfont]

Periodic Table of Elements

1	1	H	hydrogen	1.008	2	He	helium	4.0026
2	2	Li	lithium	6.94	3	Be	beryllium	9.0122
3	3	Na	sodium	22.99	4	Mg	magnesium	24.305
4	4	K	potassium	39.098	5	Ca	calcium	40.078
5	5	Ac	actinium	[227]	6	Sc	scandium	44.956
6	6	Th	thorium	[232.04]	7	Ti	titanium	47.867
7	7	Pa	protactinium	[231.04]	8	V	vandium	50.942
8	8	U	uranium	[238.03]	9	Cr	chromium	51.996
9	9	Np	neptunium	[237]	10	Mn	manganese	54.938
10	10	Pu	plutonium	[244]	11	Fe	iron	55.845
11	11	Am	americium	[243]	12	Co	cobalt	58.933
12	13	Cm	curium	[247]	13	Ni	nickel	58.693
13	14	Bk	berkelium	[247]	14	Cu	copper	63.546
14	15	Es	einsteinium	[252]	15	Zn	zinc	65.38
15	16	Fm	fermium	[257]	16	Ga	gallium	69.723
16	17	Md	mendelevium	[258]	17	Ge	germanium	72.63
17	18	Kr	krypton	[83.798]	18	Se	selenium	78.971

CS render mode

default: fill and outline

Sets the chemical symbol render mode. Available modes are fill, outline or fill and outline.

\pgfPT[Z list={1,...,36}]

Periodic Table of Elements

1	1	H	hydrogen	1.008	2	He	helium	4.0026
2	2	Li	lithium	6.94	3	Be	beryllium	9.0122
3	3	Na	sodium	22.99	4	Mg	magnesium	24.305
4	4	K	potassium	39.098	5	Ca	calcium	40.078
5	5	Ac	actinium	[227]	6	Sc	scandium	44.956
6	6	Th	thorium	[232.04]	7	Ti	titanium	47.867
7	7	Pa	protactinium	[231.04]	8	V	vandium	50.942
8	8	U	uranium	[238.03]	9	Cr	chromium	51.996
9	9	Np	neptunium	[237]	10	Mn	manganese	54.938
10	10	Pu	plutonium	[244]	11	Fe	iron	55.845
11	11	Am	americium	[243]	12	Co	cobalt	58.933
12	13	Cm	curium	[247]	13	Ni	nickel	58.693
13	14	Bk	berkelium	[247]	14	Cu	copper	63.546
14	15	Es	einsteinium	[252]	15	Zn	zinc	65.38
15	16	Fm	fermium	[257]	16	Ga	gallium	69.723
16	17	Md	mendelevium	[258]	17	Ge	germanium	72.63
17	18	Kr	krypton	[83.798]	18	Se	selenium	78.971

```
\pgfPT[Z list={1,...,36},CS render mode=fill]
```

Periodic Table of Elements

1	H hydrogen 1.008	2	He helium 4.0026
3	Li lithium 6.94	4	Be beryllium 9.0122
5	Na sodium 22.99	6	Mg magnesium 24.305
7	Sc scandium 45.96	8	Ti titanium 40.074
9	V vanadium 50.942	10	Cr chromium 52.00
11	Mn manganese 54.938	12	Fe iron 55.845
13	Co cobalt 58.933	14	Ni nickel 58.693
15	Cu copper 63.546	16	Zn zinc 65.38
17	Ga gallium 69.723	18	Ge germanium 72.63
19	As arsenic 74.922	20	Se selenium 78.971
21	Br bromine 79.904	22	Kr krypton 83.758
23	Ra radioactive radon 222.018	24	Ca calcium 40.078
25	Sc scandium 45.96	26	Ti titanium 40.074
27	V vanadium 50.942	28	Cr chromium 52.00
29	Mn manganese 54.938	30	Fe iron 55.845
31	Co cobalt 58.933	32	Ni nickel 58.693
33	Cu copper 63.546	34	Zn zinc 65.38
35	Ga gallium 69.723	36	Ge germanium 72.63
37	As arsenic 74.922	38	Se selenium 78.971
39	Br bromine 79.904	40	Kr krypton 83.758
41	Sc scandium 45.96	42	Ti titanium 40.074
43	V vanadium 50.942	44	Cr chromium 52.00
45	Mn manganese 54.938	46	Fe iron 55.845
47	Co cobalt 58.933	48	Ni nickel 58.693
49	Cu copper 63.546	50	Zn zinc 65.38
51	Ga gallium 69.723	52	Ge germanium 72.63
53	As arsenic 74.922	54	Se selenium 78.971
55	Br bromine 79.904	56	Kr krypton 83.758
57	Sc scandium 45.96	58	Ti titanium 40.074
59	V vanadium 50.942	60	Cr chromium 52.00
61	Mn manganese 54.938	62	Fe iron 55.845
63	Co cobalt 58.933	64	Ni nickel 58.693
65	Cu copper 63.546	66	Zn zinc 65.38
67	Ga gallium 69.723	68	Ge germanium 72.63
69	As arsenic 74.922	70	Se selenium 78.971
71	Br bromine 79.904	72	Kr krypton 83.758
73	Sc scandium 45.96	74	Ti titanium 40.074
75	V vanadium 50.942	76	Cr chromium 52.00
77	Mn manganese 54.938	78	Fe iron 55.845
79	Co cobalt 58.933	80	Ni nickel 58.693
81	Cu copper 63.546	82	Zn zinc 65.38
83	Ga gallium 69.723	84	Ge germanium 72.63
85	As arsenic 74.922	86	Se selenium 78.971
87	Br bromine 79.904	88	Kr krypton 83.758
89	Sc scandium 45.96	90	Ti titanium 40.074
91	V vanadium 50.942	92	Cr chromium 52.00
93	Mn manganese 54.938	94	Fe iron 55.845
95	Co cobalt 58.933	96	Ni nickel 58.693
97	Cu copper 63.546	98	Zn zinc 65.38
99	Ga gallium 69.723	100	Ge germanium 72.63
101	As arsenic 74.922	102	Se selenium 78.971
103	Br bromine 79.904	104	Kr krypton 83.758
105	Sc scandium 45.96	106	Ti titanium 40.074
107	V vanadium 50.942	108	Cr chromium 52.00
109	Mn manganese 54.938	110	Fe iron 55.845
111	Co cobalt 58.933	112	Ni nickel 58.693
113	Cu copper 63.546	114	Zn zinc 65.38
115	Ga gallium 69.723	116	Ge germanium 72.63
117	As arsenic 74.922	118	Se selenium 78.971
119	Br bromine 79.904	120	Kr krypton 83.758

```
\pgfPT[Z list={1,...,36},CS render mode=outline]
```

Periodic Table of Elements

1	H hydrogen 1.008	2	He helium 4.0026
3	Li lithium 6.94	4	Be beryllium 9.0122
5	B boron 10.81	6	C carbon 12.011
7	N nitrogen 14.007	8	O oxygen 15.999
9	F fluorine 18.998	10	Ne neon 20.18
11	Na sodium 22.99	12	Mg magnesium 24.305
13	Al aluminum 26.982	14	Si silicon 28.085
15	P phosphorus 30.974	16	S sulfur 32.06
17	Cl chlorine 35.45	18	Ar argon 39.95
19	K potassium 39.098	20	Ca calcium 40.078
21	Sc scandium 44.956	22	Ti titanium 47.867
23	V vanadium 50.942	24	Cr chromium 51.996
25	Mn manganese 54.938	26	Fe iron 55.845
27	Co cobalt 58.933	28	Ni nickel 58.693
29	Cu copper 63.546	30	Zn zinc 65.38
31	Ga gallium 69.723	32	Ge germanium 72.623
33	As arsenic 74.922	34	Se selenium 78.971
35	Br bromine 79.904	36	Kr krypton 83.798

CS outline color

default: *black*

Sets the outline color for the chemical symbol.

```
\pgfPT[Z list={1,...,36},CS outline color=red]
```

Periodic Table of Elements

1	H hydrogen 1.008	2	He helium 4.0026
3	Li lithium 6.94	4	Be beryllium 9.0122
5	Na sodium 22.99	6	Mg magnesium 24.305
7	Al aluminum 26.982	8	Si silicon 28.085
9	P phosphorus 30.974	10	S sulfur 32.06
11	Cl chlorine 35.45	12	Ar argon 39.95
13	B boron 10.81	14	C carbon 12.011
15	N nitrogen 14.007	16	O oxygen 15.999
17	F fluorine 18.998	18	Ne neon 20.18
19	K potassium 39.098	20	Ca calcium 40.078
21	Sc scandium 44.958	22	Tl thallium 47.867
23	V vanadium 51.996	24	Cr chromium 51.983
25	Mn manganese 55.845	26	Fe iron 55.845
27	Co cobalt 58.833	28	Ni nickel 58.693
29	Cu copper 63.546	30	Zn zinc 65.38
31	Ga gallium 69.723	32	Ge germanium 72.63
33	As arsenic 74.922	34	Se selenium 78.971
35	Br bromine 79.904	36	Kr krypton 83.788

CS outline width

default: 0.05

Sets the outline width of the chemical symbol. It is any positive numerical value **without dimensions** (1.0 is roughly 1.0pt).

\pgfPT[Z list={1,...,36}.CS outline width=.2]

Periodic Table of Elements

1	H hydrogen 1.008	2	He helium 4.0026
3	Li lithium 6.94	4	Be beryllium 9.0123
5	Na sodium 22.99	6	Mg magnesium 24.305
7	Sc scandium 45.98	8	Ti titanium 47.867
9	V vanadium 50.942	10	Cr chromium 52.00
11	Mn manganese 54.938	12	Fe iron 55.845
13	Co cobalt 58.933	14	Ni nickel 58.693
15	Cu copper 63.546	16	Zn zinc 65.401
17	Ga gallium 69.724	18	Ge germanium 72.61
19	As arsenic 74.922	20	Se selenium 78.96
21	Kr krypton 83.80	22	Br bromine 80.00
23	Ra radioactive element symbol	24	N Name
25	CS solid state symbol	26	Ar Atomic Mass

CS

default: `{r=fill and outline,c=black,w=.05,f=\small\bfseries,s=solido,l=liquido,g=gasoso,sy=sintetico}`

Pseudo style to set the keys: CS **r**ender mode, CS **outline** color, CS **outline width**, CS **font**, CS **solid**, CS **liquid**, CS **gas** and/or CS **synt** and/or the style CS **all**. None of the keys – r, olc, olw , f, s, l, g, sy and all – are mandatory.

USAGE:

```
CS={r=<fill|outline|fill and outline>,olc=<color>,olw=<positive numerical value>
f=<font commands>,s=<color>,l=<color>,g=<color>,sy=<color>,all=<color>}}
```

```
\pgfPT[Z list={1,...,36},CS={r=outline,olc=red,olw=.4},show legend pins=false]
```

Periodic Table of Elements

1	H	hydrogen	1.008	2	He	helium	4.0026
3	Li	lithium	6.94	4	Be	beryllium	9.0122
11	Na	sodium	22.99	12	Mg	magnesium	24.305
19	K	potassium	39.098	20	Ca	calcium	40.078
21	Sc	scandium	44.956	22	Ti	titanium	47.867
23	V	vanadium	50.942	24	Cr	chromium	51.996
25	Mn	manganese	54.938	26	Fe	iron	55.845
27	Co	cobalt	58.933	28	Ni	nickel	58.693
29	Cu	copper	63.546	30	Zn	zinc	65.38
31	Ga	gallium	69.723	32	Ge	germanium	72.63
33	As	arsenic	74.922	34	Se	selenium	78.971
35	Br	bromine	79.904	36	Kr	krypton	83.798
13	B	boron	10.81	14	C	carbon	12.011
15	P	phosphorus	30.974	16	S	sulfur	32.06
17	Cl	chlorine	35.45	18	Ar	argon	39.95
5	Al	aluminum	26.982	6	Si	silicon	28.085
7	N	nitrogen	14.007	8	O	oxygen	15.999
9	F	fluorine	18.998	10	Ne	neon	20.18
12	Zn	zinc	65.38	16	S	sulfur	32.06
18	He	helium	4.0026	17	Cl	chlorine	35.45
10	Ne	neon	20.18	18	He	helium	4.0026

➡ The name

name colordefault: *black*

Sets the color of the element name.

```
\pgfPTstyle[show title=false]
\pgfPT[Z list={1,...,36},name color=red]
```

1	H	hydrogen	1.008	2	He	helium	4.0026
3	Li	lithium	6.94	4	Be	beryllium	9.0122
11	Na	sodium	22.99	12	Mg	magnesium	24.305
19	K	potassium	39.098	20	Ca	calcium	40.078
21	Sc	scandium	44.956	22	Ti	titanium	47.867
23	V	vanadium	50.942	24	Cr	chromium	51.996
25	Mn	manganese	54.938	26	Fe	iron	55.845
27	Co	cobalt	58.933	28	Ni	nickel	58.693
29	Cu	copper	63.546	30	Zn	zinc	65.38
31	Ga	gallium	69.723	32	Ge	germanium	72.63
33	As	arsenic	74.922	34	Se	selenium	78.971
35	Br	bromine	79.904	36	Kr	krypton	83.798
13	B	boron	10.81	14	C	carbon	12.011
15	P	phosphorus	30.974	16	S	sulfur	32.06
17	Cl	chlorine	35.45	18	Ar	argon	39.95
5	Al	aluminum	26.982	6	Si	silicon	28.085
7	N	nitrogen	14.007	8	O	oxygen	15.999
9	F	fluorine	18.998	10	Ne	neon	20.18
12	Zn	zinc	65.38	16	S	sulfur	32.06
18	He	helium	4.0026	17	Cl	chlorine	35.45
10	Ne	neon	20.18	18	He	helium	4.0026

name fontdefault: `\fontseries/\selectfont\tiny`

Sets the font of the element name.

```
\pgfPT[Z list={1,...,36},name font=\itshape\tiny]
```

1	H	hydrogen	1.008	2	He	helium	4.0026
3	Li	lithium	6.94	4	Be	beryllium	9.0122
11	Na	sodium	22.99	12	Mg	magnesium	24.305
19	K	potassium	39.098	20	Ca	calcium	40.078
21	Sc	scandium	44.956	22	Ti	titanium	47.867
23	V	vanadium	50.942	24	Cr	chromium	51.996
25	Mn	manganese	54.938	26	Fe	iron	55.845
27	Co	cobalt	58.933	28	Ni	nickel	58.693
29	Cu	copper	63.546	30	Zn	zinc	65.38
31	Ga	gallium	69.723	32	Ge	germanium	72.63
33	As	arsenic	74.922	34	Se	selenium	78.971
35	Br	bromine	79.904	36	Kr	krypton	83.798
13	B	boron	10.81	14	C	carbon	12.011
15	P	phosphorus	30.974	16	S	sulfur	32.06
17	Cl	chlorine	35.45	18	Ar	argon	39.95
5	Al	aluminum	26.982	6	Si	silicon	28.085
7	N	nitrogen	14.007	8	O	oxygen	15.999
9	F	fluorine	18.998	10	Ne	neon	20.18
12	Zn	zinc	65.38	16	S	sulfur	32.06
18	He	helium	4.0026	17	Cl	chlorine	35.45
10	Ne	neon	20.18	18	He	helium	4.0026

name align

default: center

Sets the alignment of the element name to *left*, *center* or *right* with respect to its containing box.
(new in v1.0.1)

\pgfPT[Z list={1,...,36},name align=left]

A standard periodic table where each element's name is positioned to the left of its corresponding box, as specified by the 'name align=left' option.

capitalize element names

default: false

If set to **true** the first letter of the name of the elements is a capital letter (except in German where names start with a capital letter since version 2.0.1). If set to **TRUE** the whole name of the elements is in capital letters
(changed in v1.0.1)

\pgfPT[Z list={1,...,36},capitalize element names=true]

A periodic table where element names are capitalized, except for German elements which are in lowercase, as specified by the 'capitalize element names=true' option.

\pgfPT[Z list={1,...,36},capitalize element names=TRUE]

A periodic table where all element names are fully capitalized, as specified by the 'capitalize element names=TRUE' option.

name

no value

A style equivalent to `capitalize element names=false`

\pgfPT[Z list={1,...,36},name]

A periodic table where element names are in lowercase, except for German elements which are in lowercase, as specified by the 'name' style (equivalent to 'capitalize element names=false').

Name*no value*

A style equivalent to capitalize element names=true

\pgfPT[Z list={1,...,36},Name]

1	H	2	He
1	Hydrogen 1.008	2	Helium 4.0026
2	Li	Be	He
3	Lithium 6.94	Beryllium 9.0122	He
11	Na	Mg	Neon 20.18
3	Sodium 22.99	Magnesium 24.305	Ar
19	K	Ca	Ar
4	Potassium 39.098	Calcium 40.078	Argon 39.95
21	Sc	Ti	Kr
22	Scandium 44.955	Titanium 47.867	Krypton 83.798
23	V	Cr	
24	Vanadium 50.942	Chromium 51.996	
25	Mn	Fe	
26	Manganese 54.938	Iron 55.845	
27	Co	Co	
28	Ni	Nickel 58.933	
29	Cu	Copper 63.546	
30	Zn	Zinc 65.38	
31	Ga	Ga	
32	Ge	Gallium 69.723	
33	As	Germanium 72.63	
34	Se	Arsenic 74.922	
35	Br	Selenium 78.971	
36	Kr	Bromine 79.904	

NAME*no value*

A style equivalent to capitalize element names=TRUE

\pgfPT[Z list={1,...,36},NAME]

1	H	2	He
1	HYDROGEN 1.008	2	HELIUM 4.0026
2	Li	Be	He
3	LITHIUM 6.94	BERYLLIUM 9.0122	He
11	Na	Mg	Neon 20.18
3	SODIUM 22.99	MAGNESIUM 24.305	Ar
19	K	Ca	Ar
4	POTASSIUM 39.098	CALCIUM 40.078	Argon 39.95
21	Sc	Ti	Kr
22	Scandium 44.955	Titanium 47.867	Krypton 83.798
23	V	Cr	
24	Vanadium 50.942	Chromium 51.996	
25	Mn	Fe	
26	Manganese 54.938	Iron 55.845	
27	Co	Co	
28	Ni	Nickel 58.933	
29	Cu	Copper 63.546	
30	Zn	Zinc 65.38	
31	Ga	Gallium 69.723	
32	Ge	Germanium 72.63	
33	As	Arsenic 74.922	
34	Se	Selenium 78.971	
35	Br	Bromine 79.904	
36	Kr	Krypton 83.798	

The atomic weight**Ar color***default: black*

Sets the relative atomic mass color.

\pgfPT[Z list={1,...,36},Ar color=red]

1	H	2	He
1	hydrogen 1.008	2	helium 4.0026
2	Li	Be	He
3	Lithium 6.94	Beryllium 9.0122	He
11	Na	Mg	Neon 20.18
3	sodium 22.99	magnesium 24.305	Ar
19	K	Ca	Ar
4	Potassium 39.098	calcium 40.078	Argon 39.95
21	Sc	Ti	Kr
22	Scandium 44.955	Titanium 47.867	Krypton 83.798
23	V	Cr	
24	Vanadium 50.942	Chromium 51.996	
25	Mn	Fe	
26	Manganese 54.938	Iron 55.845	
27	Co	Co	
28	Ni	Nickel 58.933	
29	Cu	Copper 63.546	
30	Zn	Zinc 65.38	
31	Ga	Gallium 69.723	
32	Ge	Germanium 72.63	
33	As	Arsenic 74.922	
34	Se	Selenium 78.971	
35	Br	Bromine 79.904	
36	Kr	Krypton 83.798	

Ar fontdefault: `\tiny\bfseries`

Sets the relative atomic mass font.

```
\pgfPT[Z list={1,...,36},Ar font=\scriptsize\bfseries]
```

A standard periodic table of elements from Z=1 to Z=36. The font used for element symbols and their relative atomic masses is a bold script font. A legend box in the top right corner provides information about the keys: Z: Atomic Number, Ra: Radioactive, CS: Chemical Symbol, N: Name, and Ar: Relative Atomic Mass.

Ar labeldefault: `m`Sets the label to be used within the relative atomic mass description. When set to '`m`' the term **mass** is used and when set to '`w`' the term **weight** is used, resulting in *Relative Atomic Mass* and *Atomic Weight* labels respectively.

```
\pgfPT[Z list={1,...,36}]
```

A standard periodic table of elements from Z=1 to Z=36. The font used for element symbols and their relative atomic masses is a standard serif font. A legend box in the top right corner provides information about the keys: Z: Atomic Number, Ra: Radioactive, CS: Chemical Symbol, N: Name, and Ar: Relative Atomic Mass.

```
\pgfPT[Z list={1,...,36},Ar label=w]
```

A standard periodic table of elements from Z=1 to Z=36. The font used for element symbols and their relative atomic masses is a standard serif font. A legend box in the top right corner provides information about the keys: Z: Atomic Number, Ra: Radioactive, CS: Chemical Symbol, N: Name, and Ar: Atomic Weight.

Ar precisiondefault: `-1`

Sets the relative atomic mass precision, i.e., the decimal places displayed in the relative atomic mass value, performing the respective rounding, without zero padding the value.

NOTE:

Rounding is performed over the relative atomic mass data values which actually have a maximum of 4 decimal places. So giving this key a value of -1 (the value of relative atomic mass as-is) or 4 has the same effect.

Therefore the values provided to this key should be any integer between -1 and 3, i.e., -1, 0, 1, 2 or 3. Any other integer provided will be processed as -1.

\pgfPT[Z list={1,...,36}]

1 H hydrogen 1.008	2 He helium 4.002
3 Li lithium 6.94	4 Be beryllium 9.0122
11 Na sodium 22.99	12 Mg magnesium 24.305
19 K potassium 39.098	20 Ca calcium 40.078
21 Sc scandium 44.96	22 Ti titanium 47.867
23 V vanadium 50.942	24 Cr chromium 51.996
25 Mn manganese 54.938	26 Fe iron 55.845
27 Co cobalt 58.933	28 Ni nickel 58.693
29 Cu copper 63.546	30 Zn zinc 65.38
31 Ga gallium 69.723	32 Ge germanium 72.63
33 As arsenic 74.922	34 Se selenium 78.971
35 Br bromine 79.904	36 Kr krypton 83.798

\pgfPT[Z list={1,...,36},Ar precision=2]

1 H hydrogen 1.01	2 He helium 4.00
3 Li lithium 6.94	4 Be beryllium 9.01
11 Na sodium 22.99	12 Mg magnesium 24.31
19 K potassium 39.10	20 Ca calcium 40.08
21 Sc scandium 44.96	22 Ti titanium 47.87
23 V vanadium 50.94	24 Cr chromium 52.00
25 Mn manganese 54.94	26 Fe iron 55.85
27 Co cobalt 58.93	28 Ni nickel 58.69
29 Cu copper 63.55	30 Zn zinc 65.38
31 Ga gallium 69.72	32 Ge germanium 72.63
33 As arsenic 74.92	34 Se selenium 78.97
35 Br bromine 79.90	36 Kr krypton 83.80

\pgfPT[Z list={1,...,36},Ar precision=1]

1 H hydrogen 1.01	2 He helium 4.0
3 Li lithium 6.9	4 Be beryllium 9.0
11 Na sodium 23.0	12 Mg magnesium 24.3
19 K potassium 39.1	20 Ca calcium 40.1
21 Sc scandium 45.0	22 Ti titanium 47.9
23 V vanadium 50.9	24 Cr chromium 52.0
25 Mn manganese 54.9	26 Fe iron 55.9
27 Co cobalt 58.9	28 Ni nickel 58.7
29 Cu copper 63.6	30 Zn zinc 65.4
31 Ga gallium 69.7	32 Ge germanium 72.6
33 As arsenic 74.9	34 Se selenium 79.0
35 Br bromine 79.9	36 Kr krypton 83.8

Ar

default: {c=black,f=\tiny\bfseries,l=m,p=-1}

Pseudo style to set the keys: Ar color, Ar font, Ar label and/or Ar precision. None of the keys – c, f, l and p – are mandatory.

