

achemso — Support for submissions to American Chemical Society journals*

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Abstract

The achemso bundle provides a L^AT_EX class file and B_IB_TE_X style file in accordance with the requirements of the American Chemical Society (ACS). The files can be used for any documents, but have been carefully designed and tested to be suitable for submission to ACS journals.

The bundle also includes the natmove package. This package is loaded by achemso, and provides automatic moving of superscript citations after punctuation.

Contents

1	Introduction	5.1	Package options	6
2	Installation	5.2	Bibliography notes	7
3	Requirements	1	6 The BibT_EX style files	7
4	The class file	2	7 The natmove package	8
4.1	Class options	3	8 Implementation	9
4.2	Manuscript meta-data	4	8.1 Early class-only code	9
4.3	FLOATS	5	8.2 Early package-only code	9
4.4	Section headers	5	8.3 Common code	10
4.5	Special sections	5	8.4 Late class-only code	16
4.6	Miscellaneous commands	6	8.5 Late shared code	41
5	The package file	6	8.6 Late package-only code	42
			8.7 Moving citations with natbib	42
			8.8 The configuration files	45

1 Introduction

Support for B_IB_TE_X bibliography following the requirements of the American Chemical Society (ACS), along with a package to make these easy to have been available since version one of achemso. The re-write from version 1 to version 2 made a number of improvements to the package, and also added a number

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of new features. However, neither version one nor version two of the package was targeted directly at use for submissions to ACS journals. This new release of `achemso` addresses this issue.

The bundle consists of four parts. The first is a $\text{\LaTeX} 2\epsilon$ class, intended for use in submissions. It is based on the standard `article` class, but makes various changes to facilitate ease of use. The second part is the \LaTeX package. The package contains the parts of the bundle which are appropriate for use with other document classes.¹ Thirdly, two \BIBTeX style files are included. These are used by both the class and the package, but can be used directly if desired. Finally, an example document is included; this is intended to act a potential template for submission, and illustrates the use of the class file.

2 Installation

The package is supplied in `dtx` format and as a pre-extracted zip file, `achemso.tds.zip`. The later is most convenient for most users: simply unzip this in your local `texmf` directory and run `texhash` to update the database of file locations. If you want to unpack the `dtx` yourself, running `tex achemso.dtx` will extract the package whereas `latex achemso.dtx` will extract it and also typeset the documentation.

Typesetting the documentation requires a number of packages in addition to those needed to use the package. This is mainly because of the number of demonstration items included in the text. To compile the documentation without error, you will need the packages:

- `array`
- `booktabs`
- `hypdoc`
- `listings`
- `lmodern`
- `mathpazo`
- `microtype`

3 Requirements

The `achemso` class requires the following packages:

- `caption`
- `float`
- `geometry`
- `natbib`

¹For example, when writing a thesis.

- `setspace`
- `xkeyval`

These are normally present in the current major TeX distributions, but are also available from [The Comprehensive TeX Archive Network](#).

4 The class file

The class file has been designed for use in submitting journals to the ACS. It uses all of the modifications described here (those in the package as well as those in the class). The accompanying example manuscript can be used as a template for the correct use of the class file. It is intended to act as a model for submission.

When submitting communications to *J. Am. Chem. Soc.*, the class will automatically lay the document out in the publication style. This allows the author to judge the length of text submitted more accurately. Changing the `manuscript` in the demonstration document to `communication` will illustrate the effect.

4.1 Class options

`journal` The class supports a limited number of options, which are specifically-targeted at submission. The class uses the `keyval` system for options, in the form `key=value`. The most important option is `journal`. This is the name of the target journal for the publication. The package is designed such that the choice of journal will set up the correct bibliography style and so on. The journals currently recognised by the package are summarised in Table 1. If an unknown journal is specified, the package will fall-back on the `journal=jacsat` option.

`manuscript` The second option is the `manuscript` option. This specifies the type of paper in the manuscript. The values here are `article`, `note`, `communication`, `review`, `letter` and `perspective`. The valid values will depend on the value of `journal`. The `manuscript` option determines whether sections and an abstract are valid. The value `supinfo` is also available for supporting information.

`layout` The `achemso` class can produce drafts in two layout styles. The standard setting for the `layout` option is `traditional`, which produces a double-spaced single column manuscript. The alternative setting `twocolumn` will use single spacing and print the text in two columns. The second option is obviously more compact. If the journal requires a particular style this option may be ignored.

`email` It may be desirable to omit e-mail addresses from the front page of a manuscript. The printing of e-mail addresses can be disabled using the `email` option, which takes Boolean values only. The default is to print e-mail addresses. Notice that phone and fax numbers are only printed if e-mail addresses are printed.

Other options are provided by the package, but when used with the class these are silently ignored. If you need to override the settings chosen by the class, include the settings *after* the `\documentclass` line using `\setkeys`:

```
\documentclass[journal = jacsat]{achemso}
\setkeys{acs}{articletitle = true}
```

<i>Journal</i>	<i>Setting</i>	<i>Journal</i>	<i>Setting</i>
<i>ACS Appl. Mater. Interfaces</i>	aamick	<i>Environ. Sci. Technol.</i>	esthag
<i>ACS Chem. Biol.</i>	acbcct	<i>Ind. Eng. Chem. Res.</i>	iecred
<i>ACS Catal.</i>	accacs	<i>Inorg. Chem.</i>	inoraj
<i>ACS Central Sci.</i>	acscii	<i>J. Agric. Food Chem.</i>	jafcau
<i>ACS Omega</i>	acsodf	<i>J. Chem. Eng. Data</i>	jceaaax
<i>Acc. Chem. Res.</i>	achre4	<i>J. Chem. Ed.</i>	jceda8
<i>ACS Chem. Neurosci.</i>	acncdm	<i>J. Chem. Inf. Model.</i>	jcisd8
<i>ACS Combinatorial Sci.</i>	acsccc	<i>J. Chem. Theory Comput.</i>	jctcce
<i>ACS Energy Lett.</i>	aelccp	<i>J. Med. Chem.</i>	jmcmar
<i>ACS Macro Lett.</i>	amlccd	<i>J. Nat. Prod.</i>	jnprdf
<i>ACS Med. Chem. Lett.</i>	amclct	<i>J. Org. Chem.</i>	joceah
<i>ACS Nano</i>	ancac3	<i>J. Phys. Chem. A</i>	jpcafh
<i>ACS Photon.</i>	apchd5	<i>J. Phys. Chem. B</i>	jpcbdk
<i>ACS Sustainable Chem. Eng.</i>	ascecg	<i>J. Phys. Chem. C</i>	jpcck
<i>ACS Synth. Biol.</i>	asbcd6	<i>J. Phys. Chem. Lett.</i>	jpclcd
<i>Anal. Chem.</i>	ancham	<i>J. Proteome Res.</i>	jprobs
<i>Biochemistry</i>	bichaw	<i>J. Am. Chem. Soc.</i>	jacsat
<i>Bioconjugate Chem.</i>	bcches	<i>Langmuir</i>	langd5
<i>Biomacromolecules</i>	bomaf6	<i>Macromolecules</i>	mamobx
<i>Chem. Res. Toxicol.</i>	crtoec	<i>Mol. Pharm.</i>	mpohbp
<i>Chem. Rev.</i>	chreay	<i>Nano Lett.</i>	nalefd
<i>Chem. Mater.</i>	cmatex	<i>Org. Lett.</i>	orlef7
<i>Cryst. Growth Des.</i>	cgdefu	<i>Org. Proc. Res. Dev.</i>	oprdfk
<i>Energy Fuels</i>	enfuem	<i>Organometallics</i>	orgnd7
<i>Environ. Sci. Technol. Lett.</i>	estlcu		

Table 1: Values for journal option

4.2 Manuscript meta-data

\author
\affiliation
\alsoaffiliation
\altaffiliation
\email

Inspired by REV_TE_X, the `achemso` class alters the method for adding author information to the manuscript. Each author should be given as a separate `\author` command. These should be followed by an `\affiliation`, which applies to the preceding authors. The `\affiliation` macro takes an optional argument, for a short version of the affiliation.² At least one author should be followed by an `\email` macro, containing contact details. All authors with an e-mail address are automatically marked with a star. The example manuscript demonstrates the use of all of these macros. Notice that `\alsoaffiliation` is used when one (or more) authors work at multiple institutions, while `\altaffiliation` is intended for previous addresses (or other notes). Only `\affiliation` applies to multiple authors: both `\alsoaffiliation` and `\altaffiliation` are set on a per author basis.

```
\author{Author Person}
\author{Second Bloke}
\email{second.bloke@some.place}
\affiliation[University of Sometown]
  {University of Somewhere, Sometown, USA}
\altaffiliation
  {Previous address: Minute University, Nowhereville, USA}
\author{Indus Trialguy}
\email{i.trialguy@sponsor.co}
\affiliation[SponsoCo]
  {Research Department, SponsorCo, BigCity, USA}
\alsoaffiliation{University of Somewhere, Sometown, USA}
```

Repeated entries for `\affiliation` and `\alsoaffiliation` will result in only one address being printed in the address list and footnotes. Repeated `\altaffiliation` entries only produce a single footnote, and can therefore be used for entries such as

```
\author{First Coworker}
\altaffiliation{Contributed equally to this work}
\author{Second Coworker}
\altaffiliation{Contributed equally to this work}
```

if required.

\fax
\phone

The class will recognise the optional information `\fax` and `\phone`, which will be printed along with the lead authors e-mail address. Note that this information is only used for authors who have an e-mail address supplied.

```
\author{Second Bloke}
\email{second.bloke@some.place}
\phone{+xxx (0)yyy zzzzzz}
\fax{+xxx (0)yyy wwwww}
\affiliation[University of Sometown]
  {University of Somewhere, Sometown, USA}
```

\and
\thanks

The method used for setting the meta-data means that the normal `\and` and `\thanks` macros are not appropriate in the `pkgachemso` class. Both produce a warning if used.

\title

The `\title` macro is extended to accept an optional argument. This is

²This will usually be the university or company name.

intended for a shortened version of the journal title suitable for running headers. Some journals require that authors supply this data: if it is needed then it will be printed in the appropriate place.

```
\title[Short running title]
      {Long title which would not fit in running headers}
```

The meta-data items should be given in the preamble to the L^AT_EX file, and no \maketitle macro is required in the document body. This is all handled by the class file directly. At least one author, affiliation and e-mail address must be specified.

4.3 Floats

scheme chart graph	The class defines three new floating environments: scheme, chart and graph. These can be used as expected to include graphical content. The placement of these new floats and the standard table and figure floats is altered to be "here" if possible. The contents of all floats is automatically horizontally centred on the page.
--------------------------	---

4.4 Section headers

\SectionNumbersOff \SectionNumbersOn \SectionsOff \SectionsOn \AbstractOff \AbstractOn	Some journals have no section numbering by default. This can be set up in the appropriate configuration file, but it may be that individual users need to change the decision. The macros \SectionNumbersOff and \SectionNumbersOn are therefore available: these should be given in the preamble. More radically, the entire availability of sections can be turned on and off. This functionality is available to the user <i>via</i> the \SectionsOn and \SectionsOff macros, which again are preamble-only. Similar functions are available for the abstract: \AbstractOff and \AbstractOn.
---	--

4.5 Special sections

acknowledgement suppinfo	The sections for acknowledgements and supporting information have dedicated environments available. These ensure that the section headings are generated, and that the text is sized correctly when using creating a Communication.
-----------------------------	---

```
\begin{acknowledgement}
  The authors thank A.N.~Other.
\end{acknowledgement}

\begin{suppinfo}
  Full characterization data for all new compounds.
\end{suppinfo}
```

tocentry	For generating an entry for the graphical table of content, required by some journals, the environment tocentry is available. This prints its content in an appropriately sized box on a separate page. In contrast to the rest of the manuscript, this section is intended to be "print ready" in appearance.
----------	--

```
\begin{tocentry}
  \includegraphics{toc-entry-graphic}
  Some text to explain the graphic.
\end{tocentry}
```

4.6 Miscellaneous commands

\latin

The command \latin is provided by the class to format Latin phrases such as “et al.” Most ACS journals do not make these italic, but some (for example *ACS Nano*) do. By providing a command, the formatting is left flexible.

5 The package file

The achemso package is independent of the classs file, and contains parts of the bundle useful outside of submission to the ACS.

5.1 Package options

As with the class options, the package uses the key-value method for option set up. These are used to control the output of citations and bibliographic data. The same options are used when creating journal configurations for the class: this is a task most users will not need to undertake!

super The super option affects the handling of superscript reference markers. The option switches this behaviour on and off (and takes Boolean values: `super=true` and `super=false` are valid).

articletitle The articletitle option is a Boolean, and sets whether the title of a paper referenced appears in the bibliography. The default is `articletitle=false` for the achemso style and `articletitle=true` for the biochem style.

doi The boolean doi option is provided to allow a doi (Digital Object Identifier) to be included for bibliography entries even where other identification such as page numbers is available. The standard setting is `false`: setting it to `true` will cause DOI numbers to be printed if available.

chaptertitle The boolean chaptertitle option is provided to allow flexibility for the inclusion of chapter titles for book and related entries. The standard setting is `false`: setting it to `true` will cause chapter titles to be included.

etalmode Many journals require that long lists of authors are shortened using ‘et al.’ in the references section. The behaviour of the BIETX styles in this regard is controlled by two options, `etalmode` and `maxauthors`. There are two possible ways to shorten a long list of authors. Some journals require that only the first author is given, followed by ‘et al.’: for this behaviour, set `etalmode=firstonly`:

Jones, A.N. et al.

On the other hand, some journals request that the list of authors is truncated after n authors. This is set up by the `etalmode=truncate` option:

Jones, A.N.; Bloggs, F.; Nobacon, D. et al.

In both cases, the maximum number of authors permitted before introducing ‘et al.’ is governed by the `maxauthors` option. This option recognises the sentinel value 0, which indicates that no shortening should occur at all.

biblabel Redefining the formatting of the numbers used in the bibliography usually requires modifying internal LATEX macros. The `biblabel` option makes these changes more accessible: valid values are plain (use the number only), brackets

`biochem`
`biochemistry`

(surround the number in brackets) and period or fullstop (follow the number by a full stop/period).

Most ACS journals use the same bibliography style, with the only variation being the inclusion of article titles. However, a small number of journals use a rather different style; the journal *Biochemistry* is probably the most prominent. The `biochemistry` or `biochem` option uses the style of *Biochemistry* for the bibliography, rather than the normal ACS style. For this style, the `articletitle=true` option is the default.³

5.2 Bibliography notes

`\bibnote`
`\bibnotemark`
`\bibnotetext`

`achemso` provides the `\bibnote` macro. This is intended for addition of notes to the bibliography (references). The macro accepts a single argument, which is transferred to the bibliography by `BIBTEX`. In analogy to `\footnote`, the macros `\bibnotemark` and `\bibnotetext` are available for dividing up the marker for a note from the text.

```
Some text \bibnote{This note text will be in the bibliography}.  
Some text.?
```

The functionality for bibnotes in `achemso` is based on that in the `notes2bib` package. The `notes2bib` package can be loaded with the `achemso` package, and no clash will occur. With the class file, `notes2bib` will be ignored if requested, to prevent issues on submission to the ACS.

6 The BibTEX style files

`achemso` is supplied with two style files, `achemso.bst` and `biochem.bst`. The direct use of these without the `achemso` package file is not recommended, but is possible. The style files can be loaded in the usual way, with a `\bibliographystyle` command. The `natbib` package must be loaded by the `LATEX` file concerned, if the `achemso` package is not in use.

The style files are designed to use the `mciteplus` package if it is available, but to work even if it is not. When `mciteplus` is present, it is possible to automatically produce references of the form

(5) (a) Arduengo, A. J., III; Dias, H. V. R.; Harlow, R. L.; Kline, M. *J. Am. Chem. Soc.* **1992**, *114*, 5530–5534; (b) Appelhans, L. N.; Zuccaccia, D.; Kovacevic, A.; Chianese, A. R.; Miecznikowski, J. R.; Macchioni, A.; Clot, E.; Eisenstein, O.; Crabtree, R. H. *J. Am. Chem. Soc.* **2005**, *127*, 16299–16311; (c) Arduengo, A. J., III; Gamper, S. F.; Calabrese, J. C.; Davidson, F. *J. Am. Chem. Soc.* **1994**, *116*, 4391–4394.

as demonstrated in the example document. When `mciteplus` is not present, this functionality is not available but the style files will work normally.

The `BIBTEX` style files implement the bibliographic style specified by the ACS in *The ACS Style Guide*.[?] By default, article titles are not included in output using the `achemso.bst` file, but are with the `biochem.bst` file.

³More accurately, the default built into the `BIBTEX` style file is to use article titles with the *Biochemistry* style.

The style used by the ACS does not differentiate between `BIBTEX` book, `inbook`, `collection` and `incollection` entries. As a result, the appearance of these entry types depends on the fields available. Named subdivisions of a book (for example, chapters where each has a named author) should be given in the `title` field, with the title of the book itself in the `booktitle` field. The `chapter` field should be used for a chapter number, and is printed as part of the pagination.

One frequently asked question is why some people see an empty first item in their bibliography when using the `achemso` package or class. This is usually because they have downloaded the `LATEX` files and done a local installation without also updating the `BIBTEX` style. The two must be from the same version of `achemso`: they are designed to work together.

7 The `natmove` package

The `natmove` package does only one job. It brings the ability to move punctuation after citations, using code borrowed from the `cite` package. Both the `achemso` class and package load `natmove` automatically.

```
Some text \cite{Coghill2006} some more text.\\
Some text ending a sentence \cite{Coghill2006}.

Some text? some more text.
Some text ending a sentence.?
```

This is deactivated for other citation types.

```
Some text \citeyear{Coghill2006}.\\
Some text \citeauthor{Coghill2006}.\\
Some text \citemark{Coghill2006}.
Some text ?.
Some text ?.
Some text ?.
```

The package does nothing if the `super` option has not been given to `natbib`. This means that the source can be written without needing to decide where citations will appear, with the `super` option for `natbib` controlling the result.

`\natmovechars`

One user macro is provided: `\natmovechars`. This contains the characters which are moved before superscript punctuation. The default contents is `,;::` and can be set using `\renewcommand*`:

<code>Some text?</code> , more text. <code>?</code>	<code>\renewcommand*{\natmovechars}{.}</code> <code>Some text \cite{Coghill2006},</code> <code>more text \cite{Coghill2006}.</code>
---	---

8 Implementation

A lot of the work done by the package is also needed by the class. Loading the package and the class makes load-order awkward. Instead, the two parts are done in one place. Sandwiching the common code are two slices of dedicated material for the class and the package. Some of this is needed “early”, before the common material, whilst the rest is “late”.

