

Technical Handbook

The L^AT_EX Beilstein bundle for submissions to the
Beilstein Journal of Nanotechnology

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Abstract

The Beilstein bundle provides a L^AT_EX class file and a BibT_EX style file in accordance with the requirements of submissions to the *Beilstein Journal of Nanotechnology*. Although the files can be used for any kind of document, they have only been designed and tested to be suitable for submissions to the *Beilstein Journal of Nanotechnology*.

1 Introduction

The Beilstein bundle consists of three parts. The L^AT_EX class `beilstein.cls` is intended to be used for submissions. It is based on the standard `article` class, but was modified to meet the requirements for submissions to the *Beilstein Journal of Nanotechnology* as published in the “Instructions for Authors” [1]. Moreover the L^AT_EX class `beilstein.cls` facilitates ease of use by providing the authors with a set of useful macros and environments.

The B_IB_T_EX style `bjnano.bst` is used by the class to format citations and references correctly. It is based on Joseph Wright’s `achemso.bst`, but was largely adjusted to work exactly on *Beilstein Journal of Nanotechnology* submissions.

Finally an example document is included in the Beilstein bundle. It is intended to act as a potential template for submissions, and illustrates the usage of the class and the B_IB_T_EX file.

2 Installation

2.1 Global installation via your T_EX distribution

From version 1.2 onwards, the Beilstein bundle is distributed via CTAN and the major T_EX distribution. Therefore after having updated your T_EX Live or MiK-TeX installation you can use the Beilstein files rightaway.

2.2 Local TDS installation

The Beilstein bundle is supplied with the TDS-ready ZIP file, `beilstein-tds.zip`. Simply unzip this file into your local texmf tree and run your hash program (e.g. `texhash` for recent T_EXLive or MiK_T_EX systems).

To extract the bundle of files and to build the documentation yourself, run pdfL^AT_EX on `beilstein.dtx`. The files can then be installed either by putting them into the current working directory (where the main T_EX file is) or – much better – as described above by moving the files to suitable places in a local texmf tree \$LOCALTEXMF according to Table 1.

Table 1: Files contained in the Beilstein bundle.

File	→	Directory
<code>beilstein.cls</code>	→	<code>\$LOCALTEXMF/tex/latex/beilstein</code>
<code>beilstein.dtx</code>	→	<code>\$LOCALTEXMF/source/latex/beilstein</code>
<code>beilstein.ins</code>	→	<code>\$LOCALTEXMF/source/latex/beilstein</code>
<code>beilstein-template.bib</code>	→	<code>\$LOCALTEXMF/tex/latex/beilstein</code>
<code>beilstein-template.tex</code>	→	<code>\$LOCALTEXMF/tex/latex/beilstein</code>
<code>bjnano.bst</code>	→	<code>\$LOCALTEXMF/bibtex/bst/beilstein</code>
<code>bjnano_logo.pdf</code>	→	<code>\$LOCALTEXMF/source/latex/beilstein</code>
<code>figure1.pdf</code>	→	<code>\$LOCALTEXMF/doc/latex/beilstein</code>
<code>scheme1.pdf</code>	→	<code>\$LOCALTEXMF/tex/latex/beilstein</code>
<code>scheme2.pdf</code>	→	<code>\$LOCALTEXMF/tex/latex/beilstein</code>

If you are not sure about local texmf trees at all, you can have a look at <http://www.tex.ac.uk/cgi-bin/texfaq2html?label=inst-wlcf> for more information.

3 Requirements

The Beilstein class was designed to rely on standard \LaTeX packages only. It requires the following ones:

- Internal packages
 - `xkeyval`,
 - `ifthen`,
 - `babel`,
 - `inputenc`, `fontenc`.
- Fonts
 - `mathptmx`, `helvet`, `courier`,
 - `textcomp`.
- Page layout
 - `geometry`,
 - `ragged2e`, `everysel`, `footmisc`,
 - `setspace`,
 - `lineno`.
- Math and science

- amsmath, amstext, amssymb, msgen, amssy, amson, amfont.
- Floats
 - float,
 - flater,
 - graphicx,
 - array,
 - tabularx,
 - longtable.
- Bibliography
 - natbib.

All these packages should be present in any major T_EX distribution and are also available from *The Comprehensive T_EX Archive Network* (CTAN) at <http://www.ctan.org>.

A complete list of used files and tested versions can be found in the appendix.