USAGE: Ar={c=<color>,f=,l=<m|w>p=<integer value>}

\pgfPT[Z list={1,...,36},Ar={c=red!50!black,p=2}]

1 H hydrogen 1.01	2 He helium 4.00
3 Li lithium 6.94	4 Be beryllium 9.01
11 Na sodium 22.99	12 Mg magnesium 24.31
19 K potassium 39.10	20 Ca calcium 40.08
21 Sc scandium 44.96	22 Ti titanium 47.87
23 V vanadium 50.94	24 Cr chromium 52.00
25 Mn manganese 54.94	26 Fe iron 55.85
27 Co cobalt 58.93	28 Ni nickel 58.69
29 Cu copper 63.55	30 Zn zinc 65.38
31 Ga gallium 69.72	32 Ge germanium 72.63
33 As arsenic 74.92	34 Se selenium 78.97
35 Br bromine 79.90	36 Kr krypton 83.80

```
\pgfPT[Z list={1,...,36},Ar={c=red!50!black,p=1,l=w}]
```

1	H hydrogen 1.0	2	He helium 4.0
3	Li lithium 6.9	4	Be beryllium 9.0
5	B boron 10.8	6	C carbon 12.0
7	N nitrogen 14.0	8	O oxygen 16.0
9	F fluorine 19.0	10	Ne neon 20.2
11	Na sodium 23.0	12	Mg magnesium 24.3
13	P phosphorus 31.0	14	S sulfur 32.1
15	Cl chlorine 35.5	16	Ar argon 40.0
17	K potassium 39.1	18	Kr krypton 83.8
19	Ca calcium 40.1	20	
21	Sc scandium 45.0	22	
23	Ti titanium 47.9	24	
25	V vanadium 50.9	26	
27	Cr chromium 52.0	28	
29	Mn manganese 54.9	30	
31	Fe iron 55.9	32	
33	Co cobalt 58.9	34	
35	Ni nickel 58.7	36	
36	Cu copper 63.6	37	
38	Zn zinc 65.4	39	
39	Ga gallium 69.7	40	
40	Ge germanium 72.6	41	
41	As arsenic 74.9	42	
42	Se selenium 78.9	43	
43	Br bromine 79.9	44	
44	Kr krypton 83.8	45	

→ The density

d color

default: *black*

Sets the density value text color.

```
\pgfPTbuilcellstyle{myd}{5,3}% 5 rows by 3 columns
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-3;d)]
\pgfPT[Z list={1,...,36},cell style=myd,show title=false]
```

1	H hydrogen 0.08989	2	He helium 0.1786
3	Li lithium 0.534	4	Be beryllium 1.850
5	Mg magnesium 1.738	6	Al aluminum 2.700
7	Si silicon 2.330	8	P phosphorus 1.823
9	S sulfur 1.960	10	Cl chlorine 3.2
11	K potassium 0.890	12	Ar argon 1.784
13	Ca calcium 1.550	14	Br bromine 3.1028
15	Sc scandium 2.985	16	Kr krypton 3.749
17	Ti titanium 4.505	18	
19	V vanadium 6.110	20	
21	Cr chromium 7.150	22	
23	Mn manganese 7.210	24	
25	Fe iron 7.860	26	
27	Co cobalt 8.900	28	
29	Ni nickel 8.908	30	
31	Zn zinc 9.140	32	
33	Ga germanium 5.910	34	
35	Ge germanium 5.323	36	
36	As arsenic 5.727		
37	Se selenium 4.810		
38	Br bromine 3.1028		
39	Kr krypton 3.749		

```
\pgfPT[Z list={1,...,36},cell style=myd,show title=false,d color=red]
```

1	H hydrogen <small>0.08993</small>	2	He helium <small>0.1786</small>
3	Li lithium <small>0.934</small>	4	Be beryllium <small>1.895</small>
5	Mg magnesium <small>1.738</small>	6	Al aluminum <small>2.700</small>
7	Si silicon <small>2.330</small>	8	P phosphorus <small>1.823</small>
9	S sulfur <small>1.960</small>	10	Cl chlorine <small>3.2</small>
11	K potassium <small>0.890</small>	12	Ar argon <small>1.784</small>
13	B boron <small>2.340</small>	14	F fluorine <small>1.7</small>
15	C carbon <small>2.267</small>	16	Ne neon <small>0.9002</small>
17	N nitrogen <small>1.251</small>	18	O oxygen <small>1.429</small>
19	Sc scandium <small>2.985</small>	20	Kr krypton <small>3.749</small>
21	Tl thallium <small>4.598</small>	22	Br bromine <small>3.1028</small>
23	V vanadium <small>7.110</small>	24	Ra radioactive synthetic <small>d</small>
25	Cr chromium <small>7.199</small>	26	Ga gallium <small>5.910</small>
27	Mn manganese <small>7.219</small>	28	Ge germanium <small>5.323</small>
29	Fe iron <small>7.860</small>	30	As arsenic <small>5.727</small>
31	Co cobalt <small>8.900</small>	32	Se selenium <small>4.810</small>
33	Ni nickel <small>8.908</small>	34	Br bromine <small>3.1028</small>
35	Zn zinc <small>7.140</small>	36	Kr krypton <small>3.749</small>

d font

default: $\tiny\bfseries$

Sets the density value text font.

```
\pgfPT[Z list={1,...,36},cell style=myd,show title=false]
```

1	H hydrogen 0.08989 d	2	He helium 0.1786
3	Li lithium 0.534	4	Be beryllium 1.850
5	Mg magnesium 1.738	6	
7		8	
9		10	
11		12	
13		14	
15		16	
17		18	
19	K potassium 0.890	20	Ca calcium 1.550
21	Sc scandium 2.985	22	Ti titanium 4.505
23	V vanadium 6.110	24	Cr chromium 7.150
25	Mn manganese 7.210	26	Fe iron 7.860
27	Co cobalt 8.900	28	Ni nickel 8.908
29	Cu copper 8.960	30	Zn zinc 7.140
31	Ga germanium 5.910	32	Ge arsenic 5.323
33	As selenium 5.727	34	Se bromine 4.810
35	Br krypton 3.1028	36	Kr argon 1.784

```
\pgfPT[Z list={1,...,36},cell style=myd,show title=false,d font=\tiny\itshape]
```

1	H											18			
hydrogen 1.00898												He			
1	2											helium 1.0786			
Li	Be														
lithium 0.534	beryllium 1.850														
Na	Mg														
sodium 0.968	magnesium 1.738														
K	Ca														
potassium 0.890	calcium 1.550														
Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
scandium 2.985	titanium 4.506	vanadium 6.110	chromium 7.150	manganese 7.210	iron 7.860	cobalt 8.900	copper 8.960	zinc 7.140	gallium 5.910	germanium 5.323	arsenic 5.727	selenium 4.810	bromine 3.1028	krypton 3.749	

d unit

default: *both*

Sets the unit for the density of the elements. The two possible values to this key are **g/dm³** (g/dm^3), **g/cm³** (g/cm^3) and **both** (g/dm^3 for elements in the gaseous state and g/cm^3 for all other elements). (new in v1.0.1)

```
\p{qfPT[Z list={1,...,36},cell style=myd,show title=false]}
```

1	H hydrogen 0.09898	2	He helium 0.1786
3	Li lithium 0.534	4	Be beryllium 1.850
5	B boron 2.340	6	C carbon 2.267
7	N nitrogen 1.251	8	O oxygen 1.429
9	F fluorine 1.7	10	Ne neon 0.9002
11	Na sodium 0.968	12	Mg magnesium 1.738
13	Al aluminum 2.700	14	Si silicon 2.330
15	P phosphorus 1.823	16	S sulfur 1.960
17	Cl chlorine 3.2	18	Ar argon 1.784
19	K potassium 0.890	20	Ca calcium 1.550
21	Sc scandium 0.985	22	Ti titanium 4.096
23	V vanadium 6.110	24	Cr chromium 7.810
25	Mn manganese 7.910	26	Fe iron 8.000
27	Co cobalt 8.900	28	Ni nickel 8.900
29	Cu copper 8.969	30	Zn zinc 7.140
31	Ga gallium 6.040	32	Ge germanium 5.920
33	As arsenic 6.702	34	Se selenium 4.810
35	Br bromine 3.109	36	Kr krypton 3.210

```
\pgfPT[Z list={1,...,36},cell style=myd,show title=false,d unit=q/cm3]
```

1	H	He
hydrogen 0.000000888		helium 0.0001786
2	Li	Be
lithium 0.534	beryllium 1.850	
3	Na	Mg
sodium 0.968	magnesium 1.738	
4	K	Ca
potassium 0.200	calcium 0.295	
5	Sc	Ti
scandium 0.359	titanium 0.406	
6	V	Cr
vanadium 0.295	chromium 0.210	
7	Mn	Fe
manganese 0.720	iron 0.810	
8	Co	Ni
cobalt 0.866	copper 0.900	
9	Cu	Zn
copper 0.900	zinc 0.928	
10	Ga	Ge
gallium 0.960	germanium 1.160	
11	As	Se
arsenic 1.630	selenium 1.920	
12	Br	Kr
bromine 2.020	krypton 3.200	
13	B	C
boron 2.340	carbon 2.267	
14	N	O
nitrogen 0.001251	oxygen 0.001429	
15	P	S
phosphorus 1.823	sulfur 1.960	
16	Cl	Ar
chlorine 0.0032	argon 0.001784	
17	Ne	
neon 0.00900		
18		

```
\pgfPT[Z list={1,...,36},cell style=myd,show title=false,d unit=g/dm3]
```

1	H	He
hydrogen		helium
0.08988		0.1786
2	Be	Ne
lithium	beryllium	neon
534	1850	0.9002
3	Mg	Ar
Na	magnesium	argon
968	1738	1.784
4	Ca	Kr
potassium	calcium	krypton
968	1559	3.126
5	Sc	Br
Scandium	Titanium	bromine
8985	6110	1.028
6	Cr	Rb
chromium	manganese	rubidium
7150	7210	8.510
7	V	Y
vanadium	iron	yttrium
7869	8900	1.524
8	Fe	Lu
iron	cobalt	lutetium
7140	8900	9.248
9	Co	W
cobalt	nickel	tungsten
8910	8908	19.25
10	Ni	Re
nickel	copper	rhenium
8910	8900	16.21
11	Cu	Os
copper	zinc	osmium
7140	8910	22.61
12	Zn	Pt
zinc	gallium	platinum
8910	8910	19.51
13	B	Ir
boron	carbon	iridium
2340	2267	19.25
14	C	Os
carbon	nitrogen	osmium
1.251	1.251	22.61
15	N	Se
nitrogen	oxygen	selenium
1.429	1.429	48.10
16	O	Br
oxygen	fluorine	bromine
1.7	1.7	1.028
17	F	Kr
fluorine	neon	krypton
18	He	He
helium	helium	helium
0.1786	0.1786	0.1786

d precision

default: -1

Sets the density precision, i.e., the decimal places displayed in their value, performing the respective rounding, without zero padding the value.

NOTE:

Rounding is performed over density values which actually have a maximum 5 or 8 decimal places, when the values are in g/dm³ or in g/cm³, respectively.. So giving this key a value of -1 (the value of the melting or boiling point as-is) or 5 or 8 has the same effect.

Therefore the values provided to this key should be any integer between -1 and 4 (g/dm³) or 7 (g/cm³). Any other integer provided will be processed as -1.

```
\pgfPTstyle[Z list={1,...,54},cell style=myd,show title=false]
\pgfPT
```

A standard periodic table showing elements from hydrogen (H) to xenon (Xe). Each element cell contains its atomic number, symbol, name, and density. A legend in the top right corner defines the keys used: Z=Atomic Number, Ra=Radioactive, CS=Chemical Symbol, N=Name, and d=Density (g/cm³; g/dm³ for the gases).

```
\pgfPT[d precision=0]
```

A periodic table where density values are rounded to 0 decimal places. The values in the density column are: hydrogen (0), lithium (1), beryllium (2), sodium (1), magnesium (2), potassium (1), calcium (2), rubidium (2), strontium (3), yttrium (5), zirconium (9), niobium (10), molybdenum (10), technetium (11), ruthenium (13), rhodium (12), palladium (12), silver (11), cadmium (9), indium (7), tin (7), antimony (7), tellurium (6), iodine (5), and xenon (6).

```
\pgfPT[d precision=1]
```

A periodic table where density values are rounded to 1 decimal place. The values in the density column are: hydrogen (0.1), lithium (0.5), beryllium (1.9), sodium (1.0), magnesium (1.7), potassium (0.9), calcium (1.6), rubidium (1.5), strontium (2.6), yttrium (4.5), zirconium (6.5), niobium (8.6), molybdenum (10.3), technetium (11.0), ruthenium (12.5), rhodium (12.4), palladium (12.0), silver (10.5), cadmium (8.7), indium (7.3), tin (7.3), antimony (6.7), tellurium (6.2), iodine (4.9), and xenon (5.9).

\pgfPT[d precision=2]

\pgfPT[d precision=3]

\pgfPT[d precision=4]

1	H	He
hydrogen 0.0899		helium 0.1786
2	Be	Ne
lithium 0.934	beryllium 1.850	neon 0.9002
3	Mg	Ar
sodium 0.968	magnesium 1.738	argon 1.784
4	Ca	Kr
potassium 0.990	calcium 1.550	krypton 3.749
5	Sc	Xe
	scandium 2.985	xenon 5.894
6	Ti	
	titanium 4.506	
7	V	
	vanadium 5.110	
8	Cr	
	chromium 7.150	
9	Mn	
	manganese 7.210	
10	Fe	
	iron 7.860	
11	Co	
	cobalt 8.900	
12	Ni	
	nickel 9.908	
13	Cu	
	copper 8.960	
14	Zn	
	zinc 7.140	
15	Ga	
	gallium 5.910	
16	Ge	
	germanium 5.323	
17	As	
	arsenic 5.727	
18	Se	
	selenium 4.810	
19	Br	
	bromine 3.1028	
20	Rb	
	rubidium 2.640	
21	Sr	
	strontium 4.472	
22	Y	
	yttrium 6.520	
23	Zr	
	zirconium 8.570	
24	Nb	
	niobium 10.280	
25	Mo	
	molybdenum 11.000	
26	Tc	
	technetium 12.450	
27	Ru	
	ruthenium 12.410	
28	Rh	
	rhodium 12.023	
29	Pd	
	palladium 10.490	
30	Ag	
	silver 8.650	
31	Cd	
	cadmium 7.310	
32	In	
	indium 7.265	
33	Sn	
	tin 6.697	
34	Sb	
	antimony 6.240	
35	Te	
	tellurium 4.933	
36	I	
	iodine 5.894	
37	Rb	
	rubidium 1.532	
38	Sr	
	strontium 2.640	
39	Y	
	yttrium 4.472	
40	Zr	
	zirconium 6.520	
41	Nb	
	niobium 8.570	
42	Mo	
	molybdenum 10.280	
43	Tc	
	technetium 11.000	
44	Ru	
	ruthenium 12.450	
45	Rh	
	rhodium 12.410	
46	Pd	
	palladium 10.490	
47	Ag	
	silver 8.650	
48	Cd	
	cadmium 7.310	
49	In	
	indium 7.265	
50	Sn	
	tin 6.697	
51	Sb	
	antimony 6.240	
52	Te	
	tellurium 4.933	
53	I	
	iodine 5.894	

\pgfPT[d precision=5]

1	H hydrogen 0.08988	2	Ra radioactive 0.00000	18
3	Li lithium 0.034	4	Be beryllium 1.850	10
5	B boron 2.240	6	C carbon 2.267	12
7	N nitrogen 1.251	8	O oxygen 1.429	14
9	F fluorine 1.7	10	Ne neon 0.9002	16
11	Mg magnesium 1.738	12	Al aluminum 2.700	17
13	Si silicon 2.330	14	P phosphorus 1.823	18
15	S sulfur 1.960	16	Cl chlorine 3.2	19
17	Ar argon 1.784	18	Kr krypton 3.749	
19	K potassium 0.990	20	Ca calcium 1.550	36
21	Sc scandium 2.985	22	Ti titanium 4.506	37
23	V vanadium 6.110	24	Cr chromium 7.150	38
25	Mn manganese 7.210	26	Fe iron 7.860	39
27	Co cobalt 8.900	28	Ni nickel 9.908	40
29	Cu copper 8.960	30	Zn zinc 9.510	41
31	Ga gallium 5.910	32	Ge germanium 5.323	42
33	As arsenic 5.727	34	Se selenium 4.810	43
35	Br bromine 3.1028	36	Kr krypton 3.749	
37	Rb rubidium 1.532	38	Sr strontium 2.640	39
39	Y yttrium 4.472	40	Zr zirconium 6.520	40
41	Nb niobium 8.570	42	Mo molybdenum 10.280	41
43	Tc technetium 0.00000	44	Ru ruthenium 11.000	42
45	Rh rhodium 12.450	46	Pd palladium 12.023	43
47	Ag silver 10.490	48	Cd cadmium 8.650	44
49	In indium 7.310	50	Sn tin 7.265	45
51	Sb antimony 6.697	52	Te tellurium 6.240	46
53	I iodine 4.933	54	Xe xenon 5.894	
55	He helium 0.1786			

ddefault: `{c=black,f=\tiny\bfseries,p=-1,u=both}`

Pseudo style to set the keys: d color, d font, d precision and/or d unit. None of the keys – c, f, p and u – are mandatory.
(new in v1.0.1)

USAGE:	<code>d={c=<color>,f=,p=<integer value>,u=<pm A>}</code>
--------	---

```
\pgfPT[Z list={1,...,36},cell style=myd,show title=false,d={c=blue,p=2}]
```

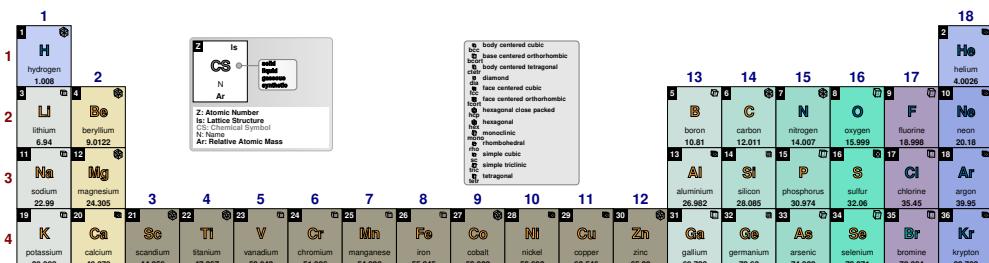


► The lattice structure

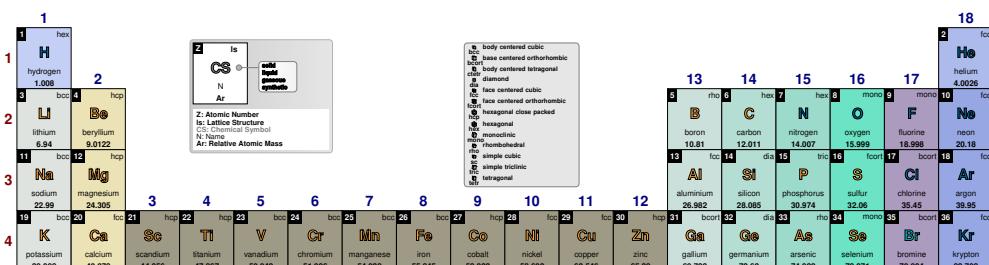
lsdefault: `fig`

Sets what is displayed for the lattice structure: a figure (fig) or text (txt) or both (fig+txt or txt+fig).

```
\pgfPT[Z list={1,...,36},cell style=pgfPTIs]
```



```
\pgfPT[Z list={1,...,36},cell style=pgfPTIs,ls=txt]
```



\pgfPT[Z list={1,...,36},cell style=pgfPTIs,ls=fig+txt]

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
H	Be	Li	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	N	O	F	He	
hydrogen 1.008	beryllium 9.0122	lithium 6.94	scandium 44.956	titanium 47.867	vandium 50.942	chromium 51.996	manganese 54.938	iron 55.845	cobalt 58.933	nickel 58.693	copper 63.546	zinc 65.38	gallium 69.723	germanium 72.63	nitrogen 14.007	oxygen 15.999	fluorine 18.998	helium 4.0026
1.008	9.0122	6.94	44.956	47.867	50.942	51.996	54.938	55.845	58.933	58.693	63.546	65.38	69.723	72.63	14.007	15.999	18.998	
39.098	40.078	22.99	24.305	44.956	47.867	50.942	51.996	54.938	55.845	58.933	58.693	63.546	65.38	69.723	72.63	74.922	78.971	83.798

\pgfPT[Z list={1,...,36},cell style=pgfPTIs,ls=txt+fig]

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
H	Be	Li	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	N	O	F	He	
hydrogen 1.008	beryllium 9.0122	lithium 6.94	scandium 44.956	titanium 47.867	vandium 50.942	chromium 51.996	manganese 54.938	iron 55.845	cobalt 58.933	nickel 58.693	copper 63.546	zinc 65.38	gallium 69.723	germanium 72.63	nitrogen 14.007	oxygen 15.999	fluorine 18.998	helium 4.0026
1.008	9.0122	6.94	44.956	47.867	50.942	51.996	54.938	55.845	58.933	58.693	63.546	65.38	69.723	72.63	74.922	78.971	83.798	
39.098	40.078	22.99	24.305	44.956	47.867	50.942	51.996	54.938	55.845	58.933	58.693	63.546	65.38	69.723	72.63	74.922	78.971	83.798

ls color

default: black

Sets the lattice structure text color.

\pgfPT[Z list={1,...,36},cell style=pgfPTIs,ls=txt+fig,ls color=red]

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
H	Be	Li	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	N	O	F	He	
hydrogen 1.008	beryllium 9.0122	lithium 6.94	scandium 44.956	titanium 47.867	vandium 50.942	chromium 51.996	manganese 54.938	iron 55.845	cobalt 58.933	nickel 58.693	copper 63.546	zinc 65.38	gallium 69.723	germanium 72.63	nitrogen 14.007	oxygen 15.999	fluorine 18.998	helium 4.0026
1.008	9.0122	6.94	44.956	47.867	50.942	51.996	54.938	55.845	58.933	58.693	63.546	65.38	69.723	72.63	74.922	78.971	83.798	
39.098	40.078	22.99	24.305	44.956	47.867	50.942	51.996	54.938	55.845	58.933	58.693	63.546	65.38	69.723	72.63	74.922	78.971	83.798

ls font

default: \tiny

Sets the lattice structure text font.

\pgfPT[Z list={1,...,36},cell style=pgfPTIs,ls=txt+fig,ls font=\tiny\bfseries]

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
H	Be	Li	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	N	O	F	He	
hydrogen 1.008	beryllium 9.0122	lithium 6.94	scandium 44.956	titanium 47.867	vandium 50.942	chromium 51.996	manganese 54.938	iron 55.845	cobalt 58.933	nickel 58.693	copper 63.546	zinc 65.38	gallium 69.723	germanium 72.63	nitrogen 14.007	oxygen 15.999	fluorine 18.998	helium 4.0026
1.008	9.0122	6.94	44.956	47.867	50.942	51.996	54.938	55.845	58.933	58.693	63.546	65.38	69.723	72.63	74.922	78.971	83.798	
39.098	40.078	22.99	24.305	44.956	47.867	50.942	51.996	54.938	55.845	58.933	58.693	63.546	65.38	69.723	72.63	74.922	78.971	83.798

ls aligndefault: *right*Sets the alignment of the lattice structure to **left** or **center** or **right**.

\pgfPT[Z list={1,...,36},cell style=pgfPTIs,ls align=center]

1	H	2	He	18
1	hydrogen	1.008	helium	4.0026
2	Li	Be	Ne	20.18
3	lithium	6.94	beryllium	9.0122
4	Na	Mg	Ar	
5	sodium	magnesium		
6	22.99	24.305		
7	K	Ca	Ca	40.078
8	potassium	calcium	calcium	40.078
9	Sc	Ti	Sc	44.956
10	Scandium	titanium	Scandium	47.867
11	V	Cr	V	50.942
12	vanadium	chromium	Vanadium	51.996
13	Mn	Fe	Mn	54.938
14	manganese	iron	Manganese	55.845
15	Co	Ni	Co	58.933
16	cobalt	nickel	Cobalt	58.693
17	Cu	Zn	Cu	63.546
18	copper	zinc	Copper	65.38
19	Zn	Ga	Zn	68.723
20	Ga	Ge	Ga	72.63
21	As	Ge	germanium	74.922
22	Se	As	arsenic	78.971
23	Br	Se	selenium	78.904
24	Kr	Br	bromine	79.904
25		Kr	krypton	83.798

ls unitdefault: *pm*Sets the unit for the lattice structure constants: **a**, **b** and **c**. The two possible values to this key are **pm** (picometers) and **A** (\AA – angstroms). *(new in v1.0.1)*

\pgfPTbuilcellstyle{myls}(6,3)% 6 rows by 3 columns
 [(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-2.5;ls),(5;2.5-3;ls),
 (6;1-2.5;lsb),(6;2.5-3;lsca)]
 \pgfPTstyle[Z list={1,...,36},cell style=myls,show title=false,ls align=center]
 \pgfPT

1	H	2	He	18
1	hydrogen	1.008	helium	4.0026
2	Li	Be	Ne	20.18
3	lithium	6.94	beryllium	9.0122
4	Na	Mg	Ar	
5	sodium	magnesium		
6	22.99	24.304		
7	K	Ca	Ca	40.078
8	potassium	calcium	calcium	40.078
9	Sc	Ti	Sc	44.956
10	Scandium	titanium	Scandium	47.867
11	V	Cr	V	50.942
12	vanadium	chromium	Vanadium	51.996
13	Mn	Fe	Mn	54.938
14	manganese	iron	Manganese	55.845
15	Co	Ni	Co	58.933
16	cobalt	nickel	Cobalt	58.693
17	Cu	Zn	Cu	63.546
18	copper	zinc	Copper	65.38
19	Zn	Ga	Zn	68.723
20	Ga	Ge	Ga	72.63
21	As	As	germanium	74.922
22	Se	Se	arsenic	78.971
23	Br	Br	selenium	78.904
24	Kr	Kr	bromine	79.904
25		Kr	krypton	83.798

\pgfPT[ls unit=A]

1	H	2	He	18
1	hydrogen	1.008	helium	4.244
2	Li	Be	Ne	44.29
3	lithium	6.94	beryllium	9.286
4	Na	Mg	Ar	
5	sodium	magnesium		
6	22.99	24.204		
7	K	Ca	Ca	40.078
8	potassium	calcium	calcium	40.078
9	Sc	Ti	Sc	44.956
10	Scandium	titanium	Scandium	47.867
11	V	Cr	V	50.942
12	vanadium	chromium	Vanadium	51.996
13	Mn	Fe	Mn	54.938
14	manganese	iron	Manganese	55.845
15	Co	Ni	Co	58.933
16	cobalt	nickel	Cobalt	58.693
17	Cu	Zn	Cu	63.546
18	copper	zinc	Copper	65.38
19	Zn	Ga	Zn	68.723
20	Ga	Ge	Ga	72.63
21	As	As	germanium	74.922
22	Se	Se	arsenic	78.971
23	Br	Br	selenium	78.904
24	Kr	Kr	bromine	79.904
25		Kr	krypton	83.798

ls precision

default: -1

Sets the lattice structure constants - **a**, **b**, and **c** - precision, as also the lattice **c/a** ratio, i.e., the decimal places displayed in their value, performing the respective rounding, without zero padding the value.**NOTE:**

Rounding is performed over the constants data or **c/a** ratio values which actually have a maximum of 2 or 4 decimal places, when the values are in picometers or in angstroms, respectively. So giving this key a value of -1 (the value of the constants or **c/a** ratio as-is) or 2 or 4 has the same effect.

Therefore the values provided to this key should be any integer between -1 and 1 (pm) or 3 (\AA). Any other integer provided will be processed as -1.

```
\pgfPTbuilcellstyle{myls}{(6,3)}% 6 rows by 3 columns  
[(1;1-2;Z),(1;2-3;ls),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-2.5;lsa), (5;2.5-  
3;lsb),(6;1-2.5;lsc),(6;2.5-3;lsc)]
```

```
\pgfPTstyle[Z list={1,...,36},cell={w=36pt,h=42pt,style=myls}]\pgfPT
```

Periodic Table of Elements

\pgfPT[ls precision=0]

Periodic Table of Elements

1	H hydrogen 470 470 340 1	Z Is CS ◊ Is a Is b Is c Is ca	body centered cubic bcc body centered orthorhombic bcos body centered tetragonal bct cubic face centered cubic fcc face centered orthorhombic fcos hexagonal close packed hcp icosahedral icos monoclinic m orthorhombic or simple cubic sc simple triclinic st tetragonal t	18
2	Li lithium 351 226 2	Be beryllium 226 358 2		He helium 424
3	Na sodium 429 321 2	Mg magnesium 321 521 2		Ne neon 443
4	K potassium 533 559	Ca calcium 559 331	B boron 506 246	O oxygen 388 388 540 343
5	Sc scandium 527 2	Ti titanium 488 2	C carbon 367 3 267 2	F fluorine 553 328 443
6	V vanadium 302 289	Cr chromium 891 287	N nitrogen 388 388 540 343	Cl chlorine 526 297 446
7	Mn manganese 251 287	Fe iron 407 2	P phosphorus 1145 559 2449 2	Ar argon 818 1 571
8	Co cobalt 362 267	Ni nickel 352 267	S sulfur 1297 2 818 1	
9	Zn zinc 495 2 766 2	Ga gallium 566 453 452	As arsenic 1053 5 905 908	Kr krypton 673 465 571
10	Cu copper 362 267	Ge germanium 566 376 376	Se selenium 1160 1 673 673	
11	Zn zinc 495 2 766 2	Ga gallium 566 453 452	Br bromine 673 673 571	
12	Cu copper 362 267	Ge germanium 566 376 376	Se selenium 1160 1 673 673	
13	Al aluminum 405 543	Si silicon 1145 559 2449 2	As arsenic 1053 5 905 908	
14	Si silicon 1145 559 2449 2	Al aluminum 405 543	Br bromine 673 673 571	
15	Al aluminum 405 543	Si silicon 1145 559 2449 2	Se selenium 1160 1 673 673	
16	Si silicon 1145 559 2449 2	Al aluminum 405 543	Br bromine 673 673 571	
17	Al aluminum 405 543	Si silicon 1145 559 2449 2	Se selenium 1160 1 673 673	
18	Si silicon 1145 559 2449 2	Al aluminum 405 543	Br bromine 673 673 571	

\pgfPT[ls precision=1]

Periodic Table of Elements

The figure displays a periodic table of elements with the following features:

- Element Properties:**
 - Hydrogen:** Symbol H, atomic number 1, element 1.
 - Boron:** Symbol B, atomic number 5, element 13.
 - Silicon:** Symbol Si, atomic number 14, element 14.
 - Phosphorus:** Symbol P, atomic number 15, element 15.
 - Sulfur:** Symbol S, atomic number 16, element 16.
 - Chlorine:** Symbol Cl, atomic number 17, element 17.
 - Argon:** Symbol Ar, atomic number 18, element 18.
- Crystallographic Data:**
 - Lattice Structure:** Indicated by icons: body centered cubic, face centered cubic, simple cubic, diamond, hexagonal close packed, hexagonal, monohedral, simple triclinic, and tetragonal.
 - Body-Centred Cubic:** Indicated by a blue box.
 - Face-Centred Cubic:** Indicated by a green box.
 - Simple Cubic:** Indicated by a red box.
 - Diamond:** Indicated by a yellow box.
 - Hexagonal Close-Packed:** Indicated by a purple box.
 - Hexagonal:** Indicated by a pink box.
 - Monohedral:** Indicated by a grey box.
 - Simple Triclinic:** Indicated by a brown box.
 - Tetragonal:** Indicated by an orange box.
- Z-Axis Number:** The vertical column index of each element.
- Lattice Constant:** Lattice constant c (pm) for each element.
- Name:** The common name of each element.
- Lattice Constant:** Lattice constant a (pm) for each element.
- b:** Lattice constant b (pm) for each element.
- c/a:** Lattice c/a ratio for each element.