8.1 Early class-only code

So that there is no confusion, the base class is loaded early.

```
1 {*class}
2 \ProvidesClass{achemso}
3 [2016/05/10 v3.10c Submission to ACS journals]
4 \LoadClass[12pt,letter]{article}
```

\acs@warning The code for a warning is created so that it works for the package too.

```
5 \newcommand*\acs@warning{\ClassWarning{achemso}}
6 {/class}
```

8.2 Early package-only code

The package and the class should not both be loaded, as the two use the same internal macro names. On the other hand, if the class is not in use a reminder is printed to use it if possible.

```
7 {*package}
8 \ProvidesPackage{achemso}
9 [2016/05/10 v3.10c Support for ACS journals]
10 \@ifclassloaded{achemso}{%
11   \PackageInfo{achemso}{%
12     You have already loaded the 'achemso' class:\MessageBreak
13     loading the package will abort%
14   }%
15   \endinput
16 }{%
17   \PackageInfo{achemso}{%
18     When writing a submission to an ACS journal, please\MessageBreak
19     use the achemso document class%
20   }%
21 }
```

\acs@warning The code for a warning is created so that it works for the class too.

```
22 \newcommand*\acs@warning{\PackageWarning{achemso}}
23 {/package}
```

8.3 Common code

\acs@ifundefined A non-expandable test for defined macros: does not add to the hash table.

```
24 {*package | class}
25 \newcommand*\acs@ifundefined[1]{%
26   \begingroup\expandafter\expandafter\expandafter\endgroup
27   \expandafter\ifx\csname #1\endcsname\relax
28   \expandafter\@firstoftwo
29   \else
30   \expandafter\@secondoftwo
31   \fi
32 }
```

The first stage needed is to read the package options given. Although `xkeyval` was perhaps not the best choice, changing this now would be rather risky.

```
33 \RequirePackage{xkeyval}
```

\acs@keyval@bool A support macro for making Boolean options: the xkeyval version is only available in newer releases.

```
34 \newcommand*\acs@keyval@bool[2]{%
35   \acs@ifundefined{acs@\#1\#2}{%
36     \acs@warning{Unknown option '#2' for key #1}%
37   }{%
38     \nameuse{acs@\#1\#2}%
39   }%
40 }
```

\ifacs@abbreviations These are all very trivial definitions: to avoid issues with older versions of xkeyval each definition is done directly.

```
41 \newif\ifacs@abbreviations
42 \newif\ifacs@articletitle
43 \newif\ifacs@biochem
44 \newif\ifacs@doi
45 \newif\ifacs@email
46 \newif\ifacs@hyperref
47 \newif\ifacs@keywords
48 \newif\ifacs@super
49 \newif\ifacs@super
50 \define@key{acs}{abbreviations}[true]{%
51   \acs@keyval@bool{abbreviations}{#1}%
52 }
53 \define@key{acs}{articletitle}[true]{%
54   \acs@keyval@bool{articletitle}{#1}%
55 }
56 \define@key{acs}{biochem}[true]{%
57   \acs@keyval@bool{biochem}{#1}%
58 }
59 \define@key{acs}{doi}[true]{%
60   \acs@keyval@bool{doi}{#1}%
61 }
62 \define@key{acs}{chaptertitle}[true]{%
63   \acs@keyval@bool{chaptertitle}{#1}%
64 }
65 \define@key{acs}{email}[true]{%
66   \acs@keyval@bool@email}{#1}%
67 }
68 \define@key{acs}{hyperref}[true]{%
69   \acs@keyval@bool{hyperref}{#1}%
70 }
71 \define@key{acs}{keywords}[true]{%
72   \acs@keyval@bool{keywords}{#1}%
73 }
74 \define@key{acs}{super}[true]{%
75   \acs@keyval@bool{super}{#1}%
76 }
77 \define@key{acs}{usetitle}[true]{%
78   \acs@keyval@bool{articletitle}{#1}%
79 }
```

\acs@journal Trivial again: done without using xkeyval for the same reasons as before.

```
\acs@layout
\acs@manuscript
\acs@maxauthors
```

```

80 \newcommand*\acs@journal{jacsat}
81 \newcommand*\acs@layout{traditional}
82 \newcommand*\acs@manuscript{article}
83 \newcommand*\acs@maxauthors{15}
84 \define@key{acs}{journal}{%
85   \def\acs@journal{\#1}%
86 }
87 \define@key{acs}{layout}{%
88   \def\acs@layout{\#1}%
89 }
90 \define@key{acs}{manuscript}{%
91   \def\acs@manuscript{\#1}%
92 }
93 \define@key{acs}{maxauthors}{%
94   \def\acs@maxauthors{\#1}%
95 }

```

\ifacs@etal@truncate \acs@etal@firstonly

The setup for the `etalmode` option is quite simple: just look for the appropriate macros.

```

96 \newif\ifacs@etal@truncate
97 \define@key{acs}{etalmode}{%
98   \acs@ifundefined{acs@etal@\#1}{%
99     \acs@warning{%
100       Unknown value '#1' for\MessageBreak etalmode option%
101     }%
102   }{%
103     \c@nameuse{acs@etal@\#1}%
104   }%
105 }
106 \newcommand*\acs@etal@firstonly{\acs@etal@truncatefalse}
107 \newcommand*\acs@etal@truncate{\acs@etal@truncatetrue}

```

\acs@activate@biblabel

The `biochemistry` option is an alias for `biochem`. The `biblabel` option is a choice, which is implemented using a `csname` search. The group here prevents hash table pollution, whilst the `xkeyval` method is avoided as it is more complex than it is worth!

```

108 \define@key{acs}{biochemistry}{%
109   \setkeys{acs}{biochem = \#1}%
110 }
111 \define@key{acs}{biblabel}{%
112   \acs@ifundefined{acs@biblabel@\#1}{%
113     \acs@warning{%
114       Unknown value '#1' for\MessageBreak biblabel option%
115     }%
116   }{%
117     \acs@activate@biblabel{\c@nameuse{acs@biblabel@\#1}}%
118   }%
119 }
120 \newcommand*\acs@activate@biblabel{}
121 <*class>
122 \let\acs@activate@biblabel\AtEndOfClass
123 \AtEndOfClass{\let\acs@activate@biblabel\@firstofone}
124 </class>
125 <*package>

```

```

126 \let\acs@activate@biblabel\AtEndOfPackage
127 \AtEndOfPackage{\let\acs@activate@biblabel\@firstofone}
128 
```

\acs@biblabel@brackets
\acs@biblabel@fullstop
\acs@biblabel@period
\acs@biblabel@plain

The macros to implement the idea above for biblabels.

```

129 \newcommand*\acs@biblabel@brackets{\def\bibnumfmt##1{##1}}
130 \newcommand*\acs@biblabel@fullstop{\def\bibnumfmt##1{##1.}}
131 \newcommand*\acs@biblabel@period{\def\bibnumfmt##1{##1.}}
132 \newcommand*\acs@biblabel@plain{\def\bibnumfmt##1{##1}}

```

Set up some defaults.

```

133 \setkeys{acs}{
134   email = true,
135   super = true
136 }

```

Loading some other packages depends on the options chosen, so they are processed now.

```
137 \ProcessOptionsX*{acs}
```

For text comparisons.

```

138 \newcommand*\acs@manuscript@communication{communication}
139 \newcommand*\acs@manuscript@letter{letter}
140 \newcommand*\acs@manuscript@note{note}
141 \newcommand*\acs@manuscript@review{review}
142 \newcommand*\acs@manuscript@suppinfo{suppinfo}

```

To avoid needing to load the notes2bib package, especially as the plan is to move that package to L^AT_EX3 internal syntax, achemso provides a minimal version here. The first step is to create macros which will need a guard against notes2bib already having been loaded. To allow the package and class to behave differently these are actually applied later.

```

143 \newcommand*\acs@niib@create{%
144   \@namedef{ver@notes2bib.sty}{%
145     2009/04/20 v1.6a Integrating notes into the bibliography (achemso
146     version)
147   }%
148   \@ifundefined{c@bibnote}{\newcounter{bibnote}}{%
149     \def\thebibnote{%
150       Note-\the\value{bibnote}%
151     }%
152     \DeclareRobustCommand*\bibnote[1][\thebibnote]{%
153       \stepcounter{bibnote}%
154       \def\acs@niib@after@text{\cite{##1}}%
155       \acs@niib@text{##1}%
156     }%
157     \DeclareRobustCommand*\bibnotemark[1][\thebibnote]{%
158       \stepcounter{bibnote}%
159       \cite{##1}%
160     }%
161     \DeclareRobustCommand*\bibnotetext[1][\thebibnote]{%
162       \let\acs@niib@after@text\relax
163       \acs@niib@text{##1}%
164     }%

```

```

165  \newcommand*\printbibnotes{%
166    \ifnum\the\value{bibnote}>\z@\relax
167      \nocite{achemso-control}%
168      \acs@bibliography{acs-\jobname}%
169    \fi
170  }%
171 }

\acs@niib@after@text After the text.
172 \newcommand*\acs@niib@after@text{}

\acs@niib@text The \acs@niib@text macro is the outer part of the writing system. It does not absorb the text of note, as without  $\varepsilon$ - $\text{\TeX}$  this is bad news. The same file is used for notes and the control entry for the bibliography style.
173 \newcommand*\acs@niib@text{%
174   \@bsphack
175   \if@filesw
176     \expandafter\acs@niib@write
177   \else
178     \expandafter\acs@niib@no@write
179   \fi
180 }

\acs@niib@write Writing verbatim without  $\varepsilon$ - $\text{\TeX}$ .
\acs@niib@write@aux@i
\acs@niib@write@aux@ii
181 \newcommand*\acs@niib@write[1]{%
182   \begingroup
183     \let\do\@makeother
184     \dospecials
185     \catcode`\'{ 1\relax
186     \catcode`\}{ 2\relax
187     \acs@niib@write@aux@i{#1}%
188 }
189 \newcommand*\acs@niib@write@aux@i[1]{%
190   \long\def\@tempa##1{%
191     \def\@tempa{##1}%
192     \onelevel@sanitize\@tempa
193     \expandafter\endgroup
194     \expandafter\def\expandafter\@tempa\expandafter{\@tempa}%
195     \acs@niib@write@aux@ii{#1}%
196   }%
197   \catcode`\'{^\^M 10\relax
198   \tempa
199 }
200 \newcommand*\acs@niib@write@aux@ii[1]{%
201   \immediate\write\acs@bib@file{%
202     @Misc\string{#1,^\^J%
203     \space\space note = \string{\@tempa\string},^\^J%
204     \string}^\^J%
205   }%
206   \@esphack
207   \acs@niib@after@text
208 }

\acs@niib@no@write If no files are to be written, a bit of tidying up.

```

```

209 \newcommand\acs@niib@no@write[2]{%
210   \esphack
211   \acs@niib@after@text
212 }

\nmv@natbib@detect The functionality of notes2bib is combined with the standard \cite macro, to
\acs@nmv@activate give automatic note-like data in the bibliography.
\acs@autonote
213 \AtBeginDocument{
214   \def\nmv@natbib@detect{%
215     \ifNAT@super
216       \expandafter\acs@nmv@activate
217     \else
218       \expandafter\acs@autonote
219     \fi
220   }
221 }
222 \newcommand*\acs@nmv@activate{%
223   \let\nmv@citex@\nat@citex
224   \let@\citex\nmv@citex
225   \let\nmv@cite\cite
226   \renewcommand*{\cite}[2][]{%
227     \nmv@ifmtarg{##1}{%
228       \nmv@citetrue
229       \nmv@cite{##2}%
230     }{%
231       \nocite{##2}%
232       \bibnote{Ref.~\citemark{##2}, ##1}%
233     }%
234   }%
235 }
236 \newcommand*\acs@autonote{%
237   \let\nmv@cite\cite
238   \renewcommand*{\cite}[2][]{%
239     \nmv@ifmtarg{##1}{%
240       \nmv@cite{##2}%
241     }{%
242       \nocite{##2}%
243       \bibnote{Ref.~\citemark{##2}, ##1}%
244     }%
245   }%
246 }

\acs@bib@file Some information or creating the control file for BIBTEX is set up.
\acs@bib@message
\acs@bib@name
247 \newwrite\acs@bib@file
248 \newcommand*\acs@bib@message{%
249   This is an auxiliary file used by the ‘achemso’ bundle.^^J%
250   This file may safely be deleted. It will be recreated as required.^^J%
251 }
252 \newcommand*\acs@bib@name{acs-\jobname.bib}

\acs@bib@write \acs@bib@write@aux The control information for BIBTEX needs to be written to a special file. The main
writing macro is quite simple. Actually writing the information is left to the code
for \bibliography, so that this only happens if needed.

```

```

253 \newcommand*\acs@bib@write{%
254   \if@filesw
255     \expandafter\acs@bib@write@aux
256   \fi
257 }
258 \AtBeginDocument{\acs@bib@write}
259 \newcommand*\acs@bib@write@aux{%
260   \immediate\openout\acs@bib@file\acs@bib@name\relax
261   \immediate\write\acs@bib@file{\acs@bib@message}%
262   \edef\@tempa##1##2{%
263     \space\space##1\space = ##2", ^J%
264   }%
265   \immediate\write\acs@bib@file{%
266     @Control\string{%
267       achemso-control, ^J%
268       \@tempa{ctrl-article-title}\space\%%
269       \ifaacs@articletitle yes\else no\fi
270     }%
271     \@tempa{ctrl-chapter-title}\space\%%
272     \ifaacs@chapertitle yes\else no\fi
273   }%
274   \@tempa{ctrl-doi}\space\space\space\space\space\space\space\space\space
275   \space\space\space\space\space\%%
276   \ifaacs@doi yes\else no\fi
277 }%
278   \ifaacs@etal@truncate no\else yes\fi
279 }%
280   \string}^J%
281 }%
282   \immediate\write@auxout{%
283     \string\citation\string{achemso-control\string}%
284   }%
285   \AtEndDocument{%
286     \immediate\closeout\acs@bib@file\relax
287   }%
288 }%
289 }%
290 }

```

\acs@bibliography The \bibliography macro is now patched so that everything works correctly.

```

\bibliography
291 \AtBeginDocument{%
292   \let\acs@bibliography\bibliography
293   \def\bibliography#1{%
294     \acs@bibliography{acs-\jobname ,#1}%
295   }%
296 }

```

\latin The journal *ACS Nano* formats Latin phrases differently from every other ACS journal: we provide a \latin command to cover this.

```

297 \AtBeginDocument{
298   \providecommand{\latin}[1]{#1}
299 }
300 </package | class>

```

8.4 Late class-only code

Most of the power of the class is now created. First, a few options are reset so that any given by the user are effectively ignored.

```

301 /*class*/
302 \setkeys{acs}{
303   abbreviations = false,
304   articletitle = false,
305   biblabel = brackets,
306   biochem = false,
307   doi = false,
308   etalmode = firstonly,
309   keywords = false,
310   maxauthors = 15,
311   super = true
312 }

```

When using the class, `notes2bib` is always emulated. Other standard support packages can now be loaded.

```

313 \acs@niib@create
314 \RequirePackage[margin=2.54cm]{geometry}
315 \RequirePackage{
316   caption,
317   float,
318   graphicx,
319   setspace,
320   url
321 }
322 \ifacs@hyperref
323   \expandafter\RequirePackage
324 \else
325   \expandafter\gobble
326 \fi
327 {hyperref}
328 \AtBeginDocument{\doublespacing}

```

`\title` For the meta-data, the REV_TE_X bundle provides a good model for the commands to give the author. `\gdef` is used here to avoid any odd grouping issues.

```

\acs@title@short
329 \renewcommand*{\title}[2][]{%
330   \gdef\acs@title@short{\#1}%
331   \gdef\@title{\#2}%
332   \ifx\acs@title@short\empty
333     \global\let\acs@title@short\@title
334   \fi
335 }
336 \onlypreamble\title

```

`\acs@author@cnt` `achemso` tracks the number authors, affiliations and alternative affiliations.

```

\acs@affil@cnt
337 \newcount\acs@author@cnt
338 \newcount\acs@affil@cnt
339 \newcount\acs@affil@alt@cnt

```

`\acs@footnote@cnt` Two counts for getting affiliation footnotes correct.

```

\acs@affil@marker@cnt
340 \newcount\acs@footnote@cnt
341 \newcount\acs@affil@marker@cnt

```

\author The author macro stores the current author details and sets the affiliation of the author to the current one. Everything is \global so that there is no possibility of begin trapped inside a group. The affiliation counter is always one behind, and so it is locally incremented to keep the logic of the code clear elsewhere.

```

342 \def\author#1{%
343   \global\advance\acs@author@cnt\@ne\relax
344   \expandafter\gdef\csname @author@\@roman\acs@author@cnt\endcsname{#1}%
345   \begingroup
346     \advance\acs@affil@cnt\@ne
347     \expandafter\xdef\csname @author@affil@\@roman
348       \acs@author@cnt\endcsname
349     {\the\acs@affil@cnt}%
350   \endgroup
351 }
352 \onlypreamble\author

```

\and Neither \and nor \thanks are used by the document class.

\thanks

```

353 \def\and{%
354   \acs@warning{%
355     \string\and\space not used by the achemso class: please see
356     the\MessageBreak package documentation for details%
357   }%
358 }
359 \def\thanks{%
360   \acs@warning{%
361     \string\thanks\space not used by the achemso class: please see
362     the\MessageBreak package documentation for details%
363   }%
364 }

```

\affiliation As with \author, everything is \global just in case. The system insists that affiliations come after authors. Before anything is committed, a check is made that the affiliation has not already been seen.

```

365 \newcommand*\affiliation[2] [\relax]{%
366   \ifnum\acs@author@cnt>\z@\relax
367     \acs@affil@ifdup{#2}{%
368       \acs@affil@swap{#2}%
369     }{%
370       \global\advance\acs@affil@cnt\@ne\relax
371       \expandafter\gdef\csname @address@\@roman\acs@affil@cnt\endcsname
372         {#2}%
373       \ifx\relax#1\relax
374         \expandafter\gdef\csname @affil@\@roman\acs@affil@cnt\endcsname
375           {#2}%
376       \else
377         \expandafter\gdef\csname @affil@\@roman\acs@affil@cnt\endcsname
378           {#1}%
379       \fi
380     }%
381   \else
382     \acs@warning{Affiliation with no author}%
383   \fi
384 }
385 \onlypreamble\affiliation

```

```

\acs@affil@ifdup A short test for two addresses being identical.
\acs@affil@ifdup@aux
386 \newcommand*\acs@affil@ifdup[1]{%
387   \begingroup
388     \def\@tempa{#1}%
389     \@tempswafalse
390     \@tempcnta\z@\relax
391     \acs@affil@ifdup@aux
392     \if@tempswa
393       \aftergroup\@firstoftwo
394     \else
395       \aftergroup\@secondoftwo
396     \fi
397   \endgroup
398 }
399 \newcommand*\acs@affil@ifdup@aux{%
400   \advance\@tempcnta\@ne\relax
401   \expandafter\expandafter\expandafter\def\expandafter\expandafter\expandafter
402     \expandafter\expandafter\expandafter\expandafter\expandafter\expandafter
403     {\csname @address\@roman\@tempcnta\endcsname}%
404   \ifx\@tempa\@tempb
405     \expandafter\expandafter\expandafter\expandafter\expandafter\expandafter
406   \else
407     \ifnum\@tempcnta<\acs@affil@cnt\relax
408       \expandafter\expandafter\expandafter\expandafter\expandafter\expandafter
409     \fi
410   \fi
411 }

```

\acs@affil@swap If the affiliation has already been given, then all of the authors need to be checked
\acs@affil@swap@aux to make sure that the correct affiliation is used. First, the loop from above is used
to find the correct number for the duplicate.

```

412 \newcommand*\acs@affil@swap[1]{%
413   \begingroup
414     \def\@tempa{#1}%
415     \@tempcnta\z@\relax
416     \@tempcntb\z@\relax
417     \acs@affil@ifdup@aux
418     \advance\acs@affil@cnt\@ne\relax
419     \acs@affil@swap@aux
420   \endgroup
421 }
422 \newcommand*\acs@affil@swap@aux{%
423   \advance\@tempcntb\@ne\relax
424   \expandafter\ifnum\csname @author@affil\@roman\@tempcntb\endcsname
425     = \acs@affil@cnt\relax
426     \expandafter\xdef\csname @author@affil\@roman\@tempcntb\endcsname{%
427       \the\@tempcnta
428     }%
429   \fi
430   \ifnum\@tempcntb<\acs@author@cnt\relax
431     \expandafter\acs@affil@swap@aux
432   \fi
433 }

