AUTO – QAPF PLUTONIC V. 1.3.4

The QAPF diagram, also known as Streckeisen diagram, is the IUGS-recommended tool for a mineral-based classification and nomenclature of (mostly intrusive) magmatic rocks. To facilitate the methodical calculations and analysis procedures for a correct plutonic lithotype nomenclature, a new computer tool (*Auto-QAPF Plutonic*) is here provided. Following the official IUGS guidelines, such tool computes the correct lithotype name from not recalculated mineral modal amounts, adding other information such as the colour index prefixes (*leuco-* and *mela-*) or special rock nomenclatures (e.g., *trondhjemite*), when useful. Ultramafic and gabbroic rock classification and nomenclature are supported as well.

Requirements

Auto-QAPF Plutonic runs only on Windows operating systems. It does not require any installation.
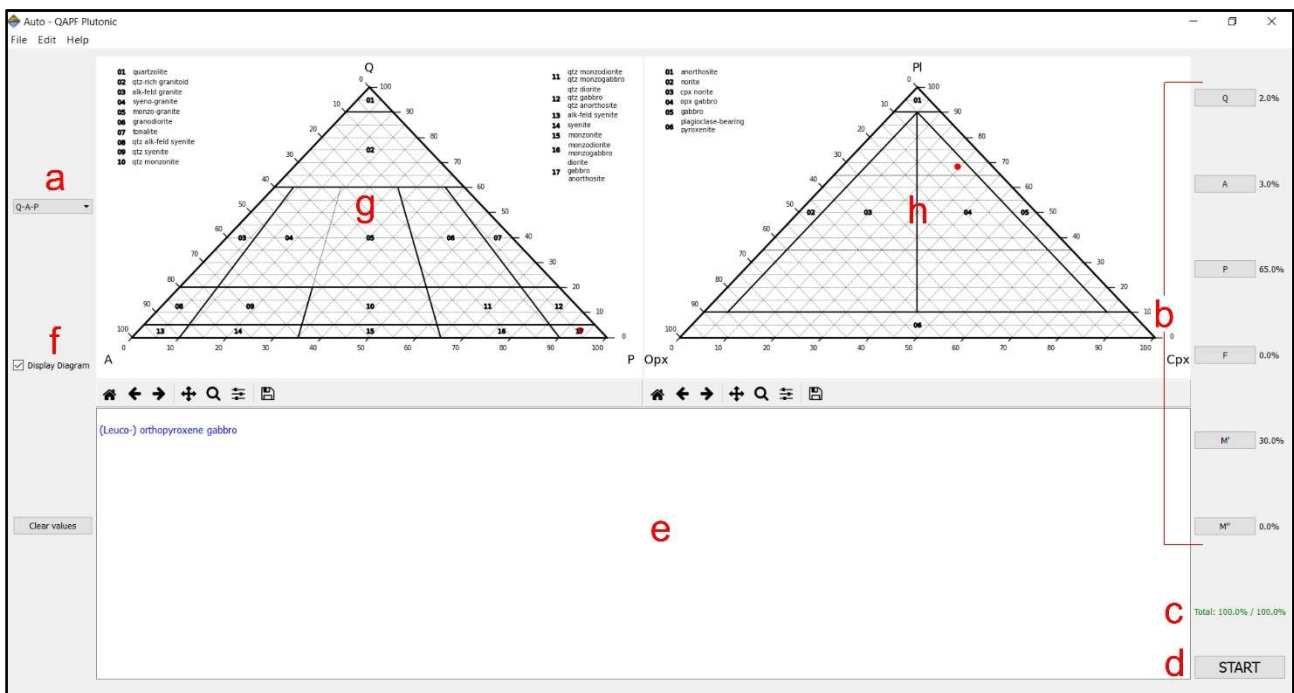
Quick Guide to Auto-QAPF Plutonic

Figure 1 - Auto - QAPF Plutonic main window.

Once Auto-QAPF Plutonic has been launched, the user shall follow these steps to classify a plutonic rock:

1. Choose which of the two QAPF triangular diagram s/he wants to use (Q-A-P or A-P-F), using the drop-down menu (Fig.1a) located on the left side of the window.
2. Select the modal percentage (NOT recalculated to 100) of quartz/foid, alkali-feldspar, plagioclase, coloured (M') and colourless (M'') mafic and related minerals, using the buttons (Fig.1b) located on the right side of the window. (Please note here that M'' does not come from classical QAPF parameters and is equal to M – M').
3. Combine all the percentages until the down-right located label (Fig.1c) turns green (this means that the sum of all percentages is exactly 100%).
4. Click on 'START' button (Fig.1d).

5. Enter other optional information if the program requires it (pop-up windows may occasionally appear, e.g., Fig.2).
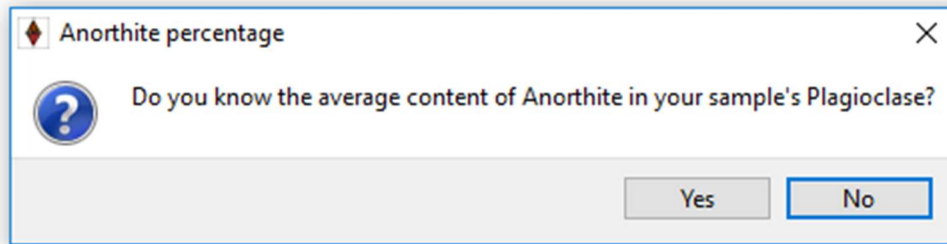

Figure 2 - Example of additional pop-up window.

6. The resulting rock name will be displayed in the lower part of the window (Fig.1e).
7. If the 'Display Diagram' checkbox (Fig.1f) is checked, the graphic interpretation of the result will be shown within the two plotting areas located in the upper side of the window. The left plotting area (Fig.1g) will hold the QAPF diagram, while the right one (Fig.1h) will contain ultramafic or gabbroic rocks diagrams when they are required.