\pgfPT[ls precision=2]

Periodic Table of Elements

\pgfPT[Is precision=2,Is unit=A]

Periodic Table of Elements

lat

default: {Is=fig,c=black,f=\tiny,align=right,p=-1,u=pm}

Pseudo style to set the keys: **Is**, **Is color**, **Is font**, **Is align**, **Is precision** and/or **Is unit**. None of the keys – Is, c, f, align, p and u – are mandatory. (new in v1.0.1)

USAGE: lat={Is=<fig|txt|fig+txt|txt+fig>,c=<color>,f=,&align=<left|center|right>,p=<integer value>,u=<pm|A>}

\pgfPT[Z list={1,...,36},lat={c=blue,f=\tiny\bfseries,u=A,p=2}]

Periodic Table of Elements

The discovery year**DiscY color**

Sets the discovery year color.

default: black

\pgfPT[Z list={1,...,36},cell style=pgfPTdisc,DiscY color=red]

Periodic Table of Elements

DiscY font

Sets the discovery year font.

default: `\tiny\bfseries`

```
\pgfPT[Z list={1,...,36},cell style=pgfPTdisc,DiscY
font=\fontfamily{pbk}\selectfont\tiny\bfseries]
```

Periodic Table of Elements																																																																																																																				
1	H	2	Be	3	C	4	N	5	O	6	F	7	Ne	8	Ar	9	Kr																																																																																																			
1	hydrogen 1766	2	beryllium 1798	3	carbon 3750BC	4	nitrogen 1772	5	oxygen 1771	6	fluorine 1886	7	neon 1895	8	argon 1894	9	sulfur 500BC	10	chlorine 1774																																																																																																	
2	lithium 1817	3	magnesium 1755	4	boron 1808	5	phosphorus 1669	6	germanium 1886	7	gallium 1875	8	arsenic 1250	9	seleium 1817	10	antimony 1825	11	tin 1808																																																																																																	
3	sodium 1807	4	calcium 1808	5	scandium 1879	6	titanium 1791	7	vanadium 1830	8	chromium 1797	9	manganese 1774	10	iron 2000BC	11	cobalt 1735	12	nickel 1751																																																																																																	
4	potassium 1807	5	tin 1808	6	scandium 1879	7	titanium 1791	8	vanadium 1830	9	chromium 1797	10	manganese 1774	11	iron 2000BC	12	cobalt 1735	13	nickel 1751																																																																																																	
19	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36																																																																																				
20	19	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																																			
11	Na	12	Mg	13	B	14	C	15	N	16	O	17	F	18	Ne	19	Ar	20	Ca	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr	37	38	39	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																										
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																											
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																										
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																										
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																										
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																										
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																										
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																										
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																										
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																										
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																										
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																										
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53</td																																																																									

\pgfPT[Z list={1,...,54},cell style=electron,eDist color=red]

Periodic Table of Elements																	
1 H hydrogen 1	2 He helium 2	3 Li lithium 2·1	4 Be beryllium 2·2	5 B boron 2·3	6 C carbon 2·4	7 N nitrogen 2·5	8 O oxygen 2·6	9 F fluorine 2·7	10 Ne neon 2·8	11 Na sodium 2·8·1	12 Mg magnesium 2·8·2	13 Al aluminum 2·8·3	14 Si silicon 2·8·4	15 P phosphorus 2·8·5	16 S sulfur 2·8·6	17 Cl chlorine 2·8·7	18 Ar argon 2·8·8
19 K potassium 2·8·8·1	20 Ca calcium 2·8·8·2	21 Sc scandium 2·8·9·2	22 Ti titanium 2·8·10·2	23 V vanadium 2·8·11·2	24 Cr chromium 2·8·12·1	25 Mn manganese 2·8·13·2	26 Fe iron 2·8·14·2	27 Co cobalt 2·8·15·2	28 Ni nickel 2·8·16·2	29 Cu copper 2·8·16·3	30 Zn zinc 2·8·18·2	31 Ga gallium 2·8·18·3	32 Ge germanium 2·8·18·4	33 As arsenic 2·8·18·5	34 Se selenium 2·8·18·6	35 Br bromine 2·8·18·7	36 Kr krypton 2·8·18·8
37 Rb rubidium 2·8·18·1	38 Sr strontium 2·8·18·2	39 Y yttrium 2·8·18·2	40 Zr zirconium 2·8·18·10·2	41 Nb niobium 2·8·18·12·1	42 Mo molybdenum 2·8·18·13·1	43 Tc technetium 2·8·18·13·2	44 Ru ruthenium 2·8·18·15·1	45 Rh rhodium 2·8·18·16·1	46 Pd palladium 2·8·18·16·2	47 Ag silver 2·8·18·17·1	48 Cd cadmium 2·8·18·17·2	49 In indium 2·8·18·18·3	50 Sn tin 2·8·18·18·4	51 Sb antimony 2·8·18·18·5	52 Te tellurium 2·8·18·18·6	53 I iodine 2·8·18·18·7	54 Xe xenon 2·8·18·18·8

eDist font

default: \tiny\bfseries

Sets the electron distribution font.

\pgfPT[Z list={1,...,54},cell style=electron,eDist font=\fontfamily{pbk}\selectfont\tiny\bfseries]

Periodic Table of Elements																	
1 H hydrogen 1	2 He helium 2	3 Li lithium 2·1	4 Be beryllium 2·2	5 B boron 2·3	6 C carbon 2·4	7 N nitrogen 2·5	8 O oxygen 2·6	9 F fluorine 2·7	10 Ne neon 2·8	11 Na sodium 2·8·1	12 Mg magnesium 2·8·2	13 Al aluminum 2·8·3	14 Si silicon 2·8·4	15 P phosphorus 2·8·5	16 S sulfur 2·8·6	17 Cl chlorine 2·8·7	18 Ar argon 2·8·8
19 K potassium 2·8·8·1	20 Ca calcium 2·8·8·2	21 Sc scandium 2·8·9·2	22 Ti titanium 2·8·10·2	23 V vanadium 2·8·11·2	24 Cr chromium 2·8·12·1	25 Mn manganese 2·8·13·2	26 Fe iron 2·8·14·2	27 Co cobalt 2·8·15·2	28 Ni nickel 2·8·16·2	29 Cu copper 2·8·16·3	30 Zn zinc 2·8·18·2	31 Ga gallium 2·8·18·3	32 Ge germanium 2·8·18·4	33 As arsenic 2·8·18·5	34 Se selenium 2·8·18·6	35 Br bromine 2·8·18·7	36 Kr krypton 2·8·18·8
37 Rb rubidium 2·8·18·1	38 Sr strontium 2·8·18·2	39 Y yttrium 2·8·18·2	40 Zr zirconium 2·8·18·10·2	41 Nb niobium 2·8·18·12·1	42 Mo molybdenum 2·8·18·13·1	43 Tc technetium 2·8·18·13·2	44 Ru ruthenium 2·8·18·15·1	45 Rh rhodium 2·8·18·16·1	46 Pd palladium 2·8·18·16·2	47 Ag silver 2·8·18·17·1	48 Cd cadmium 2·8·18·17·2	49 In indium 2·8·18·18·3	50 Sn tin 2·8·18·18·4	51 Sb antimony 2·8·18·18·5	52 Te tellurium 2·8·18·18·6	53 I iodine 2·8·18·18·7	54 Xe xenon 2·8·18·18·8

eDist sep

default: :

Sets the separator character between energy levels in electron distribution. If the separator character is a comma it must be provided between curly braces - {},.

\pgfPT[Z list={1,...,54},cell style=electron,eDist sep=-]

Periodic Table of Elements																	
1 H hydrogen 1	2 He helium 2	3 Li lithium 2·1	4 Be beryllium 2·2	5 B boron 2·3	6 C carbon 2·4	7 N nitrogen 2·5	8 O oxygen 2·6	9 F fluorine 2·7	10 Ne neon 2·8	11 Na sodium 2·8·1	12 Mg magnesium 2·8·2	13 Al aluminum 2·8·3	14 Si silicon 2·8·4	15 P phosphorus 2·8·5	16 S sulfur 2·8·6	17 Cl chlorine 2·8·7	18 Ar argon 2·8·8
19 K potassium 2·8·8·1	20 Ca calcium 2·8·8·2	21 Sc scandium 2·8·9·2	22 Ti titanium 2·8·10·2	23 V vanadium 2·8·11·2	24 Cr chromium 2·8·12·1	25 Mn manganese 2·8·13·2	26 Fe iron 2·8·14·2	27 Co cobalt 2·8·15·2	28 Ni nickel 2·8·16·2	29 Cu copper 2·8·16·3	30 Zn zinc 2·8·18·2	31 Ga gallium 2·8·18·3	32 Ge germanium 2·8·18·4	33 As arsenic 2·8·18·5	34 Se selenium 2·8·18·6	35 Br bromine 2·8·18·7	36 Kr krypton 2·8·18·8
37 Rb rubidium 2·8·18·1	38 Sr strontium 2·8·18·2	39 Y yttrium 2·8·18·2	40 Zr zirconium 2·8·18·10·2	41 Nb niobium 2·8·18·12·1	42 Mo molybdenum 2·8·18·13·1	43 Tc technetium 2·8·18·13·2	44 Ru ruthenium 2·8·18·15·1	45 Rh rhodium 2·8·18·16·1	46 Pd palladium 2·8·18·16·2	47 Ag silver 2·8·18·17·1	48 Cd cadmium 2·8·18·17·2	49 In indium 2·8·18·18·3	50 Sn tin 2·8·18·18·4	51 Sb antimony 2·8·18·18·5	52 Te tellurium 2·8·18·18·6	53 I iodine 2·8·18·18·7	54 Xe xenon 2·8·18·18·8

\pgfPT[Z list={1,...,54},cell style=electron,eDist sep={,}]

Periodic Table of Elements

1	H	hydrogen	1	2	He	helium	18
3	Li	lithium	2.1	4	Be	beryllium	2.2
11	Na	sodium	2.8.1	12	Mg	magnesium	2.8.2
19	K	potassium	2.8.8.1	20	Ca	calcium	2.8.8.2
37	Rb	rubidium	2.8.18.8.1	38	Sr	strontium	2.8.18.8.2
39	Y	yttrium	2.8.18.9.2	40	Zr	zirconium	2.8.18.10.2
41	Sc	scandium	2.8.8.2	42	Nb	niobium	2.8.18.12.1
21	Ti	titanium	2.8.8.12	23	V	vandium	2.8.18.12
24	Cr	chromium	2.8.18.12	25	Mn	manganese	2.8.18.12
26	Fe	iron	2.8.18.12	27	Co	cobalt	2.8.18.12
28	Ni	nickel	2.8.18.12	29	Cu	copper	2.8.18.12
30	Zn	zinc	2.8.18.12	31	Ga	gallium	2.8.18.13
32	Ge	germanium	2.8.18.14	33	As	arsenic	2.8.18.14
34	Se	selenium	2.8.18.15	35	B	bromine	2.8.18.17
36	Kr	krypton	2.8.18.18	51	In	indium	2.8.18.18.3
52	Sb	antimony	2.8.18.18.5	53	Te	tellurium	2.8.18.18.6
54	I	iodine	2.8.18.18.7	55	Sn	tin	2.8.18.18.8
	Xe	xenon	2.8.18.18.8				

► The other contents

For all the *other contents* available for the cells of the periodic table, two keys can be set: <content name> color and <content name> font.

The <content name>'s list:

- | | |
|---|---|
| ✓ R : atomic radius | ✓ eConfig : electronic configuration (increasing n) |
| ✓ Rcov : covalente radius | ✓ eConfigI : electronic configuration (increasing n+ℓ) |
| ✓ Rion : ionic radius | ✓ Cp : specific heat capacity |
| ✓ Ei : first ionization energy | ✓ kT : thermal conductivity |
| ✓ eneg : electronegativity (Pauling) | ✓ lsa : lattice constant - a |
| ✓ eaaff : electroaffinity | ✓ lsb : lattice constant - b |
| ✓ O : oxidation states | ✓ lsc : lattice constant - c |
| ✓ Tmelt : melting point (Kelvin) | ✓ lsca : lattice c/a ratio |
| ✓ TmeltC : melting point (Celsius degrees) | ✓ DiscC : discover country |
| ✓ Tboil : boiling point (Kelvin) | ✓ spectra : visible range spectral lines |
| ✓ TboilC : boiling point (Celsius degrees) | |

<content name> color

Sets the <content name> color.

default: *black*

\pgfPT[Z list={1,...,36},name color=blue]

Periodic Table of Elements

1	H	hydrogen	470	470	18	He	helium	424.4
3	Li	lithium	350.93	328.95	2	Be	beryllium	358.32
11	Na	sodium	429.06	320.94	3	Mg	magnesium	321.05
19	K	potassium	532.8	558.84	4	Ca	calcium	527.33
21	Sc	scandium	330.9	295.03	5	Ti	titanium	1.59
23	V	vandium	468.31	302.31	6	Cr	chromium	288.46
25	Mn	manganese	891.39	89.139	7	Fe	iron	286.64
27	Co	cobalt	406.95	1.62	8	Ni	nickel	352.4
28	Cu	copper	266.49	1.86	9	Zn	zinc	494.68
30	Ga	gallium	452.58	451.86	10	Ge	germanium	565.791
31	As	arsenic	1145	550.2	11	O	oxygen	342.9
32	Se	selenium	1126.1	0.98	12	F	fluorine	550
33	B	boron	505.66	246.12	13	Si	silicon	629.3
34	P	phosphorus	386.1	396.1	14	S	sulfur	442.9
35	Cl	chlorine	670.79	2.73	15	N	nitrogen	729
36	Kr	krypton	626.5	1.82	16	Ne	neon	1.32
					17			

<content name> font

Sets the <content name> font.

default: `\tiny\bfseries`

```
\pgfPT[Z list={1,...,36},name font=\tiny\itshape]
```

Periodic Table of Elements

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 H hydrogen 470 470 340 0.72	2 He helium 350.93 228.56 358.32 1.57	3 Li lithium 350.93 228.56 358.32 1.57	4 Be beryllium 320.94 295.03 302.31	5 B boron 320.94 295.03 302.31	6 C carbon 320.94 295.03 302.31	7 N nitrogen 320.94 295.03 302.31	8 O oxygen 320.94 295.03 302.31	9 F fluorine 320.94 295.03 302.31	10 Ne neon 320.94 295.03 302.31	11 Na sodium 320.94 295.03 302.31	12 Mg magnesium 320.94 295.03 302.31	13 Al aluminum 320.94 295.03 302.31	14 Si silicon 320.94 295.03 302.31	15 P phosphorus 320.94 295.03 302.31	16 S sulfur 320.94 295.03 302.31	17 Cl chlorine 320.94 295.03 302.31	18 Ar argon 320.94 295.03 302.31
1 H hydrogen 470 470 340 0.72	2 He helium 350.93 228.56 358.32 1.57	3 Li lithium 350.93 228.56 358.32 1.57	4 Be beryllium 320.94 295.03 302.31	5 B boron 320.94 295.03 302.31	6 C carbon 320.94 295.03 302.31	7 N nitrogen 320.94 295.03 302.31	8 O oxygen 320.94 295.03 302.31	9 F fluorine 320.94 295.03 302.31	10 Ne neon 320.94 295.03 302.31	11 Na sodium 320.94 295.03 302.31	12 Mg magnesium 320.94 295.03 302.31	13 Al aluminum 320.94 295.03 302.31	14 Si silicon 320.94 295.03 302.31	15 P phosphorus 320.94 295.03 302.31	16 S sulfur 320.94 295.03 302.31	17 Cl chlorine 320.94 295.03 302.31	18 Ar argon 320.94 295.03 302.31
1 H hydrogen 470 470 340 0.72	2 He helium 350.93 228.56 358.32 1.57	3 Li lithium 350.93 228.56 358.32 1.57	4 Be beryllium 320.94 295.03 302.31	5 B boron 320.94 295.03 302.31	6 C carbon 320.94 295.03 302.31	7 N nitrogen 320.94 295.03 302.31	8 O oxygen 320.94 295.03 302.31	9 F fluorine 320.94 295.03 302.31	10 Ne neon 320.94 295.03 302.31	11 Na sodium 320.94 295.03 302.31	12 Mg magnesium 320.94 295.03 302.31	13 Al aluminum 320.94 295.03 302.31	14 Si silicon 320.94 295.03 302.31	15 P phosphorus 320.94 295.03 302.31	16 S sulfur 320.94 295.03 302.31	17 Cl chlorine 320.94 295.03 302.31	18 Ar argon 320.94 295.03 302.31
1 H hydrogen 470 470 340 0.72	2 He helium 350.93 228.56 358.32 1.57	3 Li lithium 350.93 228.56 358.32 1.57	4 Be beryllium 320.94 295.03 302.31	5 B boron 320.94 295.03 302.31	6 C carbon 320.94 295.03 302.31	7 N nitrogen 320.94 295.03 302.31	8 O oxygen 320.94 295.03 302.31	9 F fluorine 320.94 295.03 302.31	10 Ne neon 320.94 295.03 302.31	11 Na sodium 320.94 295.03 302.31	12 Mg magnesium 320.94 295.03 302.31	13 Al aluminum 320.94 295.03 302.31	14 Si silicon 320.94 295.03 302.31	15 P phosphorus 320.94 295.03 302.31	16 S sulfur 320.94 295.03 302.31	17 Cl chlorine 320.94 295.03 302.31	18 Ar argon 320.94 295.03 302.31

cell font

Style to set the font for all cell contents, except for the Z and Chemical Symbol fonts.

default: `\bfseries\tiny`

```
\pgfPT[Z list={1,...,36},cell font=\tiny\itshape]
```

Periodic Table of Elements

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 H hydrogen 470 470 340 0.72	2 He helium 350.93 228.56 358.32 1.57	3 Li lithium 350.93 228.56 358.32 1.57	4 Be beryllium 320.94 295.03 302.31	5 B boron 320.94 295.03 302.31	6 C carbon 320.94 295.03 302.31	7 N nitrogen 320.94 295.03 302.31	8 O oxygen 320.94 295.03 302.31	9 F fluorine 320.94 295.03 302.31	10 Ne neon 320.94 295.03 302.31	11 Na sodium 320.94 295.03 302.31	12 Mg magnesium 320.94 295.03 302.31	13 Al aluminum 320.94 295.03 302.31	14 Si silicon 320.94 295.03 302.31	15 P phosphorus 320.94 295.03 302.31	16 S sulfur 320.94 295.03 302.31	17 Cl chlorine 320.94 295.03 302.31	18 Ar argon 320.94 295.03 302.31
1 H hydrogen 470 470 340 0.72	2 He helium 350.93 228.56 358.32 1.57	3 Li lithium 350.93 228.56 358.32 1.57	4 Be beryllium 320.94 295.03 302.31	5 B boron 320.94 295.03 302.31	6 C carbon 320.94 295.03 302.31	7 N nitrogen 320.94 295.03 302.31	8 O oxygen 320.94 295.03 302.31	9 F fluorine 320.94 295.03 302.31	10 Ne neon 320.94 295.03 302.31	11 Na sodium 320.94 295.03 302.31	12 Mg magnesium 320.94 295.03 302.31	13 Al aluminum 320.94 295.03 302.31	14 Si silicon 320.94 295.03 302.31	15 P phosphorus 320.94 295.03 302.31	16 S sulfur 320.94 295.03 302.31	17 Cl chlorine 320.94 295.03 302.31	18 Ar argon 320.94 295.03 302.31
1 H hydrogen 470 470 340 0.72	2 He helium 350.93 228.56 358.32 1.57	3 Li lithium 350.93 228.56 358.32 1.57	4 Be beryllium 320.94 295.03 302.31	5 B boron 320.94 295.03 302.31	6 C carbon 320.94 295.03 302.31	7 N nitrogen 320.94 295.03 302.31	8 O oxygen 320.94 295.03 302.31	9 F fluorine 320.94 295.03 302.31	10 Ne neon 320.94 295.03 302.31	11 Na sodium 320.94 295.03 302.31	12 Mg magnesium 320.94 295.03 302.31	13 Al aluminum 320.94 295.03 302.31	14 Si silicon 320.94 295.03 302.31	15 P phosphorus 320.94 295.03 302.31	16 S sulfur 320.94 295.03 302.31	17 Cl chlorine 320.94 295.03 302.31	18 Ar argon 320.94 295.03 302.31

cell color

Style to set the color for all cell contents, except for the Z and Chemical Symbol colors.

default: `black`

```
\pgfPT[Z list={1,...,36},cell color=blue]
```

Periodic Table of Elements

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 H hydrogen 470 470 340 0.72	2 He helium 350.93 228.56 358.32 1.57	3 Li lithium 350.93 228.56 358.32 1.57	4 Be beryllium 320.94 295.03 302.31	5 B boron 320.94 295.03 302.31	6 C carbon 320.94 295.03 302.31	7 N nitrogen 320.94 295.03 302.31	8 O oxygen 320.94 295.03 302.31	9 F fluorine 320.94 295.03 302.31	10 Ne neon 320.94 295.03 302.31	11 Na sodium 320.94 295.03 302.31	12 Mg magnesium 320.94 295.03 302.31	13 Al aluminum 320.94 295.03 302.31	14 Si silicon 320.94 295.03 302.31	15 P phosphorus 320.94 295.03 302.31	16 S sulfur 320.94 295.03 302.31	17 Cl chlorine 320.94 295.03 302.31	18 Ar argon 320.94 295.03 302.31
1 H hydrogen 470 470 340 0.72	2 He helium 350.93 228.56 358.32 1.57	3 Li lithium 350.93 228.56 358.32 1.57	4 Be beryllium 320.94 295.03 302.31	5 B boron 320.94 295.03 302.31	6 C carbon 320.94 295.03 302.31	7 N nitrogen 320.94 295.03 302.31	8 O oxygen 320.94 295.03 302.31	9 F fluorine 320.94 295.03 302.31	10 Ne neon 320.94 295.03 302.31	11 Na sodium 320.94 295.03 302.31	12 Mg magnesium 320.94 295.03 302.31	13 Al aluminum 320.94 295.03 302.31	14 Si silicon 320.94 295.03 302.31	15 P phosphorus 320.94 295.03 302.31	16 S sulfur 320.94 295.03 302.31	17 Cl chlorine 320.94 295.03 302.31	18 Ar argon 320.94 295.03 302.31
1 H hydrogen 470 470 340 0.72	2 He helium 350.93 228.56 358.32 1.57	3 Li lithium 350.93 228.56 358.32 1.57	4 Be beryllium 320.94 295.03 302.31	5 B boron 320.94 295.03 302.31	6 C carbon 320.94 295.03 302.31	7 N nitrogen 320.94 295.03 302.31	8 O oxygen 320.94 295.03 302.31	9 F fluorine 320.94 295.03 302.31	10 Ne neon 320.94 295.03 302.31	11 Na sodium 320.94 295.03 302.31	12 Mg magnesium 320.94 295.03 302.31	13 Al aluminum 320.94 295.03 302.31	14 Si silicon 320.94 295.03 302.31	15 P phosphorus 320.94 295.03 302.31	16 S sulfur 320.94 295.03 302.31	17 Cl chlorine 320.94 295.03 302.31	18 Ar argon 320.94 295.03 302.31

The precision of the *other contents*, which have numerical values, can also be set by a key. *Atomic radius*, *covalent radius*, and *ionic radius* all have integer values, so precision does not apply to them.

E precision

default: -1

Sets the first ionization energy and the electroaffinity precision, i.e., the decimal places displayed in their value, performing the respective rounding, without zero padding the value.

NOTE:

Rounding is performed over energy values which actually have a maximum of 3 decimal places. So giving this key a value of -1 (the value of the energy as-is) or 3 has the same effect.