```

\alsoaffiliation
\acs@alsoaffil@find To allow complex affiliations , two commands are needed. The first deals with affiliations that are in some way shared by several authors. This is tracked on a per author basis.

```

434 \newcommand*\alsoaffiliation[2][\relax]{%
435   \ifnum\acs@author@cnt>\z@\relax
436     \acs@affil@ifdup{#2}{%
437       \acs@alsoaffil@find{#2}%
438     }{%
439       \global\advance\acs@affil@cnt\@ne\relax
440       \tempcpta\acs@affil@cnt\relax
441       \expandafter\gdef\csname @address@\@roman\acs@affil@cnt\endcsname
442         {#2}%
443       \ifx\relax#1\relax
444         \expandafter\gdef\csname @affil@\@roman\acs@affil@cnt\endcsname
445           {#2}%
446       \else
447         \expandafter\gdef\csname @affil@\@roman\acs@affil@cnt\endcsname
448           {#1}%
449     \fi
450   }%
451   \ifundefined{@author@alsoaffil@\@roman\acs@author@cnt}{%
452     \expandafter\xdef\csname @author@alsoaffil@\@roman\acs@author@cnt
453       \endcsname{\the\tempcpta}%
454   }{%
455     \expandafter\xdef\csname @author@alsoaffil@\@roman\acs@author@cnt\endcsname{%
456       \csname @author@alsoaffil@\@roman\acs@author@cnt\endcsname
457       ,\the\tempcpta
458     }%
459   }%
460   \else
461     \acs@warning{Affiliation with no author}%
462   \fi
463 }
464 }%
465 \newcommand*\acs@alsoaffil@find[1]{%
466   \begingroup
467     \def\tempa{#1}%
468     \tempcpta\z@\relax
469     \tempcntb\z@\relax
470     \acs@affil@ifdup@aux
471     \expandafter\endgroup
472     \expandafter\tempcpta\the\tempcpta\relax
473 }
```

\altaffiliation For the alternative affiliation, a second count is kept, and the affiliation is “attached” to the author. The way these are stored means that the appropriate affiliation number can be recovered later, and so printed correctly when things get complex.

```

474 \newcommand*\altaffiliation[1]{%
475   \ifnum\acs@author@cnt>\z@\relax
476     \begingroup
477       \acs@altaffil@ifdup{#1}{%
478         \expandafter\xdef\csname @author@altaffil@\@roman\acs@author@cnt
```

```

479      \endcsname{\the\@tempcpta}%
480  }{%
481      \global\advance\acs@affil@alt@cnt\@ne\relax
482      \expandafter\gdef\csname @altaffil@\@roman\acs@affil@alt@cnt
483          \endcsname{#1}%
484      \expandafter\xdef\csname @author@altaffil@\@roman\acs@author@cnt
485          \endcsname{\the\acs@affil@alt@cnt}%
486  }%
487      \endgroup
488  \else
489      \acs@warning{Affiliation with no author}%
490  \fi
491 }
492 \onlypreamble\altaffiliation

```

\acs@altaffil@ifdup This is very similar to the same routine for normal affiliations but with the
\acs@altaffil@ifdup@aux appropriate name changes.

```

493 \newcommand*\acs@altaffil@ifdup[1]{%
494   \def\@tempa{#1}%
495   \if@tempswafalse
496     \expandafter\z@\relax
497     \ifnum\acs@affil@alt@cnt>\z@\relax
498       \expandafter\acs@altaffil@ifdup@aux
499     \fi
500     \if@tempswa
501       \expandafter\@firstoftwo
502     \else
503       \expandafter\@secondoftwo
504     \fi
505   }
506 \newcommand*\acs@altaffil@ifdup@aux{%
507   \advance\@tempcpta\@ne\relax
508   \expandafter\expandafter\expandafter\def\expandafter\expandafter
509     \expandafter\@tempb\expandafter\expandafter\expandafter\expandafter
510     {\csname @altaffil@\@roman\@tempcpta\endcsname}%
511   \ifx\@tempa\@tempb
512     \expandafter\@tempswatrue
513   \else
514     \ifnum\@tempcpta<\acs@affil@alt@cnt\relax
515       \expandafter\expandafter\expandafter\acs@altaffil@ifdup@aux
516     \fi
517   \fi
518 }

```

\email E-mail addresses are attached to authors as well.

```

519 \newcommand*\email[1]{%
520   \ifnum\acs@author@cnt>\z@\relax
521     \expandafter\gdef\csname @email@\@roman\acs@author@cnt\endcsname
522         {#1}%
523   \else
524     \acs@warning{E-mail with no author}%
525   \fi
526 }
527 \onlypreamble@email

```

```

\fax Fax and phone numbers are similar.
\phone
528 \newcommand*\fax[1]{%
529   \ifnum\acs@author@cnt>\z@\relax
530     \expandafter\gdef\csname @fax@\roman\acs@author@cnt\endcsname
531     {#1}%
532   \else
533     \acs@warning{Fax number with no author}%
534   \fi
535 }
536 \onlypreamble\fax
537 \newcommand*\phone[1]{%
538   \ifnum\acs@author@cnt>\z@\relax
539     \expandafter\gdef\csname @phone@\roman\acs@author@cnt\endcsname
540     {#1}%
541   \else
542     \acs@warning{Phone number with no author}%
543   \fi
544 }
545 \onlypreamble\phone

\abbreviations Some journals use these.
\@abbreviations
\keywords
\@keywords
546 \newcommand*\abbreviations[1]{%
547   \gdef\@abbreviations{#1}%
548 }
549 \newcommand*\@abbreviations{}
550 \onlypreamble\abbreviations
551 \newcommand*\keywords[1]{%
552   \gdef\@keywords{#1}%
553 }
554 \newcommand*\@keywords{}
555 \onlypreamble\keywords

\acs@abbreviations@print For printing the key simple meta-data.
\acs@keywords@print
\acs@title@short@print
556 \newcommand*\acs@abbreviations@print{%
557   \ifx\@abbreviations\empty\else
558     \section*{Abbreviations}
559     \@abbreviations
560     \par
561   \fi
562 }
563 \newcommand*\acs@keywords@print{%
564   \ifx\@keywords\empty\else
565     \section*{Keywords}
566     \@keywords
567     \par
568   \fi
569 }
570 \newcommand*\acs@title@short@print{%
571   \section*{Running header}
572   \acs@title@short
573   \par
574 }

\acs@space@pre@title Lengths for \maketitle.
\acs@space@post@title
\acs@space@post@author
\acs@space@post@address
\acs@space@post@email
\acs@maketitle@width

```

```

575 \newlength\acs@space@pre@title
576 \setlength\acs@space@pre@title{2em}
577 \newlength\acs@space@post@title
578 \setlength\acs@space@post@title{1.5em}
579 \newlength\acs@space@post@author
580 \setlength\acs@space@post@author{1em}
581 \newlength\acs@space@post@address
582 \setlength\acs@space@post@address{1em}
583 \newlength\acs@space@post@email
584 \setlength\acs@space@post@email{1.5em}
585 \newlength\acs@maketitle@width
586 \setlength\acs@maketitle@width{\textwidth}

\affilsize Some simple size commands.
\authorsize 587 \newcommand*\affilsize{\normalsize}
\emailsize 588 \newcommand*\authorsize{\large}
\titlesize 589 \newcommand*\emailsize{\normalsize}
590 \newcommand*\titlesize{\LARGE}

\authorfont Font settings for \maketitle.
\authorfont 591 \newcommand*\affilfont{\itshape}
\emailfont 592 \newcommand*\authorfont{\sffamily}
\titlefont 593 \newcommand*\emailfont{}
594 \newcommand*\titlefont{\bfseries\sffamily}

\ps@acs A shortcut to make page styles.
595 \newcommand*\ps@acs(){}
596 \let\ps@acs\ps@plain

\maketitle With the changes outlined above in place, a new \maketitle macro is needed.
\maketitle@title@hook This is partially a copy of the existing, but rather heavily modified.
597 \def\maketitle{%
598   \pagestyle{acs}%
599   \ifnum\acs@author@cnt<\z@\relax
600     \acs@warning{No authors defined: At least one author is required}%
601   \fi
602   \newpage
603   \null
604   \vspace*{\acs@space@pre@title}%
605   \begin{center}
606     \begin{minipage}{\acs@maketitle@width}
607       \begin{center}
608         \%
609           \titlefont
610           \titlesize
611           \let\fnsymbol\acs@author\fnsymbol
612           \let\footnote\acs@title@footnote
613           \acs@maketitle@suppinfo \@title
614           \acs@title@footnote@check
615           \global\acs@footnote@cnt\c@footnote
616           \maketitle@title@hook
617           \par
618         }%
619       \vspace*{\acs@space@post@title}%

```

```

620      {%
621        \authorsize
622        \authorfont
623        \frenchspacing
624        \acs@author@list
625        \par
626      }%
627      \vspace*{\acs@space@post@author}%
628      {%
629        \affilsize
630        \affilfont
631        \acs@address@list
632        \par
633      }%
634      \vspace*{\acs@space@post@address}%
635      {%
636        \emailsize
637        \emailfont
638        \ifacs@email
639          \expandafter\acs@contact@details
640          \fi
641      }%
642      \vspace*{\acs@space@post@email}%
643      \end{center}
644    \end{minipage}
645  \end{center}%
646 }
647 \newcommand*\@maketitle@title@hook{}

```

\acs@maketitle@suppinfo This is spun out so that it can be avoided if necessary: this is done on the sly.

```

648 \newcommand*\acs@maketitle@suppinfo{%
649   \ifx\acs@manuscript\acs@manuscript@suppinfo
650     Supporting information for:\\
651   \fi
652 }

```

\acs@title@footnote Footnotes need to be created so that they appear correctly.

```

653 \newcommand*\acs@title@footnote[1]{%
654   \footnotemark
655   \g@addto@macro\@thanks{\footnotetext{\#1}}%
656 }
657 \newcommand\acs@title@footnote@check{%
658   \ifx\@thanks\@empty
659   \else
660     \begingroup
661       \toks@\=\expandafter{\@thanks}%
662       \xdef\@thanks{%
663         \begingroup
664           \let\noexpand\@fnsymbol\noexpand\acs@author\fnsymbol
665           \the\toks@
666         \endgroup
667       }%
668     \endgroup
669   \fi

```

```

670 }

\acs@contact@details A general contact details macro.
671 \newcommand*\acs@contact@details{%
672   { \sffamily E-mail: \acs@email@list }%
673   \acs@number@list
674 }

\@thanks The \@thanks macro is used as a hook to generate the footnotes if needed.
675 \let\@thanks\empty

\acs@author@list Printing the author list needs to do several things. The appropriate separators
between authors are created and the author names themselves are printed.
676 \newcommand*\acs@author@list{%
677   \tempcnta\z@\relax
678   \ifnum\acs@author@cnt=\z@\relax\else
679     \expandafter\acs@author@list@main
680   \fi
681 }

\acs@author@footnotes The main control macro for producing the author list iterates over each author
\acs@author@list@main on the list. The result is stored as \acs@author@listing.
682 \newcommand*\acs@author@footnotes{}
683 \newcommand*\acs@author@list@main{%
684   \advance\tempcnta\@ne\relax
685   \def\acs@author@footnotes{}%
686   \acs@author@list@and
687   \space
688   \nameuse{\author@}{\roman\tempcnta}%
689   \acs@author@list@comma
690   \acs@author@star
691   \acs@author@affil
692   \acs@author@affil@also
693   \acs@author@affil@alt
694   \ifx\empty\acs@author@footnotes\else
695     \textsuperscript{\acs@author@footnotes}%
696   \fi
697   \ifnum\tempcnta<\acs@author@cnt\relax
698     \expandafter\acs@author@list@main
699   \fi
700 }

\acs@author@list@and Simple checks to add an “and” and a comma.
\acs@author@list@comma
701 \newcommand*\acs@author@list@and{%
702   \ifnum\acs@author@cnt=\@ne\relax\else
703     \ifnum\tempcnta=\acs@author@cnt\relax
704       \space and%
705     \fi
706   \fi
707 }
708 \newcommand*\acs@author@list@comma{%
709   \ifnum\acs@author@cnt>\tw@\relax
710     \ifnum\tempcnta<\acs@author@cnt\relax

```

```

711      ,%
712      \fi
713      \fi
714 }

\acs@author@star A check for an e-mail for an author: if so, add a star.
\acs@author@star@aux
715 \newcommand*\acs@author@star{%
716   \acs@ifundefined{@email@\@roman\@tempcpta}{\{}{%
717     \acs@author@star@aux
718   }\%
719 }
720 \newcommand*\acs@author@star@aux{%
721   \protected@edef\acs@author@footnotes{%
722     \acs@author@fnsymbol{\z@}\%
723     \ifnum\acs@affil@cnt>\@ne\relax
724       ,%
725     \else
726       \ifnum\acs@affil@alt@cnt>\z@\relax
727         ,%
728       \fi
729     \fi
730   }\%
731 }

\acs@author@affil The main affiliation of the author is checked for, and assuming one is found the
\acs@author@affil@aux appropriate symbol is added to the list.
732 \newcommand*\acs@author@affil{%
733   \acs@ifundefined{%
734     @affil@\@roman\csname @author@affil@\@roman\@tempcpta\endcsname
735   }\%
736   \acs@warning{%
737     No affiliation given for author\MessageBreak
738     \@nameuse{@author@\@roman\@tempcpta}\%
739   }\%
740 }\%
741   \acs@author@affil@aux
742 }\%
743 }
744 \newcommand*\acs@author@affil@aux{%
745   \ifnum\acs@affil@cnt>\@ne\relax
746     \expandafter\acs@affil@marker@cnt\csname @author@affil@\@roman
747     \@tempcpta\endcsname\relax
748     \advance\acs@affil@marker@cnt\acs@footnote@cnt\relax
749     \protected@edef\acs@author@footnotes{%
750       \acs@author@footnotes
751       \acs@author@fnsymbol{\acs@affil@marker@cnt}\%
752     }\%
753   \else
754     \ifnum\acs@affil@alt@cnt>\z@\relax
755       \acs@affil@marker@cnt\@ne\relax
756       \advance\acs@affil@marker@cnt\acs@footnote@cnt\relax
757       \protected@edef\acs@author@footnotes{%
758         \acs@author@footnotes
759         \acs@author@fnsymbol{\acs@affil@marker@cnt}\%

```

```

760      }%
761      \fi
762      \fi
763 }

```

The “also” affiliations are generated by a loop as there may be more than one.

```

764 \newcommand*\acs@author@affil@also{%
765   \acs@ifundefined{@author@alsoaffil@\roman@\tempcpta}{ }{%
766     \acs@author@affil@also@aux
767   }%
768 }%
769 \newcommand*\acs@author@affil@aux{%
770   \expandafter\@for\expandafter\@tempa\expandafter:\expandafter
771   =\csname @author@alsoaffil@\roman@\tempcpta\endcsname\do{%
772     \acs@affil@marker@cnt\@tempa\relax
773     \advance\acs@affil@marker@cnt\acs@footnote@cnt\relax
774     \protected@edef\acs@author@footnotes{%
775       \acs@author@footnotes
776       ,%
777       \acs@author@fnsymbol{\acs@affil@marker@cnt}\%
778     }%
779   }%
780 }

```

Alternative affiliations get the correct affiliation number back out from the stored data. There are then two corrections: one for the total number of main affiliations and a second in case there is a footnote to the title.

```

781 \newcommand*\acs@author@affil@alt{%
782   \acs@ifundefined{@author@altaffil@\roman@\tempcpta}{ }{%
783     \acs@author@affil@alt@aux
784   }%
785 }%
786 \newcommand*\acs@author@affil@alt@aux{%
787   \expandafter\acs@affil@marker@cnt
788   \csname @author@altaffil@\roman@\tempcpta\endcsname\relax
789   \advance\acs@affil@marker@cnt\acs@affil@cnt\relax
790   \advance\acs@affil@marker@cnt\acs@footnote@cnt\relax
791   \protected@edef\acs@author@footnotes{%
792     \acs@author@footnotes
793     ,%
794     \acs@author@fnsymbol{\acs@affil@marker@cnt}\%
795   }%
796 }

```

The ACS have an extended list of symbols. The star appears at the special position zero.

```

797 \newcommand*{\acs@author@fnsymbol}[1]{%
798   \ensuremath{%
799     \expandafter\acs@author@fnsymbol@aux\expandafter{\number#1 }%
800   }%
801 }%
802 \newcommand*{\acs@author@fnsymbol@aux}[1]{%
803   \ifnum#1>10 %
804     \expandafter\acs@author@fnsymbol@loop

```

```

805  \else
806    \expandafter\acs@author@fnssymbol@symbol
807  \fi
808  {#1}%
809 }
810 \newcommand*{\acs@author@fnssymbol@loop}[1]{%
811   \acs@author@fnssymbol@loop@aux@i#1%
812 }
813 \newcommand*{\acs@author@fnssymbol@loop@aux@i}[2]{%
814   \acs@author@fnssymbol@symbol{\ifnum#2=0 10\else #2\fi}%
815   \expandafter\acs@author@fnssymbol@loop@aux@ii\romannumerals{#1000Q}{}%
816   {\acs@author@fnssymbol@symbol{\ifnum#2=0 10\else #2\fi}}%
817 }
818 \newcommand*{\acs@author@fnssymbol@loop@aux@ii}[1]{%
819   \nameuse{\acs@author@fnssymbol@loop@aux@#1}%
820 }
821 \def\acs@author@fnssymbol@loop@aux@m#1Q#2#3{%
822   \acs@author@fnssymbol@loop@aux@i#1Q{#2#3}{#3}%
823 }
824 \newcommand*{\acs@author@fnssymbol@loop@aux@Q}[2]{#1}
825 \newcommand*{\acs@author@fnssymbol@symbol}[1]{%
826   \ifcase #1 *\or
827     \dagger\or
828     \ddagger\or
829     \P\or
830     \S\or
831     \|\or
832     \bot\or
833     \#\or
834     @\or
835     \triangle\or
836     \nabla
837   \fi
838 }

```

\acs@address@list Loop over the addresses and any extra affiliations and print them all: if there is only one, omit the marker entirely. There is also a need to watch out for any footnotes from the title.

```

839 \newcommand*{\acs@address@list}{%
840   \ifnum\acs@affil@cnt>\z@
841     \expandafter\acs@address@list@auxi
842   \else
843     \acs@warning{No affiliations: at least one affiliation is needed}%
844   \fi
845 }
846 \newcommand*{\acs@address@list@auxi}{%
847   \ifnum0%
848     \ifnum\acs@affil@cnt>@ne 1\fi
849     \ifnum\acs@affil@alt@cnt>\z@ 1\fi
850     \z@
851   \expandafter\acs@address@list@auxii
852 \else
853   \@address@i\par
854 \fi

```

```

855 }
856 \newcommand*\acs@address@list@auxii{%
857   \tempcnta\z@
858   \acs@affil@marker@cnt\acs@footnote@cnt
859   \loop\ifnum\tempcnta<\acs@affil@cnt
860     \advance\tempcnta\one
861     \advance\acs@affil@marker@cnt\one
862     \acs@author@fnssymbol{\acs@affil@marker@cnt}%
863     \nameuse{@address@\roman{\tempcnta}}\par
864   \repeat
865   \tempcnta\z@
866   \loop\ifnum\tempcnta<\acs@affil@cnt
867     \advance\tempcnta\one
868     \advance\acs@affil@marker@cnt\one
869     \acs@ifundefined{\altaffil@\roman{\tempcnta}}
870     {}
871     {%
872       \acs@author@fnssymbol{\acs@affil@marker@cnt}%
873       \nameuse{\altaffil@\roman{\tempcnta}}\par
874     }%
875   \repeat
876 }

```

\acs@fnssymbol@org
\acs@affil@list
\acs@affil@list@aux

Footnotes are done in two stages. First the main affiliation is handled, then the possible alternative. There is a need to check for the possibility that there is only one main affiliation but one or more alternative ones.

```

877 \newcommand*\acs@fnssymbol@org{}
878 \newcommand*\acs@affil@list{%
879   \let\acs@fnssymbol@org\fnssymbol
880   \let\fnssymbol\acs@author@fnssymbol
881   \tempcnta\z@\relax
882   \tempcntb\z@\relax
883   \ifnum\acs@affil@cnt>\one\relax
884     \expandafter\acs@affil@list@aux
885   \else
886     \ifnum\acs@affil@alt@cnt>\z@\relax
887       \acs@affil@marker@cnt\one\relax
888       \advance\acs@affil@marker@cnt\acs@footnote@cnt\relax
889       \footnotetext[\acs@affil@marker@cnt]{\affil@i}%
890       \tempcnta\one\relax
891     \fi
892   \fi
893   \ifnum\acs@affil@alt@cnt>\z@\relax
894     \expandafter\acs@affil@alt@list
895   \fi
896   \let\fnssymbol\acs@fnssymbol@org
897 }
898 \newcommand*\acs@affil@list@aux{%
899   \advance\tempcnta\one\relax
900   \acs@affil@marker@cnt\tempcnta\relax
901   \advance\acs@affil@marker@cnt\acs@footnote@cnt\relax
902   \footnotetext[\acs@affil@marker@cnt]{%
903     \nameuse{\affil@\roman{\tempcnta}}%}
904   }%

