

achemso — Support for submissions to American Chemical Society journals*

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Abstract

The `achemso` bundle provides a \LaTeX class file and \BibTeX 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

Support for \BibTeX 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 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.

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¹For example, when writing a thesis.

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
- setspace
- xkeyval

These are normally present in the current major T_EX 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.

<i>Journal</i>	<i>Setting</i>	<i>Journal</i>	<i>Setting</i>
<i>Acc. Chem. Res.</i>	achre4	<i>Chem. Res. Toxicol.</i>	crtoec
<i>ACS Appl. Energy Mater.</i>	aaemcq	<i>Chem. Rev.</i>	chreay
<i>ACS Appl. Electron. Mater.</i>	aaembp	<i>Cryst. Growth Des.</i>	cgdefu
<i>ACS Appl. Mater. Interfaces</i>	aamick	<i>Energy Fuels</i>	enfuem
<i>ACS Appl. Nano Mater.</i>	aanmf6	<i>Environ. Sci. Technol.</i>	esthag
<i>ACS Appl. Polym. Mater.</i>	aapmcd	<i>Environ. Sci. Technol. Lett.</i>	estlcu
<i>ACS Biomater. Sci. Eng.</i>	abseba	<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 Chem. Biol.</i>	acbcct	<i>J. Chem. Ed.</i>	jceda8
<i>ACS Chem. Neurosci.</i>	acncdm	<i>J. Chem. Eng. Data</i>	jceaax
<i>ACS Combinatorial Sci.</i>	acsccc	<i>J. Chem. Inf. Model.</i>	jcisd8
<i>ACS Earth Space Chem.</i>	aesccq	<i>J. Chem. Theory Comput.</i>	jctcce
<i>ACS Energy Lett.</i>	aelccp	<i>J. Med. Chem.</i>	jmcmar
<i>ACS Infect. Dis.</i>	ascejf	<i>J. Nat. Prod.</i>	jnprdf
<i>ACS Macro Lett.</i>	amlccd	<i>J. Org. Chem.</i>	joceah
<i>ACS Med. Chem. Lett.</i>	amclct	<i>J. Phys. Chem. A</i>	jpcafh
<i>ACS Nano</i>	ancac3	<i>J. Phys. Chem. B</i>	jpcbfb
<i>ACS Omega</i>	acsodf	<i>J. Phys. Chem. C</i>	jpccck
<i>ACS Photon.</i>	apchd5	<i>J. Phys. Chem. Lett.</i>	jpclcd
<i>ACS Sensors</i>	ascejf	<i>J. Proteome Res.</i>	jprobs
<i>ACS Sustainable Chem. Eng.</i>	ascecg	<i>J. Am. Chem. Soc.</i>	jacsat
<i>ACS Synth. Biol.</i>	asbcd6	<i>Langmuir</i>	langd5
<i>Anal. Chem.</i>	ancham	<i>Macromolecules</i>	mamobx
<i>Biochemistry</i>	bichaw	<i>Mol. Pharm.</i>	mpohbp
<i>Bioconjugate Chem.</i>	bcches	<i>Nano Lett.</i>	nalefd
<i>Biomacromolecules</i>	bomaf6	<i>Org. Lett.</i>	orlef7
<i>Chem. Mater.</i>	cmatex	<i>Organometallics</i>	orgnd7

Table 1: Values for journal option

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 ?? . 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 `suppinfo` 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 = false}
```

4.2 Manuscript meta-data

`\author` Inspired by REVTeX, 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}
```

²This will usually be the university or company name.

if required.

`\fax` The class will recognise the optional information `\fax` and `\phone`, which
`\phone` 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 wwwwww}  
\affiliation[University of Sometown]  
    {University of Somewhere, Sometown, USA}
```

`\and` The method used for setting the meta-data means that the normal `\and` and
`\thanks` `\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 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` The class defines three new floating environments: `scheme`, `chart` and `graph`.
`chart` These can be used as expected to include graphical content. The placement of
`graph` 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` Some journals have no section numbering by default. This can be set up in
`\SectionNumbersOn` 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.

`\SectionsOff` More radically, the entire availability of sections can be turned on and
`\SectionsOn` of. This is functionality is available to the user *via* the `\SectionsOn` and
`\AbstractOff` `\SectionsOff` macros, which again are preamble-only. Similar functions are
`\AbstractOn` available for the abstract: `\AbstractOff` and `\AbstractOn`.

4.5 Special sections

`acknowledgement` The sections for acknowledgements and supporting information have dedicated
`suppinfo` environments available. These ensure that the section headings are generated, and that the text is sized corrected 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.

`\doi`

The bibliography style prints any DOI values as the argument to the command `\doi`. The default definition will allow printing of special characters but does not create hyperlinks. A more sophisticated version of the command may be set up if `hyperref` is loaded, for example

```
\begin{tocentry}
  \newcommand{\doi}[1]{\href{http://dx.doi.org/#1}{\nolinkurl{#1}}}
\end{tocentry}
```

5 The package file

The `achemso` package is independent of the class 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=true`.

`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.’
`maxauthors` in the references section. The behaviour of the BibTeX 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 L^AT_EX macros. The `biblabel` option makes these changes more accessible: valid values are `plain` (use the number only), `brackets` (surround the number in brackets) and `period` or `fullstop` (follow the number by a full stop/period).

`biochem` Most ACS journals use the same bibliography style, with the only variation
`biochemistry` 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.

5.2 Bibliography notes

`\bibnote` achemso provides the `\bibnote` macro. This is intended for addition of notes
`\bibnotemark` to the bibliography (references). The macro accepts a single argument, which is
`\bibnotetext` 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.

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 \citenum{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 to 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*`:

Some text[?], more text.?

```
\renewcommand*\natmovechars{.}
Some text \cite{Coghill2006},
more text \cite{Coghill2006}.
```

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 [2018/09/15 v3.12 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 [2018/09/15 v3.12 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 \endpackage
```

8.3 Common code

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

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

```
\ifacs@articletitle
\ifacs@biochem
\ifacs@chaptertitle
\ifacs@doi
\ifacs@email
\ifacs@hyperref
\ifacs@keywords
\ifacs@super
41 \newif\ifacs@abbreviations
42 \newif\ifacs@articletitle
43 \newif\ifacs@biochem
44 \newif\ifacs@doi
45 \newif\ifacs@chaptertitle
46 \newif\ifacs@email
47 \newif\ifacs@hyperref
48 \newif\ifacs@keywords
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 }
```

```

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 80 \newcommand*\acs@journal{jacsat}
\acs@manuscript 81 \newcommand*\acs@layout{traditional}
\acs@maxauthors 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 The setup for the etalmode option is quite simple: just look for the appropriate macros.

```

\acs@etal@firstonly
\acs@etal@truncate 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     \@nameuse{acs@etal@#1}%
104   }%
105 }
106 \newcommand*\acs@etal@firstonly{\acs@etal@truncatefalse}
107 \newcommand*\acs@etal@truncate{\acs@etal@truncatefalse}

```

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

```

`\acs@biblabel@brackets` The macros to implement the idea above for biblabels.

```

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

```

`\acs@manuscript@communication` For text comparisons.

```

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

```

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

```

\acs@niib@create 143 \newcommand*{\acs@niib@create}{%
\printbibnotes

```

```

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 ϵ -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@files
176     \expandafter\acs@niib@write
177     \else
178     \expandafter\acs@niib@no@write
179     \fi
180 }

```

\acs@niib@write Writing verbatim without ϵ -TeX.

```

\acs@niib@write@aux@i 181 \newcommand*\acs@niib@write[1]{%
\acs@niib@write@aux@ii 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.~\citenum{##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.~\citenum{##2}, ##1}%
244     }%
245 }%
246 }

\acs@bib@file Some information or creating the control file for BibTeX is set up.
\acs@bib@message 247 \newwrite\acs@bib@file
\acs@bib@name 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 The control information for BibTeX needs to be written to a special file. The
\acs@bib@write@aux 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                 \ifacs@articletitle yes\else no\fi
270             }%
271             \@tempa{ctrl-chapter-title\space}{%
272                 \ifacs@chaptertitle yes\else no\fi
273             }%
274             \@tempa{ctrl-doi\space\space\space\space\space\space\space\space
275                 \space\space\space\space}{%
276                 \ifacs@doi yes\else no\fi
277             }%
278             \@tempa{ctrl-etal-number\space\space\space}{\acs@maxauthors}%
279             \@tempa{ctrl-etal-firstonly}{%
280                 \ifacs@etal@truncate no\else yes\fi
281             }%
282             \string}^^J%
283         }%
284     \immediate\write\@auxout{%
285         \string\citation\string{achemso-control\string}%
286     }%

