

## **makeversion.pl**

**Perl script generating production versions of**

**MOSFECCS\_vY\_xxxxxx.html (source code)**

**MOSFECCS\_vY\_xxxxxxcc.html (main script compiled)**

**MOSFECCS\_vY\_SVG\_xxxxxx-z.html (version with SVG-display button)**

**mostest\_xxxxxx.js (program for testing the SMILES-generator and -parser)**

**from the development source MOSFECCS\_vY\_SVG\_DEV\_xxxxxx.html**

MOSFECCS\_vY\_SVG\_DEV\_xxxxxx-z.html is the central development source file (Y is the main version, xxxxxx is the subversion (date YYMMDD) with build=xxxxxx.z).

In addition to all features of the MOSFECCS Editor for use with Moodle quizzes (the "production version"), the source also contains the code to generate an SVG graphics file of whatever is drawn inside the drawing area when the SVG button (specific to the development version and MOSFECCS\_vY\_SVG\_xxxxxx-z.html) is clicked. This button triggers the display of the SVG graphics together with the xml-source text of the graphics in an additional pop-up window.

Parts of the code to generate SVG-graphics from the molecular data objects contained in the development version are also used in the test program mostest.js.

makeversion.pl uses the source file of the development version MOSFECCS\_vY\_SVG\_DEV\_xxxxxx-z.html to generate 4 different programs:

1. Production version MOSFECCS\_vY\_xxxxxx.html uncompiled source code (build=xxxxxx.z). Larger and slower than the compiled version but human-readable.
2. Production version MOSFECCS\_vY\_xxxxxxcc.html with the main script compiled by the google closure compiler in ADVANCED mode. *Use this as the main file in Moodle.*
3. Production version MOSFECCS\_vY\_SVG\_xxxxxx-z: uncompiled version with the button SVG for interactive display of SVG graphics.
4. mostest\_xxxxxx.js (the testing program, uncompiled)

For a detailed description of the use of mostest\_xxxxxx-z.js (4. above): see mostest\_Manual.pdf in the MOSTEST\_Testsuite for MOSFECCS directory.

## Sequence of actions performed by makeversion.pl

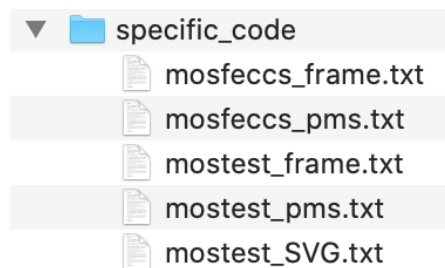
makeversion.pl first deletes diagnostic output statements (all lines matching either //CL, //CLP, //CLF or //DSP) from the development source to generate MOSFECCS\_vY\_SVG\_XXXXXX-z.html (3.above).

MOSFECCS\_vY\_SVG\_DEV\_XXXXXX-x.html is subdivided into sections that are labeled and delimited by comment line TAGS as follows:

```
<!-- START mv_SVG FRAME -->
    HTML <head> tag
    script 1 dealing with GET parameters and setting global variables accordingly)
    parameter dependent loading of CSS. Preloading of graphics for editor GUI (icon tools).
    HTML </head> tag
    HTML <body> tag
<!-- END mv_SVG FRAME -->
<!-- START INTERACTIVE -->
//START CODE TO COMPILE
    main function drawCanvas() with all "global" variable declarations, event and button handlers and
    functions needed for user interaction and drawing on the 5 overlapping canvases.
//END INTERACTIVE
//START MV_SVG_DEV SVG
    handler for SVG button
    function drawMol_svg() that generates the SVG graphic
//END MV_SVG_DEV SVG
//START SVG
    functions drawBond_svg(), drawAtomLabel_svg(), drawArrow_svg(), drawRxnArrow_svg()
    that generate the elements of an SVG graphic
//END SVG
//START COMMON
    all functions common to all 4 programs, including the whole SMILES-generator [getsmiles()]
    constructors for all molecular data objects
//END COMMON
//START MV_SVG_DEV PMS
    variables and main of function parse_m_Smiles() [the multi-SMILES-parser]
//END MV_SVG_DEV PMS
//START PMS
    all functions internal to the multi-Smiles parser [parse_m_SMILES()],
    including the SMILES-parser for one structure (molecule) [parseSMILES()],
//END PMS
//START HTML-TERM
    storage of function drawCanvas in window['drawCanvas'] as external for compiler
//END CODE TO COMPILE
    script 3: call of main drawCanvas function with parameters as evaluated by script 1
        let drwCanv = window['drawCanvas'];
        drwCanv(pad,phone,app,arrows,helpWindow,svgWindow);
    HTML </body> tag

<!--END HTML-TERM-->
```

The sections in blue are specific to the MOSFECCS\_vY\_SVG\_DEV\_XXXXXX.html file  
For the 4 production programs, makeversion.pl replaces them by the corresponding sections stored as text files in the folder specific\_code:



#### Differences between the development source and the specific files:

##### A. \*\_frame.txt:

[mosfeccs\\_frame.txt](#) In script1, the development source loads the `***_full_rs.css` files, whereas in the production MOSFECCS, the minified CSS files are loaded.

