

The rsc package — BibTeX support for Royal Society of Chemistry and Wiley style articles*

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Released 2008/01/16

Abstract

The rsc package provides BibTeX style files to produce bibliographies in accordance with the guidelines of the Royal Society of Chemistry and Wiley chemistry-related journals. The style files are available in versions for the standard L^AT_EX citation methods and for use with natbib. Versions for use with mcite and mciteplus are also available.

1 Introduction

Although synthetic chemists do not, in the main, use L^AT_EX for the preparation of journal articles, it would be nice to be able to use it for reports. The package achemso provides for a BibTeX style and other support for reports in the style of the American Chemical Society. The aim of the rsc package is to provide similar support for the style favoured by the Royal Society of Chemistry. The package also provides support for the style used in Wiley-published journals.

The .bst files are available in a number of variations. Those for RSC journals are names *rsc*(*id*).bst, those for Wiley journals are *angew*(*id*).bst. The value of *id* can be:

- *(none)* For use with standard L^AT_EX citations (or the cite package;
- *nat* natbib-compatible styles (which need the *numbers*, *super* options with natbib;
- *M* Designed for use with the mciteplus package;
- *-mc* For use with the mcite package, and provided for back-compatibility only.

For backward-compatibility the package provides the *rsc.sty* file. This has been superseded by the chemstyle package, and may be dropped in a future version of rsc.

*This file describes version v2.2a, last revised 2008/01/16.

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2 Bibliography design decisions

Along with almost every \LaTeX style file, much of the `.bst` file design is inherited from the original \LaTeX style files provided by Oren Patashnik. However, while the original styles were designed to be flexible, the style files here are designed to do a single job. Thus much of the original flexibility has been stripped out to give a clearer design. This has many be achieved by removing unused functions. The style files provided here are therefore poor examples for others to work from!

Chemistry journals give only minimal guidance on the format of references other than for journal articles. Most of the other types are therefore based on current practice in RSC and Wiley journals. Some of this is contradictory, and so I have gone with I feel is most consistent. Please e-mail me if you feel I have got things wrong!

3 Bibliography usage information

3.1 Cross-references

Unlike most \LaTeX styles, the style files provided here do not support cross-referencing between references. Using `crossref` will still fill in missing information, but will not output “see ref. X”. Chemistry references do not lend themselves to the use of `crossref`.

3.2 Notes

As in `pccp.bst`, notes are not output for most reference types. The reasoning here is that it is difficult to predict how people will want to use notes. In chemistry, they may be used in several forms, for example:

- See for example: I. V. Gostunskaya, V. S. Petrova, A. I. Leonava, V. A. Mironava, M. Abubaker, and B. Kazanski, *Neftekhimiya*, 1967, 7, 3–8.
- I. V. Gostunskaya, V. S. Petrova, A. I. Leonava, V. A. Mironava, M. Abubaker, and B. Kazanski, *Neftekhimiya*, 1967, 7, 3–8 and references therein.
- I. V. Gostunskaya, V. S. Petrova, A. I. Leonava, V. A. Mironava, M. Abubaker, and B. Kazanski, *Neftekhimiya*, 1967, 7, 3–8 (*Chem. Abs.*, 1967, 67, 21276t).

This is pretty much impossible to handle automatically, especially as the format you want might change depending on the report you are writing. So I would recommend using the `misc` type, and doing the formatting by hand. If other people feel the behaviour is not the best solution, please e-mail me.

3.3 Multiple citations

By default, \LaTeX does not handle producing compound references. The `mciteplus` package solves this problem, and is highly recommended to users of `rsc`. This allows you to put something like:

```

\documentclass{article}
\usepackage{mciteplus}
\begin{document}
\cite{Ofele1968,*Abernethy2000}
\bibliography{example}
\bibliographystyle{rscM}
\end{document}

```

and get output of the form:

1. (a) K. Öfele, *J. Organomet. Chem.*, 1968, **12**, P42–P43; (b) C. D. Abernethy, A. H. Cowley and R. A. Jones, *J. Organomet. Chem.*, 2000, **596**, 3–5.

in the bibliography.

Previous versions of `rsc` recommended the `mcite` package for compound citations. With the release of `mciteplus`, `mcite` is superseded for this purpose.¹ However, `rsc` continues to provide the `rsc-mc` and `angew-mc` Bib_T_EX styles for users of `mcite`.

3.4 natbib support

The files `rscnat.bst` and `angewnat.bst` provide support for the generation of bibliographies for use with the `natbib` package. As well as altering the `\bibliographystyle` command appropriately, you also need to load `natbib`. The `rsc` package file provides the option `natbib`, which loads `natbib` automatically (normally, `rsc` loads the `cite` package).

3.5 Additional entry types

In order to ensure compatibility with the `achemso` package, the non-standard entry types `remark`, `inpress` and `submitted` are supported. The implementation is modelled on `achemso.bst`, but the `notes` field is not used for `inpress` and `submitted`.