```

```

287 \AtEndDocument{%
288 \immediate\closeout\acs@bib@file\relax
289 }%
290 }

```

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

```

\begin{document}
\begin{bibliography}
\AtBeginDocument{%
\let\acs@bibliography\empty
\def\bibliography#1{%
\acs@bibliography{acs-\jobname,#1}%
}%
}
\end{document}

```

`\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  = true,
305   biblabel      = brackets,
306   biochem       = false,
307   doi           = false,
308   etalmode      = firstlyonly,
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 REVTeX bundle provides a good model for the commands
\@title 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
\acs@affil@alt@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 the 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
402     \expandafter\@tempb\expandafter\expandafter\expandafter\expandafter
403     {\csname @address@\@roman\@tempcnta\endcsname}%
404   \ifx\@tempa\@tempb
405     \expandafter\@tempswatrue
406   \else
407     \ifnum\@tempcnta<\acs@affil@cnt\relax
408       \expandafter\expandafter\expandafter\acs@affil@ifdup@aux
409     \fi
410   \fi
411 }

```

`\acs@affil@swap` If the affiliation has already been given, then all of the authors need to be
`\acs@affil@swap@aux`

checked 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` To allow complex affiliations , two commands are needed. The first deals with
`\acs@alsoaffil@find` 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       \@tempcnta\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\@tempcnta}%
454   }{%
455     \expandafter\xdef\csname @author@alsoaffil@\@roman\acs@author@cnt
456       \endcsname{%
457       \csname @author@alsoaffil@\@roman\acs@author@cnt\endcsname
458       ,\the\@tempcnta
459     }%

```

```

460 }%
461 \else
462 \acs@warning{Affiliation with no author}%
463 \fi
464 }
465 \newcommand*\acs@alsoaffil@find[1]{%
466 \begingroup
467 \def\@tempa{#1}%
468 \@tempcnta\z@
469 \@tempcntb\z@
470 \acs@affil@ifdup@aux
471 \expandafter\endgroup
472 \expandafter\@tempcnta\the\@tempcnta\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\@tempcnta}%
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 appropriate name changes.

```

\acs@altaffil@ifdup@aux
493 \newcommand*\acs@altaffil@ifdup[1]{%
494 \def\@tempa{#1}%
495 \@tempswafalse
496 \@tempcnta\z@
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\@tempcnta\@ne\relax
508   \expandafter\expandafter\expandafter\def\expandafter\expandafter
509     \expandafter\@tempb\expandafter\expandafter\expandafter
510     {\csname @altaffil@\@roman\@tempcnta\endcsname}%
511   \ifx\@tempa\@tempb
512     \expandafter\@tempswatrue
513   \else
514     \ifnum\@tempcnta<\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 546 \newcommand*\abbreviations[1]{%
\keywords 547   \gdef\@abbreviations{#1}%
\@keywords 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 556 \newcommand*\acs@abbreviations@print{%
\acs@title@short@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 575 \newlength\acs@space@pre@title
\acs@space@post@author 576 \setlength\acs@space@pre@title{2em}
\acs@space@post@address 577 \newlength\acs@space@post@title
\acs@space@post@email 578 \setlength\acs@space@post@title{1.5em}
\acs@maketitle@width 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:\\
651   \fi
652 }

```

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

`\acs@title@footnote@check`

```

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 on the list. The result is stored as `\acs@author@listing`.

`\acs@author@list@main`

```

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\@tempcnta}{}%
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\@tempcnta\endcsname

```

```

735 }{%
736   \acs@warning{%
737     No affiliation given for author\MessageBreak
738     \@nameuse{@author@\@roman\@tempcnta}%
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       \@tempcnta\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 }

```

\acs@author@affil@also The “also” affiliations are generated by a loop as there may be more than one.

```

\acs@author@affil@also@aux 764 \newcommand*\acs@author@affil@also{%
765   \acs@ifundefined{@author@alsoaffil@\@roman\@tempcnta}{}{%
766     \acs@author@affil@also@aux
767   }%
768 }
769 \newcommand*\acs@author@affil@also@aux{%
770   \expandafter\@for\expandafter\@tempa\expandafter:\expandafter
771     =\csname @author@alsoaffil@\@roman\@tempcnta\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 }

```

\acs@author@affil@alt 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\@tempcnta}{}{%

```

```

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\@tempcnta\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 }

```

\acs@author@fnsymbol The ACS have an extended list of symbols. The star appears at the special position zero.

```

\acs@author@fnsymbol@aux
\acs@author@fnsymbol@loop 797 \newcommand*\acs@author@fnsymbol}[1]{%
\acs@author@fnsymbol@loop@aux@i 798 \ensuremath{%
\acs@author@fnsymbol@loop@aux@ii 799 \expandafter\acs@author@fnsymbol@aux\expandafter{\number#1 }%
\acs@author@fnsymbol@loop@aux@m 800 }%
\acs@author@fnsymbol@loop@aux@Q 801 }
\acs@author@fnsymbol@symbol 802 \newcommand*\acs@author@fnsymbol@aux}[1]{%
803 \ifnum#1>10 %
804 \expandafter\acs@author@fnsymbol@loop
805 \else
806 \expandafter\acs@author@fnsymbol@symbol
807 \fi
808 {#1}%
809 }
810 \newcommand*\acs@author@fnsymbol@loop}[1]{%
811 \acs@author@fnsymbol@loop@aux@i#1%
812 }
813 \newcommand*\acs@author@fnsymbol@loop@aux@i}[2]{%
814 \acs@author@fnsymbol@symbol{\ifnum#2=0 10\else #2\fi}%
815 \expandafter\acs@author@fnsymbol@loop@aux@ii\romannumeral #1000Q{}%
816 {\acs@author@fnsymbol@symbol{\ifnum#2=0 10\else #2\fi}}%
817 }
818 \newcommand*\acs@author@fnsymbol@loop@aux@ii}[1]{%
819 \@nameuse{acs@author@fnsymbol@loop@aux@#1}%
820 }
821 \def\acs@author@fnsymbol@loop@aux@m#1Q#2#3{%
822 \acs@author@fnsymbol@loop@aux@ii#1Q{#2#3}{#3}%
823 }
824 \newcommand*\acs@author@fnsymbol@loop@aux@Q}[2]{#1}
825 \newcommand*\acs@author@fnsymbol@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
`\acs@address@list@auxi` is only one, omit the marker entirely. There is also a need to watch out for any
`\acs@address@list@auxii` 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\@ne
861     \advance\acs@affil@marker@cnt\@ne
862     \acs@author@fnsymbol{\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\@ne
868     \advance\acs@affil@marker@cnt\@ne
869     \acs@ifundefined{@altaffil@\@roman\@tempcnta}
870     {}
871     {%
872       \acs@author@fnsymbol{\acs@affil@marker@cnt}%
873       \@nameuse{@altaffil@\@roman\@tempcnta}\par
874     }%
875   \repeat
876 }

```

`\acs@fnsymbol@org` Footnotes are done in two stages. First the main affiliation is handled, then the
`\acs@affil@list` possible alternative. There is a need to check for the possibility that there is only
`\acs@affil@list@aux` one main affiliation but one or more alternative ones.

```

877 \newcommand*\acs@fnsymbol@org{}
878 \newcommand*\acs@affil@list{%
879   \let\acs@fnsymbol@org\@fnsymbol

```

```

880 \let\@fnsymbol\acs@author@fnsymbol
881 \@tempcnta\z@ \relax
882 \@tempcntb\z@ \relax
883 \ifnum\acs@affil@cnt>\@ne \relax
884 \expandafter\acs@affil@list@aux
885 \else
886 \ifnum\acs@affil@alt@cnt>\z@ \relax
887 \acs@affil@marker@cnt\@ne \relax
888 \advance\acs@affil@marker@cnt\acs@footnote@cnt \relax
889 \footnotetext[\acs@affil@marker@cnt]{\@affil@i}%
890 \@tempcnta\@ne \relax
891 \fi
892 \fi
893 \ifnum\acs@affil@alt@cnt>\z@ \relax
894 \expandafter\acs@affil@alt@list
895 \fi
896 \let\@fnsymbol\acs@fnsymbol@org
897 }
898 \newcommand*\acs@affil@list@aux{%
899 \advance\@tempcnta\@ne \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 }

```

\acs@affil@alt@list The secondary loop for alternative affiliations is similar.
\acs@affil@alt@list@aux

```

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 The final piece of meta-data to print is the e-mail address list. The total number
\acs@email@list of e-mail addresses given it counted in \@tempcntb, which means a warning
\acs@email@list@aux 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   \begin{group}
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   \end{group}
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. Every-
\acs@number@list@aux@i thing is done in one block so that it is possible to know whether to add a new
\acs@number@list@aux@ii line and also to keep everything together.

```

957 \newcommand*\acs@number@list{%
958   \begin{group}
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   \end{group}
976 }

```

```

977 \newcommand*\acs@number@list@aux@i[1]{%
978   \def\@tempa{}%
979   \@tempcnta\z@\relax
980   \def\acs@number@list@aux@ii{%
981     \advance\@tempcnta\@ne\relax
982     \ifnum\@tempcnta>\acs@author@cnt\relax\else
983       \acs@ifundefined{@#1@\@roman\@tempcnta}{-}{%
984         \acs@ifundefined{@email@\@roman\@tempcnta}{-}{%
985           \ifx\@tempa\@empty
986             \edef\@tempa{%
987               \@nameuse{@#1@\@roman\@tempcnta}%
988             }%
989           \else
990             \edef\@tempa{%
991               \@tempa
992             };
993             \@nameuse{@#1@\@roman\@tempcnta}%
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 A couple of things might need to be added to \maketitle.
\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}

```

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

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

`scheme` Three new float types are provided, `scheme`, `chart` and `graph`. These are the most obvious types; for graphs, a slight problem arises with the file extension.

```
graph 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.