[mostest\\_frame.txt](#) contains the main IIFE function `mostest()` and auxiliary functions for reading the input files, the declarations of all variables "global" in the `drawCanvas()` context and the functions for output of LOG and SUMMARY files but neither script1 with CSS loading nor HTML. The main function `mostest()` calls the SMILES parser `parse_m_SMILES()` and the SMILES generator `getsmiles()`.

##### B. \*\_pms.txt:

[mosfeccs\\_pms.txt](#) contains the `parse_m_SMILES()` main function calling the `multismiles` parser with `mosfeccs`-specific interactive error/failure/warnAtoms handling.

[mostest\\_pms.txt](#) contains the `parse_m_SMILES_svg()` main function calling the `multismiles` parser with `mostest`-specific error/failure/warnAtoms handling.

##### C. \*\_SVG.txt:

[mostest\\_SVG.txt](#) contains the functions `clearSelection_svg()`, `get_mol_brects()`, `getboundrect_svg()`, `deleteAtom_svg()`, `clearMol_svg()`, `f1(ii)`, `drawMol_svg()`.

[msvg\\_SVG.txt](#) contains the functions `clearSelection_svg()`, `get_mol_brects()`, `getboundrect_svg()`, `deleteAtom_svg()`, `clearMol_svg()`, `f1(ii)`, `drawMol_svg()`.

**Beware:** It is up to the maintainer/contributor to adjust code in the specific code files above accordingly, if bug fixes or new features introduced in the development source were made in one of the functions located in one or more of the specific code files.  
`makeversion.pl` does not change code inside the specific files.

#### Compiled version MOSFECCS\_vy\_XXXXXXcc.html:

`makeversion.pl` generates `mvY_XXXXXX.js`, a copy of the section between the comment tags `//START CODE TO COMPILE` and `//END CODE TO COMPILE` (script 2)

This file is then used as input for the `google-colure-compile` and the result (compiled code) is the file `mvY_XXXXXXcc.js`. `MOSFECCS_vy_XXXXXXcc.html` (the compiled production HTML file)

is a copy of the production source file MOSFECCS\_vY\_xxxxxx.html in which the section between //START CODE TO COMPILE and //END CODE TO COMPILE has been replaced by the compiled code in mvY\_xxxxxxcc.js.

The actual call of the google closure compiler by makeversion.pl is done by calling the shell script acc.sh, **which contains the local full path to the compiler** (and must be adjusted accordingly for the installation location of closure compiler on your computer).

### script acc.sh

```
#!/bin/bash
# bash script for compilation of .js file with closure compiler in the ADVANCED mode
# USAGE: ./acc.sh infilename.js
# the first and only argument is the filename of the .js file to be compiled,
# which must reside in the current directory

input=$1

pat=".js"
subst="cc.js"
substerr="aerr.txt"

output=${input/$pat/$subst}
stderr=${input/$pat/$substerr}
/Users/bj/MOSFECCS/MOSFECCS_DEV/closure_compiler/compiler --compilation_level ADVANCED
$input > $output 2>$stderr
echo $input "compiled to " $output
```

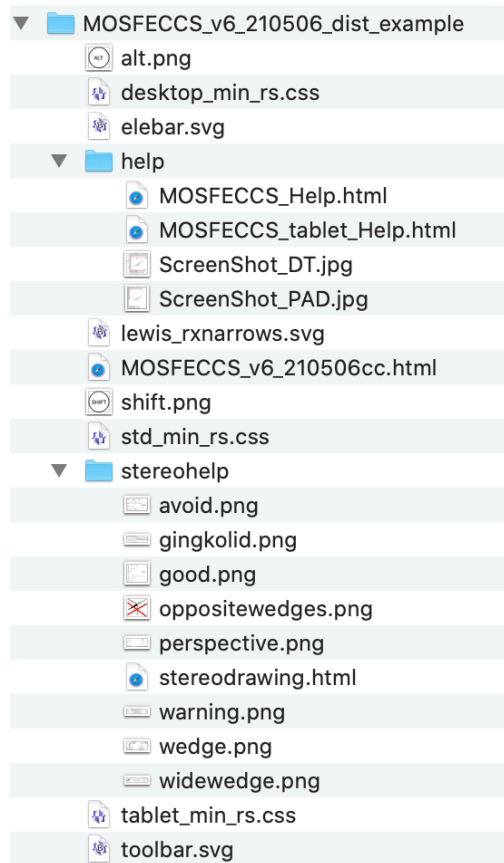
### Composing a new Distribution from the files generated by makeversion.pl

The listing below shows all files that are needed for a production release (distribution for standalone local installation or installation in Moodle).

After running makeversion.pl with a changed MOSFECCS\_vY\_SVG\_DEV\_xxxxxx-z.html development source file as input, replace the file MOSFECCS\_vY\_xxxxxxcc.html with the newly created one. The files in the help folder might need updating as well (.html and annotated screen shot .png).

If the CSS files were changed (std\_full\_rs\_css, tablet\_full\_rs.css and desktop\_full\_rs.css), make new minified versions (std\_min\_rs\_css, tablet\_min\_rs.css and desktop\_min\_rs.css) with the CSS minifier (<https://cssminifier.com>) and exchange the corresponding files in the distribution.

Keep the new mostest\_xxxxxx.js in a safe place for testing purposes. Always use the version xxxxxx-z of mostest\_xxxxxx-z.js to test MOSFECCS\_vY\_xxxxxx-z.html.



B. Jaun March 2024