ArAR – Argon Age Recalculator: Documentation

Version: 1.00.00

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Quick-Start Guide

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To start recalculating published K-Ar and $^{40}Ar/^{39}Ar$ dates, follow these five steps:

1. Create/import a dataset, and select dates to recalculate
2. Select the K-Ar (Fig. 1) or $^{40}Ar/^{39}Ar$ (Fig. 2) algorithm, and select units of time
3. Select/enter values for the "old" and "new" ^{40}K decay constants
4. Select/enter values for additional parameters, depending on the algorithm:
   - A. K-Ar algorithm: choose "old" and "new" K isotopic abundances (Fig. 1)
   - B. $^{40}Ar/^{39}Ar$ algorithm: choose "old" and "new" monitor mineral ages (Fig. 2)
5. Press "Execute" to perform calculations

Note: the "old" parameter values that you select/enter are those that were used to publish the date you are recalculating. The "new" parameter values that you select/enter are those that you would prefer over the "old" values.

WARNING: The "old" K isotopic abundances should be the ones used to determine the "old" ^{40}K decay constants. The "old" monitor mineral age should have been determined using the "old" ^{40}K decay constants.

WARNING: The "new" K isotopic abundances should be the ones used to determine the "new" ^{40}K decay constants. The "new" monitor mineral age should have been determined using the "new" ^{40}K decay constants.

For additional details, see the *ArAR* Manual.

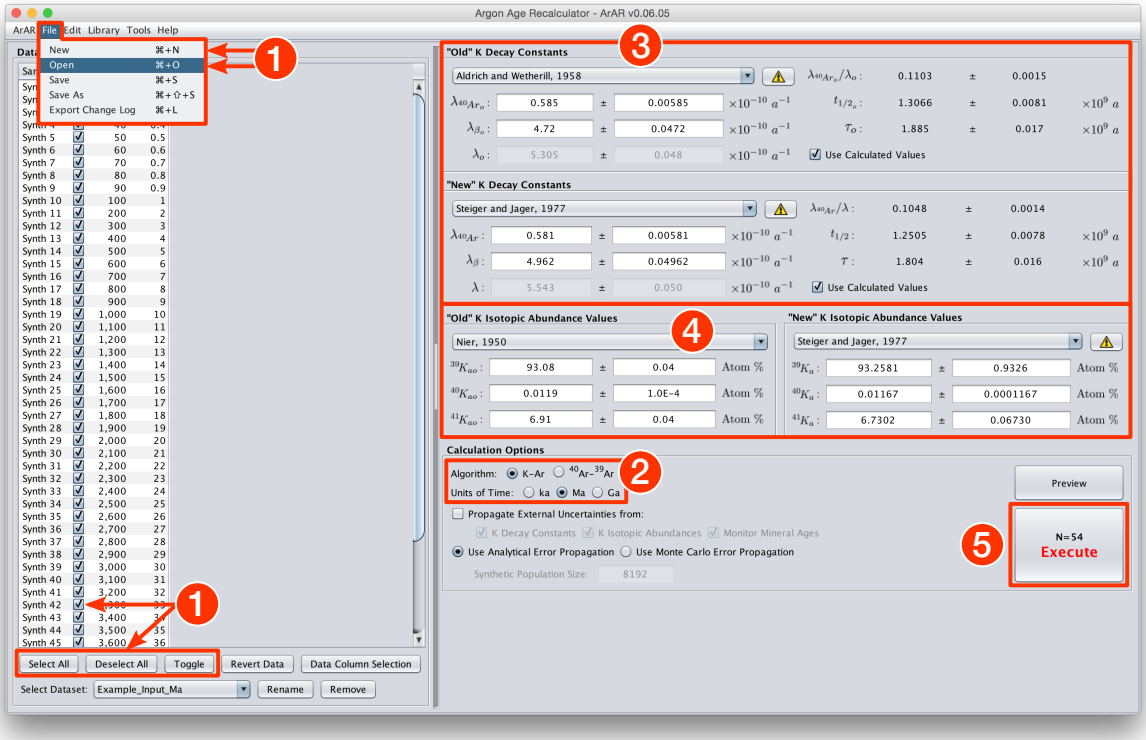

Figure 1. Example of recalculating synthetic K-Ar dates, with the pertinent controls highlighted for following the five steps above.

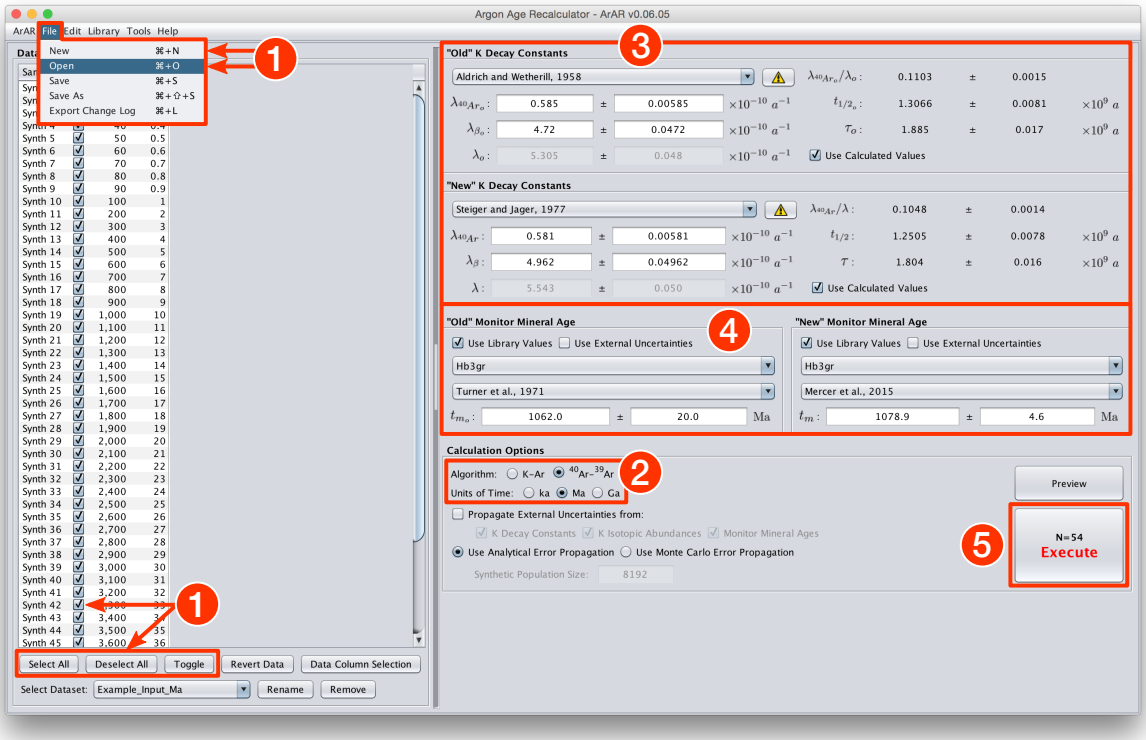

Figure 2. Example of recalculating synthetic $^{40}Ar/^{39}Ar$ dates, with the pertinent controls highlighted for following the five steps above.