4 The class file

4.1 Class options

Most of the things to be considered for submissions to the *Beilstein Journal of Nanotechnology* are directly included into the class file. There is only one major choice an author has to make, i.e. to determine the type of manuscript he wants to submit.

manuscript= The Beilstein-Institut has defined five such types and each type has a special purpose and structure. The chosen option is used internally to check for mandatory sections and elements. The types are designed to give the author a slight control of the article's structure.

The selection of the type is done by the key-value-option **manuscript** which takes the values listed in Table 2.

To switch your document to a “Book Review Article” e.g. you simply use `\documentclass[manuscript=bookreview]{beilstein}`. In case of an unknown value, the class will use the default option.

american Two other options of a more technical aspect exist. Firstly you can tell L^AT_EX
british whether you use American or British English (see Table 3). Internally only different hyphenation patterns are used. So you might not see a difference in the output at first sight.

Table 2: Possible values for key-value option “manuscript”.^a

Option	Meaning
<code>manuscript=bookreport</code>	Book Report Article
<code>manuscript=commentary</code>	Commentary Article
<i><code>manuscript=fullresearchpaper</code></i>	<i>Full Research Paper</i>
<code>manuscript=letter</code>	Letter Article
<code>manuscript=review</code>	Review Article

^aDefault option is printed in italics.Table 3: Options for language.^a

Option	Meaning
<i><code>american, USenglish</code></i>	<i>Use American English</i>
<code>british, english, UKenglish</code>	Use British English

^aDefault option is printed in italics.

`applemac` Secondly, you might want to change the input encoding of your document, e.g.
`latin1` when using accented characters. Therefore, the class offers a small set of options
`utf8` (see Table 4). In most cases no change is necessary. However, you should consider
using the `utf8` option as this the standard encoding nowadays.

Table 4: Options for input encoding.^a

Option	Meaning
<code>applemac</code>	Use special Mac encoding
<i><code>latin1</code></i>	<i>Use ISO8859-1 encoding</i>
<code>utf8</code>	Use UTF-8 encoding

^aDefault option is printed in italics.

Further options have been added to the recent version of the class:

`sectionnumbering` The Beilstein class disables the usual section numbering mechanism by changing the counter “secnumdepth” appropriately. You can switch back by using the class option `sectionnumbering=true` or just `sectionnumbering`. Doing so all non-starred sectioning commands will be numbered while the starred versions still have no number.

`fnpara` By default footnotes can only be used in tables and are printed one per line. This can be changed to paragraph mode, either locally (see page 9), or globally. For

that purpose the Beilstein class offers the option `fnpara=true` or just `fnpara`.

Global options The Beilstein class was developed to include all necessary requirements. However, if you need extra options for packages already being loaded by the class itself, you can add them to the list of global options.

4.2 Title page

The *Beilstein Journal of Nanotechnology* has its own title page format. However, a more or less standard set of L^AT_EX commands can be used to provide the necessary information right after `\begin{document}`:

`\title` The title of your manuscript is given with `\title{<title>}`.
`\author` Each author of the article is named within its own `\author` command. For a
`\author*` corresponding author the extended version `\author*` must be used. It has an additional second mandatory argument holding the author's email address.

With both commands the author's name is printed followed by a superscript number for the appropriate affiliation(s). As these numbers can be the same for several authors, an optional argument for a specific number can be used:

`\author[<affiliation number>]{<author's name>}` or
`\author*[<affiliation number>]{<author's name>}{<email address>}`.

If you want to provide an email address for a non-corresponding author, there is a second optional argument:

`\author[<affiliation number>][<email address>]{<author's name>}`

To add an email address the first optional argument has to be present in any case, e.g. empty if there is no extra affiliation number.

`\affiliation` The affiliations are given with `\affiliation{<postal address>}` and are numbered consecutively. Each `\author` with an own address is followed by one or more `\affiliation` commands (see example below). This can also be combined with the optional affiliation number.

`\maketitle` To print the title page use the command `\maketitle`.

A complete title block might look like this:

```
\begin{document}
\title{Synthesis of highly substituted allenylsilanes by
       alkylidenation of silylketenes}
%Corresponding author:
\author*{Stephen P. Marsden}{s.p.marsden@leeds.ac.uk} %
\affiliation{School of Chemistry, University of Leeds, Leeds
             LS2 9JT, United Kingdom}
%A second author with two affiliations and an email address:
%Important: empty first optional argument
\author[][Ducept@...]{Pascal C. Ducept}
\affiliation{Department of Chemistry, Imperial College London,
```

```

    London SW7 2AY, United Kingdom}
\affiliation{An alternative Address could be here}
%A third author with the same affiliation as the second:
\author[2]{X. Y.}
\maketitle %print the title page

```

For abstract and keywords please have a look at section 4.4.