Therefore the values provided to this key should be any integer between -1 and 2, i.e., -1, 0, 1 or 2. Any other integer provided will be processed as -1.

```
\pgfPTbuilcellstyle{myE}{5,3}%
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-2.5;Ei), (5;2.5-3;eaff)]
\pgfPTstyle[Z list={1,...,54},cell style=myE,show title=false]
\pgfPT
```

1	H	2	He
1	hydrogen	1312 72.77	helium
2	Li	Be	2
3	lithium	beryllium	helium
4	520.2 59.6	899.5 0	237.3 0
5	Na	Mg	
6	sodium	magnesium	
7	495.8 52.7	737.7 0	
8	K	Ca	1
9	potassium	calcium	H
10	418.8 48.3	899.8 2.37	hydrogen
11	37	Sc	1312 72.77
12	strontium	scandium	Li
13	403 47	Ti	Be
14	rubidium	titanium	520.2 59.6
15	550 5	V	899.5 0
16	strontium	vandium	Na
17	800 30	Cr	Mg
18	zirconium	chromium	495.8 52.7
19	640.1 41.8	Mn	K
20	yttrium	nickel	potassium
21	652.1 88.5	Fe	calcium
22	zirconium	cobalt	418.8 48.3
23	684.3 72.1	Co	Sc
24	niobium	nickel	Ti
25	710.2 100.96	Ni	V
26	molybdenum	copper	Cr
27	710.2 101.01	Cu	Mn
28	ruthenium	zinc	Fe
29	720 110.27	Zn	Co
30	rhodium	gallium	762.5 14.8
31	palladium	boron	760.4 63.9
32	silver	carbon	762.5 14.8
33	cadmium	nitrogen	763.1 15
34	indium	oxygen	717.3 0
35	tin	fluorine	719.7 110.3
36	antimony	neon	704.4 54.24
37	tellurium	chlorine	708.6 107.3
38	iodine	argon	712.1 349.58
39	xenon	krypton	710.2 101.1
40			1170.4 0
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			

```
\pgfPT[E precision=0]
```

1	H	2	He
1	hydrogen	1312 73	helium
2	Li	Be	2
3	lithium	beryllium	helium
4	520 60	899 0	237 0
5	Na	Mg	
6	sodium	magnesium	
7	496 53	738 0	
8	K	Ca	1
9	potassium	calcium	H
10	419 48	899 2	hydrogen
11	37	Sc	1312 72.77
12	strontium	scandium	Li
13	403 47	Ti	Be
14	rubidium	titanium	520.2 59.6
15	550 5	V	899.5 0
16	strontium	vandium	Na
17	800 30	Cr	Mg
18	zirconium	chromium	495.8 52.7
19	640.1 41.8	Mn	K
20	yttrium	nickel	potassium
21	652.1 88.5	Fe	calcium
22	zirconium	cobalt	418.8 48.3
23	684.3 72.1	Co	Sc
24	niobium	nickel	Ti
25	710.2 100.96	Ni	V
26	molybdenum	copper	Cr
27	710.2 101.01	Cu	Mn
28	ruthenium	zinc	Fe
29	720 110.27	Zn	Co
30	rhodium	gallium	762.5 14.8
31	palladium	boron	760.4 63.9
32	silver	carbon	762.5 14.8
33	cadmium	nitrogen	763.1 15
34	indium	oxygen	717.3 0
35	tin	fluorine	719.7 110.3
36	antimony	neon	704.4 54.24
37	tellurium	chlorine	712.1 349.58
38	iodine	argon	710.2 101.1
39	xenon	krypton	1170.4 0
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			

```
\pgfPT[E precision=1]
```

1	H	2	He
1	hydrogen	1312 72.8	helium
2	Li	Be	2
3	lithium	beryllium	helium
4	520.2 59.6	899.5 0	237.3 0
5	Na	Mg	
6	sodium	magnesium	
7	495.8 52.7	737.7 0	
8	K	Ca	1
9	potassium	calcium	H
10	418.8 48.4	899.8 2.4	hydrogen
11	37	Sc	1312 72.77
12	strontium	scandium	Li
13	403 47	Ti	Be
14	rubidium	titanium	520.2 59.6
15	550 5	V	899.5 0
16	strontium	vandium	Na
17	800 30	Cr	Mg
18	zirconium	chromium	495.8 52.7
19	640.1 41.8	Mn	K
20	yttrium	nickel	potassium
21	652.1 88.5	Fe	calcium
22	zirconium	cobalt	418.8 48.3
23	684.3 72.1	Co	Sc
24	niobium	nickel	Ti
25	710.2 100.96	Ni	V
26	molybdenum	copper	Cr
27	710.2 101.01	Cu	Mn
28	ruthenium	zinc	Fe
29	720 110.27	Zn	Co
30	rhodium	gallium	762.5 14.8
31	palladium	boron	760.4 63.9
32	silver	carbon	762.5 14.8
33	cadmium	nitrogen	763.1 15
34	indium	oxygen	717.3 0
35	tin	fluorine	719.7 110.3
36	antimony	neon	704.4 54.24
37	tellurium	chlorine	712.1 349.58
38	iodine	argon	710.2 101.1
39	xenon	krypton	1170.4 0
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			

\pgfPT[E precision=2]

1	H hydrogen 1312.72.77	2	He helium 3273.2.0	18
3	Li lithium 532.0.56.93	4	Be beryllium 895.0.0	10
11	Na sodium 4958.5.58.7	12	Mg magnesium 737.7.0	16
19	K potassium 4188.48.38.0	20	Ca calcium 598.0.23.7	17
4	C carbon 5775.41.76	21	Sc scandium 632.1.18	36
37	Rb rubidium 403.46.88.0	22	Ti titanium 658.9.7.25	37
39	Sr strontium 545.5.0.2	23	V vanadium 650.0.50.91	38
40	Y yttrium 600.29.6	24	Cr chromium 652.8.65.21	39
41	Zr zirconium 640.1.41.81	25	Mn manganese 717.3.0	40
42	Nb niobium 684.3.72.1	26	Fe iron 762.5.14.79	41
43	Mo molybdenum 710.2.100.96	27	Co cobalt 760.4.63.9	42
44	Tc technetium 702.0.110.27	28	Ni nickel 737.1.111.65	43
45	Ru ruthenium 719.7.110.27	29	Cu copper 908.4.54.24	44
46	Rh rhodium 731.0.190.78	30	Zn zinc 908.4.0	45
47	Pd palladium 736.8.86.7.8	31	Ga gallium 578.8.29.06	46
48	Ag silver 867.8.0	32	Ga germanium 762.118.94	47
49	Cd cadmium 858.3.37.04	33	As arsenic 947.77.65	48
50	In indium 858.3.37.04	34	Se selenium 941.19.56	49
51	Sn tin 876.10.73.0	35	Br bromine 1139.9.32.45.4	50
52	Sb antimony 834.1.101.73	36	Kr krypton 1300.6.0	51
53	Te tellurium 869.3.190.15	37	Xe xenon 1008.4.295.17.0	52
54	I iodine 1170.4.0			

\pgfPT[E precision=3]

1	H											18			
1	hydrogen	72.77	2												
2	Li	lithium	7.02	3	Be	boronium	9.05	4	Mg	magnesium	11.7	5			
2	26.02	56.93	3	12	11	12	11	13	14	15	16	17	18		
3	Na	sodium	23.98	4	Ca	calcium	40.08	5	Sc	scandium	45.96	6			
4	18.08	48.38	5	Ti	titanium	46.00	6	V	vanadium	50.98	7	Cr	chromium	52.0	
4	18.08	48.38	7	Mn	manganese	54.94	8	Fe	iron	55.85	9	Co	cobalt	58.9	
4	18.08	48.38	10	Ni	nickel	58.73	11	Cu	copper	63.55	12	Zn	zinc	65.4	
37	Rb	rubidium	80.98	38	Sr	strontium	84.68	39	Y	yttrium	87.21	40	Zr	zirconium	89.91
37	80.98	84.68	41	Nb	niobium	89.90	42	Mo	molybdenum	91.96	43	Tc	technetium	93.88	
37	80.98	84.68	44	Ru	ruthenium	95.94	45	Rh	rhodium	96.00	46	Pd	palladium	96.42	
37	80.98	84.68	47	Ag	silver	96.08	48	Cd	cadmium	98.76	49	In	indium	101.46	
5	B	boron	10.81	6	C	carbon	12.01	7	N	nitrogen	14.01	8	O	oxygen	16.00
5	10.81	12.01	13	Al	aluminum	16.98	14	Si	silicon	19.07	15	P	phosphorus	30.97	
5	10.81	12.01	16	S	sulfur	32.06	17	Cl	chlorine	35.45	18	Ar	argon	36.00	
5	10.81	12.01	19	Kr	krypton	39.91	20	Xe	xenon	54.94					
5	10.81	12.01	21	Sc	scandium	45.96	22	Tl	thallium	52.40	23	V	vanadium	50.98	
5	10.81	12.01	24	Cr	chromium	52.0	25	Mn	manganese	54.94	26	Fe	iron	55.85	
5	10.81	12.01	27	Co	cobalt	58.9	28	Ni	nickel	63.55	29	Cu	copper	63.55	
5	10.81	12.01	30	Zn	zinc	65.4	31	Ga	gallium	69.72	32	Ge	germanium	72.66	
5	10.81	12.01	33	As	arsenic	75.47	34	Se	selenium	78.96	35	Br	bromine	80.00	
5	10.81	12.01	36	Kr	krypton	83.80	37	Xe	xenon	131.30					
5	10.81	12.01	38	Sc	scandium	45.96	39	Tl	thallium	52.40	40	V	vanadium	50.98	
5	10.81	12.01	41	Cr	chromium	52.0	42	Mn	manganese	54.94	43	Fe	iron	55.85	
5	10.81	12.01	44	Co	cobalt	58.9	45	Ni	nickel	63.55	46	Cu	copper	63.55	
5	10.81	12.01	47	Zn	zinc	65.4	48	Ga	gallium	69.72	49	Ge	germanium	72.66	
5	10.81	12.01	50	As	arsenic	75.47	51	Se	selenium	78.96	52	Br	bromine	80.00	
5	10.81	12.01	53	Kr	krypton	83.80	54	Xe	xenon	131.30					
5	10.81	12.01	55	Sc	scandium	45.96	56	Tl	thallium	52.40	57	V	vanadium	50.98	
5	10.81	12.01	58	Cr	chromium	52.0	59	Mn	manganese	54.94	60	Fe	iron	55.85	
5	10.81	12.01	61	Co	cobalt	58.9	62	Ni	nickel	63.55	63	Cu	copper	63.55	
5	10.81	12.01	64	Zn	zinc	65.4	65	Ga	gallium	69.72	66	Ge	germanium	72.66	
5	10.81	12.01	67	As	arsenic	75.47	68	Se	selenium	78.96	69	Br	bromine	80.00	
5	10.81	12.01	70	Kr	krypton	83.80	71	Xe	xenon	131.30					
5	10.81	12.01	72	Sc	scandium	45.96	73	Tl	thallium	52.40	74	V	vanadium	50.98	
5	10.81	12.01	75	Cr	chromium	52.0	76	Mn	manganese	54.94	77	Fe	iron	55.85	
5	10.81	12.01	78	Co	cobalt	58.9	79	Ni	nickel	63.55	80	Cu	copper	63.55	
5	10.81	12.01	81	Zn	zinc	65.4	82	Ga	gallium	69.72	83	Ge	germanium	72.66	
5	10.81	12.01	84	As	arsenic	75.47	85	Se	selenium	78.96	86	Br	bromine	80.00	
5	10.81	12.01	87	Kr	krypton	83.80	88	Xe	xenon	131.30					
5	10.81	12.01	89	Sc	scandium	45.96	90	Tl	thallium	52.40	91	V	vanadium	50.98	
5	10.81	12.01	92	Cr	chromium	52.0	93	Mn	manganese	54.94	94	Fe	iron	55.85	
5	10.81	12.01	95	Co	cobalt	58.9	96	Ni	nickel	63.55	97	Cu	copper	63.55	
5	10.81	12.01	98	Zn	zinc	65.4	99	Ga	gallium	69.72	100	Ge	germanium	72.66	
5	10.81	12.01	101	As	arsenic	75.47	102	Se	selenium	78.96	103	Br	bromine	80.00	
5	10.81	12.01	104	Kr	krypton	83.80	105	Xe	xenon	131.30					
5	10.81	12.01	106	Sc	scandium	45.96	107	Tl	thallium	52.40	108	V	vanadium	50.98	
5	10.81	12.01	109	Cr	chromium	52.0	110	Mn	manganese	54.94	111	Fe	iron	55.85	
5	10.81	12.01	112	Co	cobalt	58.9	113	Ni	nickel	63.55	114	Cu	copper	63.55	
5	10.81	12.01	115	Zn	zinc	65.4	116	Ga	gallium	69.72	117	Ge	germanium	72.66	
5	10.81	12.01	118	As	arsenic	75.47	119	Se	selenium	78.96	120	Br	bromine	80.00	
5	10.81	12.01	121	Kr	krypton	83.80	122	Xe	xenon	131.30					
5	10.81	12.01	123	Sc	scandium	45.96	124	Tl	thallium	52.40	125	V	vanadium	50.98	
5	10.81	12.01	126	Cr	chromium	52.0	127	Mn	manganese	54.94	128	Fe	iron	55.85	
5	10.81	12.01	129	Co	cobalt	58.9	130	Ni	nickel	63.55	131	Cu	copper	63.55	
5	10.81	12.01	132	Zn	zinc	65.4	133	Ga	gallium	69.72	134	Ge	germanium	72.66	
5	10.81	12.01	135	As	arsenic	75.47	136	Se	selenium	78.96	137	Br	bromine	80.00	
5	10.81	12.01	138	Kr	krypton	83.80	139	Xe	xenon	131.30					
5	10.81	12.01	140	Sc	scandium	45.96	141	Tl	thallium	52.40	142	V	vanadium	50.98	
5	10.81	12.01	143	Cr	chromium	52.0	144	Mn	manganese	54.94	145	Fe	iron	55.85	
5	10.81	12.01	146	Co	cobalt	58.9	147	Ni	nickel	63.55	148	Cu	copper	63.55	
5	10.81	12.01	149	Zn	zinc	65.4	150	Ga	gallium	69.72	151	Ge	germanium	72.66	
5	10.81	12.01	152	As	arsenic	75.47	153	Se	selenium	78.96	154	Br	bromine	80.00	
5	10.81	12.01	155	Kr	krypton	83.80	156	Xe	xenon	131.30					
5	10.81	12.01	157	Sc	scandium	45.96	158	Tl	thallium	52.40	159	V	vanadium	50.98	
5	10.81	12.01	160	Cr	chromium	52.0	161	Mn	manganese	54.94	162	Fe	iron	55.85	
5	10.81	12.01	163	Co	cobalt	58.9	164	Ni	nickel	63.55	165	Cu	copper	63.55	
5	10.81	12.01	166	Zn	zinc	65.4	167	Ga	gallium	69.72	168	Ge	germanium	72.66	
5	10.81	12.01	169	As	arsenic	75.47	170	Se	selenium	78.96	171	Br	bromine	80.00	
5	10.81	12.01	172	Kr	krypton	83.80	173	Xe	xenon	131.30					
5	10.81	12.01	174	Sc	scandium	45.96	175	Tl	thallium	52.40	176	V	vanadium	50.98	
5	10.81	12.01	177	Cr	chromium	52.0	178	Mn	manganese	54.94	179	Fe	iron	55.85	
5	10.81	12.01	180	Co	cobalt	58.9	181	Ni	nickel	63.55	182	Cu	copper	63.55	
5	10.81	12.01	183	Zn	zinc	65.4	184	Ga	gallium	69.72	185	Ge	germanium	72.66	
5	10.81	12.01	186	As	arsenic	75.47	187	Se	selenium	78.96	188	Br	bromine	80.00	
5	10.81	12.01	189	Kr	krypton	83.80	190	Xe	xenon	131.30					
5	10.81	12.01	191	Sc	scandium	45.96	192	Tl	thallium	52.40	193	V	vanadium	50.98	
5	10.81	12.01	194	Cr	chromium	52.0	195	Mn	manganese	54.94	196	Fe	iron	55.85	
5	10.81	12.01	197	Co	cobalt	58.9	198	Ni	nickel	63.55	199	Cu	copper	63.55	
5	10.81	12.01	200	Zn	zinc	65.4	201	Ga	gallium	69.72	202	Ge	germanium	72.66	
5	10.81	12.01	203	As	arsenic	75.47	204	Se	selenium	78.96	205	Br	bromine	80.00	
5	10.81	12.01	206	Kr	krypton	83.80	207	Xe	xenon	131.30					
5	10.81	12.01	208	Sc	scandium	45.96	209	Tl	thallium	52.40	210	V	vanadium	50.98	
5	10.81	12.01	211	Cr	chromium	52.0	212	Mn	manganese	54.94	213	Fe	iron	55.85	
5	10.81	12.01	214	<											

T precision

default: -1

Sets the melting point and boiling point precision, i.e., the decimal places displayed in their value, performing the respective rounding, without zero padding the value.

NOTE:

Rounding is performed over melting or boiling point values which actually have a maximum, respectively, of 4 or 2 decimal places. So giving this key a value of -1 (the value of the melting or boiling point as-is) or, respectively, 4 or 2 has the same effect.

Therefore the values provided to this key should be any integer between -1 and 3 or 2. Any other integer provided will be processed as -1.

\pgfPTbuilcellstyle{myT}(6,3)% 6 rows by 3 columns

`[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-2.5;Tmelt), (5;2.5-3;Tboil),(6;1-2.5;TmeltC),(6;2.5-3;TboilC)]`

```
\pgfPTstyle[Z list={1,...,36},cell style=myT,Tmelt color=blue!50!black,TmeltC  
color=blue,Tboil color=red!50!black,TboilC color=red,show title=false]
```

\pgfPT

\pgfPT[T precision=0]

\pgfPT[T precision=1]

1	H	hydrogen	He	helium
1.0	2.03	-259.2	2.0	-269.9
453.7	1863	1974	5.2	5.2
11.5	1330	1387	214.6	214.6
3	Li	lithium	4	B
7.09	1156.1	1292.0	10.8	11.0
37.09	923	1363	12.0	12.5
17.6	692.9	690.1	13.2	13.3
5	Mg	magnesium	6	C
12.09	1156.1	1363	13.0	13.6
31.54	923	1363	14.0	14.5
18.7	692.9	690.1	15.2	15.7
7	K	potassium	7	N
19.07	1032	1115	15.5	16.0
33.67	1032	1115	17.0	17.5
19.5	692.9	690.1	18.2	18.7
8	Ca	calcium	8	O
20.18	1032	1115	18.5	19.0
33.77	1032	1115	20.0	20.5
19.8	692.9	690.1	21.2	21.7
9	Sc	scandium	9	F
21.01	1032	1115	21.5	22.0
34.01	1032	1115	23.0	23.5
20.1	692.9	690.1	24.2	24.7
10	Ti	titanium	10	Ne
22.01	1032	1115	24.5	25.0
34.11	1032	1115	26.0	26.5
20.2	692.9	690.1	27.2	27.7
11	V	chromium	11	Ar
23.01	1032	1115	27.5	28.0
34.21	1032	1115	29.0	29.5
20.3	692.9	690.1	30.2	30.7
12	Cr	manganese	12	Cl
24.01	1032	1115	30.5	31.0
34.31	1032	1115	32.0	32.5
20.4	692.9	690.1	33.2	33.7
13	Fe	cobalt	13	P
25.01	1032	1115	33.5	34.0
34.41	1032	1115	35.0	35.5
20.5	692.9	690.1	36.2	36.7
14	Co	nickel	14	S
26.01	1032	1115	36.5	37.0
34.51	1032	1115	38.0	38.5
20.6	692.9	690.1	39.2	39.7
15	Ni	copper	15	Cl
27.01	1032	1115	39.5	40.0
34.61	1032	1115	41.0	41.5
20.7	692.9	690.1	42.2	42.7
16	Cu	zinc	16	Ar
28.01	1032	1115	42.5	43.0
34.71	1032	1115	44.0	44.5
20.8	692.9	690.1	45.2	45.7
17	Zn	gallium	17	Br
29.01	1032	1115	45.5	46.0
34.81	1032	1115	47.0	47.5
20.9	692.9	690.1	48.2	48.7
18	He	germanium	18	Kr
30.01	1032	1115	48.5	49.0
34.91	1032	1115	50.0	50.5
21.0	692.9	690.1	51.2	51.7

\pgfPT[T precision=2]

\pgfPT[T precision=3]

1	H hydrogen $13.99 \cdot 20.271$ $29.99 \cdot 352.871$	2	Ra CS N MPK BPK MPC BPC	18
3	Li lithium $6.94 \cdot 12.50$ $45.65 \cdot 180.2$ $190.3 \cdot 1330$	4	Be beryllium $9.01 \cdot 15.75$ $45.65 \cdot 180.2$ $190.3 \cdot 2469$	2
5	Na magnesium $12.99 \cdot 115.66$ $77.97 \cdot 882.94$	6	Mg magnesium $12.99 \cdot 196.9$ $77.97 \cdot 196.9$	10
7	Al aluminum $13.99 \cdot 16.99$ $30.09 \cdot 247.8$	8	Si silicon $14.01 \cdot 19.99$ $30.09 \cdot 247.8$	12
9	Cl chlorine $17.99 \cdot 35.45$ $35.45 \cdot 100.9$	10	P phosphorus $15.01 \cdot 30.97$ $30.97 \cdot 100.9$	14
11	S sulfur $16.00 \cdot 32.06$ $32.06 \cdot 100.9$	12	Ar argon $18.00 \cdot 35.45$ $35.45 \cdot 100.9$	18
13	B boron $10.81 \cdot 12.01$ $22.49 \cdot 420.0$ $207.8 \cdot 3927$	14	C carbon $12.01 \cdot 24.31$ $38.22 \cdot 4300$ $3550 \cdot 4027$	16
15	N nitrogen $14.01 \cdot 17.09$ $28.09 \cdot 77.35$ $63.15 \cdot 175.55$ $210 \cdot 185.78$ $218.79 \cdot 182.92$ $219.67 \cdot 188.11$	16	O oxygen $16.00 \cdot 19.88$ $32.06 \cdot 45.36$ $68.04 \cdot 25.46$ $27.104 \cdot 24.58$ $248.59 \cdot 248.04$	17
17	F fluorine $19.00 \cdot 20.99$ $37.09 \cdot 84.04$	18	He helium $4.222 \cdot 10^{-3}$ -36.938	
20	K potassium $39.09 \cdot 85.45$ $85.45 \cdot 100.9$	21	Ca calcium $20.12 \cdot 40.08$ $40.08 \cdot 100.9$	
22	Sc scandium $44.96 \cdot 69.72$ $69.72 \cdot 100.9$	23	Ti titanium $47.90 \cdot 158.41$ $158.41 \cdot 100.9$	
24	V vanadium $50.94 \cdot 81.90$ $81.90 \cdot 100.9$	25	Cr chromium $52.00 \cdot 186.98$ $186.98 \cdot 216.0$ $216.0 \cdot 275.8$	
26	Mn manganese $54.94 \cdot 72.01$ $72.01 \cdot 100.9$	27	Fe iron $55.85 \cdot 131.99$ $131.99 \cdot 233.5$ $233.5 \cdot 176.0$	
28	Co nickel $58.93 \cdot 160.97$ $160.97 \cdot 180.2$ $180.2 \cdot 291.9$	29	Ni nickel $58.93 \cdot 160.97$ $160.97 \cdot 180.2$ $180.2 \cdot 291.9$	
30	Cu copper $63.55 \cdot 119.51$ $119.51 \cdot 233.5$ $233.5 \cdot 283.5$	31	Zn zinc $65.40 \cdot 138.35$ $138.35 \cdot 200.9$ $200.9 \cdot 287.5$	
32	Ge germanium $69.97 \cdot 121.44$ $121.44 \cdot 240.0$ $240.0 \cdot 287.5$	33	As arsenic $72.93 \cdot 107.87$ $107.87 \cdot 233.5$ $233.5 \cdot 283.5$	
34	Se selenium $74.92 \cdot 107.87$ $107.87 \cdot 233.5$ $233.5 \cdot 283.5$	35	Br bromine $79.90 \cdot 86.93$ $86.93 \cdot 115.79$ $115.79 \cdot 119.73$	
36	Kr krypton $83.80 \cdot 95.94$ $95.94 \cdot 100.9$			

\pgfPT[T precision=4]

1	H	hydrogen	2	He	helium
13.99 20.271 29.99 -252.879			4.222 10.870 -422.600 -183.500		
3	Li	boron	13	B	fluorine
6.941 10.803 45.6 100.3 150.5 1330	12	11	14	15	16
4	Be	beryllium	14	C	oxygen
9.015 11.203 45.6 100.3 126.7 246.9	13	12	15	16	17
5	Mg	magnesium	15	N	neon
12.311 15.980 37.0 100.3 97.794 682.94	16	17	18		
6	Na	sodium	16	O	oxygen
12.990 15.980 37.0 100.3 96.0 100.3	17	18	19		
7	Al	aluminum	17	F	fluorine
13.410 17.020 39.94 100.3 102.9 100.3	18	19	20		
8	Si	silicon	18	Ne	neon
14.750 17.020 39.94 100.3 102.9 100.3	19	20	21		
9	P	phosphorus	19	Ar	argon
15.100 17.020 39.94 100.3 102.9 100.3	20	21	22		
10	S	sulfur	20	Cl	chlorine
16.000 17.020 39.94 100.3 102.9 100.3	21	22	23		
11	Ca	calcium	21	Br	bromine
19.940 17.020 39.94 100.3 102.9 100.3	22	23	24		
12	Sc	scandium	22	Kr	krypton
21.970 17.020 39.94 100.3 102.9 100.3	23	24	25		
13	Ti	titanium	23	Rb	rubidium
24.310 17.020 39.94 100.3 102.9 100.3	24	25	26		
14	V	vanadium	24	Ge	germanium
26.920 17.020 39.94 100.3 102.9 100.3	25	26	27		
15	Cr	chromium	25	As	arsenic
28.080 17.020 39.94 100.3 102.9 100.3	26	27	28		
16	Mn	manganese	26	Se	selenium
31.700 17.020 39.94 100.3 102.9 100.3	27	28	29		
17	Fe	cobalt	27	Br	bromine
34.960 17.020 39.94 100.3 102.9 100.3	28	29	30		
18	Co	copper	28	Kr	krypton
39.760 17.020 39.94 100.3 102.9 100.3	29	30	31		
19	Ni	nickel	29	Br	bromine
47.860 17.020 39.94 100.3 102.9 100.3	30	31	32		
20	Zn	zinc	30	Kr	krypton
56.700 17.020 39.94 100.3 102.9 100.3	31	32	33		
21	Ga	gallium	31	Br	bromine
69.720 17.020 39.94 100.3 102.9 100.3	32	33	34		
22	Ge	germanium	32	Kr	krypton
72.610 17.020 39.94 100.3 102.9 100.3	33	34	35		
23	As	arsenic	33	Br	bromine
75.470 17.020 39.94 100.3 102.9 100.3	34	35	36		
24	Se	selenium	34	Kr	krypton
78.900 17.020 39.94 100.3 102.9 100.3	35	36	37		
25	Br	bromine	35	Br	bromine
80.910 17.020 39.94 100.3 102.9 100.3	36	37	38		
26	Kr	krypton	36	Br	bromine
83.800 17.020 39.94 100.3 102.9 100.3	37	38	39		
27	Br	bromine	37	Br	bromine
87.650 17.020 39.94 100.3 102.9 100.3	38	39	40		
28	Kr	krypton	38	Br	bromine
91.720 17.020 39.94 100.3 102.9 100.3	39	40	41		
29	Br	bromine	39	Br	bromine
95.940 17.020 39.94 100.3 102.9 100.3	40	41	42		
30	Kr	krypton	40	Br	bromine
100.000 17.020 39.94 100.3 102.9 100.3	41	42	43		
31	Br	bromine	41	Br	bromine
104.900 17.020 39.94 100.3 102.9 100.3	42	43	44		
32	Kr	krypton	42	Br	bromine
108.900 17.020 39.94 100.3 102.9 100.3	43	44	45		
33	Br	bromine	43	Br	bromine
112.900 17.020 39.94 100.3 102.9 100.3	44	45	46		
34	Kr	krypton	44	Br	bromine
116.900 17.020 39.94 100.3 102.9 100.3	45	46	47		
35	Br	bromine	45	Br	bromine
120.900 17.020 39.94 100.3 102.9 100.3	46	47	48		
36	Kr	krypton	46	Br	bromine
124.900 17.020 39.94 100.3 102.9 100.3	47	48	49		
37	Br	bromine	47	Br	bromine
128.900 17.020 39.94 100.3 102.9 100.3	48	49	50		
38	Kr	krypton	48	Br	bromine
132.900 17.020 39.94 100.3 102.9 100.3	49	50	51		
39	Br	bromine	49	Br	bromine
136.900 17.020 39.94 100.3 102.9 100.3	50	51	52		
40	Kr	krypton	50	Br	bromine
140.900 17.020 39.94 100.3 102.9 100.3	51	52	53		
41	Br	bromine	51	Br	bromine
144.900 17.020 39.94 100.3 102.9 100.3	52	53	54		
42	Kr	krypton	52	Br	bromine
148.900 17.020 39.94 100.3 102.9 100.3	53	54	55		
43	Br	bromine	53	Br	bromine
152.900 17.020 39.94 100.3 102.9 100.3	54	55	56		
44	Kr	krypton	54	Br	bromine
156.900 17.020 39.94 100.3 102.9 100.3	55	56	57		
45	Br	bromine	55	Br	bromine
160.900 17.020 39.94 100.3 102.9 100.3	56	57	58		
46	Kr	krypton	56	Br	bromine
164.900 17.020 39.94 100.3 102.9 100.3	57	58	59		
47	Br	bromine	57	Br	bromine
168.900 17.020 39.94 100.3 102.9 100.3	58	59	60		
48	Kr	krypton	58	Br	bromine
172.900 17.020 39.94 100.3 102.9 100.3	59	60	61		
49	Br	bromine	59	Br	bromine
176.900 17.020 39.94 100.3 102.9 100.3	60	61	62		
50	Kr	krypton	60	Br	bromine
180.900 17.020 39.94 100.3 102.9 100.3	61	62	63		
51	Br	bromine	61	Br	bromine
184.900 17.020 39.94 100.3 102.9 100.3	62	63	64		
52	Kr	krypton	62	Br	bromine
188.900 17.020 39.94 100.3 102.9 100.3	63	64	65		
53	Br	bromine	63	Br	bromine
192.900 17.020 39.94 100.3 102.9 100.3	64	65	66		
54	Kr	krypton	64	Br	bromine
196.900 17.020 39.94 100.3 102.9 100.3	65	66	67		
55	Br	bromine	65	Br	bromine
200.900 17.020 39.94 100.3 102.9 100.3	66	67	68		
56	Kr	krypton	66	Br	bromine
204.900 17.020 39.94 100.3 102.9 100.3	67	68	69		
57	Br	bromine	67	Br	bromine
208.900 17.020 39.94 100.3 102.9 100.3	68	69	70		
58	Kr	krypton	68	Br	bromine
212.900 17.020 39.94 100.3 102.9 100.3	69	70	71		
59	Br	bromine	69	Br	bromine
216.900 17.020 39.94 100.3 102.9 100.3	70	71	72		
60	Kr	krypton	70	Br	bromine
220.900 17.020 39.94 100.3 102.9 100.3	71	72	73		
61	Br	bromine	71	Br	bromine
224.900 17.020 39.94 100.3 102.9 100.3	72	73	74		
62	Kr	krypton	72	Br	bromine
228.900 17.020 39.94 100.3 102.9 100.3	73	74	75		
63	Br	bromine	73	Br	bromine
232.900 17.020 39.94 100.3 102.9 100.3	74	75	76		
64	Kr	krypton	74	Br	bromine
236.900 17.020 39.94 100.3 102.9 100.3	75	76	77		
65	Br	bromine	75	Br	bromine
240.900 17.020 39.94 100.3 102.9 100.3	76	77	78		
66	Kr	krypton	76	Br	bromine
244.900 17.020 39.94 100.3 102.9 100.3	77	78	79		
67	Br	bromine	77	Br	bromine
248.900 17.020 39.94 100.3 102.9 100.3	78	79	80		
68	Kr	krypton	78	Br	bromine
252.900 17.020 39.94 100.3 102.9 100.3	79	80	81		
69	Br	bromine	79	Br	bromine
256.900 17.020 39.94 100.3 102.9 100.3	80	81	82		
70	Kr	krypton	80	Br	bromine
260.900 17.020 39.94 100.3 102.9 100.3	81	82	83		
71	Br	bromine	81	Br	bromine
264.900 17.020 39.94 100.3 102.9 100.3	82	83	84		
72	Kr	krypton	82	Br	bromine
268.900 17.020 39.94 100.3 102.9 100.3	83	84	85		
73	Br	bromine	83	Br	bromine
272.900 17.020 39.94 100.3 102.9 100.3	84	85	86		
74	Kr	krypton	84	Br	bromine
276.900 17.020 39.94 100.3 102.9 100.3	85	86	87		
75	Br	bromine	85	Br	bromine
280.900 17.020 39.94 100.3 102.9 100.3	86	87	88		
76	Kr	krypton	86	Br	bromine
284.900 17.020 39.94 100.3 102.9 100.3	87	88	89		
77	Br	bromine	87	Br	bromine
288.900 17.020 39.94 100.3 102.9 100.3	88	89	90		
78	Kr	krypton	88	Br	bromine
292.900 17.020 39.94 100.3 102.9 100.3	89	90	91		
79	Br	bromine	89	Br	bromine
296.900 17.020 39.94 100.3 102.9 100.3	90	91	92		
80	Kr	krypton	90	Br	bromine
300.900 17.020 39.94 100.3 102.9 100.3	91	92	93		
81	Br	bromine	91	Br	bromine
304.900 17.020 39.94 100.3 102.9 100.3	92	93	94		
82	Kr	krypton	92	Br	bromine
308.900 17.020 39.94 100.3 102.9 100.3	93	94	95		
83	Br	bromine	93	Br	bromine
312.900 17.020 39.94 100.3 102.9 100.3	94	95	96		
84	Kr	krypton	94	Br	bromine
316.900 17.020 39.94 100.3 102.9 100.3	95	96	97		
85	Br	bromine	95		

Cp precision

default: -1

Sets the specific heat capacity precision, *i.e.*, the decimal places displayed in their value, performing the respective rounding, without zero padding the value.