```

```

905   \ifnum\@tempcnta<\acs@affil@cnt\relax
906     \expandafter\acs@affil@list@aux
907   \fi
908 }

```

The secondary loop for alternative affiliations is similar.

```

909 \newcommand*\acs@affil@alt@list{%
910   \advance\@tempcntb\@ne\relax
911   \acs@ifundefined{@altaffil@\roman{\tempcntb}}{}{%
912     \acs@altaffil@foot@aux
913   }
914   \ifnum\@tempcntb<\acs@author@cnt\relax
915     \expandafter\acs@affil@alt@list
916   \fi
917 }
918 \newcommand*\acs@altaffil@foot@aux{%
919   \advance\@tempcnta\@ne\relax
920   \acs@affil@marker@cnt\@tempcnta\relax
921   \advance\acs@affil@marker@cnt\acs@footnote@cnt\relax
922   \footnotetext[\acs@affil@marker@cnt]{%
923     \nameuse{@altaffil@\roman{\tempcntb}}%
924   }%
925 }

```

\acs@email@list@font
\acs@email@list
\acs@email@list@aux

The final piece of meta-data to print is the e-mail address list. The total number of e-mail addresses given it counted in \@tempcntb, which means a warning can be given if there are none. The group is used so that \UrlFont can be set correctly.

```

926 \newcommand*\acs@email@list@font{\sf}
927 \newcommand*\acs@email@list{%
928   \begingroup
929     \def\UrlFont{\acs@email@list@font}%
930     \@tempcnta\z@\relax
931     \@tempcntb\z@\relax
932     \acs@email@list@aux
933     \ifnum\@tempcntb=\z@\relax
934       \acs@warning{%
935         No e-mail given:\MessageBreak
936         at least one author must have a contact e-mail%
937       }%
938     \fi
939   \endgroup
940 }
941 \newcommand*\acs@email@list@aux{%
942   \advance\@tempcnta\@ne\relax
943   \ifnum\@tempcnta>\acs@author@cnt\relax\else
944     \acs@ifundefined{@email@\roman{\tempcnta}}{}{%
945       \advance\@tempcntb\@ne\relax
946       \ifnum\@tempcntb>\@ne\relax
947         ;
948       \fi
949       \expandafter\expandafter\expandafter\url\expandafter
950         \expandafter\expandafter{%
951           \csname@email@\roman{\tempcnta}\endcsname

```

```

952      }%
953      }%
954      \expandafter\acs@email@list@aux
955 \fi
956 }

\acs@number@list Listing phone and fax numbers is easier as they don't have to be given. Everything
\acs@number@list@aux@i is done in one block so that it is possible to know whether to add a new line and
\acs@number@list@aux@ii also to keep everything together.

957 \newcommand*\acs@number@list{%
958   \begingroup
959     \acs@number@list@aux@i{phone}%
960     \let\@tempb\@tempa
961     \acs@number@list@aux@i{fax}%
962     \ifx\@tempa\@empty
963       \let\@tempa\@tempb
964     \else
965       \ifx\@tempb\@empty\else
966         \protected@edef\@tempa{%
967           \@tempb.\space\@tempa
968         }%
969       \fi
970     \fi
971     \ifx\@tempa\@empty\else
972       \par
973       \@tempa
974     \fi
975   \endgroup
976 }

977 \newcommand*\acs@number@list@aux@i[1]{%
978   \def\@tempai{%
979     \relax
980     \def\acs@number@list@aux@ii{%
981       \advance\@tempcpta\@ne\relax
982       \ifnum\@tempcpta>\acs@author@cnt\relax\else
983         \acs@ifundefined{@#1@\roman{\@tempcpta}}{}{%
984           \acs@ifundefined{@email@\roman{\@tempcpta}}{}{%
985             \ifx\@tempa\@empty
986               \edef\@tempa{%
987                 \nameuse{@#1@\roman{\@tempcpta}}%
988               }%
989             \else
990               \edef\@tempa{%
991                 \@tempa
992                 ;
993                 \nameuse{@#1@\roman{\@tempcpta}}%
994               }%
995             \fi
996           }%
997         }%
998       \expandafter\acs@number@list@aux@ii
999     \fi
1000   }%
1001 \acs@number@list@aux@ii

```

```

1002  \ifx\@tempa\empty\else
1003    \protected@edef\@tempa{%
1004      \MakeUppercase#1: \@tempa
1005    }%
1006  \fi
1007 }
1008 \newcommand*\acs@number@list@aux@ii{}

\endabstract
\acs@abstract@extras 1009 \g@addto@macro\endabstract{%
1010   \aftergroup\acs@abstract@extras
1011 }
1012 \newcommand*\{\acs@abstract@extras}{%
1013   \ifacs@abbreviations
1014     \acs@abbreviations@print
1015     \par
1016   \fi
1017   \ifacs@keywords
1018     \acs@keywords@print
1019     \par
1020   \fi
1021 }

\acs@maketitle@extras
\acs@maketitle@extras@hook 1022 \newcommand*\acs@maketitle@extras{%
1023   \acs@maketitle@extras@hook
1024 }
1025 \newcommand*\acs@maketitle@extras@hook{}
1026 \g@addto@macro{\maketitle}{\acs@maketitle@extras}

```

A couple of things might need to be added to `\maketitle`.

```

1027 \g@addto@macro{\document}{\maketitle}

```

`\maketitle` is required by the document class, and must start the document. No variation is allowed, and so it is done automatically.

```

1028 \newfloat{scheme}{htbp}{los}
1029 \floatname{scheme}{Scheme}
1030 \newfloat{chart}{htbp}{loc}
1031 \floatname{chart}{Chart}
1032 \newfloat{graph}{htbp}{loh}
1033 \floatname{graph}{Graph}

```

`\schemename` Naming is set up in the same way as the kernel floats.

```

1034 \newcommand*\schemename{Scheme}
1035 \newcommand*\chartname{Chart}
1036 \newcommand*\graphname{Graph}

```

The standard floats should appear “here” by default.

```

1037 \floatplacement{table}{htbp}
1038 \floatplacement{figure}{htbp}
1039 \floatstyle{plaintop}
1040 \restylefloat{table}

```

<code>\acs@floatboxreset</code>	Floats are all centred. <pre>1041 \let\acs@floatboxreset\@floatboxreset 1042 \def\@floatboxreset{% 1043 \centering 1044 \acs@floatboxreset 1045 }</pre>
<code>\plainref</code>	For legacy support. <pre>1046 \newcommand*\plainref{} 1047 \AtBeginDocument{\let\plainref\ref}</pre>
<code>\acs@section</code> <code>\acs@subsection</code> <code>\acs@subsubsection</code>	Both the numbering and existence of section headers may need to be altered. Some generic functions are therefore provided to deal with this cleanly. First, some original definitions are saved.
<code>\acs@startsection@orig</code>	<pre>1048 \newcommand*\acs@section{} 1049 \let\acs@section\section 1050 \newcommand*\acs@subsection{} 1051 \let\acs@subsection\subsection 1052 \newcommand*\acs@subsubsection{} 1053 \let\acs@subsubsection\subsubsection 1054 \newcommand*\acs@startsection@orig{} 1055 \let\acs@startsection@orig\@startsection</pre>
<code>\acs@startsection</code>	A version of <code>\@startsection</code> which adds unnumbered sections to the TOC: modelled on <code>amsart</code> . This is active as standard. <pre>1056 \newcommand\acs@startsection[6]{% 1057 \if@noskipsec \leavevmode \fi 1058 \par \c@tempskipa #4\relax 1059 \c@afterindenttrue 1060 \ifdim \c@tempskipa < \z@ \c@tempskipa -\c@tempskipa \c@afterindentfalse\fi 1061 \if@nobreak \everypar{}\else 1062 \addpenalty\c@secpenalty\addvspace\c@tempskipa\fi 1063 \c@ifstar{\c@dblarg{\c@sect{\#1}{\@m}{\#3}{\#4}{\#5}{\#6}}}{% 1064 {\c@dblarg{\c@sect{\#1}{\#2}{\#3}{\#4}{\#5}{\#6}}}{% 1065 } 1066 \let\@startsection\acs@startsection</pre>
<code>\acs@startsection@alt</code>	An alternative version of <code>\@startsection</code> which never adds numbers. <pre>1067 \newcommand*\acs@startsection@alt[6]{% 1068 \if@noskipsec \leavevmode \fi 1069 \par \c@tempskipa #4\relax 1070 \c@afterindenttrue 1071 \ifdim \c@tempskipa < \z@ \c@tempskipa -\c@tempskipa \c@afterindentfalse\fi 1072 \if@nobreak \everypar{}\else 1073 \addpenalty\c@secpenalty\addvspace\c@tempskipa\fi 1074 \c@ifstar{\c@ssect{\#3}{\#4}{\#5}{\#6}}{% 1075 {\c@ssect{\#3}{\#4}{\#5}{\#6}}{% 1076 }}</pre>
<code>\acs@sections@none</code> <code>\acs@sections@none@aux</code>	When removing sections entirely, a gobble macro is needed. <pre>1077 \newcommand*\acs@sections@none{% 1078 \c@ifstar{% 1079 \acs@sections@none@aux</pre>

```

1080  }{%
1081      \acs@sections@none@aux
1082  }%
1083 }
1084 \newcommand*\acs@sections@none@aux[2] []{%
1085     \acs@warning{%
1086         (Sub)section '#2' ignored%
1087     }%
1088 }

\SectionNumbersOff To macros to add or remove the section numbers. The standard setting for the
\SectionNumbersOn class has them on, but some configurations will turn them off. The names of
these functions are both in design space so that users can change the decision
easily.
1089 \newcommand*\SectionNumbersOff{%
1090     \let\@startsection\acs@startsection@alt
1091 }
1092 \@onlypreamble\SectionNumbersOff
1093 \newcommand*\SectionNumbersOn{%
1094     \let\@startsection\acs@startsection
1095 }
1096 \@onlypreamble\SectionNumbersOn

\SectionsOff Quite similar for entire sections.
\SectionsOn
1097 \newcommand*\SectionsOff{%
1098     \let\section\acs@sections@none
1099     \let\subsection\acs@sections@none
1100     \let\subsubsection\acs@sections@none
1101 }
1102 \@onlypreamble\SectionsOff
1103 \newcommand*\SectionsOn{%
1104     \let\section\acs@section
1105     \let\subsection\acs@subsection
1106     \let\subsubsection\acs@subsubsection
1107 }
1108 \@onlypreamble\SectionsOn

\tableofcontents Never print TOC in itself.
1109 \begingroup
1110   \toks@=\expandafter{\tableofcontents}
1111   \xdef\tableofcontents{%
1112     \begingroup
1113       \let\noexpand\@startsection\noexpand\acs@startsection@orig
1114       \the\toks@
1115     \endgroup
1116   }
1117 \endgroup

\acknowledgement Simple named sections.
\suppinfo
1118 \newenvironment{acknowledgement}{%
1119     \acs@section*{\acknowledgementname}%
1120 }{%
1121 \newenvironment{suppinfo}{%

```

```

1122 \acs@section*\{\suppinfo\}%
1123 \acs@collect\acs@suppinfo@print
1124 }{ }

\acs@suppinfo@print A simple macro to print the supporting information.
1125 \newcommand\acs@suppinfo@print[1]{%
1126 #1
1127 This material is available free of charge via the Internet at
1128 \url{http://pubs.acs.org/}.
1129 }

\acknowledgementname A few macros need to get around the changes.
1130 \newcommand*\acknowledgementname{Acknowledgement}
1131 \AtEndOfClass{%
1132 \def\bibsection{%
1133 \acs@section*\{\refname\}%
1134 }%
1135 }
1136 \newcommand*\suppinfo{Supporting Information Available}

\acs@abstract Removing the abstract, if necessary, is done using a trick from the comment
\acs@endabstract package. However, it code is copied here to keep requirements down.
\acs@abstract@start
\acs@abstract@end
\acs@abstract@iffalse
1137 \newcommand*\acs@abstract{}%
1138 \let\acs@abstract\abstract
1139 \newcommand*\acs@endabstract{}%
1140 \let\acs@endabstract\endabstract
1141 \begingroup
1142 \catcode`{ \active
1143 \catcode`} 12\relax
1144 \catcode`( 1\relax
1145 \catcode`) 2\relax
1146 \gdef\acs@abstract@start{%
1147 \acs@warning{%
1148 Abstract not allowed for this\MessageBreak
1149 manuscript type
1150 }%
1151 \bsphack
1152 \catcode`{ \active
1153 \catcode`} 12\relax
1154 \let\end\fi
1155 \let{\acs@abstract@end}{%
1156 \iffalse
1157 }%
1158 \gdef\acs@abstract@end#1{%
1159 \def\@tempa{#1}%
1160 \ifx\@tempa\@currenvir
1161 \@Eshack\endgroup
1162 \if@ignore
1163 \global\@ignorefalse
1164 \ignorespaces
1165 \fi
1166 \else
1167 \expandafter\acs@abstract@iffalse
1168 \fi

```

```

1169   )
1170 \endgroup
1171 \newcommand*\acs@iffalse{\iffalse}

\AbstractOff A very similar pattern to before.
\AbstractOn
1172 \newcommand*\AbstractOff{%
1173   \let\abstract\acs@abstract@start
1174   \let\endabstract\acs@abstract@end
1175 }
1176 @onlypreamble\AbstractOff
1177 \newcommand*\AbstractOn{%
1178   \let\abstract\acs@abstract
1179   \let\endabstract\acs@endabstract
1180 }
1181 @onlypreamble\AbstractOn

\acs@collect@toks The content of the graphic TOC entry is processed using a method from amsmath
\acs@collect@content via environ. The entire environment is gathered for typesetting in a box. First,
\acs@collect@content some storage is needed.
1182 \newtoks\acs@collect@toks
1183 \newtoks\acs@collect@empty@toks
1184 \newcommand*\acs@collect@begins{}%
1185 \newcommand*\acs@collect@content{}%

\acs@collect This is a \long version of \collect@body.
\acs@collect@aux
1186 \newcommand\acs@collect[1]{%
1187   \acs@collect@toks{%
1188     \expandafter#1\expandafter{\the\acs@collect@toks}%
1189   }%
1190   \edef\acs@collect@content{%
1191     \the\acs@collect@toks
1192     \noexpand\end{\currenvir}%
1193   }%
1194   \acs@collect@toks\acs@collect@empty@toks
1195   \def\acs@collect@begins{b}%
1196   \begingroup
1197     \expandafter\let\csname\currenvir\endcsname\acs@collect@aux
1198     \edef\acs@collect@content{%
1199       \expandafter\noexpand\csname\currenvir\endcsname
1200     }%
1201     \acs@collect@content
1202   }%
1203 \newcommand*\acs@collect@aux{}%
1204 \long\def\acs@collect@aux#1\end#2{%
1205   \edef\acs@collect@begins{%
1206     \acs@collect@begins@#1\begin\end
1207     \expandafter\gobble\acs@collect@begins
1208   }%
1209   \ifx\empty\acs@collect@begins
1210     \endgroup
1211     \checkend{#2}%
1212     \acs@collect@body{#1}%
1213   \else
1214     \acs@collect@body{#1\end{#2}}%

```

```

1215   \fi
1216   \acs@collect@content
1217 }
1218 \newcommand*\acs@collect@begins@{}%
1219 \long\def\acs@collect@begins@#1\begin#2{%
1220   \ifx\end#2\else
1221     b\expandafter\acs@collect@begins@
1222   \fi
1223 }
1224 \newcommand\acs@collect@body[1]{%
1225   \global\acs@collect@toks\expandafter{\the\acs@collect@toks#1}%
1226 }

```

\acs@abstract@print Delayed abstract printing works in a similar way, but with some formatting 'built-in'.

```

1227 \newcommand\acs@abstract@print[1]{%
1228   \global\long\def\acs@abstract@text{%
1229     \if@twocolumn
1230       @restonecoltrue\onecolumn
1231     \else
1232       @restonecolfalse\newpage
1233     \fi
1234     \acs@section*{Abstract}%
1235     #1%
1236     \if@restonecol
1237       \twocolumn
1238     \else
1239       \newpage
1240     \fi
1241   }%
1242   \AtEndDocument{\acs@abstract@text}%
1243 }

```

\acs@tocentry@print The same approach is taken for the graphical table of content printing. This is done in a box so that everything has a frame around it.

```

1244 \newcommand{\acs@tocentry@print}[1]{%
1245   \gdef\acs@tocentry@text{\#1}%
1246   \AtEndDocument{%
1247     \if@twocolumn
1248       @restonecoltrue\onecolumn
1249     \else
1250       @restonecolfalse\newpage
1251     \fi
1252     \acs@tocentry@print@aux
1253     \if@restonecol
1254       \twocolumn
1255     \else
1256       \newpage
1257     \fi
1258   }%
1259 }
1260 \newcommand*{\acs@tocentry@print@aux}{%
1261   \begingroup
1262     \let\@startsection\acs@startsection@orig

```

```

1263   \acs@section*\{\tocentryname\}%
1264   \tocsiz
1265   \sffamily
1266   \singlspacing
1267   \begin{center}
1268     \fbox
1269     {%
1270       \begin{minipage}{\acs@tocentry@height}
1271         \vbox to \acs@tocentry@width{\acs@tocentry@text}%
1272       \end{minipage}%
1273     }%
1274   \end{center}%
1275 \endgroup
1276 }

1277 \newcommand*\acs@tocentry@text{TOC ENTRY REQUIRED}
1278 \newlength{\acs@tocentry@height}
1279 \newlength{\acs@tocentry@width}
1280 \setlength{\acs@tocentry@height}{9 cm}
1281 \setlength{\acs@tocentry@width}{3.5 cm}

\tocentry Actually creating the entry is pretty easy.
1282 \newenvironment{tocentry}{\acs@collect\acs@tocentry@print}{}}

\tocentryname A simple name macro.
1283 \newcommand*\tocentryname{Graphical TOC Entry}

\tocsiz The font size for printing the TOC entry.
1284 \newcommand*\tocsiz{%
1285   \setfontsize\tocsiz\@viiipt\@ixpt
1286 }

\acs@type@list Different journals allow different types of article. A list is set up here: different
\acs@type@default journals can then alter it. A check function is also provided along with a default.
\acs@type@check
1287 \newcommand*\acs@type@list{article,communication,suppinfo}
1288 \newcommand*\acs@type@default{article}
1289 \newcommand*\acs@type@check{%
1290   \tempswafalse
1291   \for\tempa:=\acs@type@list\do{%
1292     \ifx\tempa\acs@manuscript
1293       \expandafter\tempswatrue
1294     \fi
1295   }%
1296   \if\tempswa\else
1297     \acs@warning{%
1298       Invalid manuscript type \acs@manuscript:\MessageBreak
1299       changed to default type \acs@type@default
1300     }%
1301   \let\acs@manuscript\acs@type@default
1302   \fi
1303 }