4.3 Section headers

You can use the standard L^AT_EX sectioning commands (except for `\chapter`) to structure your document. Depending on the type of manuscript some sections are mandatory while others are optional.

For a “Full Research Paper” the following section headings might be used:

```

\section{Introduction}
...
\section{Experimental}
...
\section{Results and Discussion}
...
\section{Conclusion}

```

Table 5 gives an overview of all allowed section headings for the different Beilstein class manuscript types.

Table 5: Allowed section headings for the different Beilstein class manuscript types.

Section heading	Manuscript type ^a				
	BR ^b	CA ^c	FR ^d	LA ^e	RA ^f
Conclusion	—	+	<i>o</i>	—	+
Book Details	+	—	—	—	—
Discussion	—	+	—	—	—
Experimental	—	—	<i>o</i>	—	—
Findings	—	—	—	+	—
Introduction	—	+	+	—	—
Main Text	+	—	—	—	—
Results and Discussion (may be separate)	—	—	+	—	—
Review	—	—	—	—	+

^a + denotes a mandatory, *o* an optional and — a non-feasible section

^b Book Report Article

^c Commentary Article

^d Full Research Paper

^e Letter Article

^f Review Article

4.4 Special sections

- abstract** After the title page an abstract must be inserted (except for “Book Reports” and “Commentaries”). To meet the specifications for *Beilstein Journal of Nanotechnology* submissions L^AT_EX redefines the usual **abstract** environment internally.
- \background** For the special items of the abstract mentioned in the guidelines the three commands **\background**, **\results** and **\conclusion** are defined. Each command starts a new line and prints the item’s name in boldface.
- \results**
- \conclusion**
- \keywords** Although the “Keywords” could be considered as a part of the title page they are inserted right after the abstract. There can be an arbitrary number of keywords, and therefore the **\keywords** macro has only one mandatory argument holding the keywords separated by semicolons.

An abstract with keywords can look like this:

```
\begin{abstract}
\background ...
\results ...
\conclusion ...
\end{abstract}
\keywords{allenylsilanes; rhodium(II) octanoate-mediated
rearrangement; silylketenes; titanium carbenoids; ylide}
```

- acknowledgements** The “Acknowledgements” are an optional part of all article types. As the layout differs from that of the main text, they should be written using the environment **acknowledgements**:

```
\begin{acknowledgements}
I would like to thank ...
\end{acknowledgements}
```

- suppinfo** Another optional section of an article is the “Supporting Information” which may consist of various “Supporting Information Files” containing information about additional external data. To begin this section simply use **\begin{suppinfo}**.
- \sifile** Inside the **suppinfo** environment the command **\sifile** can be used to add a “Supporting Information File”. Its syntax is:
- ```
\sifile[long description]{filename}{format}{short description}
```
- Each **\sifile** can be followed by a **\label{*labelname*}** to cross-reference to that file in the main text using **\ref{*labelname*}**.
- The complete section could look like this:



```

\begin{suppinfo}
\si{file}{experimental_part.pdf}{PDF}{Experimental part}
\label{si:experimental-part}
\si{file}[A long description about the experimental data stored in
this file]{nmr1.pdf}{PDF}{NMR spectra of compounds \CN{1},
\CN{2}, \CN{6} and \CN{7}.}
\end{suppinfo}

```

## 4.5 Floats

**figure** L<sup>A</sup>T<sub>E</sub>X already knows about the built-in environments **table** and **figure**. For **table** *Beilstein Journal of Nanotechnology* publications a third environment is added: **scheme**. There is no difference in usage between **scheme** and the former two. To add a scheme “AScheme.pdf” you can enter the following:

```

\begin{scheme}
\caption{A scheme demonstrating something.}
\label{scheme:something}
\includegraphics[width=16.8cm,keepaspectratio]{AScheme}
\end{scheme}

```

L<sup>A</sup>T<sub>E</sub>X is limited to a small set of graphic formats. All files have to be either pdf, png or jpg. Eps is fine as well, because it can easily be converted to pdf (e.g. using `epstopdf`). Other formats like svg, wmf etc. have to be processed with a converter like ImageMagick [3].

