

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

Joseph Wright [†]

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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.

1 Introduction

Although synthetic chemists do not, in the main, use LaTeX 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.

In addition to providing the core `*.bst` files, this package also generates `*-mc.bst`, `*nat.bst`, `rsc.sty` and `rsc.tex`. The `*-mc.bst` files includes support for the `mcite` package, allowing the generation of multiple references. The `*nat.bst` files allow the use of the `natbib` package with BibTeX style files.

2 Bibliography design decisions

Along with almost every BibTeX style file, much of the `bst` file design is inherited from the original BibTeX 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!

*This file describes version v2.2, last revised 2007/10/16.

[†]E-mail: joseph.wright@morningstar2.co.uk

3 Bibliography usage information

3.1 Cross-references

Unlike most BibTeX 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, BibTeX does not handle producing compound references. Although it is not perfect, the package `mcite` allows you to produce references of the format:

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

Although the package only requires a minor modification of the BibTeX style file, it seems a good idea to provide one automatically. The `*-mc.bst` are produced with the necessary modifications made to `*.bst`. Note that this requires `\usepackage{mcite}` in your LaTeX source.

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). Note that `natbib` and `mcite` are incompatible, so you must choose one or the other.

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 Additional macros

The macros provided by `rsc.sty` have been migrated (with improvements) to the `chemstyle` package. Users are strongly advised to use the new package, with either

```
\usepackage[rsc]{chemstyle}
```

or

```
\usepackage[angew]{chemstyle}
```

as appropriate in place of loading the `rsc` macros. Currently, the `rsc` package will load `chemstyle` with appropriate options. There will be no further updates to the `rsc` LaTeX package.

5 The package code

5.1 Setup code

First of all, the package identifies itself.

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{rsc}[2007/10/16 v2.2
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}}}
```

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 }

```

6 The BibTeX style files

A great deal of the BibTeX 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` and `mcite` 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 :=
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

```

7 Change History

v1.0	General: Initial release of packaged rsc.bst 1	v2.1a	General: Fixed error in BibTeX misc output 1
v2.0	General: Complete re-write of float support 1 General tidying of code 1	v2.2	General: Added URL support to Misc field 1 Improved packaging 1 LaTeX package converted to stub 1 License change to LPPL 1
v2.1	General: Moved float centring to chemscheme package 1		