NOTE:

Rounding is performed over density values which actually have a maximum 3 decimal places. So giving this key a value of -1 (the value of the melting or boiling point as-is) or 3 has the same effect.

Therefore the values provided to this key should be any integer between -1 and 2. Any other integer provided will be processed as -1.

```
\pgfPTbuilcellstyle{myCp}{(5,3)}% 5 rows by 3 columns
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-3;Cp)]
\pgfPTstyle[Z list={1,...,36},cell style=myCp]
\pgfPT
```

Periodic Table of Elements																			
1	H	hydrogen	28.836	2	B	beryllium	16.443	3	Li	lithium	24.86	4	Be	beryllium	16.443	5	Na	sodium	24.869
6	Ca	calcium	25.929	7	Sc	scandium	25.52	8	Ti	titanium	25.06	9	V	vandium	24.89	10	Cr	chromium	23.35
11	Mg	magnesium	24.869	12	Mn	manganese	26.32	13	Fe	iron	25.1	14	Co	cobalt	24.81	15	Ni	nickel	26.07
16	K	potassium	29.6	17	Ca	calcium	25.929	18	Sc	scandium	25.52	19	Ti	titanium	25.06	20	V	vandium	24.89
21	Sc	scandium	25.52	22	Cr	chromium	23.35	23	Mn	manganese	26.32	24	Fe	iron	25.1	25	Co	cobalt	24.81
26	Mg	magnesium	24.869	27	Al	aluminum	24.2	28	Ni	nickel	26.07	29	Cu	copper	24.44	30	Zn	zinc	25.39
31	Ga	gallium	25.86	32	Ge	germanium	23.222	33	O	oxygen	29.376	34	As	arsenic	24.64	35	Se	selenium	25.363
36	Br	bromine	75.69	37	Cl	chlorine	33.949	38	Ar	argon	20.786	39	Kr	krypton	20.786	40	He	helium	20.786

```
\pgfPT[Cp precision=0]
```

Periodic Table of Elements																			
1	H	hydrogen	29.8	2	B	beryllium	16.4	3	Li	lithium	24.9	4	Be	beryllium	16.4	5	Na	sodium	24.9
6	Ca	calcium	26	7	Sc	scandium	26	8	Ti	titanium	25	9	V	vandium	24.9	10	Cr	chromium	23.4
11	Mg	magnesium	24.9	12	Mn	manganese	26.3	13	Fe	iron	25.1	14	Co	cobalt	24.8	15	Ni	nickel	26.1
16	K	potassium	30	17	Ca	calcium	26	18	Sc	scandium	25.5	19	Ti	titanium	25.1	20	V	vandium	24.9
21	Sc	scandium	25.5	22	Cr	chromium	24.9	23	Mn	manganese	26.3	24	Fe	iron	25.1	25	Co	cobalt	24.8
26	Mg	magnesium	24.9	27	Al	aluminum	24.2	28	Ni	nickel	26.1	29	Cu	copper	24.4	30	Zn	zinc	25.4
31	Ga	gallium	25.9	32	Ge	germanium	23.2	33	O	oxygen	29.4	34	As	arsenic	24.6	35	Se	selenium	25.4
36	Br	bromine	76	37	Cl	chlorine	34.0	38	Ar	argon	20.8	39	Kr	krypton	20.8	40	He	helium	21

```
\pgfPT[Cp precision=1]
```

Periodic Table of Elements																			
1	H	hydrogen	28.8	2	B	beryllium	16.4	3	Li	lithium	24.9	4	Be	beryllium	16.4	5	Na	sodium	24.9
6	Ca	calcium	25.9	7	Sc	scandium	25.5	8	Ti	titanium	25.1	9	V	vandium	24.9	10	Cr	chromium	23.4
11	Mg	magnesium	24.9	12	Mn	manganese	26.3	13	Fe	iron	25.1	14	Co	cobalt	24.8	15	Ni	nickel	26.1
16	K	potassium	29.6	17	Ca	calcium	25.9	18	Sc	scandium	25.5	19	Ti	titanium	25.1	20	V	vandium	24.9
21	Sc	scandium	25.5	22	Cr	chromium	24.9	23	Mn	manganese	26.3	24	Fe	iron	25.1	25	Co	cobalt	24.8
26	Mg	magnesium	24.9	27	Al	aluminum	24.2	28	Ni	nickel	26.1	29	Cu	copper	24.4	30	Zn	zinc	25.4
31	Ga	gallium	25.9	32	Ge	germanium	23.2	33	O	oxygen	29.4	34	As	arsenic	24.6	35	Se	selenium	25.4
36	Br	bromine	75.7	37	Cl	chlorine	34.0	38	Ar	argon	20.8	39	Kr	krypton	20.8	40	He	helium	20.8

\pgfPT[Cp precision=2]

Periodic Table of Elements																							
1	H	2	He	3	Li	4	Be	5	C	6	N	7	O	8	F	9	Ne						
1	hydrogen	28.84	2	lithium	24.86	3	beryllium	16.44	5	boron	11.09	6	carbon	8.52	7	nitrogen	29.12	18	helium	20.79			
2	lithium	24.86	3	beryllium	16.44	4	scandium	25.52	5	vanadium	25.06	6	chromium	24.89	7	manganese	23.35	13	aluminum	24.2			
3	sodium	28.23	4	magnesium	24.87	5	tin	25.06	6	chromium	23.35	7	iron	25.1	8	cobalt	24.81	9	nickel	26.07	14	silicon	19.79
4	potassium	29.6	5	calcium	25.93	6	tin	25.06	7	chromium	23.35	8	iron	25.1	9	cobalt	24.81	10	copper	24.44	15	phosphorus	23.82
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36						
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr						
29.6	25.93	25.52	25.06	24.89	23.35	26.32	25.1	24.81	26.07	24.44	25.39	25.86	23.22	24.64	25.36	75.69	20.79						

\pgfPT[Cp precision=3]

Periodic Table of Elements																							
1	H	2	He	3	Li	4	Be	5	C	6	N	7	O	8	F	9	Ne						
1	hydrogen	28.86	2	lithium	24.86	3	beryllium	16.443	5	boron	11.087	6	carbon	8.517	7	nitrogen	29.124	18	helium	20.786			
2	lithium	24.86	3	beryllium	16.443	4	scandium	25.52	5	tin	25.06	6	chromium	24.89	7	manganese	23.35	13	aluminum	24.2			
3	sodium	28.23	4	magnesium	24.869	5	tin	25.06	6	chromium	23.35	7	iron	25.1	8	cobalt	24.81	9	nickel	26.07	14	silicon	19.799
4	potassium	29.6	5	calcium	25.929	6	tin	25.06	7	chromium	23.35	8	iron	25.1	9	cobalt	24.81	10	copper	24.44	15	phosphorus	23.824
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36						
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr						
29.6	25.929	25.52	25.06	24.89	23.35	26.32	25.1	24.81	26.07	24.44	25.39	25.86	23.22	24.64	25.36	75.69	20.786						

kT precision

default: -1

Sets the thermal conductivity precision, i.e., the decimal places displayed in their value, performing the respective rounding, without zero padding the value.

NOTE:

Rounding is performed over density values which actually have a maximum 5 decimal places. So giving this key a value of -1 (the value of the melting or boiling point as-is) or 5 has the same effect.

Therefore the values provided to this key should be any integer between -1 and 4. Any other integer provided will be processed as -1.

```
\pgfPTbuilcellstyle{mykT}{(5,3)}% 5 rows by 3 columns
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-3;kT)]
\pgfPTstyle[Z list={1,...,36},cell style=mykT,show title=false]
\pgfPT
```

Periodic Table of Elements																							
1	H	2	He	3	Li	4	Be	5	C	6	N	7	O	8	F	9	Ne						
1	hydrogen	0.1605	2	lithium	84.8	3	beryllium	200	5	boron	27.4	6	carbon	140	7	nitrogen	0.02583	18	helium	0.1513			
2	lithium	84.8	3	beryllium	200	4	scandium	15.8	5	tin	30.7	6	chromium	93.9	7	manganese	7.81	13	aluminum	237			
3	sodium	142.3	4	magnesium	196	5	tin	21.9	6	chromium	30.7	7	iron	80.4	8	cobalt	100	9	nickel	90.9	14	silicon	149
4	potassium	102.5	5	calcium	201	6	tin	21.9	7	chromium	93.9	8	iron	80.4	9	cobalt	100	10	copper	116	15	phosphorus	0.236
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36						
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr						
102.5	201	15.8	21.9	30.7	93.9	7.81	80.4	100	90.9	401	40.6	60.2	50.2	0.519	0.122	0.00943	0.01772						

\pgfPT[kT precision=0]

\pgfPT[kT precision=1]

\pgfPT[kT precision=2]

1	H	He
hydrogen 0.18		helium 0.15
2	Li	Ne
lithium 8.48	beryllium 200	neon 0.05
3	Be	F
	beryllium 200	fluorine 0.03
4	Mg	Ar
sodium 142	magnesium 156	argon 0.02
5	Al	Kr
	aluminum 237	krypton 0.01
6	Si	
	silicon 149	
7	P	
	phosphorus 0.24	
8	S	
	sulfur 0.21	
9	Cl	
	chlorine 0.01	
10	Ca	
potassium 102.5	calcium 201	
11	Sc	
scandium 15.8	tin 21.9	
12	Ti	
titanium 30.7	vanadium 93.8	
13	Cr	
chromium 7.81	manganese 80.4	
14	Mn	
manganese 93.8	iron 100.	
15	Fe	
iron 80.4	cobalt 90.8	
16	Ni	
cobalt 90.8	nickel 401.	
17	Cu	
nickel 401.	copper 116.	
18	Zn	
copper 116.	zinc 111.	
19	Ga	
zinc 111.	gallium 49.6	
20	Ge	
gallium 49.6	germanium 60.2	
21	As	
germanium 60.2	arsenic 54.5	
22	Se	
arsenic 54.5	selenium 52.0	
23	Br	
selenium 52.0	bromine 31.2	
24	Kr	
bromine 31.2	krypton 0.01	
25	Ra	
krypton 0.01	radon 222	
26	CS	
radon 222	solid liquid gas crystal	
27	N	
	Z: Atomic Number	
	Rs: Radon	
	CS: Chemical Symbol	
	N: Chemical Symbol	
	M: Thermal Conductivity (W·m⁻¹·K⁻¹)	

\pgfPT[kT precision=3]

Periodic Table Legend:

- Ra**: Radioactive
- CS**: Solid/Liquid/Gaseous State
- N**: Name
- KT**: Thermal Conductivity ($\text{Wm}^{-1}\text{K}^{-1}$)

\pgfPT[kT precision=4]

1	H	Pt	He
hydrogen 1.0005	CS	radioactive radioactive synthetic	helium 0.1513
2	Be		
lithium 8.48	beryllium 200		
3	Mg		
sodium 142	magnesium 156		
4	Ca		
potassium 19	calcium 20		
5	Sc		
scandium 21	titanium 22		
6	V		
vanadium 23	chromium 24		
7	Cr		
manganese 25	iron 26		
8	Fe		
cobalt 27	nickel 28		
9	Ni		
copper 29	copper 30		
10	Zn		
zinc 31	gallium 32		
11	Ga		
germanium 33	arsenic 34		
12	As		
selenium 35	bromine 36		
13	B		
boron 27.4	carbon 140		
14	C		
15	N		
nitrogen 0.0238	oxygen 0.0266		
16	O		
oxygen 0.0277	fluorine 0.0491		
17	F		
18	Ne		
neon 0.0491	argon 0.0177		
19	Kr		

\pgfPT[kT precision=5]

A detailed periodic table visualization showing atomic number, symbol, name, and properties for each element. The table is color-coded by group and includes a legend for Z, Ra, Cs, N, and KT.

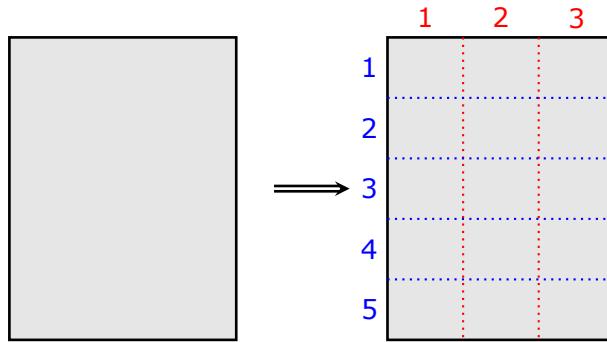
Z	Atomic Number	Ra	Ra: Radiativity	Cs	Cs: Chemical Symbol	N	N: Neutron	KT	KT: Thermal Conductivity (Wm ⁻¹ K ⁻¹)
1	H	hydrogen	0.1005						
2	Li	lithium	6.94						
3	B	beryllium	200						
4	Mg	magnesium	12.31						
5	Al	aluminum	27.4						
6	Si	silicon	14.0						
7	P	phosphorus	0.02583						
8	S	sulfur	0.02658						
9	Cl	chlorine	0.0277						
10	Ar	argon	0.0491						
11	Na	sodium	14.0						
12	Ca	calcium	20.1						
13	Sc	scandium	15.8						
14	Ti	titanium	21.9						
15	V	vandium	30.7						
16	Cr	chromium	50.9						
17	Mn	manganese	7.81						
18	Fe	iron	56.4						
19	Co	cobalt	100						
20	Ni	nickel	59.9						
21	Cu	copper	40.1						
22	Zn	zinc	116						
23	Ga	gallium	40.8						
24	Ge	germanium	60.2						
25	As	arsenic	50.2						
26	Se	selenium	0.519						
27	Br	bromine	0.122						
28	Kr	krypton	0.00943						
29									
30									
31									
32									
33									
34									
35									
36									

\pgfPTresetstyle

Designing cells with \pgfPTbuildcell

To start designing the *base cell* of the Periodic Table it is necessary to keep in mind that each cell will be split into **n** rows and **k** columns.

As a running example, 5 rows and 3 columns will be used:

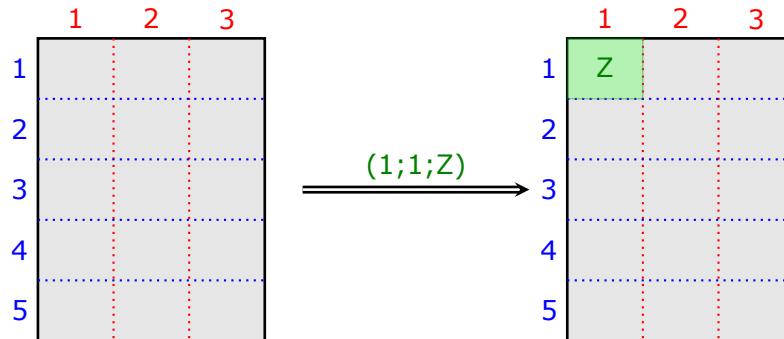


The next task is to assign contents to the cell by typing *trios* with the structure

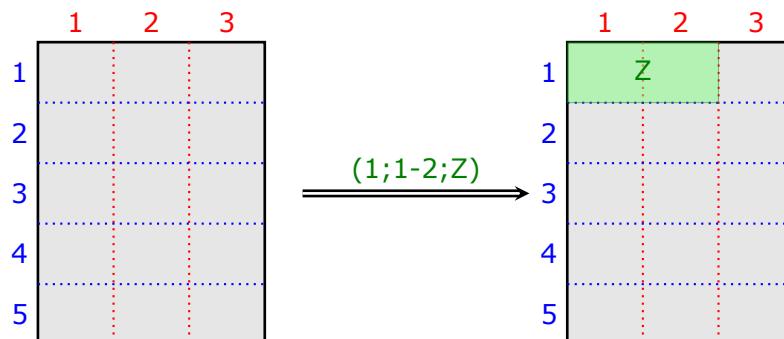
- (**row;column;content**)
- or (**start row-end row;start column-end column;content**)
- or a combination of both.

The available **contents** are: Z, name, CS, Ar, Ar*, radio, R, Rcov, Rion, Ei, eneg, eaff, O, Tmelt, TmeltC, Tboil, TboilC, eDist, eConfign, eConfignl, d, Cp, kT, ls, lsA, lsB, lsC, lsCa, DiscY, DiscC and spectra.

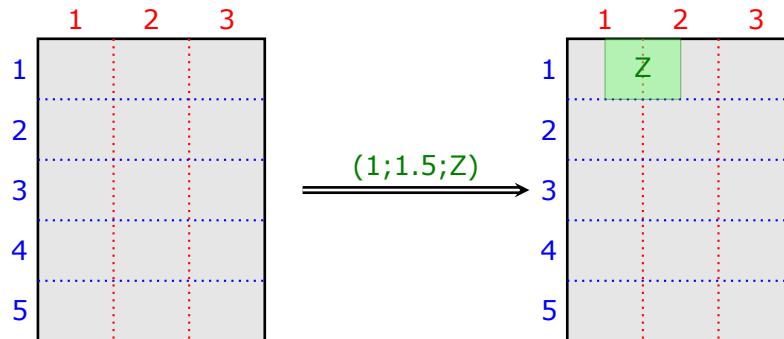
Assigning, for instance, **(1;1;Z)** will show the atomic number in the first row and in the first column,



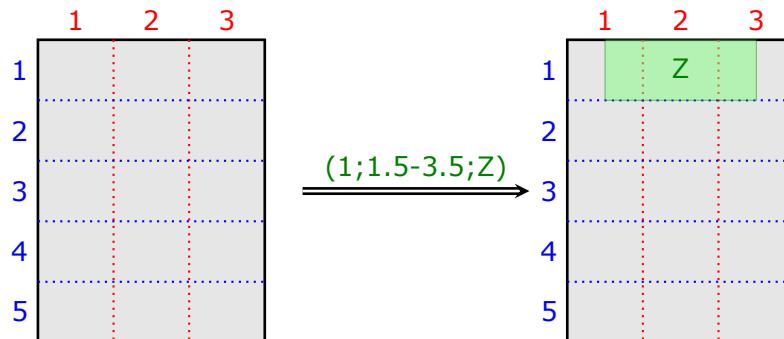
while the assignment **(1;1-2;Z)** will show the atomic number in the first row and filling the first and second columns,



It is also possible to start at a *fraction* of a line or column. If it is intended to start a line at the middle of the first column the value used should be **1.5**, which means that the start value is at the half (0.5) of the first column (1), observing that 1.5 is 0.5 plus 1:



As in the second example above it is possible to end up in a specified *fraction* of a line or column:



The row, column syntax

Both lines and columns share the same syntax, where **n** is any integer between 1 and the number of rows and **f** is the fractional part of any number between 0 and 1:

- (1)** If only the row number **n** is provided the *content* is placed at the row **n**.
- (2)** If the row number **n** is provided followed by a **dot** and a number **f**, the *content* is placed at the fraction **f** of the row **n**.
- (3)** If the start row **n_s** and the end row **n_e** are provided separated by a **dash**, i.e., **n_s-n_e**, the *content* is placed filling all the rows from **n_s** to **n_e**.
The **dot** notation described in **(2)** can be used both on **n_s** and **n_e**.
- (4)** All of the items above apply to columns in the same way.

✖ The cell contents

- ✓ **Z** – the atomic number of the elements.
- ✓ **name** – the name of the elements.
- ✓ **CS** – the chemical symbol of the elements.
- ✓ **Ar** – the relative atomic mass (atomic weight) of the elements.
- ✓ **Ar*** – the standard relative atomic mass (standard atomic weight) of the elements.

- ✓ **radio** – radioactivity of the elements. If the element is radioactive the figure ☢ is placed in the cell, otherwise nothing is shown.
- ✓ **R** – the atomic radius of the elements. The atomic radius shown is the calculated radius and is expressed in picometers.
- ✓ **Rcov** – the covalent radius of the elements. The covalent radius shown is for single bonds and is expressed in picometers.
- ✓ **Rion** – the ionic radius of the elements. The radius shown is the effective ionic radius in picometers.
- ✓ **Ei** – the first ionization energy of the elements, measured in $\text{kJ} \cdot \text{mol}^{-1}$. All data from rutherfordium onwards is predicted.
- ✓ **eneg** – the Pauling electronegativity of the elements.
- ✓ **eaaff** – the electroaffinity (electron affinity) of the elements, measured in $\text{kJ} \cdot \text{mol}^{-1}$. Estimated negative values have been replaced by zero, since the negative ions formed in these cases are always unstable (they may have lifetimes of the order of microseconds to milliseconds, and invariably autodetach after some time).
- ✓ **O** – the common oxidation states of the elements.
- ✓ **Tmelt** – the melting point, in Kelvin, of the elements.
- ✓ **TmeltC** – the melting point, in degrees Celsius, of the elements.
- ✓ **Tboil** – the boiling point, in Kelvin, of the elements.
- ✓ **TboilC** – the boiling point, in degrees Celsius, of the elements.
- ✓ **eDist** – the electron distribution of the elements.
- ✓ **eConfign** – the electronic configuration, in increasing n (principal quantum number), of the element, corresponding to the *spectroscopic* order of orbital energies, that is, the reverse of the order in which electrons are removed from a given atom to form positive ions.

Note: the short version of the electronic configuration is used, i.e., [previous noble gas]remaining electrons. For example, for scandium it is: [Ar]3d¹4s²
- ✓ **eConfignl** – the electronic configuration, in increasing sum of n and ℓ (azimuthal quantum number), of the element, following the order based on the Madelung rule.

Note: the short version of the electronic configuration is used, i.e., [previous noble gas]remaining electrons. For example, for scandium it is: [Ar]4s²3d¹
- ✓ **d** – the density of the elements, in the corresponding physical state, at 25°C and 1 atm.
- ✓ **Cp** – the specific heat capacity of the elements in $\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$ at 25°C and 100 kPa.
- ✓ **kT** – the thermal conductivity of the elements in $\text{J} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$ at 25°C.
- ✓ **Is** – the lattice structure of the elements at 1 bar and mostly at 25°C.
- ✓ **Isa** – the lattice constant a of the elements in picometers at 1 bar and mostly at 25°C.
- ✓ **Isb** – the lattice constant b of the eligible elements in picometers at 1 bar and mostly at 25°C.
- ✓ **Isc** – the lattice constant c of the eligible elements in picometers at 1 bar and mostly at 25°C.
- ✓ **Isca** – the lattice c/a ratio of the eligible elements at 1 bar and mostly at 25°C.
- ✓ **DiscY** – the discovery year of the elements.
- ✓ **DiscC** – the discovery country or in, a few cases, region (Middle East or Asia Minor) of the elements.
- ✓ **spectra** – the emission spectrum of the elements. The spectrum is only shown if available. The spectra are pre-built using the package **pgf-spectra** via the commands:

```
\pgfspectraStyle[back=visible40,line width=1pt,width=180pt,height=45pt,%
    relative intensity,relative intensity threshold=.375,%
    brightness=.5,charge=all,Imin=.125,gamma=1]
\foreach \SQ in {H,He,...,Bi,Po,Rn,Fr,...,Es}{%
    \pgfspectra[element=\SQ]{%
}}
```

✗ Built-in cell styles

There is a set of *built-in* cell styles that could be used for the described purposes:

- ✓ **pgfPT2lang** – a cell layout to use with the name in two languages.

Built-in style pgfPT2lang

The build command:

```
\pgfPTbuildcell(6,3)[%
    (1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4-5;1-3;name),(6;1-3;Ar)]
```

	1	2	3
1	Z	radio	
2		CS	
3			
4		name	
5			
6		Ar	

scale 1.6:1

- ✓ **pgfPT3lang** – a cell layout to use with the name in three languages.