**\caption** Please note that it does not matter whether **\caption** is put above or below **\label** **\includegraphics**. The caption will always be below the scheme in the output file. The same mechanism is used to put figure captions below and table captions above the content. If you want to add a concise title to a float, please use the optional argument: **\caption**[*<concise title>*]{*<legend>*}. However, as common in L<sup>A</sup>T<sub>E</sub>X **\label**{*<labelname>*} must always follow **\caption**, otherwise a corresponding **\ref** command will yield wrong results.

**\sglcolfigure** During the final typesetting process the article will be printed in double-column mode. Although this does not make any difference for section headings and text, **\sglcolfigure** **\sglcolscheme** floating objects can be formatted single-column (with a maximum width of 8.2 cm) **sglcoltabular** or double-column (with a maximum width of 16.8 cm). **sglcoltabularx**

The Beilstein class defines some macros to comfortably add floats without bothering about the correct width. For single-column floats you can use **\sglcolfigure**{*<filename>*} and **\sglcolscheme**{*<filename>*} as well as the environments **sglcoltabular** and **sglcoltabularx**. The latter two are meant as a replacement for **tabular** and **tabularx** respectively.

A single-column scheme containing “results-sil.pdf” can then be inserted as:

```
\begin{scheme}
\sglcolscheme{results-sil} %or alternatively:
 %\includegraphics[width=8.2cm,keepaspectratio]{results-sil}
\caption{Reaction of substituted silylketenes with
 ester-stabilised phosphoranes.}
\label{scheme:silylketenes}
\end{scheme}
```

The same macros and environments with “dbl” instead of “sgl” are defined for double-column floats. Thus for a table you can use:

```
\begin{table} %floating environment
\caption{Reaction of substituted silylketenes with ester-stabilised
 phosphoranes.}
\label{tab:silylketenes}
\begin{dblcoltabularx}{|l|>{\bfseries}l|>{\bfseries}l|l|l|X|X|}\hline
\bfseries Entry & \bfseries Ketene & \bfseries Ylide &
\bfseries Temp (\celsius) & \bfseries t (h) & \bfseries Solvent &
\bfseries Yield 6/7 (8)\\\hline
1 & 1a & 4 & 80 & 24 & PhH & 54\,\%\\\hline
2 & 1a & 5 & rt & 3 & CHCL & 60\,\%\\\hline
...
\end{dblcoltabularx}
\end{table}
```

More information on the `tabularx` environment can be found in the documentation of the `tabularx` package [2]. The standard `tabular` environment with the common column parameters “l, c, r, p” is supported as well.

If you have a table that is longer than one page, please use the `longtable` environment. Have a look at the package’s documentation for more information.

Footnotes are only allowed in tables (see appendix). You can use them in the legend as well as within the table. Lowercase letters are used automatically and the footnote text is written below the table.

You can use `\fnpara` to switch to paragraph mode for footnotes in all following tables. To restore the usual footnote formatting just use `\fnnormal`.

```
\fnpara
%Table with footnotes in paragraph mode
\begin{table}
...
\end{table}
...
```

```

\fnnormal
%Table with normal footnotes
\begin{table}
...
\end{table}

```

## 4.6 Cross-references

One of L<sup>A</sup>T<sub>E</sub>X biggest advantages is its powerful mechanism for cross-references. Therefore you should use it for each of the different objects. This includes among others floats, Supporting Information files and other sections. Just add the standard `\label{<labelname>}` command right after `\caption` or `\sifile` and call the `\ref{<labelname>}` macro to get the correct number of the referenced object. In the example table above, `\ref{tab:silylketenes}` gives the actual number of the table.

`\cref` To make this mechanism even more comfortable, the Beilstein class loads the package `cleveref` (only if installed already) which defines a command `\cref`. In addition to the number of the object its type is printed as well, i.e. instead of writing “see table `\ref{tab:silylketenes}`” a simple “see `\cref{tab:silylketenes}`” gives the same result. Note that `\cref` can also be used for cross-referencing to a “Supporting Information File”.

## 4.7 Writing chemistry

L<sup>A</sup>T<sub>E</sub>X is a very powerful tool for mathematical typesetting. All built-in commands and structures are provided by the Beilstein class as well. In addition, the packages of the  $\mathcal{A}\mathcal{M}\mathcal{S}$ , `amsmath`, `amssymb` etc., are loaded.