```
\chartname 1034 \newcommand*\schemename{Scheme}
\graphname 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}
```

`\acs@floatboxreset` Floats are all centred.

```
1041 \let\acs@floatboxreset\@floatboxreset
1042 \def\@floatboxreset{%
1043   \centering
1044   \acs@floatboxreset
1045 }
```

`\plainref` For legacy support.

```
\ref 1046 \newcommand*\plainref{}
      1047 \AtBeginDocument{\let\plainref\ref}
```

`\acs@section` Both the numbering and existence of section headers may need to be altered.

`\acs@subsection` Some generic functions are therefore provided to deal with this cleanly. First,

`\acs@subsubsection` some original definitions are saved.

```
\acs@startsection@orig 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
```

`\acs@startsection` A version of `\@startsection` which adds unnumbered sections to the TOC: modelled on `amsart`. This is active as standard.

```
1056 \newcommand\acs@startsection[6]{%
1057   \if@noskipsec \leavevmode \fi
1058   \par \@tempskipa #4\relax
```



```

1059 \@afterindenttrue
1060 \ifdim \@tempskipa <\z@ \@tempskipa -\@tempskipa \@afterindentfalse\fi
1061 \if@nobreak \everypar{}\else
1062     \addpenalty\@secpenalty\addvspace\@tempskipa\fi
1063 \@ifstar{\@dblarg{\@sect{#1}{\@m}{#3}{#4}{#5}{#6}}}%
1064     {\@dblarg{\@sect{#1}{#2}{#3}{#4}{#5}{#6}}}%
1065 }
1066 \let\@startsection\acs@startsection

```

`\acs@startsection@alt` An alternative version of `\@startsection` which never adds numbers.

```

1067 \newcommand*\acs@startsection@alt[6]{%
1068     \ifnoskipsec \leavevmode \fi
1069     \par \@tempskipa #4\relax
1070     \@afterindenttrue
1071 \ifdim \@tempskipa <\z@ \@tempskipa -\@tempskipa \@afterindentfalse\fi
1072 \if@nobreak \everypar{}\else
1073     \addpenalty\@secpenalty\addvspace\@tempskipa\fi
1074 \@ifstar{\@ssect{#3}{#4}{#5}{#6}}
1075     {\@ssect{#3}{#4}{#5}{#6}}%
1076 }

```

`\acs@sections@none` When removing sections entirely, a gobble macro is needed.

```

\acs@sections@none@aux 1077 \newcommand*\acs@sections@none{%
1078     \@ifstar{%
1079         \acs@sections@none@aux
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 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*{\suppinfoname}%
1123 }{}

\acknowledgementname  A few macros need to get around the changes.
  \bibsection 1124 \newcommand*\acknowledgementname{Acknowledgement}
  \suppinfoname 1125 \AtEndOfClass{%
1126   \def\bibsection{%
1127     \acs@section*{\refname}%
1128   }%
1129 }
1130 \newcommand*\suppinfoname{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 1131 \newcommand*\acs@abstract{}
\acs@abstract@end 1132 \let\acs@abstract\abstract
\acs@abstract@iffalse 1133 \newcommand*\acs@endabstract{}
1134 \let\acs@endabstract\endabstract
1135 \begingroup
1136   \catcode'\{ \active
1137   \catcode'\} 12\relax
1138   \catcode'\( 1\relax
1139   \catcode'\) 2\relax
1140   \gdef\acs@abstract@start{%
1141     \acs@warning{%
1142       Abstract not allowed for this\MessageBreak
1143       manuscript type
1144     }%
1145     \@bsphack

```

```

1146 \catcode'\active
1147 \catcode'\relax
1148 \let\end\fi
1149 \let\acs@abstract@end% }
1150 \iffalse
1151 ){
1152 \gdef\acs@abstract@end#1}{(
1153 \def\@tempa(#1)%
1154 \ifx\@tempa\@currenvir
1155 \Esphack\endgroup
1156 \ifignore
1157 \global\ignorefalse
1158 \ignorespaces
1159 \fi
1160 \else
1161 \expandafter\acs@abstract@iffalse
1162 \fi
1163 )
1164 \endgroup
1165 \newcommand*\acs@iffalse{\iffalse}

```

`\AbstractOff` A very similar pattern to before.

```

\AbstractOn 1166 \newcommand*\AbstractOff{%
1167 \let\abstract\acs@abstract@start
1168 \let\endabstract\acs@abstract@end
1169 }
1170 \@onlypreamble\AbstractOff
1171 \newcommand*\AbstractOn{%
1172 \let\abstract\acs@abstract
1173 \let\endabstract\acs@endabstract
1174 }
1175 \@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.

```

1176 \newtoks\acs@collect@toks
1177 \newtoks\acs@collect@empty@toks
1178 \newcommand*\acs@collect@begins{
1179 \newcommand*\acs@collect@content{

```

```

\acs@collect This is a \long version of \collect@body.
\acs@collect@aux 1180 \newcommand\acs@collect[1]{%
\acs@collect@begins@ 1181 \acs@collect@toks{
\acs@collect@body 1182 \expandafter#1\expandafter{\the\acs@collect@toks}%
1183 }%
1184 \edef\acs@collect@content{
1185 \the\acs@collect@toks
1186 \noexpand\end{\@currenvir}%
1187 }%
1188 \acs@collect@toks\acs@collect@empty@toks
1189 \def\acs@collect@begins{b}%
1190 \begingroup
1191 \expandafter\let\csname\@currenvir\endcsname\acs@collect@aux

```

```

1192 \edef\acs@collect@content{%
1193 \expandafter\noexpand\csname\@currenvir\endcsname
1194 }%
1195 \acs@collect@content
1196 }
1197 \newcommand*\acs@collect@aux{}
1198 \long\def\acs@collect@aux#1\end#2{%
1199 \edef\acs@collect@begins{%
1200 \acs@collect@begins@#1\begin\end
1201 \expandafter\@gobble\acs@collect@begins
1202 }%
1203 \ifx\@empty\acs@collect@begins
1204 \endgroup
1205 \@checkend{#2}%
1206 \acs@collect@body{#1}%
1207 \else
1208 \acs@collect@body{#1\end{#2}}%
1209 \fi
1210 \acs@collect@content
1211 }
1212 \newcommand*\acs@collect@begins@{}
1213 \long\def\acs@collect@begins@#1\begin#2{%
1214 \ifx\end#2\else
1215 b\expandafter\acs@collect@begins@
1216 \fi
1217 }
1218 \newcommand\acs@collect@body[1]{%
1219 \global\acs@collect@toks\expandafter{\the\acs@collect@toks#1}%
1220 }

```

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

```

1221 \newcommand\acs@abstract@print[1]{%
1222 \global\long\def\acs@abstract@text{%
1223 \if@twocolumn
1224 \@restonecoltrue\onecolumn
1225 \else
1226 \@restonecolfalse\newpage
1227 \fi
1228 \acs@section*{Abstract}%
1229 #1%
1230 \if@restonecol
1231 \twocolumn
1232 \else
1233 \newpage
1234 \fi
1235 }%
1236 \AtEndDocument{\acs@abstract@text}%
1237 }

```

`\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.

```

\acs@tocentry@print@aux
\acs@tocentry@text
1238 \newcommand{\acs@tocentry@print}[1]{%
1239 \gdef\acs@tocentry@text{\normalsize#1}%