Built-in style pgfPT3lang

The build command:

```
\pgfPTbuildcell(7,3)[%
    (1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4-6;1-3;name),(7;1-3;Ar)]
```

	1	2	3
1	Z	radio	
2		CS	
3			
4		name	
5			
6		Ar	
7			

scale 1.6:1

- ✓ **pgfPTR** – a cell layout to display the atomic radius and its periodic variations (if of course the `show periodic variations` key is set to true).

Built-in style pgfPTR

The build command:

```
\pgfPTbuildcell(5,3)[%
    (1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-3;R)]
```

	1	2	3
1	Z	radio	
2		CS	
3			
4		name	
5		R	

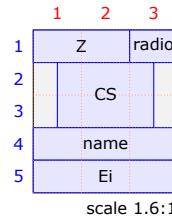
scale 1.6:1

- ✓ **pgfPTEi** – a cell layout to display the first ionization energy and its periodic variations (if of course the `show periodic variations` key is set to true).

Built-in style pgfPTEi

The build command:

```
\pgfPTbuildcell(5,3)%  
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-3;Ei)]
```



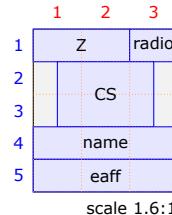
scale 1.6:1

- ✓ **pgfPTeaff** – a cell layout to display the electron affinity and its periodic variations (if of course the `show periodic variations` key is set to true).

Built-in style pgfPTeaff

The build command:

```
\pgfPTbuildcell(5,3)%  
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-3;eaff)]
```



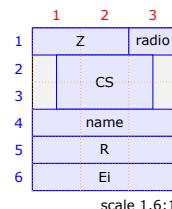
scale 1.6:1

- ✓ **pgfPTREi** – a cell layout to display the atomic radius and first ionization energy and their periodic variations (if of course the `show periodic variations` key is set to true).

Built-in style pgfPTREi

The build command:

```
\pgfPTbuildcell(6,3)%  
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-3;R),(6;1-3;Ei)]
```



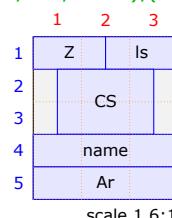
scale 1.6:1

- ✓ **pgfPTIs** – a cell layout to display the lattice system.

Built-in style pgfPTIs

The build command:

```
\pgfPTbuildcell(5,3)%  
[(1;1-2.5;Z),(1;2.5-3;ls),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-3;Ar)]
```



scale 1.6:1

✓ **pgfPTdisc** – a cell layout to display the discovery country and discovery year.

Built-in style pgfPTdisc

The build command:

```
\pgfPTbuildcell(6,3)%  
[(1;1-2;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4;1-3;name),(5;1-3;DiscC),(6;1-3;DiscY)]
```

	1	2	3
1	Z		radio
2		CS	
3			
4	name		
5	DiscC		
6	DiscY		

scale 1.6:1

Designing color schemes

There are three ways to make a new color scheme:

- with the command `\pgfPTnewColorScheme`
- using the *script* in the file [pgfPTcolorSchemes.html](#)
- with the commands provided by the [colorschemes library](#) (see the [libraries section](#)).

✖ Designing a color scheme with `\pgfPTnewColorScheme`

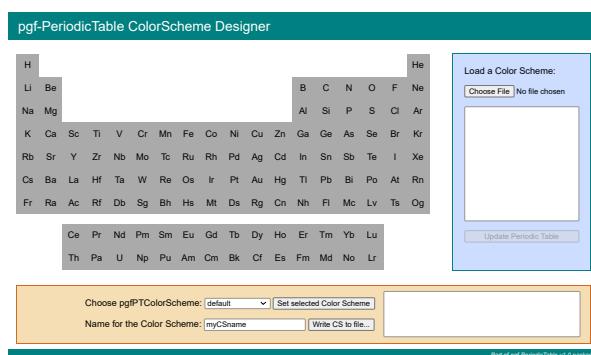
This command provides a way to set the cell background color of each of the 118 elements of the Periodic Table. *If the intention is to set the background color for all of them, it is highly recommended to use the file pgfPTcolorSchemes.html*, unless the trailing color begin at a small atomic number.

Despite that, this command can always be used taking into account:

1. It has the form `\pgfPTnewColorScheme[trailing color]{name}{color list}` where:
 - the first argument (enclosed by square brackets) is optional. If provided, the specified trailing color will be used, otherwise the default color (white) will be used as trailing color.
 - the second and third arguments are mandatory and specify, respectively, the color scheme name and the color list.
2. The **name** is any name made up of letters (only the characters a,...,z and A,...,Z).
3. The **color list** is a comma-separated list where each entry has the format **r/g/b**, representing the red, blue and green values, between 0 and 1, of the color: the first entry of the list will be the background color used in the cell of the element with atomic number 1, the second entry, the background color of the cell of the element with atomic number 2, and so on.

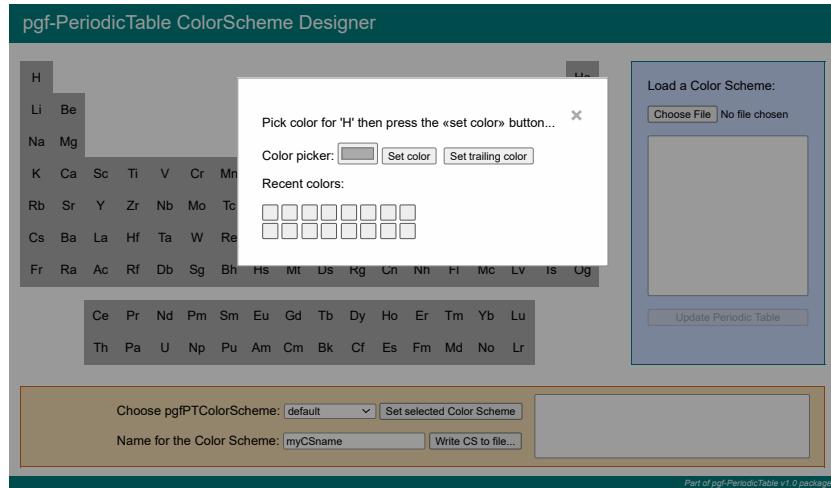
If the color list has ten entries, these entries will set the background colors of the elements with atomic numbers from 1 to 10. For the following atomic numbers, greater than or equal to 11, the trailing color will be used in the color background.

✖ Designing a color scheme with [pgfPTcolorSchemes.html](#)

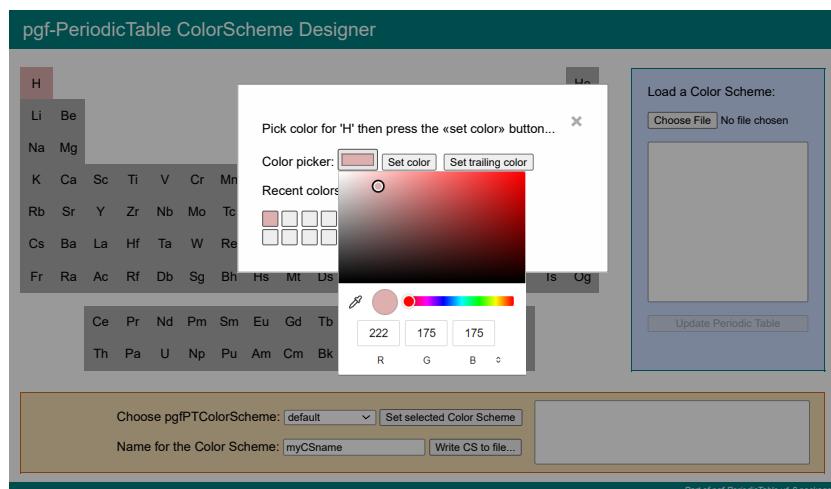


The [pgfPTcolorSchemes.html](#) designer is an *html* file with a little *javascript* code to perform the task of building a color scheme to use with the **back color scheme** key associated with the `\pgfPT` command.

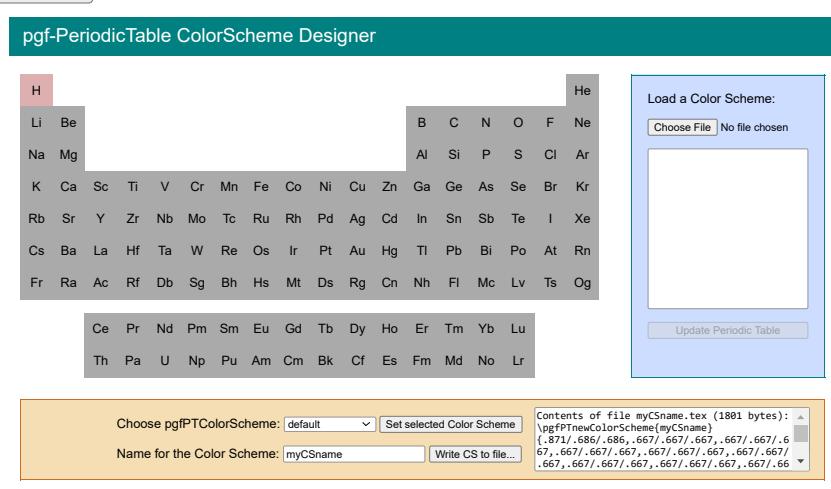
The Periodic Table of the Elements is displayed on the page and clicking on an element opens a color dialog:



Clicking on the Color picker: button opens a color dialog, where there is the possibility to choose the desired color or manually enter one color using one of the three models available (RGB, HSL or HEX):



After changing the desired colors it is possible to save the color scheme in a file by clicking on **Write CS to file...**:

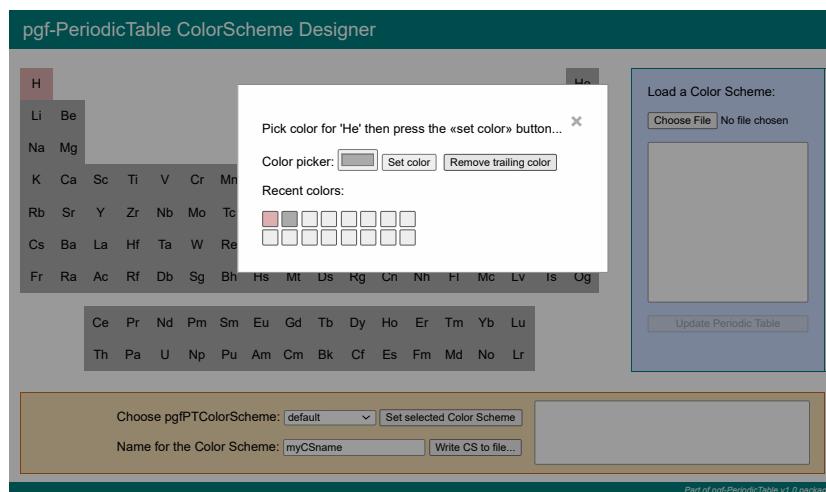


To use a color scheme saved in a file there are two possible ways:

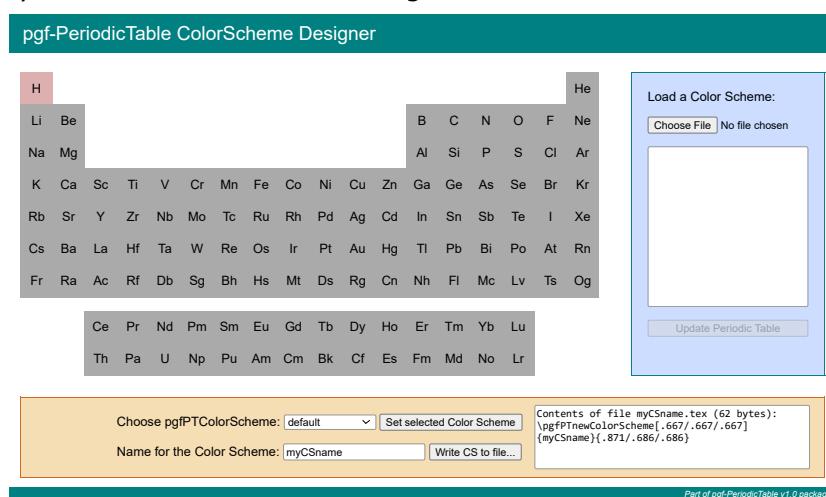
- loading the file in the working document via the `\input` L^AT_EX command, for instance, `\input{myCSname.tex}`.
- or by opening the file and copying and pasting its contents into the working document.

In either case, the operation can be performed at any location in the document, but before the named color scheme is used.

Note that in the previous example there is only one color that has been defined (for hydrogen). In that case, it is useful to set the trailing color in helium by clicking in `Set trailing color` (which automatically changes to `Remove trailing color`). After that only the hydrogen and helium are clickable, all the other elements are locked to click:



Then the saved color scheme will have the optional trailing color and the size will be smaller as only the color codes of the changed elements are stored:



To remove the trailing color click on the last enabled element (in the above case helium) and then click on `Remove trailing color`. After that, all elements can be clicked again.

It is also possible to load a color scheme saved to a file by clicking on `Choose File` and then clicking on `Update Periodic Table` for the color scheme to take effect:

pgf-PeriodicTable ColorScheme Designer

Load a Color Scheme:

```
\pgfPTNewColorScheme{0.5/.25/.333}{colortest}
{1/1/0.5987,.5/.33/0.25,.25/.25/.57}
```

Update Periodic Table

Choose pgfPTColorScheme: default Set selected Color Scheme

Name for the Color Scheme: myCName Write CS to file...

Part of pgf-PeriodicTable v1.0 package

Finally its possible to load a built-in color scheme by choosing a named *pgfPTColorScheme* in the corresponding combo box and then clicking on **Set selected Color Scheme**:

pgf-PeriodicTable ColorScheme Designer

Load a Color Scheme:

Choose pgfPTColorScheme: Soft Set selected Color Scheme

Name for the Color Scheme: myCName Write CS to file...

Part of pgf-PeriodicTable v1.0 package

All the operations described are always available.

Libraries

In this part the library packages are documented. They provide additional commands to extend the capabilities provided by this package out of the box. The libraries are not loaded by default since many users will not need them.

► Color Schemes Library

pgf-PeriodicTable Library `colorschemes`

USAGE: `\usepgfPTlibrary{colorschemes}`

This library extends the features provided by the command `\pgfPTnewColorScheme`. It defines a set of commands that automatically generate a new color scheme.

- `\pgfPTGroupColors{name of the new color scheme}{list of colors,options}`
- `\pgfPTPeriodColors{name of the new color scheme}{list of colors,options}`
- `\pgfPTCScombine[proportion,mode]{name of the first color scheme,name of the second color scheme,name of the new color scheme}`
- `\pgfPTCSwrite[filename]{list of color schemes names}`

Color arguments for this library's commands can use both the base package syntax – `namedColor` or `namedColorA!##!namedColorB<!##><!named..>` – or any color model supported by the `xcolor` package^a using the *special syntax* `*[model:values]`, e.g., `*[rgb:.5;.2;.3]` or `*[cmyk:.5;.2;.3;.3]` or `*[HTML:5FA287]`. **The values for the individual color components of a color specified this way must be separated by semicolons instead of commas**, except for the HTML, Gray and wave color models as explained in the `xcolor` package.

^aSee Table 3: Supported color models on page 10 of the documentation of `xcolor` v2.14 2022/06/12

► `\pgfPTGroupColors[default group color]{name of the new color scheme}{list of colors,options}`

This command **creates a Color Scheme** with the name `name of the new color scheme`. **Group colors** can be configured in three different ways:

- ✓ **setting the colors one by one**, using the `key=value` mechanism in the [list of colors](#). For example:

```
\pgfPTGroupColors{name of the new color scheme}%
{G1=red,G2=red!50,G3=orange,<...>,G18=blue,options}
```

This will set the specified color for each group. If no color is specified for a group, default group color will be used.

NOTE: default group color is initially set to white.

- ✓ **defining a gradient** using the keys `left color=<color>`, `middle color=<color>` and `right color=<color>` as the [list of colors](#). Note that all the keys are optional, but at least one of them is required. This produces a gradient starting from group 1, with *left color*, to group 18, with *right color*. If the `middle color` key is used then the gradient starts at group 1 with *left color*, goes to the middle position of the groups (between groups 9 and 10) with *middle color* and ends at group 18 with *right color*. For example:

```
\pgfPTGroupColors{name of the new color scheme}%
{left color=red,right color=blue,options}
```

defines a gradient from red (group 1) to blue (group 18).

- ✓ **defining a custom gradient** as the [list of colors](#) by using the `key=value` mechanism inside the `gradient` key. For example:

```
\pgfPTGroupColors{name of the new color scheme}%
{gradient={G1=red,G4=red!50,G18=blue},options}
```

defines a gradient from red (group 1) to red!50 (group 4) and to blue (group 18).

The `options` available to this command are:

- ✓ `H=<color>`, sets the color of the *hydrogen* cell. If not set, group 1's color will be used. If set, the color of the *hydrogen* cell won't be affected by period blending.
- ✓ `La=<color>`, sets the color of the *lanthanum* cell. If not set, group 3's color will be used.
- ✓ `Lanta=<color>`, sets the color of the *lanthanoids* cells. If not set, *lanthanum*'s color will be used.
- ✓ `Ac=<color>`, sets the color of the *actinium* cell. If not set, group 3's color will be used.
- ✓ `Actin=<color>`, sets the color of the *actinoids* cells. If not set, *actinium*'s color will be used.
- ✓ `period blending={color=<color>, percentage=<positive or negative integer>, mode=<add|sub|linear>}`, performs a *mode* blend over the periods up to the specified percentage with the provided color.

NOTES:

- ✓ `percentage` refers to how much of the color, in total, was mixed over the 7 periods. For example 60% adds 10% to each period: P1►0% ~ P2►10% ~ P3►20% ~ ... ~ P7►60%. If the percentage is positive, the mixing is done in descending order (from P1 to P7); if the percentage is negative, the mixing is done in ascending order (from P7 to P1).
- ✓ The `mode`'s values are `add` for *additive* blending, `sub` for *subtractive* blending and `linear` for *linear* blending (as in the `xcolor` package).
- ✓ **If period blending is used without further options** all the default values are used, so `period blending` is equivalent to `period blending={color=white,percentage=60,mode=linear}`.
- ✓ None of the keys `color`, `percentage` and `mode` are mandatory. If omitted the default value is used.

```
\pgfPTGroupColors{example}{G1=purple!10,G3=red!10}
\pgfPT[back color scheme=example,show title=false]
```

A standard periodic table where groups 13 through 18 are highlighted in purple, groups 1 and 2 in red, and the remaining groups in black.

```
\pgfPTGroupColors[black!10]{example}{G1=purple!10,G3=red!10}
\pgfPT[back color scheme=example,show title=false]
```

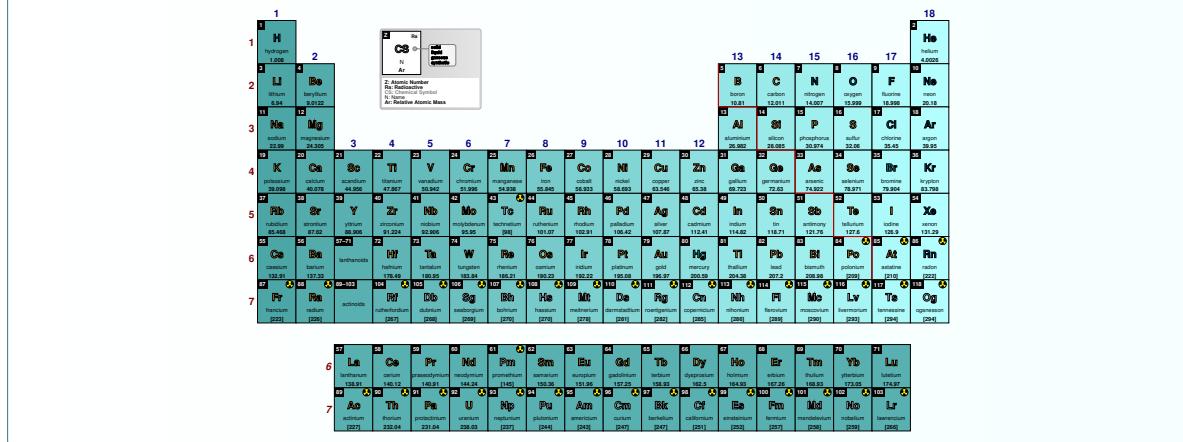
A standard periodic table where groups 13 through 18 are highlighted in purple, groups 1 and 2 in red, and the remaining groups in black.

```
\pgfPTGroupColors{example}{G1=*[HTML:FFAAAA],G2=*[HTML:AA3939],
G3=*[HTML:FFD1AA],G4=*[HTML:D49A6A],G5=*[HTML:AA6C39],
G6=*[HTML:804515],G7=*[HTML:552700],G8=*[HTML:003333],
G9=*[HTML:0D4D4D],G10=*[HTML:226666],G11=*[HTML:407F7F],
G12=*[HTML:669999],G13=*[HTML:88CC88],G14=*[HTML:55AA55],
G15=*[HTML:2D882D],G16=*[HTML:116611],G17=*[HTML:004400],
G18=*[HTML:801515] }
```

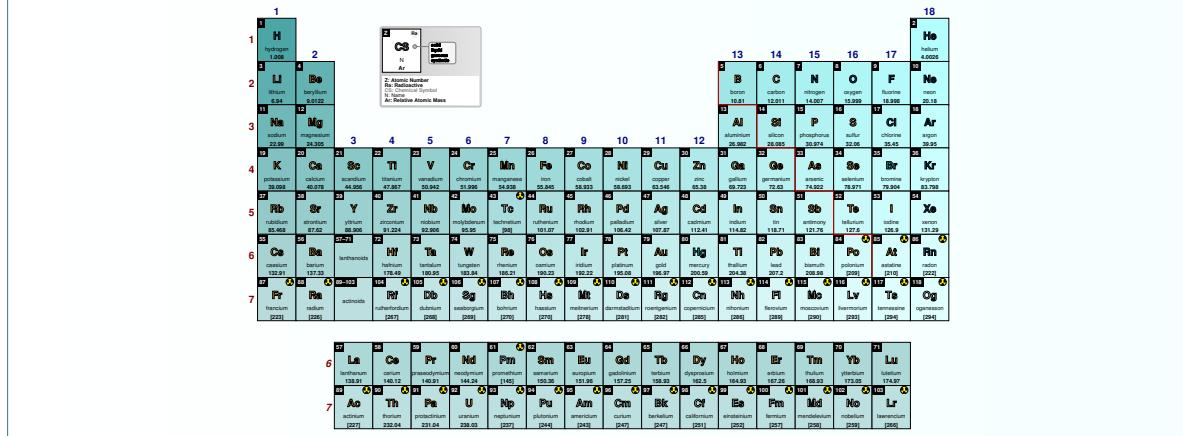
```
\pgfPT[back color scheme=example,show title=false]
```

A standard periodic table where groups 13 through 18 are highlighted in purple, groups 1 and 2 in red, and the remaining groups in black.

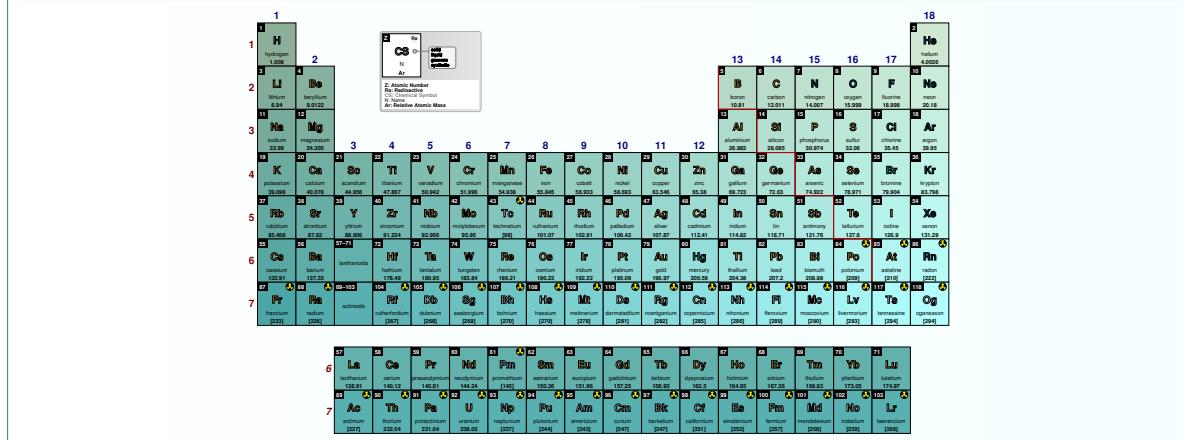
```
\pgfPTGroupColors{example}{left color=teal!70,right color=cyan!30}
\pgfPT[back color scheme=example,show title=false]
```



```
\pgfPTGroupColors{example}{left color=teal!70,right color=cyan!30,period blending}
\pgfPT[back color scheme=example,show title=false]
```

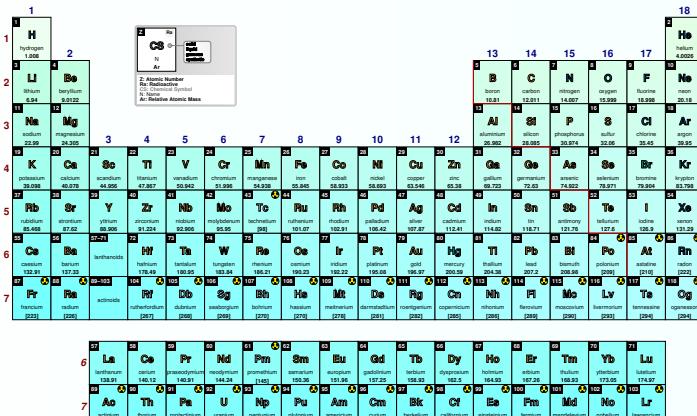


```
\pgfPTGroupColors{example}{left color=teal!70,right color=cyan!30,
period blending={color=orange!50,percentage=-40}}
\pgfPT[back color scheme=example,show title=false]
```



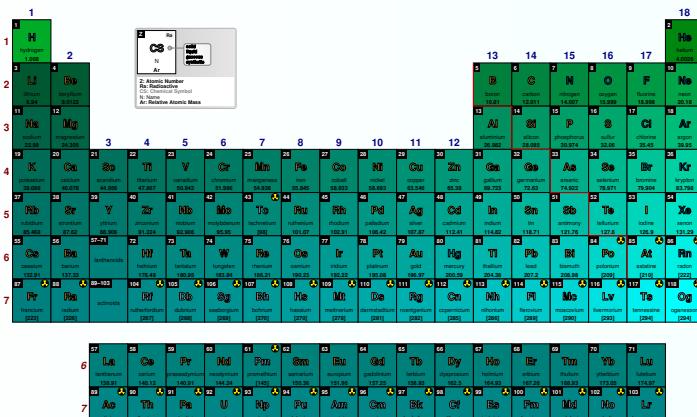
```
\pgfPTGroupColors{example}{left color=teal!70,right color=cyan!30,
period blending={color=orange!50,percentage=-40,mode=add},
H={*[cmyk:.071,0,.055,.035]}}
```

```
\pgfPT[back color scheme=example,show title=false]
```



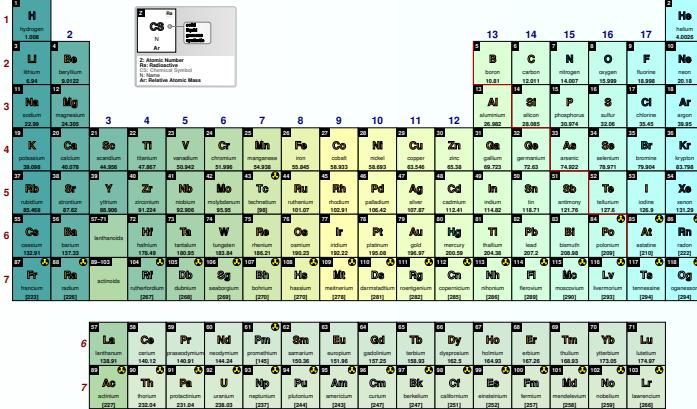
```
\pgfPTGroupColors{example}{left color=teal!70,right color=cyan!30,
period blending={color=orange!50,percentage=-40,mode=sub},
H={*[cmyk:.071;0;.055;.035]}}
```

```
\pgfPT[back color scheme=example,show title=false]
```

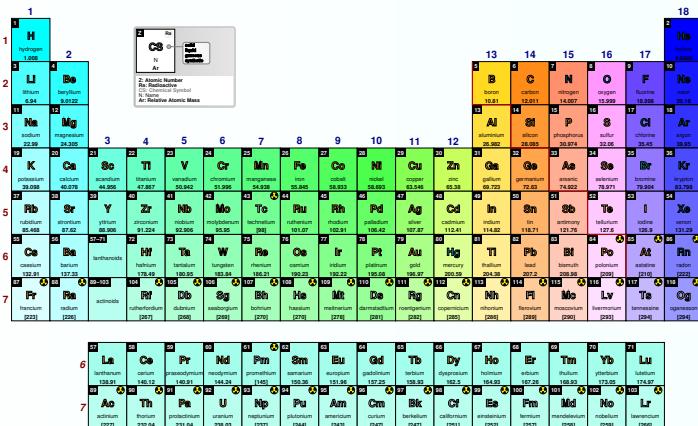


```
\pgfPTGroupColors{example}{left color=teal!70,middle color=yellow!30,right
color=cyan!30,La=teal!70!yellow!50,Ac=teal!60!yellow!50,
Lanta=teal!70!yellow!50!white!50,Actin=teal!60!yellow!50!white!50}
```

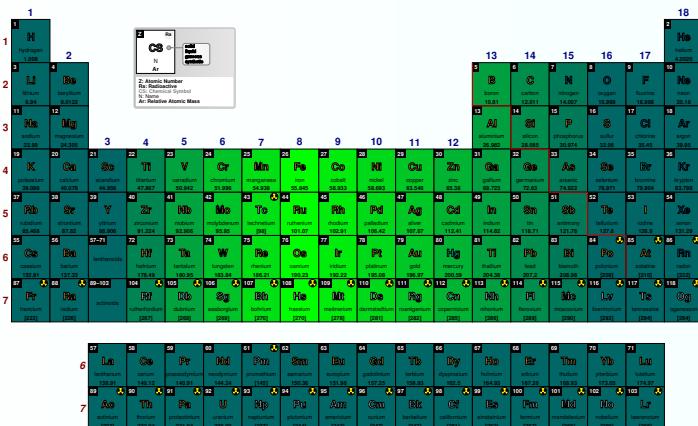
```
\pgfPT[back color scheme=example,show title=false]
```



```
\pgfPTGroupColors{example}{gradient={G1=teal!50!black,G2=teal,G10=green,
G14=orange,G18=blue},period blending={mode=add}}
\pgfPT[back color scheme=example,show title=false]
```



```
\pgfPTGroupColors{example}{gradient={G3=teal!80!black,G16=teal!80!black,
G8=green}}
\pgfPT[back color scheme=example,show title=false]
```



Note: the group numbers can be specified in any order and the gradient can start or end in any group. In this example, the smallest group number is 3 and the greatest is 16, so the gradient is built from group 3 to group 16 and the colors from group 1 to 3 are equal to group 3's color, just like the colors from group 16 to 18 are equal to group 16's color.

```
\pgfPTPeriodColors[default period color]{name of the new color scheme}{list of
colors,options}
```

This command **creates a Color Scheme** with the name **name of the new color scheme**. **Period colors** can be configured in three different ways:

- ✓ **setting the colors one by one**, using the **key=value** mechanism in the **list of colors**. For example:

```
\pgfPTPeriodColors{name of the new color scheme}%
{P1=red,P2=red!50,<...>,P7=blue,options}
```

This will set the specified color for each period. If no color is specified for a period,

default period color will be used.