```

Although achemso avoids too much formatting, the class file makes a few changes to keep life simple. The name of the bibliography should be “Notes and References” if any notes are added.

```

1304 \def\refname{%
1305   \ifnum\the\value{bibnote}>\z@ \relax
1306     Notes and
1307   \fi
1308   References%
1309 }

A few bits for older versions.

1310 \newcommand*\acs@setkeys{\setkeys{acs}{}
1311 \let\acs@killabstract\AbstractOff
1312 \let\acs@killsecs\SectionsOff
1313 \newcommand*\acs@validtype[2][article]{%
1314   \def\acs@type@default{#1}%
1315   \def\acs@type@list{#2}%
1316 }

\acs@par A saved paragraph.

1317 \newcommand*\acs@par{}%
1318 \let\acs@par\par

\acs@layout@shared acknowledgement Some code is used generally when setting up “press ready” layouts. There is quite a bit here, mainly layout related.

suppinfo
1319 \newcommand*\acs@layout@shared{%
1320   \AtBeginDocument{\singlspacing}%
1321   \twocolumn
1322   \tolerance=2000\relax
1323   \emergencystretch=10pt\relax
1324   \geometry{%
1325     letterpaper,
1326     top      = 12.7mm,
1327     bottom   = 16.8mm,
1328     left     = 19.3mm,
1329     right    = 19.3mm
1330   }%
1331   \setlength{\columnsep}{8.1mm}%
1332   \setlength{\parindent}{3.3mm}%
1333   \renewenvironment{acknowledgement}{%
1334     \def\@tempa{acknowledgement}%
1335     \ifx\@currenvir\@tempa
1336       \let\par\relax
1337       \acksiz
1338       \vspace{6pt}%
1339       \textbf{\acknowledgementname}%
1340     \else
1341       \acs@section*\{\acknowledgementname}%
1342     \fi
1343   }{%
1344     \acs@par
1345   }%
1346   \renewenvironment{suppinfo}{%
1347     \def\@tempa{suppinfo}%
1348     \ifx\@currenvir\@tempa
1349       \expandafter\acs@suppinfo@aux
1350     \else

```

```

1351      \acs@section*\{\suppinfo\}%
1352      \fi
1353  }%
1354      \acs@par
1355  }%
1356 }

\acs@suppinfo@aux A short spin out.
1357 \newcommand*\acs@suppinfo@aux{%
1358   \let\par\relax
1359   \suppsize
1360   \vspace{6pt}%
1361   \textbf{\suppinfo:}%
1362   \acs@collect\acs@suppinfo@print
1363 }

\acksize More sizes.
\suppsize 1364 \newcommand*\acksize{\normalsize}
1365 \newcommand*\suppsize{\normalsize}

\acs@layout@nine The class loads twelve point text. To reset it for print layouts, it is easiest to do
\@xipt things directly.
\acs@layout@ten 1366 \newcommand*\acs@layout@nine{%
1367   \def\@xipt{11}%
1368   \long\def\normalsize{%
1369     \setfontsize\normalsize\@ixpt\@xipt
1370   }%
1371   \normalsize
1372   \let\@listi\@listI
1373   \abovedisplayskip 5\p@ \oplus2\p@ \minus 5\p@\relax
1374   \abovedisplayshortskip \z@ \oplus3\p@\relax
1375   \belowdisplayshortskip 3\p@ \oplus3\p@ \minus 3\p@\relax
1376   \belowdisplayskip\abovedisplayskip\relax
1377   \abovecaptionskip 5\p@\relax
1378   \intextsep 7\p@ \oplus 2\p@ \minus 2\p@\relax
1379 }
1380 \newcommand*\acs@layout@ten{%
1381   \long\def\normalsize{%
1382     \setfontsize\normalsize\@xpt\@xipt
1383   }%
1384   \normalsize
1385   \setfontsize\normalsize\@xpt\@xipt
1386   \let\@listi\@listI
1387   \abovedisplayskip 10\p@ \oplus2\p@ \minus 5\p@\relax
1388   \abovedisplayshortskip \z@ \oplus3\p@\relax
1389   \belowdisplayshortskip 6\p@ \oplus3\p@ \minus 3\p@\relax
1390   \belowdisplayskip \abovedisplayskip\relax
1391 }

```

With all of the standard settings done, the journal configuration can be loaded.

```

1392 \InputIfFileExists{achemso-\acs@journal.cfg}{}{%
1393   \acs@warning{%
1394     Unknown journal '\acs@journal':\MessageBreak
1395     using default configuration JACSAT%

```

```

1396  }%
1397  \input{achemso-jacsat.cfg}%
1398 }

\thepage Some changes that can always be applied if the manuscript type is appropriate:  

this saves some repetition in the configuration files.

1399 \acs@type@check
1400 \ifx\acs@manuscript\acs@manuscript@note
1401   \SectionsOff
1402 \fi
1403 \ifx\acs@manuscript\acs@manuscript@review
1404   \SectionsOn
1405   \SectionNumbersOn
1406 \fi
1407 \ifx\acs@manuscript\acs@manuscript@suppinfo
1408   \setkeys{acs}{maxauthors = 0}
1409   \def\thepage{S\arabic{page}}
1410   \renewcommand*\thefigure{S\arabic{c@figure}}
1411   \renewcommand*\thescheme{S\arabic{c@scheme}}
1412   \renewcommand*\thetable{S\arabic{c@table}}
1413 \AtBeginDocument
1414   {%
1415     \renewcommand*\citemenumfont[1]{S#1}%
1416     \renewcommand*\bibnumfmt[1]{(S#1)}%
1417   }
1418 \fi

```

Set up two column layout.

```

1419 \begingroup
1420   \def\@tempa{twocolumn}
1421   \ifx\acs@layout\@tempa
1422     \aftergroup\acs@layout@shared
1423   \fi
1424   \def\@tempa{two-column}
1425   \ifx\acs@layout\@tempa
1426     \aftergroup\acs@layout@shared
1427   \fi
1428 \endgroup
1429 </class>

```

8.5 Late shared code

\citemenumfont Changes to citations can now be made. The citation styles supplied here require *natbib*, which is loaded with the appropriate options. This part applies to the package as well as the class: it is here so that the load order is correct.

```

1430 {*class | package}
1431 \ifacs@super
1432   \RequirePackage[sort&compress,numbers,super]{natbib}
1433 \else
1434   \RequirePackage[sort&compress,numbers,round]{natbib}
1435   \def\citemenumfont{\textit}
1436 \fi
1437 \define@key{acs}{super}[true]{%

```

```

1438 \def\@tempa{#1}%
1439 \def\@tempb{true}%
1440 \ifx\@tempa\@tempb
1441   \setcitestyle{super,open={},close={}}%
1442   \renewcommand*\citemumfont{}%
1443 \else
1444   \setcitestyle{round}%
1445   \renewcommand*\citemumfont{\textit}%
1446 \fi
1447 }
1448 \RequirePackage{natmove}

```

The `mciteplus` package allows the construction of lists of references with sub-letters. However, it might not be available, and so it is only loaded if available: the `.bst` files should work either way. There is also a patch to get cross-references correct with the modified `\ref` macro used here. The reason for ensuring that `\@mciteNatbibCiteCmdList` is defined is that it allows for the case where people prevent `mciteplus` being loaded using `\ver@mciteplus.sty`.

```

1449 \IfFileExists{mciteplus.sty}{%
1450   \RequirePackage{mciteplus}
1451   \providecommand*\@mciteNatbibCiteCmdList{}%
1452   \edef\@tempa{\noexpand\in@\citemum{\@mciteNatbibCiteCmdList}}%
1453   \ifx\@tempa
1454     \ifin@
1455   \else
1456     \edef\@mciteNatbibCiteCmdList{\@mciteNatbibCiteCmdList,citemum}%
1457   \fi
1458 (*!package)
1459   \def\@mciteSubRef[##1]##2{\plainref{\@mciterelabelprefix:##1:##2}}
1460 (/!package)
1461 }{%

```

`\acs@bibstyle` The next step is to sort out bibliography formatting. With both the package and the class, the bibliography style is determined without user intervention. The style is stored as it may need to be altered later.

```

1462 \newcommand*\acs@bibstyle{achemso}
1463 \ifacs@biochem
1464   \def\acs@bibstyle{biochem}
1465   \bibliographystyle{biochem}
1466 \else
1467   \bibliographystyle{achemso}
1468 \fi

```

`\acs@bibliographystyle` The original `\bibliographystyle` macro is now disabled: the underlying command is repeated otherwise problems cop up with `chapterbib`.

```

1469 \newcommand*\acs@bibliographystyle{}
1470 \let\acs@bibliographystyle\bibliographystyle
1471 \def\bibliographystyle#1{%
1472   \acs@warning{\string\bibliographystyle\space ignored}%
1473   \expandafter\acs@bibliographystyle\expandafter{\acs@bibstyle}%
1474 }
1475 (/class | package)

```

8.6 Late package-only code

The notes2bib code may or may not be activated.

```
1476 {*package}
1477 \AtBeginDocument{%
1478   \@ifpackageloaded{notes2bib}{}{%
1479     \acs@niib@create
1480   }%
1481 }
1482 
```

8.7 Moving citations with natbib

The code for moving citations is created as a separate package, as the code needed is the same in both cases.

```
1483 {*natmove}
1484 \ProvidesPackage{natmove}
1485 [2010/01/15 v1.1a Automatic citation moving with natbib]
1486 \RequirePackage{natbib}
```

\nmv@ifmtarg To keep down dependence on other packages, the very short code block from \nmv@xifmtarg is copied here with an internal name.

```
1487 \newcommand*\nmv@ifmtarg{}
1488 \newcommand*\nmv@xifmtarg{}
1489 \begingroup
1490   \catcode`\Q 3\relax
1491   \long\gdef\nmv@ifmtarg#1{%
1492     \nmv@xifmtarg#1QQ\@secondoftwo\@firstoftwo\@nil
1493   }
1494   \long\gdef\nmv@xifmtarg#1#2Q#3#4#5\@nil{#4}
1495 \endgroup
```

\ifnmv@cite A flag is need to watch whether \cite or another macro is in use.

```
1496 \newif\ifnmv@cite
```

\nmv@citex Using the flag, either the new internal macro, or the natbib original, can be called.

```
1497 \newcommand*\nmv@citex{%
1498   \ifnmv@cite
1499     \expandafter\nmv@citex@moving
1500   \else
1501     \expandafter\nmv@citex@nat
1502   \fi
1503 }
```

\nmv@after Later, the argument for \cite will need to be saved.

```
1504 \newcommand*\nmv@after{}
```

\nmv@citex@moving The new version of \citex is needed that looks ahead of the citation using \futurelet. There are three arguments to \citex when using natbib. Other than that, the trick used here is similar to that in cite.

```
1505 \newcommand*\nmv@citex@moving{}
1506 \def\nmv@citex@moving[#1] [#2] #3{%
```

```

1507  \leavevmode
1508  \skip@\lastskip\relax
1509  \unskip
1510  \begingroup
1511    \def\nmv@after{\nmv@citex@nat [#1] [#2]{#3}}%
1512    \global\nmv@citefalse
1513    \nmv@citex@get@next\relax
1514 }

```

\nmv@citex@end To get things right at the end.

```

1515 \newcommand*\nmv@citex@end{%
1516   \nmv@after
1517   \endgroup
1518 }

```

\nmv@citex@get@next \nmv@citex@next The next token on the input stack is saved into \nmv@citex@next, after gobbling up one token.

```

1519 \newcommand*\nmv@citex@get@next[1]{%
1520   \futurelet\nmv@citex@next\nmv@citex@punct
1521 }

```

\nmv@citex@punct \nmv@citex@punct@undouble \nmv@citex@loop The working macro for moving the punctuation. This is very much like \citey in the cite package. The initial assumption is that the loop will terminate, and so the recursion call will simply do the finalisation.

```

1522 \newcommand*\nmv@citex@punct{%
1523   \let\nmv@citex@loop\nmv@citex@end
1524   \ifx\nmv@citex@next.\relax
1525     \ifnum\spacefactor<\nmv@citex@sfac\else
1526       \expandafter\expandafter\expandafter\nmv@citex@punct@undouble
1527     \fi
1528   \fi
1529   \expandafter\expandafter\expandafter\nmv@citex@punct@aux\natmovechars@nil
1530   \nmv@citex@loop
1531 }
1532 \newcommand*\nmv@citex@punct@undouble{%
1533   \let\nmv@citex@next\relax
1534   \let\nmv@citex@loop\nmv@citex@get@next
1535 }
1536 \newcommand*\nmv@citex@loop{}

```

\nmv@citex@punct@aux The final part of the punctuation moving system.

```

1537 \newcommand*\nmv@citex@punct@aux[1]{%
1538   \ifx\nmv@citex@next#1\empty
1539     #1%
1540   \let\nmv@citex@loop\nmv@citex@get@next
1541   \fi
1542   \ifx#1\@nil\else
1543     \expandafter\expandafter\expandafter\nmv@citex@punct@aux
1544   \fi
1545 }

```

\nmv@citex@sfac The value of the spacing factor after a full stop is used to signal doubled punctuation. For French spacing, a bit of patching is needed.

	<pre>1546 \mathchardef\nmv@citex@sfac3000\relax 1547 \expandafter\def\expandafter\frenchspacing\expandafter{% 1548 \frenchspacing 1549 \mathchardef\nmv@citex@sfac1001\relax 1550 \sfcode`\.\nfv@citex@sfac 1551 \sfcode`\?\nfv@citex@sfac 1552 \sfcode`\!\nfv@citex@sfac 1553 } 1554 \ifnum\sfcod\.=\@m 1555 \frenchspacing 1556 \fi</pre>
\nmv@citex@nat	The swap has to be done at the beginning of the document. The internal flag from natbib is used, but under the circumstances we should be safe. \cite is also patched to make the system active.
\nmv@activate	
\cite	
	<pre>1557 \newcommand*\nmv@citex@nat{} 1558 \newcommand*\nmv@activate{% 1559 \let\nmv@citex@nat@\citex 1560 \let@\citex\nmv@citex 1561 \let\nmv@cite\cite 1562 \renewcommand*{\cite}[2][]{% 1563 \nmv@ifmtarg{\#\#1}{% 1564 \nmv@citetrue 1565 \nmv@cite{\#\#2}% 1566 }{% 1567 \nmv@citefalse 1568 \nmv@cite[\#\#1]{\#\#2}% 1569 }% 1570 }</pre>
\nmv@natbib@detect	So that natbib options can be set without worrying about load order, natmove doesn't require natbib. So a test is needed to see if it is actually loaded. This is done as a macro so that the effect can be changed by achemso.
	<pre>1571 \newcommand*\nmv@natbib@detect{% 1572 \@ifpackageloaded{natbib}{% 1573 \ifNAT@super 1574 \expandafter\nmv@activate 1575 \fi 1576 }{% 1577 \PackageInfo{natmove}{% 1578 The natbib package is not loaded.\MessageBreak 1579 Loading natmove will do nothing 1580 }% 1581 }% 1582 } 1583 \AtBeginDocument{\nmv@natbib@detect}</pre>
\natmovechars	A user macro is needed for moving characters.
	<pre>1584 \newcommand*\natmovechars{.,;:} 1585 </natmove></pre>

8.8 The configuration files

The configuration files for different journals are not very complex. Keeping everything separate simply helps with maintenance.

```
1586 {*aamick}
1587 \ProvidesFile{achemso-aamick.cfg}
1588 [2016/05/10 v3.10c achemso configuration: ACS Appl. Mater. Interfaces]
1589 \def\acs@type@list{article,letter,suppinfo}
1590 \setkeys{acs}{%
1591   articletitle = true,
1592   keywords      = true
1593 }
1594 </aamick>
1595 {*acbcct}
1596 \ProvidesFile{achemso-acbcct.cfg}
1597 [2016/05/10 v3.10c achemso configuration: ACS Chem. Biol.]
1598 \setkeys{acs}{%
1599   articletitle = true,
1600   biblabel     = fullstop,
1601   biochem      = true,
1602   super        = false
1603 }
1604 \def\acs@type@list{article,letter,review,suppinfo}
1605 \SectionNumbersOff
1606 </acbcct>
1607 {*acbcct}
1608 \ProvidesFile{achemso-accacs.cfg}
1609 [2016/05/10 v3.10c achemso configuration: ACS Catal.]
1610 \setkeys{acs}{keywords = true}
1611 \def\acs@type@list{article,letter,perspective,review,viewpoints,suppinfo}
1612 \SectionNumbersOff
1613 </acbcct>
1614 {*achre4}
1615 \ProvidesFile{achemso-achre4.cfg}
1616 [2016/05/10 v3.10c achemso configuration: Acc. Chem. Res.]
1617 \setkeys{acs}{%
1618   articletitle = true,
1619   biblabel     = plain
1620 }
1621 \def\acs@type@list{article,suppinfo}
1622 \def\abstractname{Conspectus}
1623 </achre4>
1624 {*acncdm}
1625 \ProvidesFile{achemso-acncdm.cfg}
1626 [2016/05/10 v3.10c achemso configuration: ACS Chem. Neurosci.]
1627 \def\acs@type@list{article,review,letter,suppinfo,viewpoint}
1628 \setkeys{acs}{%
1629   articletitle = true,
1630   biblabel     = fullstop,
1631   biochem      = true,
1632   keywords      = true,
1633   super        = false
1634 }
1635 </acncdm>
```

```

1636 {*acsccc}
1637 \ProvidesFile{achemso-acsccc.cfg}
1638 [2016/05/10 v3.10c achemso configuration: ACS Combinatorial Sci.]
1639 \def\acs@type@list{article,letter,review,perspective,account,note,suppinfo}
1640 \setkeys{acs}{%
1641   articletitle = true,
1642   keywords      = true
1643 }
1644 \SectionNumbersOff
1645 
```

```

1646 {*acscii}
1647 \ProvidesFile{achemso-acscii.cfg}
1648 [2016/05/10 v3.10c achemso configuration: ACS Central Sci.]
1649 \def\acs@type@list{article,review,suppinfo}
1650 \setkeys{acs}{%
1651   articletitle = true,
1652   doi          = true
1653 }
1654 \SectionNumbersOff
1655 
```

```

1656 {*acsodf}
1657 \ProvidesFile{achemso-acsodf.cfg}
1658 [2016/05/10 v3.10c achemso configuration: ACS Omega.]
1659 \def\acs@type@list{article}
1660 \setkeys{acs}{%
1661   articletitle = true,
1662 }
1663 
```

```

1664 {*aelccp}
1665 \ProvidesFile{achemso-aelccp.cfg}
1666 [2016/05/10 v3.10c achemso configuration: ACS Energy Lett.]
1667 \def\acs@type@list{letter,perspective,review,viewpoint,focus}
1668 \setkeys{acs}{%
1669   articletitle = true,
1670 }
1671 \SectionsOff
1672 
```

```

1673 
```

```

1674 \ProvidesFile{achemso-amlccd.cfg}
1675 [2016/05/10 v3.10c achemso configuration: ACS Macro Lett.]
1676 \def\acs@type@list{letter,suppinfo}
1677 \SectionsOff
1678 \setlength{\acs@tocentry@height}{8 cm}
1679 \setlength{\acs@tocentry@width}{4 cm}
1680 
```

```

1681 
```

```

1682 \ProvidesFile{achemso-amclct.cfg}
1683 [2016/05/10 v3.10c achemso configuration: ACS Med. Chem. Lett.]
1684 \setkeys{acs}{%
1685   articletitle = true
1686 }
1687 \def\acs@type@list{article,letter,perspective,suppinfo}
1688 \SectionNumbersOff
1689 
```

```

1690 % \changes{v3.8n}{2015/01/13}{\emph{ACS Nano} want abbreviations}
1691 (*ancac3)
1692 \ProvidesFile{achemso-ancac3.cfg}
1693 [2016/05/10 v3.10c achemso configuration: ACS Nano]
1694 \setkeys{acs}{
1695   abbreviations = true,
1696   articletitle = true,
1697   biblabel = fullstop,
1698   etalmode = truncate,
1699   maxauthors = 10,
1700   keywords = true
1701 }
1702 \def\acs@type@list{article,perspective,suppinfo}
1703 \newcommand*\latin[1]{\emph{#1}}
1704 \SectionNumbersOff
1705 (/ancac3)
1706 (*ancham)
1707 \ProvidesFile{achemso-ancham.cfg}
1708 [2016/05/10 v3.10c achemso configuration: Anal. Chem.]
1709 \def\acs@type@list{article,note,suppinfo}
1710 \SectionNumbersOff
1711 (/ancham)
1712 (*apchd5)
1713 \ProvidesFile{achemso-apchd5.cfg}
1714 [2016/05/10 v3.10c achemso configuration: ACS Photon.]
1715 \def\acs@type@list{article,letter,perspective,review,suppinfo}
1716 \setkeys{acs}{
1717   articletitle = true,
1718   keywords = true
1719 }
1720 \ifx\acs@manuscript\acs@manuscript@letter
1721   \SectionNumbersOff
1722 \fi
1723 (/apchd5)
1724 (*ascecg)
1725 \ProvidesFile{achemso-ascecg.cfg}
1726 [2016/05/10 v3.10c achemso configuration: ACS Sustainable Chem Eng.]
1727 \setkeys{acs}{
1728   articletitle = true,
1729   biblabel = fullstop,
1730   keywords = true
1731 }
1732 \SectionNumbersOff
1733 \def\acs@type@list{article,feature,letter,perspective,review,suppinfo}
1734 (/ascecg)
1735 (*asbcd6)
1736 \ProvidesFile{achemso-asbcd6.cfg}
1737 [2016/05/10 v3.10c achemso configuration: ACS Synth. Biol.]
1738 \setkeys{acs}{
1739   abbreviations = true,
1740   articletitle = true,
1741   biblabel = fullstop,
1742   biochem = true,
1743   keywords = true,