```

```

1240 \AtEndDocument{%
1241   \if@twocolumn
1242     \@restonecoltrue\onecolumn
1243   \else
1244     \@restonecolfalse\newpage
1245   \fi
1246   \acs@tocentry@print@aux
1247   \if@restonecol
1248     \twocolumn
1249   \else
1250     \newpage
1251   \fi
1252 }%
1253 }
1254 \newcommand*{\acs@tocentry@print@aux}{%
1255   \begingroup
1256     \let\@startsection\acs@startsection@orig
1257     \acs@section*{\tocentryname}%
1258     \tocsize
1259     \sffamily
1260     \singlespacing
1261     \begin{center}
1262       \fbox
1263         {%
1264           \begin{minipage}{\acs@tocentry@height}
1265             \vbox to \acs@tocentry@width{\acs@tocentry@text}%
1266             \end{minipage}%
1267         }%
1268     \end{center}%
1269   \endgroup
1270 }
1271 \newcommand*{\acs@tocentry@text}{TOC ENTRY REQUIRED}
1272 \newlength{\acs@tocentry@height}
1273 \newlength{\acs@tocentry@width}
1274 \setlength{\acs@tocentry@height}{9 cm}
1275 \setlength{\acs@tocentry@width}{3.5 cm}

```

`tocentry` Actually creating the entry is pretty easy.

```

1276 \newenvironment{tocentry}{\acs@collect\acs@tocentry@print}{}

```

`\tocentryname` A simple name macro.

```

1277 \newcommand*\tocentryname{Graphical TOC Entry}

```

`\tocsize` The font size for printing the TOC entry.

```

1278 \newcommand*\tocsize{%
1279   \@setfontsize\tocsize\@viipt\@ixpt
1280 }

```

`\acs@type@list` Different journals allow different types of article. A list is set up here: different journals can then alter it. A check function is also provided along with a default.

```

\acs@type@check 1281 \newcommand*\acs@type@list{article,communication,supinfo}
1282 \newcommand*\acs@type@default{article}
1283 \newcommand*\acs@type@check{%
1284   \@tempwafalse

```

```

1285 \@for\@tempa:=\acs@type@list\do{%
1286 \ifx\@tempa\acs@manuscript
1287 \expandafter\@tempswattrue
1288 \fi
1289 }%
1290 \if@tempwa\else
1291 \acs@warning{%
1292 Invalid manuscript type \acs@manuscript:\MessageBreak
1293 changed to default type \acs@type@default
1294 }%
1295 \let\acs@manuscript\acs@type@default
1296 \fi
1297 }

```

A few bits for older versions.

```

1298 \newcommand*\acs@setkeys{\setkeys{acs}}
1299 \let\acs@killabstract\AbstractOff
1300 \let\acs@killsecs\SectionsOff
1301 \newcommand*\acs@validtype[2][article]{%
1302 \def\acs@type@default{#1}%
1303 \def\acs@type@list{#2}%
1304 }

```

\acs@par A saved paragraph.

```

1305 \newcommand*\acs@par{}
1306 \let\acs@par\par

```

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

```

suppinfo 1307 \newcommand*\acs@layout@shared{%
1308 \AtBeginDocument{\singlespacing}%
1309 \twocolumn
1310 \tolerance=2000\relax
1311 \emergencystretch=10pt\relax
1312 \geometry{
1313 letterpaper,
1314 top = 12.7mm,
1315 bottom = 16.8mm,
1316 left = 19.3mm,
1317 right = 19.3mm
1318 }%
1319 \setlength{\columnsep}{8.1mm}%
1320 \setlength{\parindent}{3.3mm}%
1321 \renewenvironment{acknowledgement}{%
1322 \def\@tempa{acknowledgement}%
1323 \ifx\@currenvir\@tempa
1324 \let\par\relax
1325 \acksize
1326 \vspace{6pt}%
1327 \textbf{\acknowledgementname}%
1328 \else
1329 \acs@section*\acknowledgementname}%
1330 \fi
1331 }{}%

```

```

1332 \acs@par
1333 }%
1334 }

\acksize More sizes.
\suppsize 1335 \newcommand*\acksize{\normalsize}
1336 \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 1337 \newcommand*\acs@layout@nine{%
1338 \def\@xipt{11}%
1339 \long\def\normalsize{%
1340 \@setfontsize\normalsize\@ixpt\@xipt
1341 }%
1342 \normalsize
1343 \let\@listi\@listI
1344 \abovedisplayskip 5\p@ \@plus2\p@ \@minus 5\p@\relax
1345 \abovedisplayshortskip \z@ \@plus3\p@\relax
1346 \belowdisplayshortskip 3\p@ \@plus3\p@ \@minus 3\p@\relax
1347 \belowdisplayskip\abovedisplayskip\relax
1348 \abovecaptionskip 5\p@\relax
1349 \intextsep 7\p@ \@plus 2\p@ \@minus 2\p@\relax
1350 }
1351 \newcommand*\acs@layout@ten{%
1352 \long\def\normalsize{%
1353 \@setfontsize\normalsize\@xpt\@xipt
1354 }%
1355 \normalsize
1356 \@setfontsize\normalsize\@xpt\@xipt
1357 \let\@listi\@listI
1358 \abovedisplayskip 10\p@ \@plus2\p@ \@minus5\p@\relax
1359 \abovedisplayshortskip \z@ \@plus3\p@\relax
1360 \belowdisplayshortskip 6\p@ \@plus3\p@ \@minus3\p@\relax
1361 \belowdisplayskip \abovedisplayskip\relax
1362 }

```

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

```

1363 \InputIfFileExists{achemso-\acs@journal.cfg}{\}%
1364 \acs@warning{%
1365 Unknown journal '\acs@journal':\MessageBreak
1366 using default configuration JACSAT%
1367 }%
1368 \input{achemso-jacsat.cfg}%
1369 }

```

\thepage Some changes that can always be applied if the manuscript type is appropriate: this saves some repetition in the configuration files.

```

1370 \acs@type@check
1371 \ifx\acs@manuscript\acs@manuscript@note
1372 \SectionsOff
1373 \fi

```

```

1374 \ifx\acs@manuscript\acs@manuscript@review
1375   \SectionsOn
1376   \SectionNumbersOn
1377 \fi
1378 \ifx\acs@manuscript\acs@manuscript@suppinfo
1379   \setkeys{acs}{maxauthors = 0}
1380   \def\thepage{S-\arabic{page}}
1381   \renewcommand*\thefigure{S\@arabic{c}@figure}
1382   \renewcommand*\thescheme{S\@arabic{c}@scheme}
1383   \renewcommand*\thetable{S\@arabic{c}@table}
1384   \AtBeginDocument
1385     {%
1386       \renewcommand*\citenumfont[1]{S#1}%
1387       \renewcommand*\bibnumfmt[1]{(S#1)}%
1388     }
1389 \fi

```

Set up two column layout.

```

1390 \beginngroup
1391   \def\@tempa{twocolumn}
1392   \ifx\acs@layout\@tempa
1393     \aftergroup\acs@layout@shared
1394   \fi
1395   \def\@tempa{two-column}
1396   \ifx\acs@layout\@tempa
1397     \aftergroup\acs@layout@shared
1398   \fi
1399 \endgroup
1400 \</class>

```

8.5 Late shared code

`\citenumfont` 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.

```

1401 \<*class|package>
1402 \ifacs@super
1403   \RequirePackage[sort&compress,numbers,super]{natbib}
1404 \else
1405   \RequirePackage[sort&compress,numbers,round]{natbib}
1406   \def\citenumfont{\textit}
1407 \fi
1408 \define@key{acs}{super}[true]{%
1409   \def\@tempa{#1}%
1410   \def\@tempb{true}%
1411   \ifx\@tempa\@tempb
1412     \setcitestyle{super,open={},close={}}%
1413     \renewcommand*\citenumfont{}%
1414   \else
1415     \setcitestyle{round}%
1416     \renewcommand*\citenumfont{\textit}%
1417   \fi
1418 }

```



```
1419 \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.

```
1420 \IfFileExists{mciteplus.sty}{%
1421   \RequirePackage{mciteplus}
1422   \providecommand*\@mciteNatbibCiteCmdList}{}%
1423   \edef\@tempa{\noexpand\in@{citenum}\@mciteNatbibCiteCmdList}}%
1424   \@tempa
1425   \ifin@
1426   \else
1427     \edef\@mciteNatbibCiteCmdList{\@mciteNatbibCiteCmdList,citenum}%
1428   \fi
1429 \*!package>
1430 \def\@mciteSubRef[##1]##2{\plainref{\@mcitereflabelprefix:##1:##2}}
1431 </!package>
1432 }{}
```

`\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.