`$...$` You can use the standard delimiters `$...$` like `$(\delta)$` for  $\delta$  for inline math and `equation` environments like `equation` for displayed math. Please use the inline math mode for single numbers like `-2` as well to get the correct minus sign. Please note that – as described in the “Instructions for Authors” – equations must fit a width of 8.2 cm (single column), and longer equations should be split accordingly.

`\up...` Small Greek letters are usually printed in italics. If the letters should be in an upright font, please use `\up...`, e.g. `\upalph` for  $\alpha$ .

`\var...` `amsmath` provides special commands for upper Greek letters in italics, e.g. `\varTheta` for  $\Theta$ .

`\text` If you have text inside a formula, e.g. as an index, you can use `\text` to typeset it in an upright font and in the correct size.

```

$(\text{amplitude sensitivity})=10$\\
$C_{\text{PEG}}=170$

```

However, for chemical elements and reactions the L<sup>A</sup>T<sub>E</sub>X math mode is not sufficient, because many chemical expressions have to be typeset in an upright font and not in italics. For example, have a look at `$O_2$` which results in *O*<sub>2</sub> instead of O<sub>2</sub>. Using `\text` as mentioned is possible as well as writing `0$_2$`, but both methods are not very comfortable when they have to be applied at several places. On the other hand the commands `_` for subscripts and `^` for superscripts should remain. Therefore a special `\chem` macro is provided by the Beilstein class.

#### Chemical specialties: the `\chem` and `\unit` macros

Although there already exist many powerful packages like `siunitx` or `chemsym` to write physical and chemical units and symbols, the Beilstein class implements its own rather simple interface to keep all submitted documents consistent and make it easier to process them during the final typesetting.

`\chem` For chemical formulas the macro `\chem` is defined. Inside its argument `_` and `^` are active like in the math mode. The rest, e.g. element names are written in an upright format.

```
\chem{CuCl_2} and \chem{{SO_4}^{2-}}\
\chem{{^2_1H+^3_1H}}\
$C\chem{{Cu^{2+}}}\times 10^{-2}=0.005(1)\,,\text{M}$\
```

CuCl<sub>2</sub> and SO<sub>4</sub><sup>2-</sup>

<sup>2</sup><sub>1</sub>H + <sup>3</sup><sub>1</sub>H

$C_{\text{Cu}^{2+}} \times 10^{-2} = 0.005(1) \text{ M}$

`\unit` For units more or less the same is valid. For instance, writing `$cm^2$` does not result in cm<sup>2</sup>, but *cm*<sup>2</sup>. Thus, you should use `\unit` to enter all units correct and more comfortable. If more than one unit is needed, `~` can be used to separate them.

```
$\text{amplitude sensitivity}=10\unit{nA-V^{-1}}$\
$C_{\text{PEG}}=170\unit{mg/ml}$
```

amplitude sensitivity = 10 nA V<sup>-1</sup>

$C_{\text{PEG}} = 170 \text{ mg/ml}$

`\angstrom` Some units have special macros to make their use easier (see Table 6). The commands `\percent` and `\permil` can be used in the main text as well.

`\degree`

`\permil`

`\percent`

Table 6: Special macros for units.

| Unit name | L <sup>A</sup> T <sub>E</sub> X macro | Output |
|-----------|---------------------------------------|--------|
| ångström  | <code>\angstrom</code>                | Å      |
| celsius   | <code>\celsius</code>                 | °C     |
| degree    | <code>\degree</code>                  | °      |
| permil    | <code>\permil</code>                  | ‰      |
| percent   | <code>\percent</code>                 | %      |