NOTE: default period color is initially set to white.

- ✓ **defining a gradient** using the keys `top color=<color>`, `middle color=<color>` and `bottom color=<color>` as the [list of colors](#). Note that all the keys are optional, but at least one of them is required. This produces a gradient starting from period 1, with *top color*, to period 7, with *bottom color*. If the *middle color* key is used then the gradient starts at period 1 with *top color*, goes to the middle position of the periods (period 4) with *middle color* and ends at period 7 with *bottom color*. For example:

```
\pgfPTPeriodColors{name of the new color scheme}%
{top color=red,middle color=yellow,bottom color=blue,options}
```

defines a gradient from red (period 1) to yellow (period 4) and from yellow (period 4) to blue (period 7).

- ✓ **defining a custom gradient** as the [list of colors](#) by using the *key=value* mechanism inside the `gradient` key. For example:

```
\pgfPTPeriodColors{name of the new color scheme}%
{gradient={P1=red,P3=red!50,P7=blue},options}
```

defines a gradient from red (period 1) to red!50 (period 3) and to blue (period 7).

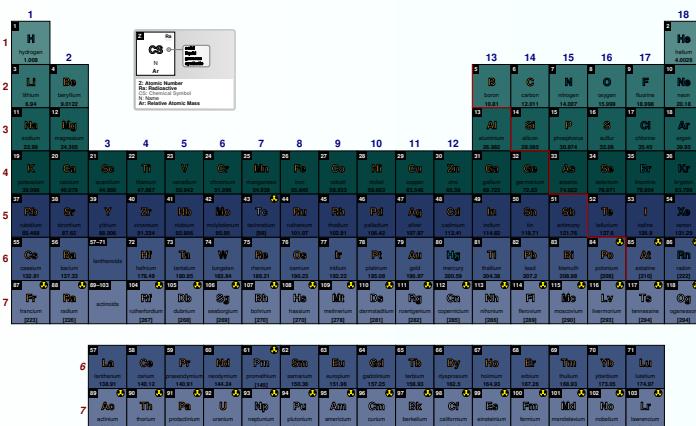
The `options` available to this command are:

- ✓ `H=<color>`, sets the color of the *hydrogen* cell. If not set, period 1's color will be used. If set, the color of the *hydrogen* cell won't be affected by group blending.
- ✓ `La=<color>`, sets the color of the *lanthanum* cell. If not set, period 6's color will be used.
- ✓ `Lanta=<color>`, sets the color of the *lanthanoids* cells. If not set, *lanthanum*'s color will be used.
- ✓ `Ac=<color>`, sets the color of the *actinium* cell. If not set, period 7's color will be used.
- ✓ `Actin=<color>`, sets the color of the *actinoids* cells. If not set, *actinium*'s color will be used.
- ✓ `group blending={color=<color>, percentage=<positive or negative integer>, mode=<add|sub|linear>}`, performs a *mode* blend over the groups up to the specified percentage with the provided color.

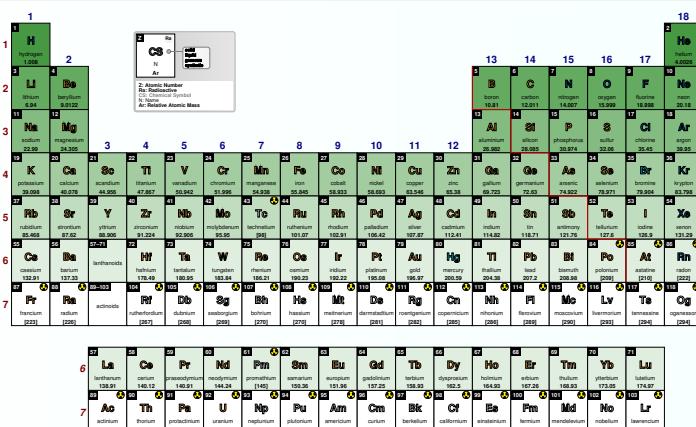
NOTES:

- ✓ `percentage` refers to how much of the color, in total, was mixed over the 18 groups. For example 68% adds 4% to each period: G1►0% ~ G2►4% ~ G3►8% ~ ... ~ G18►68%. If the percentage is positive, the mixing is done from left to right (from G1 to G18); if the percentage is negative, the mixing is done from right to left (from G18 to G1).
- ✓ The `mode`'s values are `add` for *additive* blending, `sub` for *subtractive* blending and `linear` for *linear* blending (as in the `xcolor` package).
- ✓ **If `group blending` is used without further options** all the default values are used, so `group blending` is equivalent to `group blending={color=white,percentage=68,mode=linear}`.
- ✓ None of the keys `color`, `percentage` and `mode` are mandatory. If omitted the default value is used.

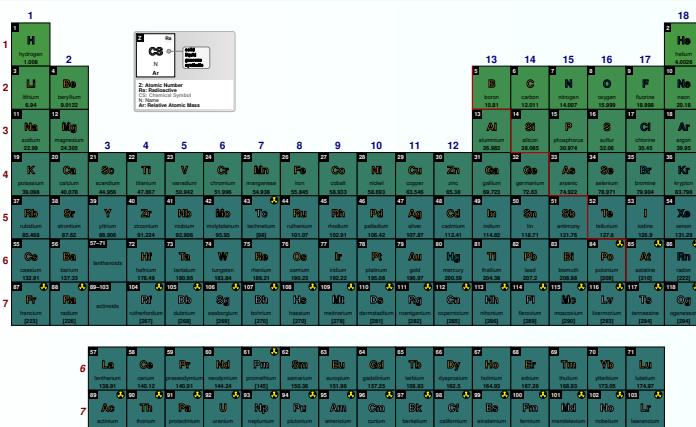
```
\pgfPTPeriodColors{example}{P1=*[RGB:86;139;137],P2=*[RGB:49;114;112],
P3=*[RGB:23;91;88],P4=*[RGB:5;67;64],P5=*[RGB:35;54;100],
P6=*[RGB:62;82;126],P7=*[RGB:101;117;153]}
\pgfPT[back color scheme=example,show title=false]
```



```
\pgfPTPeriodColors{example}{top color=*[Hsb:117;.57;.6]}
\pgfPT[back color scheme=example,show title=false]
```



```
\pgfPTPeriodColors{example}{gradient={P1=*[Hsb:117;.57;.6],
P5=*[Hsb:178;.57;.45]}}
\pgfPT[back color scheme=example,show title=false]
```



► `\pgfPTCScombine[prop1:prop2,mode]{name of color scheme one,name of color scheme two,name of the new color scheme}`

This command **combines two named Color Schemes** and merges the result in a new Color Scheme with **name of the new color scheme**.

For example `\pgfPTCScombine{myCSA,myCSB,myCSC}` adds the color scheme `myCSA` to the color scheme `myCSB` and their sum will be available as the color scheme `myCSC`.

NOTE: if the Color Schemes have different sizes (*i.e.*, different number of colors), the last color from the color scheme that ends first will be used until the other color scheme also ends.

The optional parameters `[prop1:prop2,mode]` are for controlling how the two Color Schemes are combined:

- ✓ The first parameter – `prop1:prop2` – controls the proportions used to mix the color schemes: `prop1` parts of **name of color scheme one** and `prop2` parts of **name of color scheme two**. Both `prop1` and `prop2` must be integer values between 1 and 999.

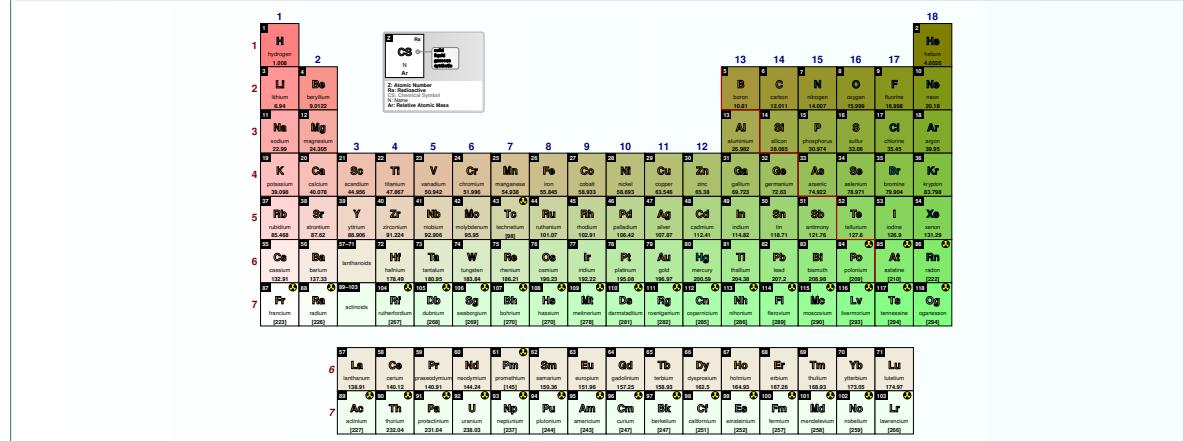
NOTE: default proportion is **1:1**.

For example, **1:4** will mix each color in the ratio of 1 to 4, *i.e.*, the *n*th-color from the first color scheme is used as 1/5 of the mixed color and the *n*th-color from the second color scheme is used as 4/5 of the mixed color.

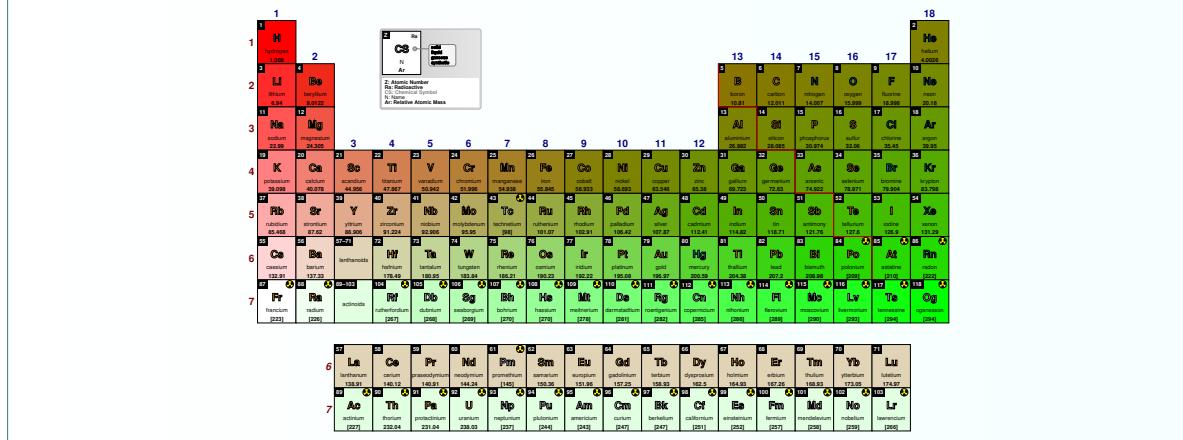
- ✓ The `mode` refers to how the colors are mixed: use `add` for *additive* mixing, `sub` for *subtractive* mixing and `linear` for *linear* mixing (as in the `xcolor` package).

NOTE: default mode is **linear**.

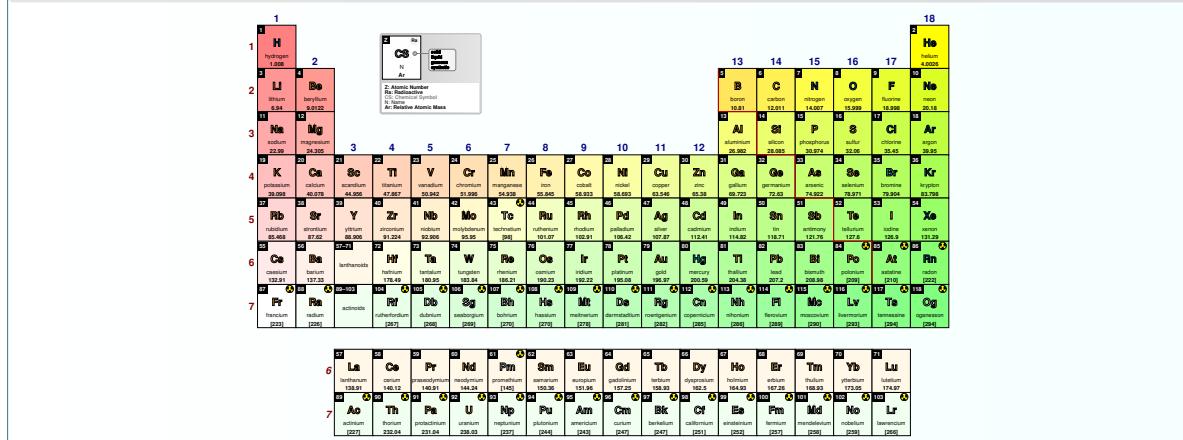
```
\pgfPTPeriodColors{period}{top color=red}
\pgfPTGroupColors{group}{right color=green}
\pgfPTCScombine{period,group,mix}
\pgfPT[back color scheme=mix,show title=false]
```



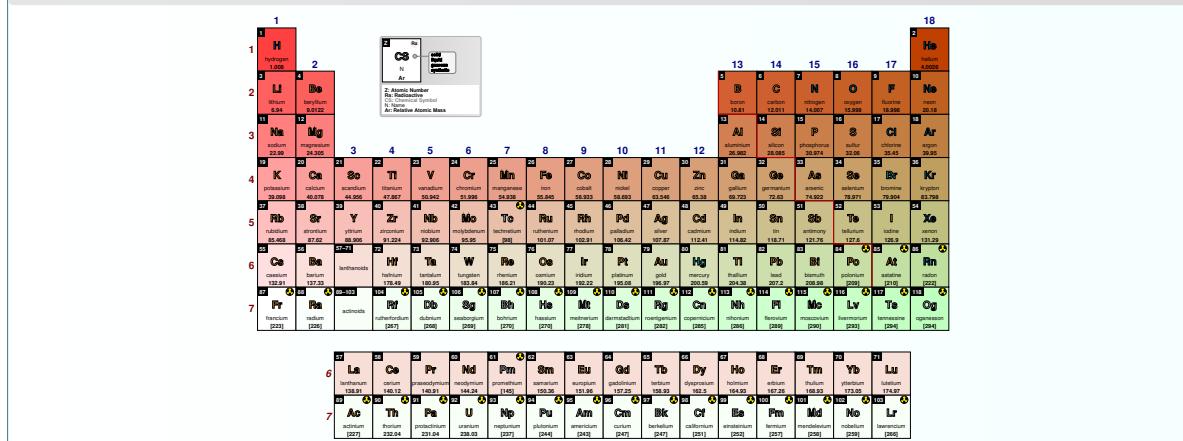
\pgfPTCScombine[sub]{period,group,mix}
\pgfPT[back color scheme=mix,show title=false]



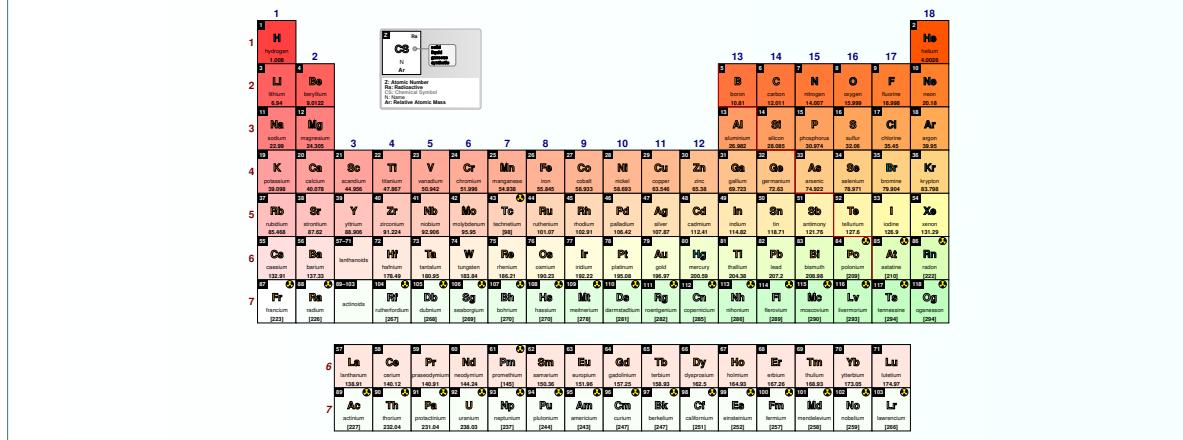
\pgfPTCScombine[add]{period,group,mix}
\pgfPT[back color scheme=mix,show title=false]



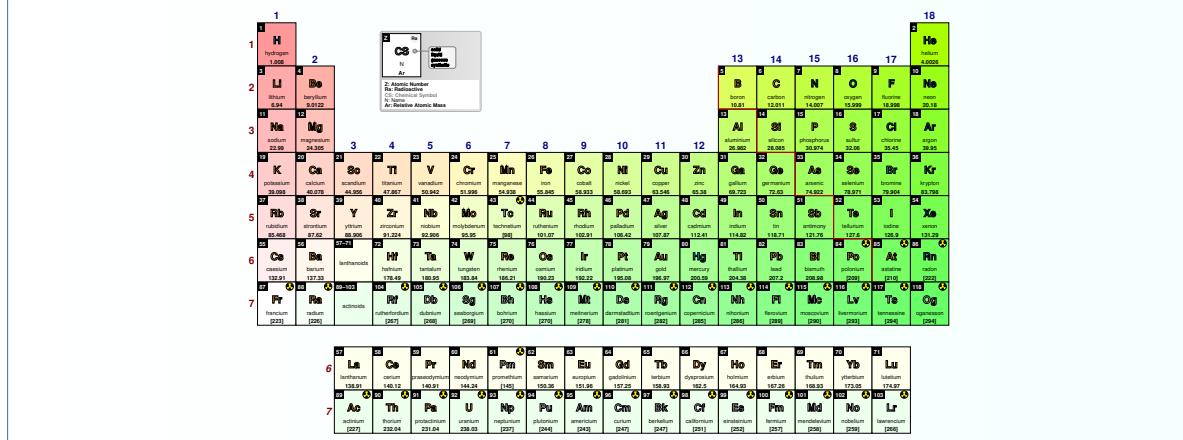
\pgfPTCScombine[3:1]{period,group,mix}
\pgfPT[back color scheme=mix,show title=false]



\pgfPTCScombine[3:1,add]{period,group,mix}
\pgfPT[back color scheme=mix,show title=false]

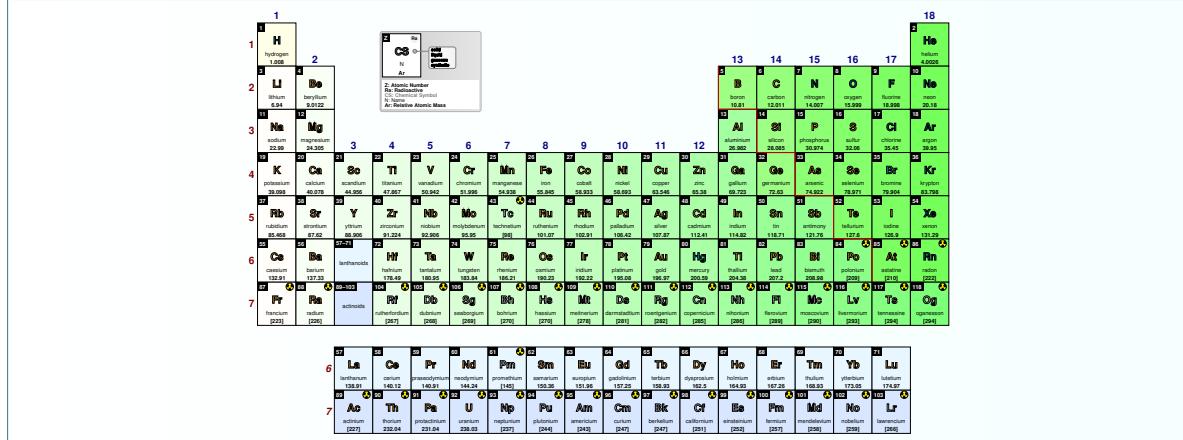


\pgfPTCScombine[add,2:3]{period,group,mix}
\pgfPT[back color scheme=mix,show title=false]

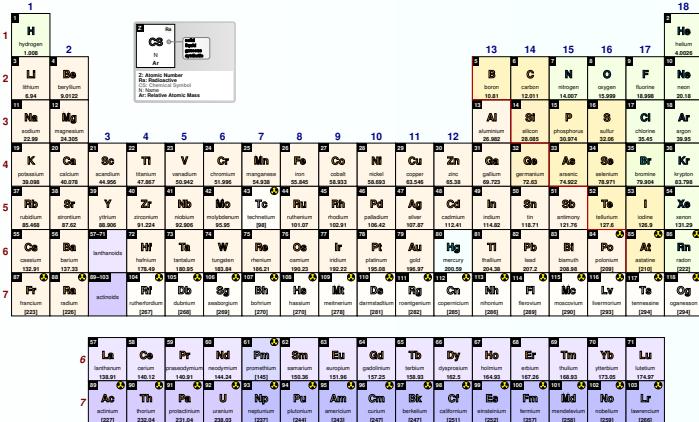


Built-in color schemes can also be mixed:

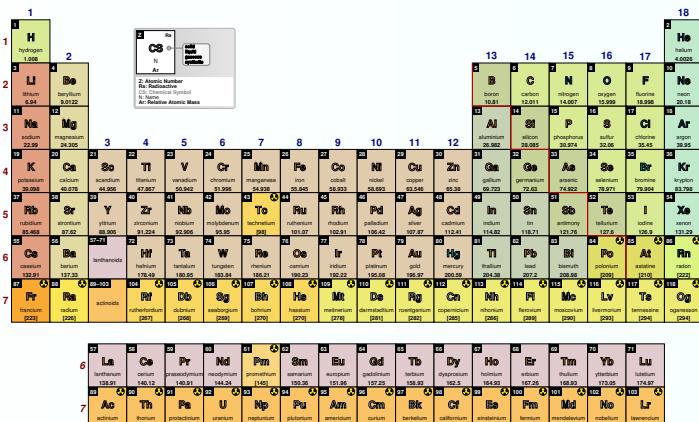
\pgfPTCScombine[add]{Soft,group,mix}
\pgfPT[back color scheme=mix,show title=false]



```
\pgfPTCScombine[add,3:1]{Soft,PS,mix}
\pgfPT[back color scheme=mix,show title=false]
```



```
\pgfPTCScombine[add]{Radio,Wikipedia,mix}
\pgfPT[back color scheme=mix,show title=false]
```



→ \pgfPTCSwrite[filename]{list of color schemes names}

This command **writes the provided Color Schemes to a file** for later use without loading this library. It has a mandatory argument, the **list of the color schemes names** to be written and an optional argument, the **filename**. If no **filename** is provided the first name on the **list of the color schemes names** is used.