```
1433 \newcommand*\acs@bibstyle{achemso}
1434 \ifacs@biochem
1435   \def\acs@bibstyle{biochem}
1436   \bibliographystyle{biochem}
1437 \else
1438   \bibliographystyle{achemso}
1439 \fi
```

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

`\bibliographystyle`

```
1440 \newcommand*\acs@bibliographystyle{}
1441 \let\acs@bibliographystyle\bibliographystyle
1442 \def\bibliographystyle#1{%
1443   \acs@warning{\string\bibliographystyle\space ignored}%
1444   \expandafter\acs@bibliographystyle\expandafter{\acs@bibstyle}%
1445 }
1446 </class | package>
```

8.6 Late package-only code

The notes2bib code may or may not be activated.

```
1447 \*package>
1448 \AtBeginDocument{%
1449   \@ifpackageloaded{notes2bib}{}{%
1450     \acs@niib@create
1451   }%
1452 }
1453 </package>
```

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.

```
1454 \*natmove>
1455 \ProvidesPackage{natmove}
1456 [2010/01/15 v1.1a Automatic citation moving with natbib]
1457 \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.

```
1458 \newcommand*\nmv@ifmtarg{}
1459 \newcommand*\nmv@xifmtarg{}
1460 \begingroup
1461 \catcode'\Q 3\relax
1462 \long\gdef\nmv@ifmtarg#1{%
1463 \nmv@xifmtarg#1QQ\@secondoftwo\@firstoftwo\@nil
1464 }
1465 \long\gdef\nmv@xifmtarg#1#2Q#3#4#5\@nil{#4}
1466 \endgroup
```

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

```
1467 \newif\ifnmv@cite
```

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

```
1468 \newcommand*\nmv@citex{%
1469 \ifnmv@cite
1470 \expandafter\nmv@citex@moving
1471 \else
1472 \expandafter\nmv@citex@nat
1473 \fi
1474 }
```

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

```
1475 \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`.

```
1476 \newcommand*\nmv@citex@moving{}
1477 \def\nmv@citex@moving[#1][#2]#3{%
1478 \leavevmode
1479 \skip@\lastskip\relax
1480 \unskip
1481 \begingroup
1482 \def\nmv@after{\nmv@citex@nat[#1][#2]{#3}}%
1483 \global\nmv@citexfalse
1484 \nmv@citex@get@next\relax
1485 }
```

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

```
1486 \newcommand*\nmv@citex@end{%
1487 \nmv@after
```

```

1488 \endgroup
1489 }

```

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

```

1490 \newcommand*\nmv@citex@get@next[1]{%
1491 \futurelet\nmv@citex@next\nmv@citex@punct
1492 }

```

`\nmv@citex@punct` 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.

```

1493 \newcommand*\nmv@citex@punct{%
1494 \let\nmv@citex@loop\nmv@citex@end
1495 \ifx\nmv@citex@next.\relax
1496 \ifnum\spacefactor<\nmv@citex@sfac\else
1497 \expandafter\expandafter\expandafter\nmv@citex@punct@undouble
1498 \fi
1499 \fi
1500 \expandafter\nmv@citex@punct@aux\natmovechars\@nil
1501 \nmv@citex@loop
1502 }
1503 \newcommand*\nmv@citex@punct@undouble{%
1504 \let\nmv@citex@next\relax
1505 \let\nmv@citex@loop\nmv@citex@get@next
1506 }
1507 \newcommand*\nmv@citex@loop{}

```

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

```

1508 \newcommand*\nmv@citex@punct@aux[1]{%
1509 \ifx\nmv@citex@next#1\@empty
1510 #1%
1511 \let\nmv@citex@loop\nmv@citex@get@next
1512 \fi
1513 \ifx#1\@nil\else
1514 \expandafter\nmv@citex@punct@aux
1515 \fi
1516 }

```

`\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.

```

1517 \mathchardef\nmv@citex@sfac3000\relax
1518 \expandafter\def\expandafter\frenchspacing\expandafter{%
1519 \frenchspacing
1520 \mathchardef\nmv@citex@sfac1001\relax
1521 \sfcode'\.\nmv@citex@sfac
1522 \sfcode'\?\nmv@citex@sfac
1523 \sfcode'\!\nmv@citex@sfac
1524 }
1525 \ifnum\sfcode'\.=\@m
1526 \frenchspacing
1527 \fi

```

`\nmv@citex@nat` The swap has to be done at the beginning of the document. The internal flag
`\nmv@activate` from natbib is used, but under the circumstances we should be safe. `\cite` is
`\cite` also patched to make the system active.

```

1528 \newcommand*\nmv@citex@nat{}
1529 \newcommand*\nmv@activate{%
1530   \let\nmv@citex@nat\@citex
1531   \let\@citex\nmv@citex
1532   \let\nmv@cite\cite
1533   \renewcommand*\cite[2][]{%
1534     \nmv@ifmtarg{##1}{%
1535       \nmv@citetrue
1536       \nmv@cite{##2}%
1537     }{%
1538       \nmv@citefalse
1539       \nmv@cite[##1]{##2}%
1540     }%
1541   }

```

`\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.

```

1542 \newcommand*\nmv@natbib@detect{%
1543   \@ifpackageloaded{natbib}{%
1544     \ifNAT@super
1545       \expandafter\nmv@activate
1546     \fi
1547   }{%
1548     \PackageInfo{natmove}{%
1549       The natbib package is not loaded.\MessageBreak
1550       Loading natmove will do nothing
1551     }%
1552   }%
1553 }
1554 \AtBeginDocument{\nmv@natbib@detect}

```

`\natmovechars` A user macro is needed for moving characters.

```

1555 \newcommand*\natmovechars{.,;:}
1556 \natmove

```

8.8 The configuration files

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

```

1557 \achre4
1558 \ProvidesFile{achemso-achre4.cfg}
1559 [2018/09/15 v3.12 achemso configuration: Acc. Chem. Res.]
1560 \setkeys{acs}{biblabel = plain}
1561 \def\acs@type@list{article,supinfo}
1562 \def\abstractname{Conspectus}
1563 \achre4
1564 \aaembp
1565 \ProvidesFile{achemso-aaembp.cfg}

```

```

1566 [2018/09/15 v3.12 achemso configuration: ACS Appl. Electron. Mater.]
1567 \def\acs@type@list{article,letter,suppinfo}
1568 \setkeys{acs}{keywords = true}
1569 \</aaembp>
1570 \*aaemcq>
1571 \ProvidesFile{achemso-aaemcq.cfg}
1572 [2018/09/15 v3.12 achemso configuration: ACS Appl. Energy Mater.]
1573 \def\acs@type@list{article,letter,suppinfo}
1574 \setkeys{acs}{keywords = true}
1575 \</aaemcq>
1576 \*aamick>
1577 \ProvidesFile{achemso-aamick.cfg}
1578 [2018/09/15 v3.12 achemso configuration: ACS Appl. Mater. Interfaces]
1579 \def\acs@type@list{article,letter,suppinfo}
1580 \setkeys{acs}{keywords = true}
1581 \</aamick>
1582 \*aanmf6>
1583 \ProvidesFile{achemso-aanmf6.cfg}
1584 [2018/09/15 v3.12 achemso configuration: ACS Appl. Nano Mater.]
1585 \def\acs@type@list{article,letter,suppinfo}
1586 \setkeys{acs}{keywords = true}
1587 \</aanmf6>
1588 \*aapmcd>
1589 \ProvidesFile{achemso-aapmcd.cfg}
1590 [2018/09/15 v3.12 achemso configuration: ACS Appl. Polym. Mater.]
1591 \def\acs@type@list{article,letter,suppinfo}
1592 \setkeys{acs}{keywords = true}
1593 \</aapmcd>
1594 \*abseba>
1595 \ProvidesFile{achemso-abseba.cfg}
1596 [2018/09/15 v3.12 achemso configuration: ACS Biomater. Sci. Eng.]
1597 \setkeys{acs}{keywords = true}
1598 \def\acs@type@list{article,review,suppinfo}
1599 \</abseba>
1600 \*accacs>
1601 \ProvidesFile{achemso-accacs.cfg}
1602 [2018/09/15 v3.12 achemso configuration: ACS Catal.]
1603 \setkeys{acs}{keywords = true}
1604 \def\acs@type@list{article,letter,perspective,review,viewpoints,suppinfo}
1605 \SectionNumbersOff
1606 \</accacs>
1607 \*acscii>
1608 \ProvidesFile{achemso-acscii.cfg}
1609 [2018/09/15 v3.12 achemso configuration: ACS Central Sci.]
1610 \def\acs@type@list{article,review,suppinfo}
1611 \setkeys{acs}{doi = true}
1612 \SectionNumbersOff
1613 \</acscii>
1614 \*acbcct>
1615 \ProvidesFile{achemso-acbcct.cfg}
1616 [2018/09/15 v3.12 achemso configuration: ACS Chem. Biol.]
1617 \setkeys{acs}{
1618   biblabel = fullstop,
1619   biochem   = true,

```