|                                 |                                                                                                                    |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <code>\rightarrow</code>        | L <sup>A</sup> T <sub>E</sub> X provides several arrows for chemical reactions. The most common ones are           |
| <code>\rightleftarrows</code>   | listed in Table 7. Many more can be obtained from <code>amssymb</code> .                                           |
| <code>\rightleftharpoons</code> |                                                                                                                    |
| <code>\leftrightharpoons</code> | <code>\chem{CH_4+2O_2\rightarrow CO_2 + 2H_2O}\%</code>                                                            |
| <code>\leftrightharpoons</code> | <code>\chem{2H_{2(g)}+O_{2(g)}\to 2H_2 O_{(1)}}\ \Delta H=-286 \%</code>                                           |
| <code>\Rightarrow</code>        | <code>\unit{\frac{kJ}{mol}}\%</code>                                                                               |
| <code>\uparrow</code>           | <code>\chem{N_{2(g)}+3H_{2(g)}\rightleftharpoons 2NH_{3(g)}}\%</code>                                              |
| <code>\downarrow</code>         | CH <sub>4</sub> + 2O <sub>2</sub> → CO <sub>2</sub> + 2H <sub>2</sub> O                                            |
| <code>\curvearrowright</code>   | 2H <sub>2(g)</sub> + O <sub>2(g)</sub> → 2H <sub>2</sub> O <sub>(l)</sub> ΔH = -286 $\frac{\text{kJ}}{\text{mol}}$ |
| <code>\rightharpoondown</code>  | N <sub>2(g)</sub> + 3H <sub>2(g)</sub> ⇌ 2NH <sub>3(g)</sub>                                                       |

Table 7: L<sup>A</sup>T<sub>E</sub>X macros for arrows used in chemical reactions.

| Arrow | Macro                                        | Usage                      |
|-------|----------------------------------------------|----------------------------|
| →     | <code>\rightarrow</code> or <code>\to</code> | One-way chemical reactions |
| ⇌     | <code>\rightleftarrows</code>                | Two-way chemical reactions |
| ⇌     | <code>\rightleftharpoons</code>              | Equilibria                 |
| ↔     | <code>\leftrightharpoons</code>              | Resonance structures       |
| ⇒     | <code>\Rightarrow</code>                     | Retrosynthetic analysis    |
| ↑     | <code>\uparrow</code>                        |                            |
| ↓     | <code>\downarrow</code>                      |                            |
| ↷     | <code>\curvearrowright</code>                |                            |
| ↘     | <code>\rightharpoondown</code>               |                            |

- `\CN` Compounds have to be typeset in boldface. Instead of `\textbf` `\CN` can also be used for a logical markup. For ranges of compound numbers `\nobreakdash-` avoids linebreaks.
- `\IUPAC` Some chemical products have quite a long name which sometimes results in a bad hyphenation. If you want to influence this you can use `\-` for breakable hyphens and `\|` for invisible breakpoints and then pass it as an argument to `\IUPAC`, e.g. `\IUPAC{4,7-dimethyl\ -3,5,7-tri\|hydro-1,2,4,7-tetrazocin\ -3,8-dione}`.

### Chemical structures from external programs

There are a lot of highly specified software programs like ChemDraw<sup>®</sup> to draw complex chemical structures. You should always use such programs and then export your drawings to a pdf file and include it into your L<sup>A</sup>T<sub>E</sub>X document as described in section 4.5. If you get an eps file that is fine as well. You just have to convert it with `epstopdf file.eps` from the command line (shell). You can export your graphic file to more or less every format and convert it to pdf, but using a vector format right away is highly recommended.

## 5 Managing references with Bib<sub>T</sub><sub>E</sub><sub>X</sub>

### 5.1 The Bib<sub>T</sub><sub>E</sub><sub>X</sub> style files

The Beilstein bundle includes a special Bib<sub>T</sub><sub>E</sub><sub>X</sub> style `bjnano.bst` which implements all needed entry types and fields as well as format specifications of the *Beilstein Journal of Nanotechnology*. It is always used automatically by the Beilstein class. The only thing you have to do is to store all your bibliography data in a Bib<sub>T</sub><sub>E</sub><sub>X</sub> file. The exact structure of this Bib<sub>T</sub><sub>E</sub><sub>X</sub> database is described in section 5.2.

|                            |                                                                                                                                                                                                                                                                                                                 |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\cite</code>         | To cite any of your references the L <sup>A</sup> T <sub>E</sub> X macro <code>\cite</code> gets a single key or a list of keys for those entries, i.e. <code>\cite{&lt;key&gt;}</code> or <code>\cite{&lt;key1&gt;, ..., &lt;keyN&gt;}</code> .                                                                |
| <code>\bibliography</code> | To output the section “References” containing all information from the Bib <sub>T</sub> <sub>E</sub> <sub>X</sub> database for all citations given with the <code>\cite</code> command, the standard call <code>\bibliography{&lt;database&gt;}</code> has to be used just before <code>\end{document}</code> . |

### 5.2 Structure of a Bib<sub>T</sub><sub>E</sub><sub>X</sub> database

The Bib<sub>T</sub><sub>E</sub><sub>X</sub> programming language knows the most common entry types cited in academic papers. However, a few like “WWW” for internet resources and links or “SOFTWARE” are missing. They could be emulated, but it is much better to directly introduce them to Bib<sub>T</sub><sub>E</sub><sub>X</sub>. The same is valid for special data fields.

