

5 September 2017

Version 1

- On a species plot, a blank axis or plot title ("") would automatically substitute the blank with a default value. It now does not do this but simply records a blank title. 'auto' will reproduce the old behaviour. The default value in pp.set is still blank so this may need changing to 'auto' if the old behaviour is wanted.
- If labelColor is set to 'auto', then the label in a plot and any legend (text and symbol) will automatically be the same color as the plotted line or symbol (this does not apply to contour plots). This can help to differentiate lines in busy plots.
- The species include files used to generate species vs pH plots have been modified to include the mainSpecies = 'all' option which will prepare a plot of all species of all elements.
- There is now an optional second parameter for pxmin, pymin and p2ymin that specifies the starting point for the major axis ticks and axis numbering. Formerly the ticks always started at pxmin, pymin and p2ymin. The possibility of this offset makes it easier to get 'pretty' axis numbering.
- Yellow has been dropped from the list of autocolours for 'custom' plots (too hard to see).
- The selectedOutputFile keyword now only takes one argument – a TRUE or FALSE to indicate whether the selected output is forced to be written to disk or not. The filename is that defined by the current Phreeqc simulation.
- Include files are now allowed in override.set.
- The 'abs' or 'diff' option in a nudge file is now set individually for each label in a single nudge file. The 'abs' option for repositioning labels now includes an optional 'pos' parameter to indicate the x-justification of the anchor within the label string. The code for rotating text has also been improved.
- A long-standing memory leak has been fixed. This should reduce memory usage when there are many iterations.
- Improved flexibility in formatting numbers in plots (and their legends), both in floating point and exponential format.
- In cases where the initial solution calculation provides a poor estimate of the solution after reaction and where repeated calculations are noticeably slow, it may help to SAVE the last solution and then USE this to provide a starting point for the next solution. See demo\FeAsS-cd-music\FeAsS(cd-music)-faster.ppi for an example with a ~6x speed-up.
- Two new keywords, psView and psViewMaker, enable a viewer to automatically open the ps file produced at the end of calculations.
- Some Phreeqc calculations for our Mo review paper are included in the

\demo\MoReview2017 folder. See <http://www.phreeplot.org> for links.

- Default pdfMaker setting updated to latest Ghostscript (9.21).
- Updated to [Phreeqc_3.3.12_12704](#).

7 September 2017

Version 1

- 'Big data' – removed limits to the maximum number of lines with tags (previously a maximum of 999, now no limit) and the maximum length of the path of an input file (increased from 200 to 260).