```

1620 super      = false
1621 }
1622 \def\acs@type@list{article,letter,review,supinfo}
1623 \SectionNumbersOff
1624 \</acbcct>
1625 \<*acncdm>
1626 \ProvidesFile{achemso-acncdm.cfg}
1627 [2018/09/15 v3.12 achemso configuration: ACS Chem. Neurosci.]
1628 \def\acs@type@list{article,review,letter,supinfo,viewpoint}
1629 \setkeys{acs}{
1630   biblabel = fullstop,
1631   biochem  = true,
1632   keywords = true,
1633   super    = false
1634 }
1635 \</acncdm>
1636 \<*acscce>
1637 \ProvidesFile{achemso-acscce.cfg}
1638 [2018/09/15 v3.12 achemso configuration: ACS Combinatorial Sci.]
1639 \def\acs@type@list{article,letter,review,perspective,account,note,supinfo}
1640 \setkeys{acs}{keywords = true}
1641 \SectionNumbersOff
1642 \</acscce>
1643 \<*aesccq>
1644 \ProvidesFile{achemso-aesccq.cfg}
1645 [2018/09/15 v3.12 achemso configuration: ACS Earth Space Chem.]
1646 \def\acs@type@list{article,supinfo}
1647 \setkeys{acs}{keywords = true}
1648 \</aesccq>
1649 \<*aelccp>
1650 \ProvidesFile{achemso-aelccp.cfg}
1651 [2018/09/15 v3.12 achemso configuration: ACS Energy Lett.]
1652 \def\acs@type@list{letter,perspective,review,viewpoint,focus}
1653 \SectionsOff
1654 \</aelccp>
1655 \<*ascefi>
1656 \ProvidesFile{achemso-ascefi.cfg}
1657 [2018/09/15 v3.12 achemso configuration: ACS Infect. Dis.]
1658 \def\acs@type@list{article,letter,perspective,review,viewpoint,supinfo}
1659 \setkeys{acs}{keywords = true}
1660 \SectionsOff
1661 \</ascefi>
1662 \<*amlccd>
1663 \ProvidesFile{achemso-amlccd.cfg}
1664 [2018/09/15 v3.12 achemso configuration: ACS Macro Lett.]
1665 \def\acs@type@list{letter,supinfo}
1666 \SectionsOff
1667 \setlength{\acs@tocentry@height}{8 cm}
1668 \setlength{\acs@tocentry@width}{4 cm}
1669 \</amlccd>
1670 \<*amclct>
1671 \ProvidesFile{achemso-amclct.cfg}
1672 [2018/09/15 v3.12 achemso configuration: ACS Med. Chem. Lett.]
1673 \def\acs@type@list{article,letter,perspective,supinfo}

```

```

1674 \SectionNumbersOff
1675 \amclct
1676 % \changes{v3.8n}{2015/01/13}{\emph{ACS Nano} want abbreviations}
1677 % \changes{v3.11}{2018/04/02}{Change \emph{ACS Nano} truncation}
1678 \*ancac3
1679 \ProvidesFile{achemso-ancac3.cfg}
1680 [2018/09/15 v3.12 achemso configuration: ACS Nano]
1681 \setkeys{acs}{
1682   abbreviations = true,
1683   biblabel      = fullstop,
1684   etalmode      = truncate,
1685   maxauthors    = 20,
1686   keywords      = true
1687 }
1688 \def\acs@type@list{article,perspective,suppinfo}
1689 \newcommand*\latin{[1]{\emph{#1}}}
1690 \SectionNumbersOff
1691 \ancac3
1692 \*acsodf
1693 \ProvidesFile{achemso-acsodf.cfg}
1694 [2018/09/15 v3.12 achemso configuration: ACS Omega.]
1695 \def\acs@type@list{article}
1696 \acsodf
1697 \*apchd5
1698 \ProvidesFile{achemso-apchd5.cfg}
1699 [2018/09/15 v3.12 achemso configuration: ACS Photon.]
1700 \def\acs@type@list{article,letter,perspective,review,suppinfo}
1701 \setkeys{acs}{keywords = true}
1702 \ifx\acs@manuscript\acs@manuscript@letter
1703   \SectionNumbersOff
1704 \fi
1705 \apchd5
1706 \*aidcbc
1707 \ProvidesFile{achemso-aidcbc.cfg}
1708 [2018/09/15 v3.12 achemso configuration: ACS Sensors]
1709 \def\acs@type@list{article,letter,perspective,review,suppinfo}
1710 \setkeys{acs}{keywords = true}
1711 \SectionNumbersOff
1712 \aidcbc
1713 \*ascecg
1714 \ProvidesFile{achemso-ascecg.cfg}
1715 [2018/09/15 v3.12 achemso configuration: ACS Sustainable Chem Eng.]
1716 \setkeys{acs}{
1717   biblabel = fullstop,
1718   keywords = true
1719 }
1720 \SectionNumbersOff
1721 \def\acs@type@list{article,feature,letter,perspective,review,suppinfo}
1722 \ascecg
1723 \*asbcd6
1724 \ProvidesFile{achemso-asbcd6.cfg}
1725 [2018/09/15 v3.12 achemso configuration: ACS Synth. Biol.]
1726 \setkeys{acs}{
1727   abbreviations = true,

```

```

1728 biblabel      = fullstop,
1729 biochem       = true,
1730 keywords      = true,
1731 super         = false
1732 }
1733 \def\acs@type@list{article,letter,note,tutorial,review,suppinf}
1734 \asbcd6
1735 \*ancham
1736 \ProvidesFile{achemso-ancham.cfg}
1737 [2018/09/15 v3.12 achemso configuration: Anal. Chem.]
1738 \def\acs@type@list{article,note,suppinf}
1739 \SectionNumbersOff
1740 \ancham
1741 \*bichaw
1742 \ProvidesFile{achemso-bichaw.cfg}
1743 [2018/09/15 v3.12 achemso configuration: Biochemistry]
1744 \setkeys{acs}{
1745   abbreviations = true,
1746   biblabel      = brackets,
1747   biochem       = true,
1748 }
1749 \SectionNumbersOff
1750 \def\acs@maketitle@extras@hook{%
1751   \par
1752   \acs@title@short@print
1753 }
1754 \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.

```

1755 \def\acs@author@fnsymbol#1{%
1756   \ensuremath{%
1757     \ifcase #1 *\or
1758     \dagger\or
1759     \ddagger\or
1760     \S\or
1761     \parallel\or
1762     \perp\or
1763     \P\or
1764     \|\or
1765     \bot\or
1766     \#\or
1767     @\or
1768     \triangle\or
1769     \nabla\else
1770       #1%
1771   }%
1772 }%
1773 }
1774 \def\@maketitle@title@hook{%
1775   \ifnum\acs@footnote@cnt>\@ne
1776   \else
1777     \global\acs@footnote@cnt\@ne
1778   \fi

```



```

1779 }
1780 </bichaw>
1781 <*bcches>
1782 \ProvidesFile{achemso-bcches.cfg}
1783 [2018/09/15 v3.12 achemso configuration: Bioconjugate Chem.]
1784 \setkeys{acs}{
1785   biochem = true,
1786   super   = false
1787 }
1788 \SectionNumbersOff
1789 </bcches>
1790 <*bomaf6>
1791 \ProvidesFile{achemso-bomaf6.cfg}
1792 [2018/09/15 v3.12 achemso configuration: Biomacromolecules]
1793 \def\acs@type@list{article,comment,communication,note,review,suppinfo}
1794 \SectionNumbersOff
1795 \AtEndOfClass{\SectionsOn}
1796 </bomaf6>
1797 <*crtoec>
1798 \ProvidesFile{achemso-crtoec.cfg}
1799 [2018/09/15 v3.12 achemso configuration: Chem. Res. Toxicol.]
1800 \setkeys{acs}{
1801   abbreviations = true,
1802   biochem       = true,
1803   keywords      = true
1804 }
1805 \def\acs@maketitle@extras@hook{%
1806   \par
1807   \acs@title@short@print
1808 }
1809 \def\acs@type@list{%
1810   article,perspective,profile,review,suppinfo%
1811 }
1812 \SectionNumbersOff
1813 </crtoec>
1814 <*chreay>
1815 \ProvidesFile{achemso-chreay.cfg}
1816 [2018/09/15 v3.12 achemso configuration: Chem. Rev.]
1817 \def\acs@type@default{review}
1818 \def\acs@type@list{review}