```

```

1744     super      = false
1745 }
1746 \def\acs@type@list{article,letter,note,tutorial,review,suppinfo}
1747 (/asbcd6)
1748 (*bichaw)
1749 \ProvidesFile{achemso-bichaw.cfg}
1750 [2016/05/10 v3.10c achemso configuration: Biochemistry]
1751 \setkeys{acs}{%
1752   abbreviations = true,
1753   articletitle  = true,
1754   biblabel      = fullstop,
1755   biochem       = true,
1756   super         = false
1757 }
1758 \SectionNumbersOff
1759 \def\acs@maketitle@extras@hook{%
1760   \par
1761   \acs@title@short@print
1762 }
1763 \g@addto@macro{\maketitle}{\newpage}

\acs@author@fnsymbol Some changes to do with footnotes: symbols are different and symbol number one can only be used for the title.
1764 \def\acs@author@fnsymbol#1{%
1765   \ensuremath{%
1766     \ifcase #1 *\or
1767       \dagger\or
1768       \ddagger\or
1769       \S\or
1770       \parallel\or
1771       \perp\or
1772       \P\or
1773       \V\or
1774       \bot\or
1775       \#\or
1776       @\or
1777       \triangle\or
1778       \nabla\else
1779       #1%
1780   \fi
1781 }%
1782 }
1783 \def\@maketitle@title@hook{%
1784   \ifnum\acs@footnote@cnt>\@ne
1785   \else
1786     \global\acs@footnote@cnt\@ne
1787   \fi
1788 }

1789 (/bichaw)
1790 (*bcches)
1791 \ProvidesFile{achemso-bcches.cfg}
1792 [2016/05/10 v3.10c achemso configuration: Bioconjugate Chem.]
1793 \setkeys{acs}{%

```

```

1794     articletitle = true,
1795     biochem      = true,
1796     super        = false
1797 }
1798 \SectionNumbersOff
1799 </bcches>
1800 (*bomaf6)
1801 \ProvidesFile{achemso-bomaf6.cfg}
1802 [2016/05/10 v3.10c achemso configuration: Biomacromolecules]
1803 \def\acs@type@list{article,comment,communication,note,review,suppinfo}
1804 \SectionNumbersOff
1805 \AtEndOfClass{\SectionsOn}
1806 </bomaf6>
1807 (*crtoec)
1808 \ProvidesFile{achemso-crtoec.cfg}
1809 [2016/05/10 v3.10c achemso configuration: Chem. Res. Toxicol.]
1810 \setkeys{acs}{
1811   abbreviations = true,
1812   articletitle  = true,
1813   biochem       = true,
1814   keywords      = true
1815 }
1816 \def\acs@maketitle@extras@hook{%
1817   \par
1818   \acs@title@short@print
1819 }
1820 \def\acs@type@list{%
1821   article,perspective,profile,review,suppinfo%
1822 }
1823 \SectionNumbersOff
1824 </crtoec>
1825 (*chreay)
1826 \ProvidesFile{achemso-chreay.cfg}
1827 [2016/05/10 v3.10c achemso configuration: Chem. Rev.]
1828 \def\acs@type@default{review}
1829 \def\acs@type@list{review}
1830 \setkeys{acs}{articletitle = true}

```

The references section is numbered in *Chem. Rev.*

```

1831 \def\bibsection{\acs@section{\refname}}
1832 </chreay>
1833 (*cmatex)
1834 %   \begin{macrocode}
1835 \ProvidesFile{achemso-cmatex.cfg}
1836 [2016/05/10 v3.10c achemso configuration: Chem. Mater.]
1837 \setkeys{acs}{keywords = true}
1838 \SectionNumbersOff
1839 \ifx\acs@manuscript\acs@manuscript@communication
1840   \AbstractOff
1841   \SectionsOff
1842 \fi
1843 \setkeys{acs}{articletitle = true}
1844 </cmatex>
1845 (*cgdefu)

```

```

1846 \ProvidesFile{achemso-cgdefu.cfg}
1847 [2016/05/10 v3.10c achemso configuration: Cryst. Growth Des.]
1848 \setkeys{acs}{articletitle = true}
1849 \def\acs@type@list{%
1850   article,communication,perspective,suppinfo%
1851 }
1852 \SectionNumbersOff
1853 \ifx\acs@manuscript\acs@manuscript@communication
1854   \SectionsOff
1855 \fi
1856 \setlength{\acs@tocentry@height}{8.9 cm}
1857 \setlength{\acs@tocentry@width}{4.6 cm}
1858 /cgdefu
1859 *enfuem
1860 \ProvidesFile{achemso-enfuem.cfg}
1861 [2016/05/10 v3.10c achemso configuration: Energy Fuels]
1862 \setkeys{acs}{articletitle = true}
1863 \def\acs@type@list{article,review,suppinfo}
1864 \SectionNumbersOff
1865 /enfuem
1866 *esthag
1867 \ProvidesFile{achemso-esthag.cfg}
1868 [2016/05/10 v3.10c achemso configuration: Environ. Sci. Technol.]
1869 \setkeys{acs}{articletitle = true}
1870 \def\acs@type@list{article,suppinfo}
1871 \SectionNumbersOff
1872 /esthag
1873 *estlcu
1874 \ProvidesFile{achemso-estlcu.cfg}
1875 [2016/05/10 v3.10c achemso configuration: Environ. Sci. Technol. Lett.]
1876 \setkeys{acs}{articletitle = true}
1877 \def\acs@type@list{letter,suppinfo}
1878 \SectionNumbersOff
1879 /estlcu
1880 % \changes{v3.8m}{2014/11/24}{Fixes for \emph{Ind.\ Eng.\ Chem.\ Res.}\ style}
1881 *iecred
1882 \ProvidesFile{achemso-iecred.cfg}
1883 [2016/05/10 v3.10c achemso configuration: Ind. Eng. Chem. Res.]
1884 \setkeys{acs}{%
1885   articletitle = true,
1886   biblabel      = brackets
1887 }
1888 \SectionNumbersOff
1889 /iecred
1890 *inoraj
1891 \ProvidesFile{achemso-inoraj.cfg}
1892 [2016/05/10 v3.10c achemso configuration: Inorg. Chem.]
1893 \SectionNumbersOff
1894 \ifx\acs@manuscript\acs@manuscript@communication
1895   \AbstractOff
1896   \SectionsOff
1897 \fi
1898 /inoraj

```

The *J. Am. Chem. Soc.* configuration is rather more complicated as there is the

need to construct a “galley-like” layout for communications.

```
1899 (*jacsat)
1900 \ProvidesFile{achemso-jacsat.cfg}
1901 [2016/05/10 v3.10c achemso configuration: J. Am. Chem. Soc.]
1902 \SectionNumbersOff
1903 \ifx\acs@manuscript\acs@manuscript@communication\else
1904 \expandafter\endinput
1905 \fi
```

Everything from here onward applies only to communications. Some adjustments are now made using the existing tools.

```
1906 \setkeys{acs}{%
1907   email = true,
1908   layout = twocolumn
1909 }
1910 \SectionsOff
1911 \acs@layout@nine
```

abstract The abstract appears at the start of the document, with lines around its

```
1912 \renewenvironment{abstract}{%
1913   \hrule
1914   \vspace{2 mm}%
1915   \sffamily
1916   \noindent
1917   \emph{\textbf{Abstract:}}}}%
1918 }{%
1919   \vspace{2 mm}%
1920   \hrule
1921   \vspace{6 mm}%
1922 }
```

\acksize To keep things logical, the size macros are given names related to their function.
\affilsize Some of these are new, some are defined in the class.

```
\authorsize 1923 \def\affilsize{%
\emailsize 1924   \setfontsize\affilsize\@ixpt\@xpt
\capsize 1925 }
\refsize 1926 \def\acksize{%
\suppsize 1927   \setfontsize\acksize\@ixpt\@xipt
\titlesize 1928 }
1929 \def\authorsize{%
1930   \setfontsize\authorsize{10.5}{12.5}%
1931 }
1932 \newcommand*\capsize{%
1933   \setfontsize\capsize\@viiipt\@ixpt
1934 }
1935 \def\emailsize{%
1936   \setfontsize\emailsize\@viiipt{15}%
1937 }
1938 \newcommand*\refsize{%
1939   \setfontsize\refsize{7.5}{7.5}%
1940 }
1941 \def\suppsize{%
1942   \setfontsize\suppsize{8.5}{10.5}%
1943 }
```

```

1944 \def\titlesize{%
1945   \@setfontsize\titlesize\@xiipt{13}%
1946 }
1947 \let\footnotesize\refsize
1948 \let\captionfont\capsize

\emailfont A slight font change.
1949 \def\emailfont{\sffamily}

\ps@plain The header styles are done the hard way, to keep down the number of packages
\ps@jacs loaded.
1950 \def\ps@plain{%
1951   \let\@mkboth\@gobbletwo
1952   \let\@oddhead\@empty
1953   \def\@oddfoot{%
1954     \reset@font
1955     \sffamily
1956     \textbf{\thepage}%
1957     \hfil
1958   }%
1959   \let\@evenhead\@empty
1960   \let\@evenfoot\@oddfoot
1961 }
1962 \def\ps@acs{%
1963   \def\@oddfoot{%
1964     \reset@font
1965     \sffamily
1966     \textbf{\thepage}%
1967     \hfil
1968   }%
1969   \def\@evenfoot{%
1970     \reset@font
1971     \hfil
1972     \sffamily
1973     \textbf{\thepage}%
1974   }%
1975   \def\@oddhead{}%
1976   \let\@evenhead\@oddhead
1977 }
1978 \pagestyle{acs}

\acs@space@pre@title Length adjustments for the title.
\acs@space@post@title 1979 \setlength\acs@space@pre@title{16mm}
\acs@space@post@author 1980 \setlength\acs@space@post@title{0mm}
\acs@space@post@address 1981 \setlength\acs@space@post@author{0mm}
\acs@space@post@email 1982 \setlength\acs@space@post@address{0mm}
1983 \setlength\acs@space@post@email{-1mm}
1984 \setlength\acs@maketitle@width{152.4mm}

\acs@contact@details Contact details are different here.
1985 \def\acs@contact@details{%
1986   Received \today; E-mail: \acs@email@list
1987 }

```

```

\acs@maketitle@extras No keywords or abbreviations for J. Am. Chem. Soc..
1988 \let\acs@maketitle@extras\relax

Getting the floats correct is a difficult task “by hand”; using the caption package
makes this a lot easier.
1989 \floatstyle{plaintop}
1990 \restylefloat{scheme}
1991 \floatstyle{plain}
1992 \DeclareCaptionLabelSeparator{perquad}{.\quad}
1993 \captionsetup{
1994   singlelinecheck = off,
1995   labelfont      = {bf,it,sf},
1996   textfont       = sf,
1997   labelsep       = perquad
1998 }
1999 \captionsetup[figure]{textfont=rm}

\acs@table A patch or \table.





```

```

2033 \setkeys{acs}{articletitle = true}
2034 \def\acs@type@list{article,suppinfo}
2035 \def\refname{Literature Cited}
2036 \SectionNumbersOff
2037 </jceaax>
2038 (*jceda8)
2039 \ProvidesFile{achemso-jceda8.cfg}
2040 [2016/05/10 v3.10c achemso configuration: J. Chem. Ed.]
2041 \setkeys{acs}{%
2042   articletitle = true,
2043   keywords      = true
2044 }
2045 \SectionNumbersOff
2046 \def\acs@type@list{article,suppinfo}
2047 \SectionNumbersOff
2048 </jceda8>
2049 (*jcisd8)
2050 \ProvidesFile{achemso-jcisd8.cfg}
2051 [2016/05/10 v3.10c achemso configuration: J. Chem. Inf. Model.]
2052 \setkeys{acs}{articletitle = true}
2053 \def\acs@type@list{article,suppinfo}
2054 \SectionNumbersOff
2055 </jcisd8>
2056 (*jctcce)
2057 \ProvidesFile{achemso-jctcce.cfg}
2058 [2016/05/10 v3.10c achemso configuration: J. Chem. Theory Comput.]
2059 \def\acs@type@list{article,suppinfo}
2060 \setkeys{acs}{%
2061   maxauthors = 0
2062 }
2063 </jctcce>
2064 (*jmcmar)
2065 \ProvidesFile{achemso-jmcmar.cfg}
2066 [2016/05/10 v3.10c achemso configuration: J. Med. Chem.]
2067 \setkeys{acs}{articletitle = true}
2068 \def\acs@type@list{article,letter,perspective,suppinfo}
2069 \SectionNumbersOff
2070 \setlength{\acs@tocentry@height}{5.5cm}
2071 \setlength{\acs@tocentry@width}{21cm}
2072 </jmcmar>
2073 (*jnprdf)
2074 \ProvidesFile{achemso-jnprdf.cfg}
2075 [2016/05/10 v3.10c achemso configuration: J. Nat. Prod.]
2076 \renewcommand*{\abstractname}{ABSTRACT}
2077 \renewcommand*{\acknowledgementname}{ACKNOWLEDGEMENT}
2078 \renewcommand*{\suppinfo}{ASSOCIATED CONTENT}
2079 \SectionNumbersOff
2080 \renewcommand*{\acs@abstract}{%
2081   \quotation
2082   \textbf{\abstractname} : }%
2083 }
2084 \AbstractOn
2085 \ifx\acs@manuscript\acs@manuscript@communication
2086   \AbstractOff

```

```

2087 \Sectionsoff
2088 \fi
2089 \def\refname{%
2090   \ifnum\the\value{bibnote}>\z@\relax
2091     NOTES AND
2092   \fi
2093   REFERENCES%
2094 }
2095 \captionsetup{
2096   labelfont = bf,
2097   labelsep = period
2098 }
2099 \renewcommand\acs@suppinfo@print[1]{%
2100   \textbf{Supporting Information}%
2101   #1
2102   This material is available free of charge via the Internet at
2103   \url{http://pubs.acs.org/}.
2104 }
2105 </jnprdf>
2106 <*joceah>
2107 \ProvidesFile{achemso-joceah.cfg}
2108 [2016/05/10 v3.10c achemso configuration: J. Org. Chem.]
2109 \ifx\acs@manuscript\acs@manuscript@communication
2110   \Abstractoff
2111   \Sectionsoff
2112 \fi
2113 \floatstyle{plaintop}
2114 \restylefloat{scheme}
2115 \floatstyle{plain}
2116 </joceah>

2117 <*jpcfh>
2118 \ProvidesFile{achemso-jpcfh.cfg}
2119 [2016/05/10 v3.10c achemso configuration: J. Phys. Chem. A]
2120 \def\acs@type@list{article,suppinfo}
2121 \setkeys{acs}{%
2122   articletitle = true,
2123   etalmode = truncate,
2124   maxauthors = 10
2125 }
2126 \SectionNumbersoff
2127 \captionsetup[table]{labelfont=bf, textfont=bf}

Title

2128 \g@addto@macro{\maketitle}{\newpage}
2129 </jpcfh>
2130 <*jpckf>
2131 \ProvidesFile{achemso-jpckf.cfg}
2132 [2016/05/10 v3.10c achemso configuration: J. Phys. Chem. B]
2133 \def\acs@type@list{article,suppinfo}
2134 \setkeys{acs}{%
2135   articletitle = true,
2136   etalmode = truncate,
2137   maxauthors = 10
2138 }

```

```

2139 \SectionNumbersOff
2140 \captionsetup[table]{labelfont=bf, textfont=bf}
2141 \g@addto@macro{\maketitle}{\newpage}
2142 </jpccfk>
2143 <*jpccck>
2144 \ProvidesFile{achemso-jpccck.cfg}
2145 [2016/05/10 v3.10c achemso configuration: J. Phys. Chem. C]
2146 \def\acs@type@list{article, suppinfo}
2147 \setkeys{acs}{
2148   articletitle = true,
2149   etalmode     = truncate,
2150   maxauthors   = 10
2151 }
2152 \SectionNumbersOff
2153 \captionsetup[table]{labelfont=bf, textfont=bf}
2154 \g@addto@macro{\maketitle}{\newpage}
2155 </jpccck>
2156 <*jpclcd>
2157 \ProvidesFile{achemso-jpclcd.cfg}
2158 [2016/05/10 v3.10c achemso configuration: J. Phys. Chem. Lett.]
2159 \setkeys{acs}{
2160   articletitle = true,
2161   etalmode     = truncate,
2162   maxauthors   = 10,
2163   keywords     = true
2164 }
2165 \def\acs@type@default{letter}
2166 \def\acs@type@list{letter}
2167 \SectionNumbersOff
2168 \captionsetup[table]{labelfont=bf, textfont=bf}
2169 \g@addto@macro{\maketitle}{\newpage}
2170 \renewcommand{\acs@tocentry@print}[1]{%
2171   \gdef\acs@tocentry@text{\#1}%
2172 }
2173 \renewcommand*{\acs@abstract@extras}{%
2174   \begingroup
2175     \acs@tocentry@print@aux
2176   \endgroup
2177   \acs@keywords@print
2178   \newpage
2179 }
2180 \setlength{\acs@tocentry@height}{2in}
2181 \setlength{\acs@tocentry@width}{2in}
2182 </jpclcd>
2183 <*jprobs>
2184 \ProvidesFile{achemso-jprobs.cfg}
2185 [2016/05/10 v3.10c achemso configuration: J. Proteome Res.]
2186 \setkeys{acs}{
2187   articletitle = true,
2188   keywords     = true
2189 }
2190 \def\acs@type@list{article, review, suppinfo}
2191 \SectionNumbersOff
2192 </jprobs>