4 The package code

4.1 Setup code

First of all, the package identifies itself.

```

1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{rsc}[2008/01/16 v2.2a
3   Useful chemistry functions]

```

A warning is given that the package has been superseded.

```

4 \PackageInfo{rsc}{The rsc package has been superseded!}

```

Various options from the original package have to be processed correctly.

```

5 \DeclareOption{floatleft}{\AtEndOfPackage{\floatcontentsleft}}
6 \DeclareOption{fl}{\ExecuteOptions{floatleft}}
7 \DeclareOption{natbib}{\AtEndOfPackage{%
8   \RequirePackage[numbers,sort&compress,super]{natbib}}}

```

¹`mciteplus` fixes a number of bugs in `mcite` and adds the ability to add labels to each compound reference.

The default option is `rsc`. This loads `chemstyle` with the appropriate option, then alters the bibliography format and reports back to the user.

```

9 \DeclareOption{rsc}{%
10   \PassOptionsToPackage{\CurrentOption}{chemstyle}%
11   \def\@biblabel#1{#1}%
12   \PackageInfo{rsc}%
13     {Loading the chemstyle package with the 'rsc' option}%
14 }

```

The other possible journal style is `angew`. Once again, `chemstyle` is loaded and information is given. A bit of re-formatting of citations is then carried out as the `chemstyle` package does not do this.

```

15 \DeclareOption{angew}{%
16   \PassOptionsToPackage{\CurrentOption}{chemstyle}%
17   \PackageInfo{rsc}%
18     {Loading the chemstyle package with the 'angew' option}%
19   \AtBeginDocument{%
20     \@ifpackageloaded{natbib}
21       {\renewcommand*\NAT@open{[]\renewcommand*\NAT@close{[]}}
22       {\def\@citess#1{\textsuperscript{[#1]}}}
23   }
24 }

```

Anything else is passed to `chemstyle`.

```

25 \DeclareOption*{\PassOptionsToPackage{\CurrentOption}{chemstyle}}

```

The `rsc` option is the default.

```

26 \ExecuteOptions{rsc}
27 \ProcessOptions\relax

```

`chemstyle` can now be loaded.

```

28 \RequirePackage{chemstyle}
29 \floatcontentscentre

```

If `natbib` is not loaded, then `cite` is needed.

```

30 \AtEndOfPackage{
31   \@ifpackageloaded{natbib}{}
32   {\RequirePackage[super]{cite}}
33 }

```

5 The Bib_T_EX style files

A great deal of the Bib_T_EX style file information is lifted more or less directly from the standard style files, the custom-bib package or *Taming the BeaST*. The rest consists of minor edits to obtain the correct format or support the `natbib`, `mcite` and `mciteplus` packages. Only two functions are novel to this package, and are given here for the interested reader.

The `strip.comma` function is used to “unwind” the comma added by `output.nonnull`, so that editors in brackets are easy to do. This is needed for the `angew` option.

```

34 FUNCTION {strip.comma}
35 { duplicate$
36   string.length 'find_length :=

```

```

37 duplicate$
38 find_length #1 - #1 substring$
39 ", " =
40 { #1 find_length #2 - substring$
41   " " *
42 }
43 'skip$
44 if$
45 }
46

```

`n.separate` is given in the `custom-bib` package. The following function is modified to separate out a number of any length into digit groups, *e.g.* 12345 turns into 12 345, 1234567 in 1 234 567 but 1234 or a12345 are left alone.

```

47 FUNCTION {n.separate.multi}
48 { 't :=
49   ""
50   #0 'numnames :=

```

This is the key line: the test is that the sting is both at least 5 digits long and is an integer.

```

51   t text.length$ #4 > t is.a.number and
52   {
53     { t empty$ not }
54     { t #-1 #1 substring$ is.a.number
55       { numnames #1 + 'numnames := }
56       { #0 'numnames := }
57     if$
58     t #-1 #1 substring$ swap$ *
59     t #-2 global.max$ substring$ 't :=
60     numnames #4 =
61     { duplicate$ #1 #1 substring$ swap$
62       #2 global.max$ substring$
63       "\," swap$ * *
64       #1 'numnames :=
65     }
66     'skip$
67   if$
68   }
69   while$
70   }
71   { t swap$ * }
72 if$
73 }
74

```

6 Change History

V1.0

General: Initial release of packaged

rsc.bst 1

V2.0

General: Complete re-write of float support 1

General tidying of code 1

v2.1	stub	1
General: Moved float centring to chemscheme package	Added URL support to Misc field	1
v2.1a	Improved packaging	1
General: Fixed error in BibTeX misc output	License change to LPPL	1
v2.2	v2.2a	
General: L ^A T _E X package converted to	General: Added mciteplus support .	1
	Documentation improvements ..	1