```

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

```

1819 \def\bibsection{\acs@section{\refname}}
1820 </chreay>
1821 <*cmatex>
1822 %   \begin{macrocode}
1823 \ProvidesFile{achemso-cmatex.cfg}
1824 [2018/09/15 v3.12 achemso configuration: Chem. Mater.]
1825 \setkeys{acs}{keywords = true}
1826 \SectionNumbersOff
1827 \ifx\acs@manuscript\acs@manuscript@communication
1828   \AbstractOff
1829   \SectionsOff
1830 \fi

```

```

1831 </cmatex>
1832 < *cgdefu>
1833 \ProvidesFile{achemso-cgdefu.cfg}
1834 [2018/09/15 v3.12 achemso configuration: Cryst. Growth Des.]
1835 \def\acs@type@list{%
1836   article,communication,perspective,supinfo%
1837 }
1838 \SectionNumbersOff
1839 \ifx\acs@manuscript\acs@manuscript@communication
1840   \SectionsOff
1841 \fi
1842 \setlength{\acs@tocentry@height}{8.9 cm}
1843 \setlength{\acs@tocentry@width}{4.6 cm}
1844 </cgdefu>
1845 < *enfuem>
1846 \ProvidesFile{achemso-enfuem.cfg}
1847 [2018/09/15 v3.12 achemso configuration: Energy Fuels]
1848 \def\acs@type@list{article,review,supinfo}
1849 \SectionNumbersOff
1850 </enfuem>
1851 < *esthag>
1852 \ProvidesFile{achemso-esthag.cfg}
1853 [2018/09/15 v3.12 achemso configuration: Environ. Sci. Technol.]
1854 \def\acs@type@list{article,supinfo}
1855 \SectionNumbersOff
1856 </esthag>
1857 < *estlcu>
1858 \ProvidesFile{achemso-estlcu.cfg}
1859 [2018/09/15 v3.12 achemso configuration: Environ. Sci. Technol. Lett.]
1860 \def\acs@type@list{letter,supinfo}
1861 \SectionNumbersOff
1862 </estlcu>
1863 % \changes{v3.8m}{2014/11/24}{Fixes for \emph{Ind.\ Eng.\ Chem.\ Res.}\ style}
1864 < *iecred>
1865 \ProvidesFile{achemso-iecred.cfg}
1866 [2018/09/15 v3.12 achemso configuration: Ind. Eng. Chem. Res.]
1867 \setkeys{acs}{biblabel = brackets}
1868 \SectionNumbersOff
1869 </iecred>
1870 < *inoraj>
1871 \ProvidesFile{achemso-inoraj.cfg}
1872 [2018/09/15 v3.12 achemso configuration: Inorg. Chem.]
1873 \SectionNumbersOff
1874 \ifx\acs@manuscript\acs@manuscript@communication
1875   \AbstractOff
1876   \SectionsOff
1877 \fi
1878 \setkeys{acs}{doi = true}
1879 </inoraj>
1880 < *jafcau>
1881 \ProvidesFile{achemso-jafcau.cfg}
1882 [2018/09/15 v3.12 achemso configuration: J. Agric. Food Chem.]
1883 \setkeys{acs}{keywords = true}
1884 \def\acs@type@list{article,supinfo}

```

```

1885 \SectionNumbersOff
1886 </jafcau>
1887 <*>jceda8<
1888 \ProvidesFile{achemso-jceda8.cfg}
1889 [2018/09/15 v3.12 achemso configuration: J. Chem. Ed.]
1890 \setkeys{acs}{keywords = true}
1891 \SectionNumbersOff
1892 \def\acs@type@list{article,supinfo}
1893 \SectionNumbersOff
1894 </jceda8>
1895 <*>jceaax<
1896 \ProvidesFile{achemso-jceaax.cfg}
1897 [2018/09/15 v3.12 achemso configuration: J. Chem. Eng. Data]
1898 \def\acs@type@list{article,supinfo}
1899 \def\refname{Literature Cited}
1900 \SectionNumbersOff
1901 </jceaax>
1902 <*>jcisd8<
1903 \ProvidesFile{achemso-jcisd8.cfg}
1904 [2018/09/15 v3.12 achemso configuration: J. Chem. Inf. Model.]
1905 \def\acs@type@list{article,supinfo}
1906 \SectionNumbersOff
1907 </jcisd8>
1908 <*>jctcce<
1909 \ProvidesFile{achemso-jctcce.cfg}
1910 [2018/09/15 v3.12 achemso configuration: J. Chem. Theory Comput.]
1911 \def\acs@type@list{article,supinfo}
1912 \setkeys{acs}{maxauthors = 0}
1913 </jctcce>
1914 <*>jmcmr<
1915 \ProvidesFile{achemso-jmcmr.cfg}
1916 [2018/09/15 v3.12 achemso configuration: J. Med. Chem.]
1917 \def\acs@type@list{article,letter,perspective,supinfo}
1918 \SectionNumbersOff
1919 \setlength{\acs@tocentry@height}{5.5cm}
1920 \setlength{\acs@tocentry@width}{21cm}
1921 </jmcmr>
1922 <*>jnprdf<
1923 \ProvidesFile{achemso-jnprdf.cfg}
1924 [2018/09/15 v3.12 achemso configuration: J. Nat. Prod.]
1925 \renewcommand*{\abstractname}{ABSTRACT}
1926 \renewcommand*{\acknowledgementname}{ACKNOWLEDGEMENT}
1927 \renewcommand*{\suppinfofname}{ASSOCIATED CONTENT}
1928 \SectionNumbersOff
1929 \renewcommand*{\acs@abstract}{%
1930 \quotation
1931 \textbf{\abstractname :}%
1932 }
1933 \AbstractOn
1934 \ifx\acs@manuscript\acs@manuscript@communication
1935 \AbstractOff
1936 \SectionsOff
1937 \fi
1938 \def\refname{REFERENCES}

```

```

1939 \captionsetup{
1940   labelfont = bf,
1941   labelsep   = period
1942 }
1943 </jnprdf>
1944 <*joceah>
1945 \ProvidesFile{achemso-joceah.cfg}
1946 [2018/09/15 v3.12 achemso configuration: J. Org. Chem.]
1947 \ifx\acs@manuscript\acs@manuscript@communication
1948   \AbstractOff
1949   \SectionsOff
1950 \fi
1951 \floatstyle{plaintop}
1952 \restylefloat{scheme}
1953 \floatstyle{plain}
1954 \renewcommand*{\acs@type@list}{article,communication,note,perspective,review,supinfo}
1955 </joceah>

1956 <*jpcafh>
1957 \ProvidesFile{achemso-jpcafh.cfg}
1958 [2018/09/15 v3.12 achemso configuration: J. Phys. Chem. A]
1959 \def\acs@type@list{article,supinfo}
1960 \setkeys{acs}{
1961   etalmode      = truncate,
1962   maxauthors    = 10
1963 }
1964 \SectionNumbersOff
1965 \captionsetup[table]{labelfont=bf,textfont=bf}

Title

1966 \g@addto@macro{\maketitle}{\newpage}
1967 </jpcafh>
1968 <*jpcbfk>
1969 \ProvidesFile{achemso-jpcbfk.cfg}
1970 [2018/09/15 v3.12 achemso configuration: J. Phys. Chem. B]
1971 \def\acs@type@list{article,supinfo}
1972 \setkeys{acs}{
1973   etalmode      = truncate,
1974   maxauthors    = 10
1975 }
1976 \SectionNumbersOff
1977 \captionsetup[table]{labelfont=bf,textfont=bf}
1978 \g@addto@macro{\maketitle}{\newpage}
1979 </jpcbfk>
1980 <*jpccck>
1981 \ProvidesFile{achemso-jpccck.cfg}
1982 [2018/09/15 v3.12 achemso configuration: J. Phys. Chem. C]
1983 \def\acs@type@list{article,supinfo}
1984 \setkeys{acs}{
1985   etalmode      = truncate,
1986   maxauthors    = 10
1987 }
1988 \SectionNumbersOff
1989 \captionsetup[table]{labelfont=bf,textfont=bf}
1990 \g@addto@macro{\maketitle}{\newpage}