```

```

2193 {*langd5}
2194 \ProvidesFile{achemso-langd5.cfg}
2195 [2016/05/10 v3.10c achemso configuration: Langmuir]
2196 \def\acs@type@list{article,letter,suppinfo}
2197 \setkeys{acs}{articletitle = true}
2198 \SectionNumbersOff
2199 </langd5>
2200 {*mamobx}
2201 \ProvidesFile{achemso-mamobx.cfg}
2202 [2016/05/10 v3.10c achemso configuration: Macromolecules]
2203 \SectionNumbersOff
2204 </mamobx>
2205 {*mpohbp}
2206 \ProvidesFile{achemso-mpohbp.cfg}
2207 [2016/05/10 v3.10c achemso configuration: Mol. Pharm.]
2208 \setkeys{acs}{
2209   articletitle = true,
2210   keywords      = true
2211 }
2212 \def\acs@type@list{article,suppinfo}
2213 \SectionNumbersOff
2214 </mpohbp>
2215 {*nalefd}
2216 \ProvidesFile{achemso-nalefd.cfg}
2217 [2016/05/10 v3.10c achemso configuration: Nano Lett.]
2218 \setkeys{acs}{keywords = true}
2219 \def\acs@type@default{letter}
2220 \def\acs@type@list{letter}
2221 \SectionNumbersOff
2222 </nalefd>
2223 {*orlef7}
2224 \ProvidesFile{achemso-orlef7.cfg}
2225 [2016/05/10 v3.10c achemso configuration: Org. Lett.]
2226 \def\acs@type@default{letter}
2227 \def\acs@type@list{letter}
2228 \SectionsOff
2229 \setkeys{acs}{layout = twocolumn}
2230 \RequirePackage{xcolor}
2231 \definecolor{orglett}{RGB}{128,0,0}
2232 </orlef7>
2233 {*oprdfk}
2234 \ProvidesFile{achemso-oprdfk.cfg}
2235 [2016/05/10 v3.10c achemso configuration: Org. Proc. Res. Dev.]
2236 \def\acs@type@list{article,highlight,review,suppinfo}
2237 \SectionNumbersOff
2238 </oprdfk>
2239 {*orgnd7}
2240 \ProvidesFile{achemso-orgnd7.cfg}
2241 [2016/05/10 v3.10c achemso configuration: Organometallics]
2242 \SectionNumbersOff
2243 \setkeys{acs}{articletitle = true}
2244 </orgnd7>

```

9 Change History

v1.0	General: Initial release of package by Mats Dahlgren	1	v3.5	Require cleveref, dropping varioref use	1
v2.0	General: Re-write of package by Joseph Wright	1	v3.5a	General: New BiBTeX style file	1
v3.0	General:	1	v3.5a	General: Modify JACS Communication to print abstract	1
v3.1	General:	1	v3.5c	General: Bug fix for \mciteSubRef macro	1
	Added \alsoaffiliation macro	1		Update Org. Lett. style	1
v3.10	General: Add starred (subs)sections to TOC	1	v3.6	General: Drop cleverref use	1
	Update address printing to reflect new ACS style	1	v3.7	General: New chaptertitle option for bibliography	1
v3.10a	General: Add article titles for <i>Chem. Mater.</i> and <i>Chem. Rev.</i>	1		Rename usetitle option to articletitle	1
v3.10b	\acs@tocentry@text: Define \acs@tocentry@text in all cases	36	v3.8	General: Extend journal list to current ACS range	1
v3.10c	General: Add support for ACS <i>Omega</i> and <i>ACS Energy Lett.</i> ...	1		Introduce \latin command to support ACS Nano requirements	1
v3.2	General:	1	v3.8a	General: Minor style improvements for some journals	1
	..	1	v3.8b	General: Improve output ordering for <i>J. Phys. Chem. Lett.</i>	1
	New tocentry section	1	v3.8c	General: Improve ACS Photonics style	1
v3.2b	General: New email option	1	v3.8d	General: Fix bug in keyword printing	1
v3.2c	General: Added \fax macro	1	v3.8e	General: Minor style changes for <i>J. Med. Chem.</i> and <i>ACS Appl. Mater.</i>	1
	Added \phone macro	1	v3.8g	General: Fix issue with <i>J. Phys. Chem.</i> formatting	1
	Fix so that email option is turned on by default	1	v3.8i	General: Fix issue with <i>Chem. Res. Toxicol.</i> formatting	1
v3.3	General: \altaffiliation macro checks for duplicate entries and uses only one footnote	1	v3.8j	General: Remove <i>Biotechnol. Prog.</i> configuration	1
	New layout option	1		Update article title requirements for all journals	1
v3.3a	General: New etalmode option ...	1			
v3.4	General: More detail on installation	1			

Update keyword requirements for all journals	v3.8n	1	General: Drop use of keywords for <i>J. Phys. Chem. A, B and C</i>	55
General: Format date correctly for in press bibliography entries	v3.8k	1	General: New doi option	1
General: Fix printing of phone/fax numbers	v3.8l	1	General: Update style for ACS <i>Central Sci.</i>	1
General: <i>J. Phys. Chem. Lett.</i> uses a non-standard size for the TOC graphic	v3.8m	56	\citemumfont: Allow for setting super after loading	41
			General: Update <i>J. Agric. Food Chem.</i> style	1

10 Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

Symbols				
\!	1552	\@firstoftwo	\@mkboth	1951
\#	833, 1775	\@floatboxreset . . .	\@namedef	144
\.	1550, 1554	\@nameuse	38, 103, 117, 688, 738, 819, 863, 873, 903, 923, 987, 993
\?	1551	\@fnsymbol		
\@Esphack	1161	611, 664, 879, 880, 896		
\@abbreviations		\@for	\@ne	343, 346, 370, 400, 418, 423, 439, 481, 507, 684, 702, 723, 745, 755, 848, 860, 861, 867, 868, 883, 887, 890, 899, 910, 919, 942, 945, 946, 981, 1784, 1786
\@address@i	853	\@gobble		
\@affil@i	889	\@gobbletwo	\@ifclassloaded	10
\@afterindentfalse		\@ifpackageloaded		
	1060, 1071	1478, 1572		
\@afterindenttrue		\@ifstar	\@ifstar	1063, 1074, 1078
	1059, 1070	148, 451		
\@arabic	1410, 1411, 1412	\@ifundefined		
\@auxout	284	\@ignorefalse	\@ignorefalse	1163
\@bsphack	174, 1151	\@ixpt		
\@checkend	1211	1285, 1369, 1924, 1927, 1933	\@nil	1492, 1494, 1529, 1542
\@citex	223, 224, 1559, 1560	\@keywords	\@oddfoot	1953, 1960, 1963
\@currenvir		\@listI	\@oddhead	1952, 1975, 1976
	1160, 1192, 1197, 1199, 1335, 1348	1372, 1386	\@onelevel@sanitize	192
\@dblarg	1063, 1064	\@listi	\@onlypreamble	
\@empty	332, 557, 564, 658, 675, 694, 962, 965, 971, 985, 1002, 1209, 1538, 1952, 1959	1063, 1554		
\@esphack	206, 210	1372, 1386		
\@evenfoot	1960, 1969			
\@evenhead	1959, 1976			
\@firstofone	123, 127			

..... 1230, 1248
 \@roman 344, 347, 371,
 374, 377, 403,
 424, 426, 441,
 444, 447, 451,
 452, 455, 457,
 478, 482, 484,
 510, 521, 530,
 539, 688, 716,
 734, 738, 746,
 765, 771, 782,
 788, 863, 869,
 873, 903, 911,
 923, 944, 951,
 983, 984, 987, 993
 \@secondoftwo
 . 30, 395, 503, 1492
 \@secpenalty . 1062, 1073
 \@sect 1063, 1064
 \@setfontsize
 1285, 1369, 1382,
 1385, 1924, 1927,
 1930, 1933, 1936,
 1939, 1942, 1945
 \@ssect 1074, 1075
 \@startsection 1055,
 1066, 1090, 1094,
 1113, 1262, 2008
 \@tempa 190, 191, 192,
 194, 198, 203,
 262, 268, 271,
 274, 278, 279,
 388, 404, 414,
 467, 494, 511,
 770, 772, 960,
 962, 963, 966,
 967, 971, 973,
 978, 985, 986,
 990, 991, 1002,
 1003, 1004, 1159,
 1160, 1291, 1292,
 1334, 1335, 1347,
 1348, 1420, 1421,
 1424, 1425, 1438,
 1440, 1452, 1453
 \@tempb 402, 404, 509,
 511, 960, 963,
 965, 967, 1439, 1440
 \@tempcpta 390,
 400, 403, 407,
 415, 427, 440,
 453, 458, 468,
 472, 479, 496,
 507, 510, 514,
 677, 684, 688,
 697, 703, 710,
 716, 734, 738,
 747, 765, 771,
 782, 788, 857,
 859, 860, 863,
 865, 866, 867,
 869, 873, 881,
 890, 899, 900,
 903, 905, 919,
 920, 930, 942,
 943, 944, 951,
 979, 981, 982,
 983, 984, 987, 993
 \@tempcntb . 416, 423,
 424, 426, 430,
 469, 882, 910,
 911, 914, 923,
 931, 933, 945, 946
 \@tempkipa
 1058, 1060, 1062,
 1069, 1071, 1073
 \@tempswafalse
 . 389, 495, 1290
 \@tempswatrue
 . 405, 512, 1293
 \@thanks 655,
 658, 661, 662, 675
 \@title 329, 613
 \@viiipt 1285, 1933, 1936
 \@xiipt . 1382, 1385, 1945
 \@xipt 1366, 1927
 \@xpt ... 1382, 1385, 1924
 \\ 650
 \{ 185
 \} 186
 \^ 197
 \| 831, 1773
 \u 1880
 A
 \abbreviations 546
 \abovecaptionskip 1377
 \abovedisplayshortskip 1374, 1388
 \abovedisplayskip .
 1373,
 1376, 1387, 1390
 \abstract 1138, 1173, 1178
 abstract (environment) 1912
 \abstractname
 .. 1622, 2076, 2082
 \AbstractOff 5,
 1172, 1311, 1840,
 1895, 2086, 2110
 \AbstractOn 5, 1172, 2084
 acknowledgement (environment)
 . 5, 1118, 1319
 \acknowledgementname
 1119, 1130,
 1339, 1341, 2077
 \acksize 1337,
 1364, 1923, 2012
 \acs@abbreviations@print
 . 556, 1014
 \acs@abstract
 . 1137, 1178, 2080
 \acs@abstract@end
 . 1137, 1174
 \acs@abstract@extras
 . 1009, 2173
 \acs@abstract@iffalse
 . 1137
 \acs@abstract@print 1227
 \acs@abstract@start
 . 1137, 1173
 \acs@abstract@text
 . 1228, 1242
 \acs@activate@biblabel
 . 108
 \acs@address@list
 . 631, 839
 \acs@address@list@auxi
 . 839
 \acs@address@list@auxii
 . 839
 \acs@affil@alt@cnt
 . 337,
 481, 482, 485,
 497, 514, 726,
 754, 849, 886, 893
 \acs@affil@alt@list
 . 894, 909
 \acs@affil@alt@lista@aux
 . 909
 \acs@affil@cnt
 . 337, 346,
 349, 370, 371,
 374, 377, 407,
 418, 425, 439,
 440, 441, 444,
 447, 723, 745,

789, 840, 848,
 859, 866, 883, 905
 \backslash acs@affil@ifdup
 367, 386, 436
 \backslash acs@affil@ifdup@aux
 386, 417, 470
 \backslash acs@affil@list 877
 \backslash acs@affil@list@aux 877
 \backslash acs@affil@marker@cnt
 340, 746, 748,
 751, 755, 756,
 759, 772, 773,
 777, 787, 789,
 790, 794, 858,
 861, 862, 868,
 872, 887, 888,
 889, 900, 901,
 902, 920, 921, 922
 \backslash acs@affil@swap 368, 412
 \backslash acs@affil@swap@aux 412
 \backslash acs@alsoaffil@find 434
 \backslash acs@altaffil@foot@aux
 912, 918
 \backslash acs@altaffil@ifdup
 477, 493
 \backslash acs@altaffil@ifdup@aux
 493
 \backslash acs@author@affil
 691, 732
 \backslash acs@author@affil@also
 692, 764
 \backslash acs@author@affil@also@aux
 764
 \backslash acs@author@affil@alt
 693, 781
 \backslash acs@author@affil@alt@aux
 781
 \backslash acs@author@affil@aux
 732
 \backslash acs@author@cnt
 337, 343,
 344, 348, 366,
 430, 435, 451,
 452, 455, 457,
 475, 478, 484,
 520, 521, 529,
 530, 538, 539,
 599, 678, 697,
 702, 703, 709,
 710, 914, 943, 982
 \backslash acs@author@fnssymbol
 611, 664,
 722, 751, 759,

777, 794, 797,
 862, 872, 880, 1764
 \backslash acs@author@fnssymbol@aux
 797
 \backslash acs@author@fnssymbol@loop
 797
 \backslash acs@author@fnssymbol@loop@aux
 797
 \backslash acs@author@fnssymbol@loop@aux@ii
 1198, 1201, 1216
 \backslash acs@author@fnssymbol@loop@aux@cm
 1183, 1194
 \backslash acs@author@fnssymbol@loop@aux@Q
 1182, 1187, 1188,
 1191, 1194, 1225
 \backslash acs@author@fnssymbol@symbol
 797
 \backslash acs@author@footnotes
 682, 721, 749,
 750, 757, 758,
 774, 775, 791, 792
 \backslash acs@author@list 624, 676
 \backslash acs@author@list@and
 686, 701
 \backslash acs@author@list@comma
 689, 701
 \backslash acs@author@list@main
 679, 682
 \backslash acs@author@star 690, 715
 \backslash acs@author@star@aux 715
 \backslash acs@author@autonote
 213
 \backslash acs@bib@file
 201, 247,
 260, 261, 265, 288
 \backslash acs@author@affil@alt
 247, 261
 \backslash acs@bib@message
 247, 260
 \backslash acs@bib@name
 247, 260
 \backslash acs@bib@write
 253
 \backslash acs@bib@write@aux
 253
 \backslash acs@biblabel@brackets
 129
 \backslash acs@biblabel@fullstop
 129
 \backslash acs@biblabel@period
 129
 \backslash acs@biblabel@plain
 129
 \backslash acs@bibliography
 168, 291
 \backslash acs@bibliographystyle
 1469
 \backslash acs@bibstyle
 1462, 1473
 \backslash acs@collect
 1123,
 1186, 1282, 1362
 \backslash acs@collect@aux
 1186

\backslash acs@collect@begins
 1184, 1195,
 1205, 1207, 1209
 \backslash acs@collect@begins@
 1186
 \backslash acs@collect@body
 1186
 \backslash acs@collect@content
 1182, 1182, 1190,
 1198, 1201, 1216
 \backslash acs@collect@empty@toks
 1183
 \backslash acs@collect@toks
 1183
 \backslash acs@contact@details
 639, 671, 1985
 \backslash acs@email@list
 672, 926, 1986
 \backslash acs@email@list@aux 926
 \backslash acs@email@list@font 926
 \backslash acs@endabstract
 1137, 1179
 \backslash acs@etal@firstonly
 96
 \backslash acs@etal@truncate
 96
 \backslash acs@etal@truncatefalse
 \backslash acs@etal@truncatetrue
 107
 \backslash acs@floatboxreset
 1041
 \backslash acs@fnssymbol@org
 877
 \backslash acs@footnote@cnt
 106

..... 340, 615,
 748, 756, 773,
 790, 858, 888,
 901, 921, 1784, 1786
 \backslash acs@iffalse
 1171
 \backslash acs@ifundefined
 24, 35,
 98, 112, 716, 733,
 765, 782, 869,
 911, 944, 983, 984
 \backslash acs@journal
 80, 1392, 1394
 \backslash acs@keyval@bool
 34, 51, 54, 57, 60,
 63, 66, 69, 72, 75, 78
 \backslash acs@keywords@print
 556, 1018, 2177
 \backslash acs@killabstract
 1311
 \backslash acs@killsecs
 1312
 \backslash acs@layout
 80, 1421, 1425
 \backslash acs@layout@nine
 1366, 1911

```

\acs@layout@shared           1133, 1234, 1263,          1279, 1281, 1679,
    .. 1319, 1422, 1426       1341, 1351, 1831          1857, 2071, 2181
\acs@layout@ten .. 1366     \acs@sections@none          \acs@type@check ...
\acs@maketitle@extras       ..... 1077,               ..... 1287, 1399
    .. 1022, 1988            1098, 1099, 1100
\acs@maketitle@extras@hook \acs@sections@none@aux      \acs@type@default ...
\acs@maketitle@extras@hook .. 1022, 1759, 1816       ..... 1077
\acs@maketitle@sppinfo     \acs@setkeys ..... 1310
    .. 613, 648              \acs@space@post@address
\acs@maketitle@width        .. 575, 634, 1979
    .. 575, 606, 1984       \acs@space@post@author
\acs@manuscript ...         .. 575, 627, 1979
    .. 80, 649, 1292,       \acs@space@post@email
    1298, 1301, 1400,       .. 575, 642, 1979
    1403, 1407, 1720,       \acs@space@post@title
    1839, 1853, 1894,       .. 575, 619, 1979
    1903, 2085, 2109       \acs@space@pre@title
\acs@manuscript@communication .. 575, 604, 1979
    .. 138,                 \acs@startsection .
    1839, 1853, 1894,       .. 1056, 1094
    1903, 2085, 2109       \acs@startsection@alt
\acs@manuscript@letter       .. 1067, 1090
    .. 138, 1720            \acs@startsection@orig
\acs@manuscript@note         .. 1048, 1113, 1262
    .. 138, 1400            \acs@subsection ...
\acs@manuscript@review       .. 1048, 1105
    .. 138, 1403            \acs@subsubsection
\acs@manuscript@sppinfo     .. 1048, 1106
    .. 138, 649, 1407       \acs@sppinfo@aux .
\acs@maxauthors . 80, 278   .. 1349, 1357
\acs@niib@after@text        \acs@sppinfo@print
    .. 154,                 .. 1123,
    162, 172, 207, 211      1125, 1362, 2099
\acs@niib@create ...         \acs@table ..... 2000
    .. 143, 313, 1479       \acs@title@footnote
\acs@niib@no@write          .. 612, 653
    .. 178, 209             \acs@title@footnote@check
\acs@niib@text ...           .. 614, 653
    .. 155, 163, 173       \acs@title@short 329, 572
\acs@niib@write 176, 181    \acs@title@short@print
\acs@niib@write@aux@ii       .. 556, 1761, 1818
    .. 181                 \acs@tocentry@height
\acs@niib@write@aux@ii       .. 1270,
    .. 181                 1278, 1280, 1678,
\acs@nmv@activate . 213     1856, 2070, 2180
\acs@number@list 673, 957   \acs@tocentry@print
\acs@number@list@aux@ii      .. 1244, 1282, 2170
    .. 957                 \acs@tocentry@print@aux
\acs@number@list@aux@ii      .. 1244, 2175
    .. 957                 \acs@tocentry@text
\acs@par 1317, 1344, 1354   .. 1244, 2171
\acs@section .. 1048,       \acs@tocentry@width
    1104, 1119, 1122,       .. 1271,