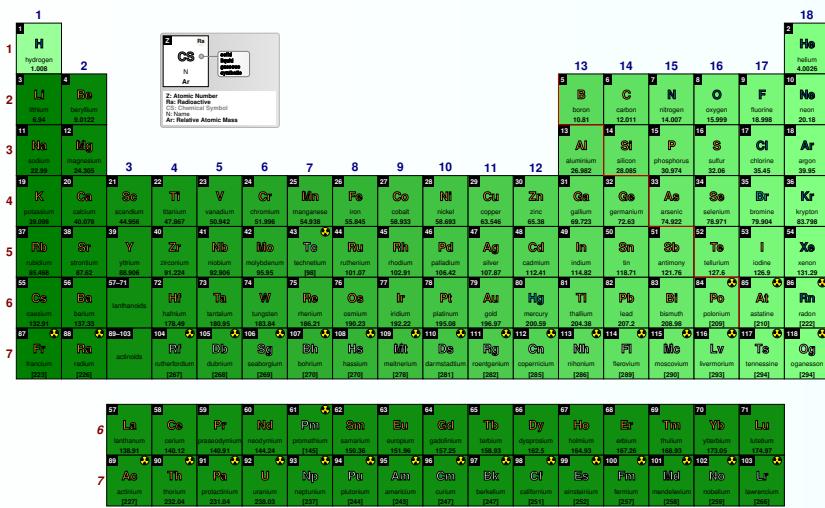
For example, `\pgfPTCSwrite[myGroupColors]{myGroupGradGreenToRed,myGroupGreens, myGroupGradYellowToRed}`, will create (or overwrite), in the current working directory, a file with name `myGroupColors.tex` with the follwing contents:

```
\pgfPTnewColorScheme{myGroupGradGreenToRed}{0/1/0,...}
\pgfPTnewColorScheme{myGroupGreens}{0/1/.1,...}
\pgfPTnewColorScheme{myGroupGradYellowToRed}{1/1/0,...}
```

After that, it's possible to use `\input{myGroupColors.tex}`, anywhere in any document (in the same working directory). The named color schemes defined in the loaded file are now available for use as usual:

```
\pgfPTPeriodColors{myGroupGradGreenToRed}{gradient={G1=green!50!black,
G18=red!30!black},H=green!40!white}
\pgfPTPeriodColors{myGroupGreens}{gradient={G1=green!50!black,
G18=green!50!white},H=green!40!white}
\pgfPTPeriodColors{myGroupGradYellowToRed}{gradient={G1=yellow!50!white,
G18=red!30!black},H=yellow!40!white}
\pgfPTCSwrite[myGroupColors]{myGroupGradGreenToRed,myGroupGreens, myGroup-
GradYellowToRed}
```

```
%\usepgfPTlibrary{colorschemes}
\input{myGroupColors.tex}%
\pgfPT[back color scheme=myGroupGreens,show title=false]
```



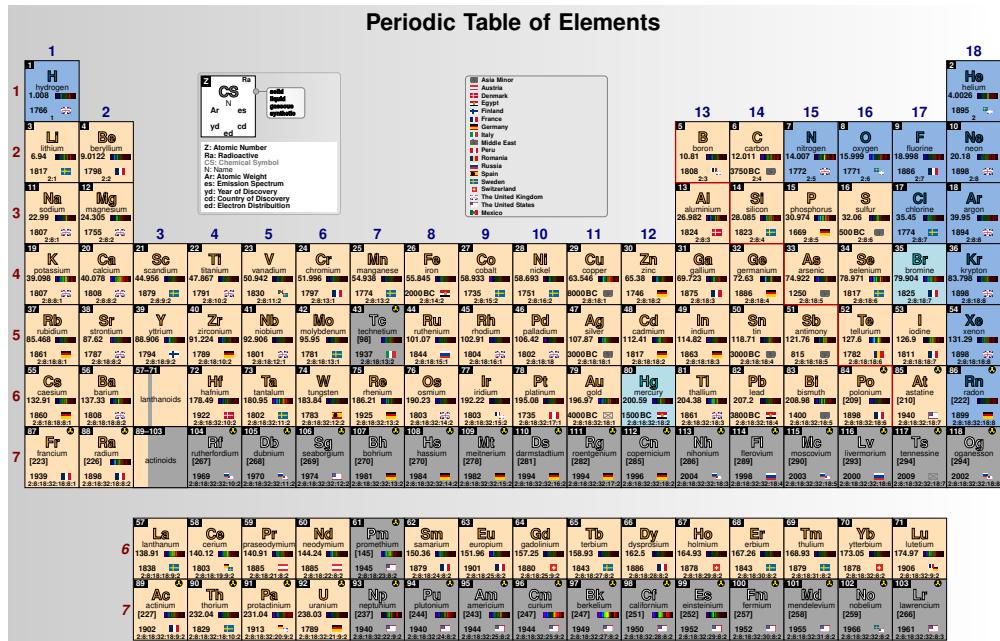
A few more examples

The following examples could be used for students or for any other purposes.

```
\pgfPTbuildcell(8,3)% 8 rows by 3 columns
[(1;1.4-2.8;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4.2;1-3;name), (5.4;1-3;Ar),(6.5;1-3;eDist),(7.55-8.95;1-2.25;DiscC),(7.55-8.95;2.25-3.8;DiscY)]
\pgfPT
```

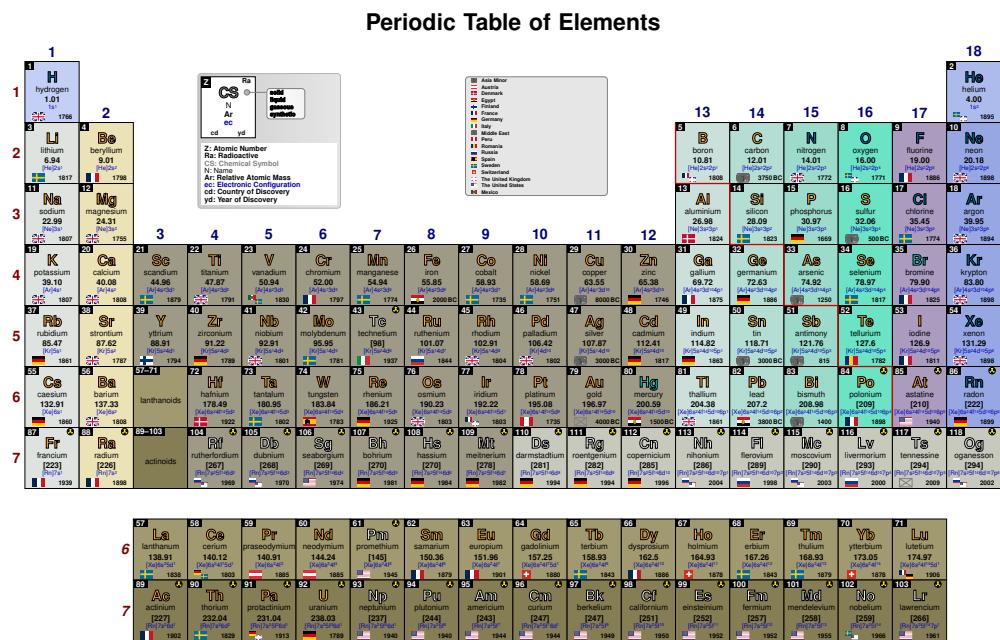
Periodic Table of Elements																																																																																																																	
1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18																																																																															
1	H	hydrogen	1.008	1	1766	2		2	B	boron	9.0122	3		1798	4		5		6		7		8		9		10		11		12		13		14		15		16		17		18																																																																						
2	Li	lithium	6.94	2/1	1817	3	Mg	magnesium	24.305	2.8/3	1807	4	K	potassium	39.098	2.8/3	1808	5	Ca	calcium	40.078	2.8/3	1809	6	Ti	titanium	47.867	2.8/3	1879	7	V	vandium	50.942	2.8/3	1791	8	Cr	chromium	51.996	2.8/3	1792	9	Mn	manganese	54.938	2.8/3	1774	10	Fe	iron	55.845	2.8/3	1755	11	Co	cobalt	58.933	2.8/3	1755	12	Ni	nickel	58.693	2.8/3	1751	13	Zn	zinc	65.356	2.8/3	1824	14	Pt	platinum	102.91	2.8/3	1824	15	Al	aluminum	26.982	2.8/3	1808	16	Si	silicon	28.085	2.8/3	1823	17	As	arsenic	30.974	2.8/3	1771	18	He	helium	4.0026	2	1895												
3	Na	sodium	22.99	2.8/3	1807	4	Mg	magnesium	24.305	2.8/3	1755	5	Sc	scandium	44.956	2.8/3	1879	6	Cr	chromium	51.996	2.8/3	1791	7	Mo	moledybdenum	95.95	2.8/3	1809	8	Ru	ruthenium	101.07	2.8/3	1824	9	Rh	rhodium	102.91	2.8/3	1815	10	Pd	palladium	106.42	2.8/3	1815	11	Ag	silver	107.97	2.8/3	1808	12	Zn	zinc	65.356	2.8/3	1824	13	Ga	gallium	69.723	2.8/3	1808	14	Ge	germanium	69.723	2.8/3	1823	15	O	oxygen	14.007	2.8/3	1771	16	F	fluorine	18.998	2.8/3	1808	17	Ne	neon	20.18	2	1895																								
4	Li	lithium	6.94	2/1	1817	5	Y	yttrium	87.62	2.8/3	1808	6	Zr	zirconium	91.224	2.8/3	1792	7	W	tin	178.49	2.8/3	1809	8	Ta	tantalum	180.95	2.8/3	1879	9	Os	osmium	196.21	2.8/3	1791	10	Ir	iridium	190.23	2.8/3	1782	11	Pt	platinum	195.08	2.8/3	1824	12	Au	gold	197.97	2.8/3	1808	13	Ge	germanium	72.63	2.8/3	1808	14	S	sulfur	32.06	2.8/3	1771	15	F	fluorine	18.998	2.8/3	1808	16	Ar	argon	39.95	2.8/3	1895	17	He	helium	4.0026	2	1895																														
5	Rb	rubidium	85.47	2.8/3	1808	6	Yb	ytterbium	172.97	2.8/3	1809	7	Pr	praseodimium	140.912	2.8/3	1879	8	Ta	tantalum	178.49	2.8/3	1809	9	Os	osmium	183.84	2.8/3	1872	10	Ru	ruthenium	192.22	2.8/3	1808	11	Zn	zinc	65.356	2.8/3	1824	12	Al	aluminum	26.982	2.8/3	1808	13	Si	silicon	28.085	2.8/3	1823	14	As	arsenic	78.971	2.8/3	1771	15	O	oxygen	14.007	2.8/3	1771	16	F	fluorine	18.998	2.8/3	1808	17	He	helium	4.0026	2	1895																																				
6	Cs	caesium	132.90	2.8/3	1808	7	La	lanthanides	137.33	2.8/3	1808	8	Sc	scandium	44.956	2.8/3	1879	9	Ti	titanium	47.867	2.8/3	1809	10	Cr	chromium	51.996	2.8/3	1791	11	Mn	manganese	54.938	2.8/3	1774	12	Fe	iron	55.845	2.8/3	1755	13	Co	cobalt	58.933	2.8/3	1755	14	Ni	nickel	58.693	2.8/3	1751	15	Zn	zinc	65.356	2.8/3	1824	16	Al	aluminum	26.982	2.8/3	1808	17	Si	silicon	28.085	2.8/3	1823	18	He	helium	4.0026	2	1895																																				
7	Fr	francium	[223]	2.8/3	1808	8	Rb	rubidium	87.62	2.8/3	1808	9	Y	yttrium	89.91	2.8/3	1809	10	Zr	zirconium	91.224	2.8/3	1809	11	Nb	niobium	92.91	2.8/3	1815	12	Tc	technetium	95.95	2.8/3	1815	13	Ru	ruthenium	101.07	2.8/3	1815	14	Rh	rhodium	102.91	2.8/3	1815	15	Pd	palladium	106.42	2.8/3	1815	16	Ag	silver	107.97	2.8/3	1815	17	Zn	zinc	65.356	2.8/3	1824	18	Al	aluminum	26.982	2.8/3	1808	19	Si	silicon	28.085	2.8/3	1823	20	As	arsenic	78.971	2.8/3	1771	21	O	oxygen	14.007	2.8/3	1771	22	F	fluorine	18.998	2.8/3	1808	23	Ar	argon	39.95	2.8/3	1895	24	He	helium	4.0026	2	1895						
8	Fr	francium	[223]	2.8/3	1808	9	Rb	rubidium	87.62	2.8/3	1808	10	Y	yttrium	89.91	2.8/3	1809	11	Zr	zirconium	91.224	2.8/3	1809	12	Nb	niobium	92.91	2.8/3	1815	13	Tc	technetium	95.95	2.8/3	1815	14	Ru	ruthenium	101.07	2.8/3	1815	15	Rh	rhodium	102.91	2.8/3	1815	16	Pd	palladium	106.42	2.8/3	1815	17	Ag	silver	107.97	2.8/3	1815	18	Zn	zinc	65.356	2.8/3	1824	19	Al	aluminum	26.982	2.8/3	1808	20	Si	silicon	28.085	2.8/3	1823	21	As	arsenic	78.971	2.8/3	1771	22	O	oxygen	14.007	2.8/3	1771	23	F	fluorine	18.998	2.8/3	1808	24	Ar	argon	39.95	2.8/3	1895	25	He	helium	4.0026	2	1895						
9	Fr	francium	[223]	2.8/3	1808	10	Rb	rubidium	87.62	2.8/3	1808	11	Y	yttrium	89.91	2.8/3	1809	12	Zr	zirconium	91.224	2.8/3	1809	13	Sc	scandium	44.956	2.8/3	1879	14	Ti	titanium	47.87	2.8/3	1809	15	Cr	chromium	52.00	2.8/3	1791	16	Mn	manganese	54.94	2.8/3	1774	17	Fe	iron	55.845	2.8/3	1755	18	Co	cobalt	58.93	2.8/3	1755	19	Ni	nickel	58.693	2.8/3	1751	20	Zn	zinc	65.356	2.8/3	1824	21	Al	aluminum	26.982	2.8/3	1808	22	Si	silicon	28.085	2.8/3	1823	23	As	arsenic	78.971	2.8/3	1771	24	O	oxygen	14.007	2.8/3	1771	25	F	fluorine	18.998	2.8/3	1808	26	Ar	argon	39.95	2.8/3	1895	27	He	helium	4.0026	2	1895
10	Fr	francium	[223]	2.8/3	1808	11	Rb	rubidium	87.62	2.8/3	1808	12	Y	yttrium	89.91	2.8/3	1809	13	Zr	zirconium	91.224	2.8/3	1809	14	Sc	scandium	44.956	2.8/3	1879	15	Ti	titanium	47.87	2.8/3	1809	16	Cr	chromium	52.00	2.8/3	1791	17	Mn	manganese	54.94	2.8/3	1774	18	Fe	iron	55.845	2.8/3	1755	19	Co	cobalt	58.93	2.8/3	1755	20	Ni	nickel	58.693	2.8/3	1751	21	Zn	zinc	65.356	2.8/3	1824	22	Al	aluminum	26.982	2.8/3	1808	23	Si	silicon	28.085	2.8/3	1823	24	As	arsenic	78.971	2.8/3	1771	25	O	oxygen	14.007	2.8/3	1771	26	F	fluorine	18.998	2.8/3	1808	27	Ar	argon	39.95	2.8/3	1895	28	He	helium	4.0026	2	1895
11	Fr	francium	[223]	2.8/3	1808	12	Rb	rubidium	87.62	2.8/3	1808	13	Y	yttrium	89.91	2.8/3	1809	14	Zr	zirconium	91.224	2.8/3	1809	15	Sc	scandium	44.956	2.8/3	1879	16	Ti	titanium	47.87	2.8/3	1809	17	Cr	chromium	52.00	2.8/3	1791	18	Mn	manganese	54.94	2.8/3	1774	19	Fe	iron	55.845	2.8/3	1755	20	Co	cobalt	58.93	2.8/3	1755	21	Ni	nickel	58.693	2.8/3	1751	22	Zn	zinc	65.356	2.8/3	1824	23	Al	aluminum	26.982	2.8/3	1808	24	Si	silicon	28.085	2.8/3	1823	25	As	arsenic	78.971	2.8/3	1771	26	O	oxygen	14.007	2.8/3	1771	27	F	fluorine	18.998	2.8/3	1808	28	Ar	argon	39.95	2.8/3	1895	29	He	helium	4.0026	2	1895
12	Fr	francium	[223]	2.8/3	1808	13	Rb	rubidium	87.62	2.8/3	1808	14	Y	yttrium	89.91	2.8/3	1809	15	Zr	zirconium	91.224	2.8/3	1809	16	Sc	scandium	44.956	2.8/3	1879	17	Ti	titanium	47.87	2.8/3	1809	18	Cr	chromium	52.00	2.8/3	1791	19	Mn	manganese	54.94	2.8/3	1774	20	Fe	iron	55.845	2.8/3	1755	21	Co	cobalt	58.93	2.8/3	1755	22	Ni	nickel	58.693	2.8/3	1751	23	Zn	zinc	65.356	2.8/3	1824	24	Al	aluminum	26.982	2.8/3	1808	25	Si	silicon	28.085	2.8/3	1823	26	As	arsenic	78.971	2.8/3	1771	27	O	oxygen	14.007	2.8/3	1771	28	F	fluorine	18.998	2.8/3	1808	29	Ar	argon	39.95	2.8/3	1895	30	He	helium	4.0026	2	1895
13	Fr	francium	[223]	2.8/3	1808	14	Rb	rubidium	87.62	2.8/3	1808	15	Y	yttrium	89.91	2.8/3	1809	16	Zr	zirconium	91.224	2.8/3	1809	17	Sc	scandium	44.956	2.8/3	1879	18	Ti	titanium	47.87	2.8/3	1809	19	Cr	chromium	52.00	2.8/3	1791	20	Mn	manganese	54.94	2.8/3	1774	21	Fe	iron	55.845	2.8/3	1755	22																																																											

```
\pgfPTbuildcell(8,3)% 8 rows by 3 columns
[(1;1-2;Z),(1;3;radio),(2-3;1-3;CS),(4;1-3;name),(5;1-2.5;Ar),(5;2.5-3;spectra),
(7;1-2.5;DiscY),(7;2.5-3;DiscC),(8;1-3;eDist)]
\pgfPT[csPS,Ar label=w,background={left color=black!20}]
```



```
\pgfPTbuildcell(8,3)% 8 rows by 3 columns
[(1;1-3;Z),(1;3;radio),(2-3;1.5-3.5;CS),(4.2;1-3;name),(5.4;1-3;Ar), (6.5;1-3;eConfignl),(7.55-8.95;1-2.45;DiscC),(7.55-8.95;2.45-3;DiscY)]
```

```
\pgfPT[eConfignl color=blue!70!black,Ar precision=2,DiscC
font=\fontsize{4}{4}\selectfont,DiscY font=\fontsize{4}{4}\selectfont\bfseries]
```



```
\usepgfPTlibrary{colorschemes}
```

```
\pgfPTPeriodColors{period}{P5=red!20}
```

```
\pgfPTGroupColors{group}{G14=green!20}
```

```
\pgfPTCScombine{period,group,mix}
```

```
\pgfPT[back color scheme=mix,show title=false]
```

The periodic table shows elements from Hydrogen (H) to Oganesson (Og). The table is color-coded by period and group. Rows 1 and 2 are red, rows 3 through 18 are green, and groups 1 through 18 are red. The table includes element symbols, atomic numbers, and atomic masses.

In the Periodic Table, a row is called a **period** and a column is called a **group**.

Representative elements: element families



For the **representative elements** (groups **1, 2** and **13 to 18**) it is common to speak of families that reflect their common characteristics. So we have **the families**:

1	Li
2	Na
3	K
4	Rb
5	Cs
6	
7	Fr

GROUP 1: Alkali metals

► *lithium, sodium, potassium, rubidium, cesium and francium.*

The atoms of these elements **have** only **one valence electron**.

- ✓ They react violently with water to form hydroxides.
- ✓ They have a silver-gray color, with the exception of cesium, which has a golden hue.

2	Be
3	Mg
4	Ca
5	Sr
6	Ba
7	Ra

GROUP 2: Alkaline earth metals

► *beryllium, magnesium, calcium, strontium, barium and radium.*

The atoms of these elements **have two valence electrons**.

- ✓ Their oxides remain solid at high temperatures and form alkaline solutions.
- ✓ They react violently with water to form hydroxides.
- ✓ When they burn, they have reddish flames, excluding barium, which presents a greenish flame.

13	B
2	Al
3	Ga
4	In
5	Tl
6	Nb
7	

GROUP 13: Boron group

► *boron, aluminium, gallium, indium, thallium and nihonium.*

The atoms of these elements **have three valence electrons**.

- ✓ Boron is a metalloid and the other are metals.
- ✓ Boron, aluminium, gallium, indium and thallium are often used as p-type silicon dopants.
- ✓ Aluminium is the third most abundant element in the Earth's crust (7.4%).

14	C
2	Si
3	Ge
4	Sn
5	Pb
6	
7	

GROUP 14: Carbon group

► *carbon, silicon, germanium, tin, lead and flerovium.*

The atoms of these elements **have four valence electrons**.

- ✓ Carbon is a non-metal, silicon and germanium are metalloids, and tin and lead are metals.
- ✓ Silicon and germanium are used in semiconductors.

15
2
3
4
5
6
7

GROUP 15: Pnictogens

► *nitrogen, phosphorus, arsenic, antimony, bismuth and mosevium.*

The atoms of these elements **have five valence electrons**.

- ✓ Nitrogen and phosphorus are non-metals, arsenic and antimony are metalloids and bismuth is a metal.
- ✓ Phosphorus, arsenic, antimony and bismuth are often used as n-type silicon dopants.
- ✓ Diatomic nitrogen is the main constituent of the Earth's atmosphere (78%).

16
2
3
4
5
6
7

GROUP 16: Chalcogens

► *oxygen, sulfur, selenium, tellurium, polonium and livermorium.*

The atoms of these elements **have six valence electrons**.

- ✓ Oxygen, sulfur and selenium are non-metals, tellurium is a metalloid and polonium is a metal.
- ✓ Diatomic oxygen is the second constituent of the Earth's atmosphere (21%).

17
2
3
4
5
6
7

GROUP 17: Halogens

► *fluorine, chlorine, bromine, iodine, astatine and tennessine.*

The atoms of these elements **have seven valence electrons**.

- ✓ They are extremely reactive elements, as they are very electronegative.
- ✓ Fluorine is able to *attack* inert substances, including the heavier noble gas atoms.

18
1
2
3
4
5
6
7

GROUP 18: Noble gases

► *helium, neon, argon, krypton, xenon, radon and oganesson.*

The atoms of these elements have the valence shell fully filled, which corresponds to **eight valence electrons**, with the exception Helium, which has only one shell and, consequently, has **two valence electrons**.

- ✓ They are extremely inert elements, that is, they do not react with other elements, as they are the most stable elements in Nature.

For the source of this example please see the file pgf-PeriodicTableManual_Examples.tex

EXERCISE:

In the following scheme of the Periodic Table, the positions of some chemical elements are represented by letters:

THE LETTERS DO NOT CORRESPOND TO THE CHEMICAL SYMBOLS OF THE ELEMENTS.

A									B
C	D							E	
	F							G	H
I	J		K	L			M	N	O
			R			P		Q	
								S	
T									

Using the letters shown:

1. identify group 2 elements of the Periodic Table.
2. identify the elements of the 2nd period of the Periodic Table.
3. identify group 17 elements of the Periodic Table.
4. identify the elements of block s.
5. identify the elements of block p.
6. identify the elements of block d.
7. identify the metallic elements.
8. identify the non-metallic elements.
9. identify the transition metals.
10. identify the alkaline earth metals.
11. identify the noble gases.
12. tell which element belongs, simultaneously, to the 4th period and to group 14.
13. identify the representative elements that tend to generate positive ions.
14. indicate an element that forms binegative ions.
15. indicate the halogen whose mononegative ion has the largest radius.
16. write the chemical formula of the compound formed by the elements F and O.
17. identify, justifying, the element with the largest atomic radius.
18. identify, justifying, the element with the lowest 1st ionization energy.

For the source of this example please see the file pgf-PeriodicTableManual_Examples.tex

EXERCISE:

Using the following notation,

- for the elements in the gaseous state (NTP),
 - for the elements in the liquid state (NTP) and
 - for the synthetic elements,

fill in the following Periodic Table:

A large 10x10 grid of empty squares, likely a template for a crossword puzzle or similar word search activity.

For the source of this example please see the file pgf-PeriodicTableManual_Examples.tex

Index

BUILT-IN

cell styles	102
color schemes	9

COMMANDS

\pgfPT	3
\pgfPTbuildcell	6
designing cells with	99
row, column syntax	100
\pgfPTbuildcellstyle	6
\pgfPTnewColorScheme	7
\pgfPTnewZlist	9
\pgfPTpreviewcell	6
\pgfPTpreviewcellstyle	7
\pgfPTresetcell	6
\pgfPTresetstyle	5
\pgfPTsetLanguage	10
\pgfPTstyle	4

LIBRARIES

Color Schemes Library	109
\pgfPTGroupColors	109
\pgfPTPeriodColors	114
\pgfPTCScombine	117
\pgfPTCSwrite	120

OPTIONS

<content name> color	90
<content name> font	91
Ar color	76
Ar font	77
Ar label	77
Ar precision	77
back color	16
back color scheme	15
blocks font	46
capitalize element names	75
cell height	12
cell line color	13
cell line width	13
cell style	13
cell width	12
Cp precision	95
CS font	72
CS gas	71
CS liquid	70
CS outline color	73
CS outline width	73
CS render mode	72
CS solid	70
CS synt	71
d block color	46
d block font color	46
d block line width	46
d color	79
d font	79
d precision	81
d unit	80

DiscY BC scale	88
DiscY color	87
DiscY font	87
E precision	92
eDist color	88
eDist font	89
eDist sep	89
exercise list color	64
exercise list font	64
exercise list in capitals	64
f block color	46
f block font color	46
f block line width	47
families font	50
font	14
group label color	42
itm family color	51
itm family font color	51
itm family line width	51
IUPAC	23
kT precision	96
label font	43
label LaAc font	26
languages	26
legend acronyms	33
legend back color	35
legend CS color	36
legend radio color	35
legend Z color	37
ls	83
ls align	85
ls color	84
ls font	84
ls precision	85
ls unit	85
MNM line color	29
MNM line width	30
name align	75
name color	74
name font	74
only cells	60
only cells plus Z	61
only cells with periods and group numbers plus Z	63
only cells with periods and group numbers 62	62
other languages color	28
other languages font	27
p block color	46
p block font color	46
p block line width	46
period label color	42
r family color	50
r family font color	50
r family line width	51
s block color	46
s block font color	46
s block line width	46

show blocks	44	d	83
show extra legend	39	dark mode	60
show families	49	ex	67
show group numbers	41	exColor	66
show label LaAc	25	exFont	67
show legend	33	exnocaps	66
show legend pins	38	extra legend	39
show MNM line	28	families	52
show period numbers	41	families font color	51
show periodic variations	54	families line width	51
show title	31	gr	43
T precision	93	lat	87
title color	32	legend	40
title font	32	legend box	34
tm family color	51	legend pins	38
tm family font color	51	MNM	30
tm family line width	51	NAME	76
vareaff color	56	Name	76
vareaff font	56	name	75
vareaff font color	56	other lang	28
varEi color	56	per	43
varEi font	56	per+gr	44
varEi font color	56	title	32
varR color	55	var color	57
varR font	55	var font	56
varR font color	56	vareaff	59
Z align	68	varEi	58
Z backcolor	67	varR	57
Z color	68	Z	69
Z exercise list	63	Z box	69
Z font	68		
Z list	11		
Z padding	69		
Z use box width	68		

STYLES

Ar	78
background	23
blocks	48
blocks font color	47
blocks line width	47
cell	14
cell color	91
cell font	91
cell size	12
cells+p+g	65
cells+p+g+Z	66
cells+Z	65
CS	74
CS all	71
csBlocks	22
csCPK	19
csJmol	18
csMNM	21
csPS	21
csRadio	22
csRasmol	19
csRasmolNew	20
csSoft	18
csSolid	17
csWikipedia	20