```

```

1991 </jpccck>
1992 <*jpclcd>
1993 \ProvidesFile{achemso-jpclcd.cfg}
1994 [2018/09/15 v3.12 achemso configuration: J. Phys. Chem. Lett.]
1995 \setkeys{acs}{
1996   etalmode = truncate,
1997   maxauthors = 10
1998 }
1999 \def\acs@type@default{letter}
2000 \def\acs@type@list{letter}
2001 \SectionNumbersOff
2002 \captionsetup[table]{labelfont=bf,textfont=bf}
2003 \g@addto@macro{\maketitle}{\newpage}
2004 \renewcommand{\acs@tocentry@print}[1]{%
2005   \gdef\acs@tocentry@text{#1}%
2006 }
2007 \renewcommand*{\acs@abstract@extras}{%
2008   \begingroup
2009     \acs@tocentry@print@aux
2010   \endgroup
2011   \acs@keywords@print
2012   \newpage
2013 }
2014 \setlength\acs@tocentry@height{2in}
2015 \setlength\acs@tocentry@width{2in}
2016 </jpclcd>
2017 <*jprobs>
2018 \ProvidesFile{achemso-jprobs.cfg}
2019 [2018/09/15 v3.12 achemso configuration: J. Proteome Res.]
2020 \setkeys{acs}{keywords = true}
2021 \def\acs@type@list{article,review,suppinfo}
2022 \SectionNumbersOff
2023 </jprobs>

```

The *J. Am. Chem. Soc.* configuration is rather more complicated as there is the need to construct a “galley-like” layout for communications.

```

2024 <*jacsat>
2025 \ProvidesFile{achemso-jacsat.cfg}
2026 [2018/09/15 v3.12 achemso configuration: J. Am. Chem. Soc.]
2027 \SectionNumbersOff
2028 \ifx\acs@manuscript\acs@manuscript@communication\else
2029   \expandafter\endinput
2030 \fi

```

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

```

2031 \setkeys{acs}{
2032   email = true,
2033   layout = twocolumn
2034 }
2035 \SectionsOff
2036 \acs@layout@nine

```

abstract The abstract appears at the start of the document, with lines around it.s

```

2037 \renewenvironment{abstract}{%
2038   \hrule
2039   \vspace{2 mm}%
2040   \sffamily
2041   \noindent
2042   \emph{\textbf{Abstract:}}}%
2043 }{%
2044   \vspace{2 mm}%
2045   \hrule
2046   \vspace{6 mm}%
2047 }

```

\acksizes 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 2048 \def\affilsize{%
\emailsize 2049   \@setfontsize\affilsize\@ixpt\@xpt
\capsize 2050 }
\refsize 2051 \def\acksizes{%
\suppsize 2052   \@setfontsize\acksizes\@ixpt\@xipt
\titlesize 2053 }
2054 \def\authorsizes{%
2055   \@setfontsize\authorsizes{10.5}{12.5}%
2056 }
2057 \newcommand*\capsizes{%
2058   \@setfontsize\capsizes\@viipt\@ixpt
2059 }
2060 \def\emailsize{%
2061   \@setfontsize\emailsize\@viipt{15}%
2062 }
2063 \newcommand*\refsize{%
2064   \@setfontsize\refsize{7.5}{7.5}%
2065 }
2066 \def\suppsizes{%
2067   \@setfontsize\suppsizes{8.5}{10.5}%
2068 }
2069 \def\titlesizes{%
2070   \@setfontsize\titlesizes\@xipt{13}%
2071 }
2072 \let\footnotesize\refsize
2073 \let\captionfont\capsizes

```

\emailfont A slight font change.
2074 \def\emailfont{\sffamily}

\ps@plain The header styles are done the hard way, to keep down the number of packages
\ps@jacs loaded.

```

2075 \def\ps@plain{%
2076   \let\@mkboth\@gobbletwo
2077   \let\@oddhead\@empty
2078   \def\@oddfoot{%
2079     \reset@font
2080     \sffamily
2081     \textbf{\thepage}}%
2082   \hfil

```

```

2083 }%
2084 \let\@evenhead\@empty
2085 \let\@evenfoot\@oddfoot
2086 }
2087 \def\ps@acs{%
2088   \def\@oddfoot{%
2089     \reset@font
2090     \sffamily
2091     \textbf{\thepage}%
2092     \hfil
2093   }%
2094   \def\@evenfoot{%
2095     \reset@font
2096     \hfil
2097     \sffamily
2098     \textbf{\thepage}%
2099   }%
2100   \def\@oddhead{}%
2101   \let\@evenhead\@oddhead
2102 }
2103 \pagestyle{acs}

```

```

\acs@space@pre@title Length adjustments for the title.
\acs@space@post@title 2104 \setlength\acs@space@pre@title{16mm}
\acs@space@post@author 2105 \setlength\acs@space@post@title{0mm}
\acs@space@post@address 2106 \setlength\acs@space@post@author{0mm}
\acs@space@post@email 2107 \setlength\acs@space@post@address{0mm}
2108 \setlength\acs@space@post@email{-1mm}
2109 \setlength\acs@maketitle@width{152.4mm}

```

```

\acs@contact@details Contact details are different here.
2110 \def\acs@contact@details{%
2111   Received \today; E-mail: \acs@email@list
2112 }

```

```

\acs@maketitle@extras No keywords or abbreviations for J. Am. Chem. Soc..
2113 \let\acs@maketitle@extras\relax

```

Getting the floats correct is a difficult task “by hand”; using the caption package makes this a lot easier.

```

2114 \floatstyle{plaintop}
2115 \restylefloat{scheme}
2116 \floatstyle{plain}
2117 \DeclareCaptionLabelSeparator{perquada}{. \quad}
2118 \captionsetup{
2119   singlelinecheck = off,
2120   labelfont       = {bf,it,sf},
2121   textfont        = sf,
2122   labelsep        = perquada
2123 }
2124 \captionsetup[figure]{textfont=rm}

```

```

\acs@table A patch or \table.
\table

```

```

2125 \newcommand*\acs@table{}
2126 \let\acs@table\table
2127 \def\table{%
2128   \capsize
2129   \acs@table
2130 }

```

The bibliography has to be adjusted.

```

2131 \AtBeginDocument{%
2132   \def\bibsection{%
2133     \@startsection
2134       {section}
2135       {1}
2136       {\z@}{\z@}{2.5mm}%
2137       {\normalfont\acksize\bfseries}
2138       {\hrule\nobreak\vspace{1.2mm}\noindent\refname}%
2139   }%
2140   \let\bibfont\refsize
2141   \setlength{\bibhang}{0.61cm}%
2142   \setlength{\bibsep}{0mm}%
2143 }
2144 \</jacsat>
2145 \<*langd5>
2146 \ProvidesFile{achemso-langd5.cfg}
2147 [2018/09/15 v3.12 achemso configuration: Langmuir]
2148 \def\acs@type@list{article,letter,supinfo}
2149 \SectionNumbersOff
2150 \</langd5>
2151 \<*mamobx>
2152 \ProvidesFile{achemso-mamobx.cfg}
2153 [2018/09/15 v3.12 achemso configuration: Macromolecules]
2154 \SectionNumbersOff
2155 \setkeys{acs}{doi = true}
2156 \</mamobx>
2157 \<*mpohbp>
2158 \ProvidesFile{achemso-mpohbp.cfg}
2159 [2018/09/15 v3.12 achemso configuration: Mol. Pharm.]
2160 \setkeys{acs}{keywords = true}
2161 \def\acs@type@list{article,supinfo}
2162 \SectionNumbersOff
2163 \</mpohbp>
2164 \<*nalefd>
2165 \ProvidesFile{achemso-nalefd.cfg}
2166 [2018/09/15 v3.12 achemso configuration: Nano Lett.]
2167 \setkeys{acs}{keywords = true}
2168 \def\acs@type@default{letter}
2169 \def\acs@type@list{letter}
2170 \SectionNumbersOff
2171 \</nalefd>
2172 \<*orlef7>
2173 \ProvidesFile{achemso-orlef7.cfg}
2174 [2018/09/15 v3.12 achemso configuration: Org. Lett.]
2175 \def\acs@type@default{communication}
2176 \def\acs@type@list{communication}

```



```

2177 \SectionNumbersOff
2178 \setkeys{acs}{layout = twocolumn}
2179 \RequirePackage{xcolor}
2180 \definecolor{orglett}{RGB}{128,0,0}
2181 \</orlef7>
2182 \<*oprdfk>
2183 \ProvidesFile{achemso-oprdfk.cfg}
2184 [2018/09/15 v3.12 achemso configuration: Org. Proc. Res. Dev.]
2185 \def\acs@type@list{article,highlight,review,suppinfo}
2186 \SectionNumbersOff
2187 \</oprdfk>
2188 \<*orgnd7>
2189 \ProvidesFile{achemso-orgnd7.cfg}
2190 [2018/09/15 v3.12 achemso configuration: Organometallics]
2191 \SectionNumbersOff
2192 \</orgnd7>

```