On the other hand, not all entry types and fields, that are included in Bib<sub>T</sub><sub>E</sub><sub>X</sub>, are needed and allowed in *Beilstein Journal of Nanotechnology* submissions. They could even mess up the output when not treated correctly. Therefore the entry types are restricted to the following ones:

- @ARTICLE
- @BOOK
- @INCOLLECTION
- @INPRESS
- @INPROCEEDINGS
- @MISC
- @PATENT
- @PHDTHESIS
- @PROCEEDINGS
- @SOFTWARE
- @WWW

In addition to the well known data fields the following ones were added:

**doi** Digital Object Identifier, e.g. “doi = {10.1080/02678290500291699}” (optional for @article and @inpress)

**url** URL for any internet source, e.g. “url = {http://www.beilstein-journals.org/bjnano}” (mandatory for @WWW)

**urldate** Date when the url was visited last, e.g. “urldate = {Sep 12, 2007}” (mandatory for @WWW)

**venue** Information about a conference (place and time), e.g. “venue = {Baltimore, MD, June 27–30, 1996}” (mandatory for @PROCEEDINGS and @INPROCEEDINGS)

**version** Version of a software, e.g. “version = {Revision C.02}” (mandatory for @SOFTWARE)

The Beilstein bundle contains the file “beilstein-template.bib” with example entries for all types of references described in [1, pp 5–6].

## References

- [1] *Beilstein-Institut*: Instructions for Authors for the *Beilstein Journal of Nanotechnology*, Version 1.1.
- [2] *David Carlisle*: The `tabularx` package, v2.07 (1999/01/07), <http://www.ctan.org/tex-archive/help/Catalogue/entries/tabularx.html>.
- [3] *ImageMagick*: Convert, Edit, and Compose Images, <http://www.imagemagick.org>.

## Appendix

### Deactivated macros

A few macros were “deactivated”, i.e. their usage results in an error. Right now this is valid for the standard commands listed in Table 8.

Table 8: Forbidden macros.

| Macro                                             | Alternative                                                         |
|---------------------------------------------------|---------------------------------------------------------------------|
| <code>\and</code>                                 | Use <code>\author</code> and <code>\author*</code> for every author |
| <code>\footnote{\langle text \rangle}</code>      | None <sup>a</sup>                                                   |
| <code>\thanks{\langle affiliation \rangle}</code> | Use <code>\affiliation{\langle affiliation \rangle}</code>          |

<sup>a</sup>`\footnote` remains active in the `table` environment.

### List of package files

| File name                  | Version                                                                                        |
|----------------------------|------------------------------------------------------------------------------------------------|
| <code>beilstein.cls</code> | 2010/08/16 v1.1 Template for submissions to the “Beilstein Journal of Nanotechnology” (BJNANO) |
| <code>xkeyval.sty</code>   | 2008/08/13 v2.6a package option processing (HA)                                                |
| <code>xkeyval.tex</code>   | 2008/08/13 v2.6a key=value parser (HA)                                                         |
| <code>ifthen.sty</code>    | 2001/05/26 v1.1c Standard LaTeX ifthen package (DPC)                                           |
| <code>article.cls</code>   | 2007/10/19 v1.4h Standard LaTeX document class                                                 |
| <code>size12.clo</code>    | 2007/10/19 v1.4h Standard LaTeX file (size option)                                             |
| <code>babel.sty</code>     | 2008/07/06 v3.8l The Babel package                                                             |
| <code>bblopts.cfg</code>   | 2006/07/31 v1.0 MiKTeX ‘babel’ configuration                                                   |
| <code>english.ldf</code>   | 2005/03/30 v3.3o English support from the babel system                                         |
| <code>inputenc.sty</code>  | 2008/03/30 v1.1d Input encoding file                                                           |
| <code>fontenc.sty</code>   |                                                                                                |
| <code>tlenc.def</code>     | 2005/09/27 v1.99g Standard LaTeX file                                                          |
| <code>mathptmx.sty</code>  | 2005/04/12 PSNFSS-v9.2a Times w/ Math, improved (SPQR, WaS)                                    |
| <code>helvet.sty</code>    | 2005/04/12 PSNFSS-v9.2a (WaS)                                                                  |
| <code>courier.sty</code>   | 2005/04/12 PSNFSS-v9.2a (WaS)                                                                  |
| <code>textcomp.sty</code>  | 2005/09/27 v1.99g Standard LaTeX package                                                       |
| <code>ts1enc.def</code>    | 2001/06/05 v3.0e (jk/car/fm) Standard LaTeX file                                               |
| <code>geometry.sty</code>  | 2008/12/21 v4.2 Page Geometry                                                                  |
| <code>ifpdf.sty</code>     | 2010/01/28 v2.1 Provides the ifpdf switch (HO)                                                 |
| <code>iftex.sty</code>     | 2008/11/04 v1.4 Switches for detecting VTeX and its modes (HO)                                 |
| <code>geometry.cfg</code>  |                                                                                                |