```

```

\AtBeginDocument . . .
    .... 213, 258, 291, 297, 328, 1047, 1320, 1413, 1477, 1583, 2006
\AtEndDocument . . .
    .... 287, 1242, 1246
\AtEndOfClass . . .
    .... 122, 123, 1131, 1805
\AtEndOfPackage 126, 127
\author . . . . . 4, 342
\authorfont 591, 591, 622
\authorsize 587, 621, 1923

B
\begin . . . . . 605, 606, 607, 1206, 1219, 1267, 1270, 1834
\begingroup . . 26, 182, 345, 387, 413, 466, 476, 660, 663, 928, 958, 1109, 1112, 1141, 1196, 1261, 1419, 1489, 1510, 2174
\belowdisplayshortskip . . . . . 1375, 1389
\belowdisplayskip . . . . . 1376, 1390
\bfseries . . . . . 594, 2012
\bibfont . . . . . 2015
\bibhang . . . . . 2016
biblabel (option) . . . . . 7
\bibliography . . . . . 291
\bibliographystyle
    .. . . . . . 1465, 1467, 1469
\bibnote . . . . . 7, 143, 143, 232, 243
\bibnotemark . . . . . 7, 143
\bibnotetext . . . . . 7, 143
\bibnumfmt . . . . . 129, 130, 131, 132, 1416
\bibsection . . . . .
    .. . . . . . 1130, 1831, 2007
\bibsep . . . . . 2017
biochem (option) . . . . . 7
biochemistry (option) . . . . . 7
\bot . . . . . 832, 1774

C
\c@figure . . . . . 1410
\c@footnote . . . . . 615
\c@scheme . . . . . 1411

\c@table . . . . . 1412
\capsize . . . . . 1923, 2003
\captionfont . . . . . 1948
\captionsetup . . . . . 1993, 1999, 2095, 2127, 2140, 2153, 2168
\catcode . . . . . 185, 186, 197, 1142, 1143, 1144, 1145, 1152, 1153, 1490
\centering . . . . . 1043
\changes . . . . . 1690, 1880
chaptertitle (option) . . . . . 6
chart (environment) . . . . . 5, 1028
\chartname . . . . . 1034
\citation . . . . . 285
\cite . . . . . 154, 159, 225, 226, 237, 238, 1557
\citemum . . . . . 232, 243
\citemumfont . . . . . 1415, 1430
\ClassWarning . . . . . 5
\closeout . . . . . 288
\columnsep . . . . . 1331
\csname . . . . .
    27, 344, 347, 371, 374, 377, 403, 424, 426, 441, 444, 447, 452, 455, 457, 478, 482, 484, 510, 521, 530, 539, 734, 746, 771, 788, 951, 1197, 1199
\def . . . . . 1992
\dagger . . . . . 827, 1767
\ddagger . . . . . 828, 1768
\DeclareCaptionLabelSeparator . . . . .
\DeclareRobustCommand . . . . .
\def . . . . . 152, 157, 161
\else . . . . . 85, 88, 91, 94, 129, 130, 131, 132, 149, 154, 190, 191, 194, 214, 293, 342, 353, 359, 388, 401, 414, 467, 494, 508, 597, 685, 821, 929, 978, 980, 1042, 1132, 1159, 1195, 1204, 1219, 1228, 1304, 1314, 1315,
\edef . . . . . 262, 986, 990, 1190, 1198, 1205, 1452, 1456
\else . . . . . 29, 177, 217, 269, 272, 276, 280, 324, 376, 381, 394, 406, 446, 461, 488, 502, 513, 523, 532, 541, 557, 564, 659, 678, 694, 702, 725, 753, 805, 814, 816, 842, 852,

```

885, 943, 964,	\expandafter 26, 27, 28,	1016, 1020, 1057,
965, 971, 982,	30, 176, 178, 193,	1060, 1062, 1068,
989, 1002, 1061,	194, 216, 218,	1071, 1073, 1154,
1072, 1166, 1213,	255, 323, 325,	1165, 1168, 1215,
1220, 1231, 1238,	344, 347, 371,	1222, 1233, 1240,
1249, 1255, 1296,	374, 377, 401,	1251, 1257, 1294,
1340, 1350, 1433,	402, 405, 408,	1302, 1307, 1342,
1443, 1455, 1466,	424, 426, 431,	1352, 1402, 1406,
1500, 1525, 1542,	441, 444, 447,	1418, 1423, 1427,
1778, 1785, 1903	452, 455, 471,	1436, 1446, 1457,
\email	4, 519	1468, 1502, 1527,
email (option)	3	1528, 1541, 1544,
\emailfont 591, 637, 1949	503, 508, 509,	1556, 1575, 1722,
\emailsize 587, 636, 1923	512, 515, 521,	1780, 1787, 1842,
\emergencystretch 1323	530, 539, 639,	1855, 1897, 1905,
\emph 1690, 1703, 1880, 1917	661, 679, 698,	2088, 2092, 2112
\end	746, 770, 787,	\floatname
643, 644,	799, 804, 806,	.. 1029, 1031, 1033
645, 1154, 1192,	815, 841, 851,	\floatplacement ...
1204, 1206, 1214,	884, 894, 906, 1037, 1038
1220, 1272, 1274	915, 949, 950,	\floatstyle 1039, 1989,
\endabstract .. 1009,	954, 998, 1110,	1991, 2113, 2115
1140, 1174, 1179	1167, 1188, 1197,	\footnote
\endcsname	1199, 1207, 1221,	612
27, 344, 348, 371,	1225, 1293, 1349,	\footnotemark
374, 377, 403,	1473, 1499, 1501,	654
424, 426, 441,	1526, 1529, 1543,	\footnotesize
444, 447, 453,	1547, 1574, 1904	1947
456, 457, 479,	F	\footnotetext
483, 485, 510,	\fax	655, 889, 902, 922
521, 530, 539,	\fbox	\frenchspacing
734, 747, 771,	\fi . 31, 169, 179, 219,	623, 1547, 1548, 1555
788, 951, 1197, 1199	256, 269, 272,	\futurelet
\endgroup 26, 193, 350,	276, 280, 326,	1520
397, 420, 471,	334, 379, 383,	G
487, 666, 668,	396, 409, 410,	\g@addto@macro
939, 975, 1115,	429, 432, 449,	655, 1009, 1026,
1117, 1161, 1170,	463, 490, 499,	1027, 1763, 2128,
1210, 1275, 1428,	504, 516, 517,	2141, 2154, 2169
1495, 1517, 2176	525, 534, 543,	\gdef .. 330, 331, 344,
\endinput	561, 568, 601,	371, 374, 377,
15, 1904	640, 651, 669,	441, 444, 447,
\ensuremath .. 798, 1765	680, 696, 699,	482, 521, 530,
environments:	705, 706, 712,	539, 547, 552,
abstract .. 1912	713, 728, 729,	1146, 1158, 1245,
acknowledgement	761, 762, 807,	1491, 1494, 2171
.. 5, 1118, 1319	814, 816, 837,	\geometry
chart	844, 848, 849,	1324
graph	854, 891, 892,	\global .. 333, 343,
scheme	895, 907, 916,	370, 439, 481,
suppinfo 5, 1118, 1319	938, 948, 955,	615, 1163, 1225,
tocentry	969, 970, 974,	1228, 1512, 1786
\etalmode (option)	995, 999, 1006,	graph (environment) ..
\everypar ... 1061, 1072	 5, 1028
		\graphname
		1034
		H
		\hfil ... 1957, 1967, 1971

\hrule . . . 1913, 1920, 2013
I
\if@filesw 175, 254
\if@ignore 1162
\if@nobreak . . . 1061, 1072
\if@noskipsec . . . 1057, 1068
\if@restonecol . . . 1236, 1253
\if@tempswa 392, 500, 1296
\if@twocolumn 1229, 1247
\ifacs@abbreviations 41, 1013
\ifacs@articletitle 41, 269
\ifacs@biochem 41, 1463
\ifacs@chaptertitle 41, 272
\ifacs@doi 41, 276
\ifacs@email 41, 638
\ifacs@etal@truncate 96, 280
\ifacs@hyperref 41, 322
\ifacs@keywords 41, 1017
\ifacs@super 41, 1431
\ifcase 826, 1766
\ifdim 1060, 1071
\iffalse 1156, 1171
\IfFileExists 1449
\ifin@ 1454
\ifNAT@super 215, 1573
\ifnmv@cite 1496, 1498
\ifnum 166,
 366, 407, 424,
 430, 435, 475,
 497, 514, 520,
 529, 538, 599,
 678, 697, 702,
 703, 709, 710,
 723, 726, 745,
 754, 803, 814,
 816, 840, 847,
 848, 849, 859,
 866, 883, 886,
 893, 905, 914,
 933, 943, 946,
 982, 1305, 1525,
 1554, 1784, 2090
\ifx 27, 332,
 373, 404, 443,
 511, 557, 564,
 649, 658, 694,
 962, 965, 971,
 985, 1002, 1160,
1209, 1220, 1292,
1335, 1348, 1400,
1403, 1407, 1421,
1425, 1440, 1524,
1538, 1542, 1720,
1839, 1853, 1894,
1903, 2085, 2109
\ignorespaces 1164
\immediate 201, 260,
 261, 265, 284, 288
\in@ 1452
\input 1397
\InputIfFileExists 1392
\intextsep 1378
\itshape 591
J
\jobname 168, 252, 294
journal (option) 3
K
\keywords 546
L
\LARGE 590
\large 588
\lastskip 1508
\latin 6, 297, 1703
layout (option) 3
\leavevmode
 1057, 1068, 1507
\let 122, 123,
 126, 127, 162,
 183, 223, 224,
 225, 237, 292,
 333, 596, 611,
 612, 664, 675,
 879, 880, 896,
 960, 963, 1041,
 1047, 1049, 1051,
 1053, 1055, 1066,
 1090, 1094, 1098,
 1099, 1100, 1104,
 1105, 1106, 1113,
 1138, 1140, 1154,
 1155, 1173, 1174,
 1178, 1179, 1197,
 1262, 1301, 1311,
 1312, 1318, 1336,
 1358, 1372, 1386,
 1470, 1523, 1533,
 1534, 1540, 1559,
 1560, 1561, 1947,
 1948, 1951, 1952,
1959, 1960, 1976,
1988, 2001, 2015
\LoadClass 4
\long 190, 1204,
 1219, 1228, 1368,
 1381, 1491, 1494
\loop 859, 866
M
\maketitle 1026,
 1027, 1763, 2128,
 2141, 2154, 2169
\MakeUppercase 1004
manuscript (option) 3
\mathchardef 1546, 1549
maxauthors (option) 6
\MessageBreak 12, 18,
 100, 114, 356, 362,
 737, 935, 1148,
 1298, 1394, 1578
N
\nabla 836, 1778
\natmovechars
 8, 1529, 1584
\newcommand 5, 22,
 25, 34, 80, 81, 82,
 83, 106, 107, 120,
 129, 130, 131, 132,
 138, 139, 140, 141,
 142, 143, 165, 172,
 173, 181, 189, 200,
 209, 222, 236,
 248, 252, 253,
 259, 365, 386,
 399, 412, 422,
 434, 465, 474,
 493, 506, 519,
 528, 537, 546,
 549, 551, 554,
 556, 563, 570,
 587, 588, 589,
 590, 591, 592,
 593, 594, 595,
 647, 648, 653,
 657, 671, 676,
 682, 683, 701,
 708, 715, 720,
 732, 744, 764,
 769, 781, 786,
 797, 802, 810,
 813, 818, 824,
 825, 839, 846,
 856, 877, 878,

898, 909, 918,
 926, 927, 941,
 957, 977, 1008,
 1012, 1022, 1025,
 1034, 1035, 1036,
 1046, 1048, 1050,
 1052, 1054, 1056,
 1067, 1077, 1084,
 1089, 1093, 1097,
 1103, 1125, 1130,
 1136, 1137, 1139,
 1171, 1172, 1177,
 1184, 1185, 1186,
 1203, 1218, 1224,
 1227, 1244, 1260,
 1277, 1283, 1284,
 1287, 1288, 1289,
 1310, 1313, 1317,
 1319, 1357, 1364,
 1365, 1366, 1380,
 1462, 1469, 1487,
 1488, 1497, 1504,
 1505, 1515, 1519,
 1522, 1532, 1536,
 1537, 1557, 1558,
 1571, 1584, 1703,
 1932, 1938, 2000
`\newcount` 337,
 338, 339, 340, 341
`\newcounter` 148
`\newenvironment` ...
 .. 1118, 1121, 1282
`\newfloat` 1028, 1030, 1032
`\newif` 41,
 42, 43, 44, 45, 46,
 47, 48, 49, 96, 1496
`\newlength` 575,
 577, 579, 581,
 583, 585, 1278, 1279
`\newpage` .. 602, 1232,
 1239, 1250, 1256,
 1763, 2128, 2141,
 2154, 2169, 2178
`\newtoks` 1182, 1183
`\newwrite` 247
`\nmv@activate` 1557, 1574
`\nmv@after`
 .. 1504, 1511, 1516
`\nmv@cite` 225, 229, 237,
 240, 1561, 1565, 1568
`\nmv@citefalse` 1512, 1567
`\nmv@citetrue` . 228, 1564
`\nmv@citex` 224, 1497, 1560
`\nmv@citex@end` 1515, 1523

`\nmv@citex@get@next` 1513,
 1519, 1534, 1540
`\nmv@citex@loop` ...
 1522, 1540
`\nmv@citex@moving` .
 1499, 1505
`\nmv@citex@nat` ...
 223, 1501, 1511, 1557
`\nmv@citex@next` 1519,
 1524, 1533, 1538
`\nmv@citex@punct` ...
 1520, 1522
`\nmv@citex@punct@aux` ...
 1529, 1537
`\nmv@citex@punct@undouble` ...
 1522
`\nmv@citex@sfac` ...
 1525, 1546
`\nmv@ifmtarg`
 227, 239, 1487, 1563
`\nmv@natbib@detect` ...
 213, 1571
`\nmv@xifmtarg` 1487
`\nobreak` 2013
`\nocite` ... 167, 231, 242
`\noexpand` . 664, 1113,
 1192, 1199, 1452
`\noindent` ... 1916, 2013
`\normalfont` 2012
`\normalsize` 587, 589,
 1364, 1365, 1368,
 1369, 1371, 1381,
 1382, 1384, 1385
`\null` 603
`\number` 799

O

`\onecolumn` .. 1230, 1248
`\openout` 260
 options:
 `articletitle` 6
 `biblabel` 7
 `biochem` 7
 `biochemistry` 7
 `chaptertitle` 6
 `doi` 6
 `email` 3
 `etalmode` 6
 `journal` 3
 `layout` 3
 `manuscript` 3
 `maxauthors` 6
 `super` 6

`\or` 826, 827, 828, 829,
 830, 831, 832,
 833, 834, 835,
 1766, 1767, 1768,
 1769, 1770, 1771,
 1772, 1773, 1774,
 1775, 1776, 1777

P

`\P` 829, 1772
`\p@` 1373, 1374,
 1375, 1377, 1378,
 1387, 1388, 1389
`\PackageInfo` 11, 17, 1577
`\PackageWarning` 22
`\pagestyle` ... 598, 1978
`\par` 560, 567, 573, 617,
 625, 632, 853,
 863, 873, 972,
 1015, 1019, 1058,
 1069, 1318, 1336,
 1358, 1760, 1817
`\parallel` 1770
`\parindent` 1332
`\perp` 1771
`\phone` 4, 528
`\plainref` ... 1046, 1459
`\printbibnotes` 143
`\ProcessOptionsX` .. 137
`\protected@edef` ...
 .. 721, 749, 757,
 774, 791, 966, 1003
`\providecommand` 298, 1451
`\ProvidesClass` 2
`\ProvidesFile` . 1587,
 1596, 1608, 1615,
 1625, 1637, 1647,
 1657, 1665, 1674,
 1682, 1692, 1707,
 1713, 1725, 1736,
 1749, 1791, 1801,
 1808, 1826, 1835,
 1846, 1860, 1867,
 1874, 1882, 1891,
 1900, 2021, 2031,
 2039, 2050, 2057,
 2065, 2074, 2107,
 2118, 2131, 2144,
 2157, 2184, 2194,
 2201, 2206, 2216,
 2224, 2234, 2240
`\ProvidesPackage` 8, 1484
`\ps@acs` 595, 1962
`\ps@jacs` 1950

```

\ps@plain .... 596, 1950 1410, 1411, 1412, 1650, 1660, 1668,
                                1415, 1416, 1442, 1684, 1694, 1716,
Q 1445, 1562, 2076, 1727, 1738, 1751,
\Q ..... 1490 2077, 2078, 2080, 1793, 1810, 1830,
\quad ..... 1992 2099, 2170, 2173 1837, 1843, 1848,
\quotation ..... 2081 \renewenvironment . 1862, 1869, 1876,
                                .. 1333, 1346, 1912 1884, 1906, 2023,
R \repeat ..... 864, 875 2033, 2041, 2052,
\ref ..... 1046 \RequirePackage . 33, 2060, 2067, 2121,
\refname ..... 1133, 1304, 1831, 314, 315, 323, 2134, 2147, 2159,
                2013, 2035, 2089 1432, 1434, 1448, 2186, 2197, 2208,
\refsize .... 1923, 2015 1450, 1486, 2230 2218, 2229, 2243
\relax 27, 162, 166, 185, \reset@font ..... \setlength . 576, 578,
                186, 197, 260, 580, 582, 584,
                288, 343, 365, 586, 1280, 1281,
                366, 370, 373, 1331, 1332, 1678,
                390, 400, 407, 1679, 1856, 1857,
                415, 416, 418, 1979, 1980, 1981,
                423, 425, 430, 1982, 1983, 1984,
                434, 435, 439, 2016, 2017, 2070,
                440, 443, 468, 2071, 2180, 2181
                469, 472, 475, \sf ..... 926
                481, 496, 497, \sfcodes ..... 1550,
                507, 514, 520, 1551, 1552, 1554
                529, 538, 599, \sffamily 592, 594, 672,
                677, 678, 684, 1265, 1915, 1949,
                697, 702, 703, 1955, 1965, 1972
                709, 710, 723, \singespacing 1266, 1320
                726, 745, 747, \skip@ ..... 1508
                748, 754, 755, \space . 203, 263, 268,
                756, 772, 773, 271, 274, 275,
                788, 789, 790, 278, 355, 361,
                881, 882, 883, 687, 704, 967, 1472
                886, 887, 888, \spacefactor ..... 1525
                890, 893, 899, \stepcounter ... 153, 158
                900, 901, 905, \string ..... 202, 203,
                910, 914, 919, 204, 266, 282,
                920, 921, 930, 285, 355, 361, 1472
                931, 933, 942, \subsection ..... .
                943, 945, 946, .. 1051, 1099, 1105
                979, 981, 982, \subsubsection ..... .
                1058, 1069, 1143, .. 1053, 1100, 1106
                1144, 1145, 1153, super (option) ..... 6
                1305, 1322, 1323, \suppinfo (environ-
                1336, 1358, 1373, ment) 5, 1118, 1319
                1374, 1375, 1376, \suppinfo name ..... .
                1377, 1378, 1387, .. 1122, 1130,
                1388, 1389, 1390, 1351, 1361, 2078
                1490, 1508, 1513, \suppsize 1359, 1364, 1923
                1524, 1533, 1546, \T
                1549, 1988, 2090 \table ..... 2000
\renewcommand ..... \tableofcontents . 1109
                .. 226, 238, 329,
```

\textbf{. . .}	<i>1339, 1361, 1917, 1956, 1966, 1973, 2082, 2100</i>	\tocentryname <i>1263, 1283</i>	W
\textit{. . .}	<i>1435, 1445</i>	\tocsize <i>.... 1264, 1284</i>	\write <i>. 201, 261, 265, 284</i>
. . .	<i>695</i>	\today <i>..... 1986</i>	
\textwidth <i>.....</i>	<i>586</i>	\toks@ <i>661, 665, 1110, 1114</i>	X
\thanks <i>.....</i>	<i>5, 353</i>	\tolerance <i>..... 1322</i>	\xdef <i>347, 426, 452, 455, 478, 484, 662, 1111</i>
\the <i>150, 166, 349, 427, 453, 458, 472, 479, 485, 665, 1114, 1188, 1191, 1225, 1305, 2090</i>		\triangle <i>.... 835, 1777</i>	
\thebibnote <i>.....</i>	<i>143</i>	\tw@ <i>..... 709</i>	
\thefigure <i>.....</i>	<i>1410</i>	\twocolumn <i>.....</i>	
\thepage <i>.....</i>	<i>1399, 1956, 1966, 1973</i>	U	\z@ <i>166, 366, 390, 415, 416, 435, 468, 469, 475, 496, 497, 520, 529, 538, 599, 677, 678, 722, 726, 754, 840, 849, 850, 857, 865, 881, 882, 886, 893, 930, 931, 933, 979, 1060, 1071, 1305, 1374, 1388, 2011, 2090</i>
\thescheme <i>.....</i>	<i>1411</i>		
\thetable <i>.....</i>	<i>1412</i>	\unskip <i>..... 1509</i>	
\title <i>.....</i>	<i>5, 329</i>	\url <i>.... 949, 1128, 2103</i>	
\titlefont <i>....</i>	<i>591, 609</i>	\UrlFont <i>..... 929</i>	
\titlesize <i>587, 610, 1923</i>		V	
tocentry (environment) <i>.... 6, 1282</i>		\value <i>150, 166, 1305, 2090</i>	
		\vbox <i>..... 1271</i>	
		\vspace <i>.... 604, 619, 627, 634, 642,</i>	
		<i>1338, 1360, 1914, 1919, 1921, 2013</i>	
			Z

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