*Continued on next page*



| File name     | Version                                                      |
|---------------|--------------------------------------------------------------|
| setspace.sty  | 2000/12/01 6.7 Contributed and Supported LaTeX2e package     |
| ragged2e.sty  | 2009/05/21 v2.1 ragged2e Package (MS)                        |
| everyisel.sty | 2009/05/30 v1.1 EverySelectfont Package (MS)                 |
| footmisc.sty  | 2009/09/15 v5.5a a miscellany of footnote facilities         |
| lineno.sty    | 2005/11/02 line numbers on paragraphs v4.41                  |
| amsmath.sty   | 2000/07/18 v2.13 AMS math features                           |
| amstext.sty   | 2000/06/29 v2.01                                             |
| amsgen.sty    | 1999/11/30 v2.0                                              |
| amsbsy.sty    | 1999/11/29 v1.2d                                             |
| amsopn.sty    | 1999/12/14 v2.01 operator names                              |
| amssymb.sty   | 2009/06/22 v3.00                                             |
| amsfonts.sty  | 2009/06/22 v3.00 Basic AMSFonts support                      |
| multicol.sty  | 2008/12/05 v1.6h multicolumn formatting (FMi)                |
| float.sty     | 2001/11/08 v1.3d Float enhancements (AL)                     |
| flafter.sty   | 2000/07/23 v1.2i Standard LaTeX floats after reference (FMi) |
| graphicx.sty  | 1999/02/16 v1.0f Enhanced LaTeX Graphics (DPC,SPQR)          |
| graphics.sty  | 2009/02/05 v1.0o Standard LaTeX Graphics (DPC,SPQR)          |
| trig.sty      | 1999/03/16 v1.09 sin cos tan (DPC)                           |
| graphics.cfg  | 2007/01/18 v1.5 graphics configuration of TeX/TeXLive        |
| pdftex.def    | 2009/08/25 v0.04m Graphics/color for pdfTeX                  |
| array.sty     | 2008/09/09 v2.4c Tabular extension package (FMi)             |
| tabularx.sty  | 1999/01/07 v2.07 ‘tabularx’ package (DPC)                    |
| longtable.sty | 2004/02/01 v4.11 Multi-page Table package (DPC)              |
| cleveref.sty  | 2009/12/11 v0.15.3 Intelligent cross-referencing             |
| natbib.sty    | 2009/11/07 8.31a (PWD, AO)                                   |
| natbib.cfg    |                                                              |
| url.sty       | 2006/04/12 ver 3.3 Verb mode for urls, etc.                  |
| xspace.sty    | 2006/05/08 v1.12 Space after command names (DPC,MH)          |
| ts1cmr.fd     | 1999/05/25 v2.5h Standard LaTeX font definitions             |
| t1ptm.fd      | 2001/06/04 font definitions for T1/ptm.                      |
| supp-pdf.tex  |                                                              |
| t1phv.fd      | 2001/06/04 scalable font definitions for T1/phv.             |
| ot1zmtmcm.fd  | 2000/01/03 Fontinst v1.801 font definitions for OT1/zmtmcm.  |
| omlztmcm.fd   | 2000/01/03 Fontinst v1.801 font definitions for OML/zmtmcm.  |
| omszmtmcm.fd  | 2000/01/03 Fontinst v1.801 font definitions for OMS/zmtmcm.  |
| omxztmcm.fd   | 2000/01/03 Fontinst v1.801 font definitions for OMX/zmtmcm.  |
| ot1ptm.fd     | 2001/06/04 font definitions for OT1/ptm.                     |