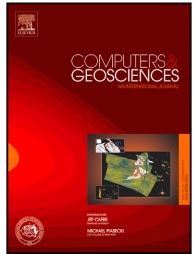
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An Excel spreadsheet to classify chemical analyses of amphiboles following the IMA 2012 recommendations

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ACCEPTED MANUSCRIPT

1	An Excel spreadsheet to classify chemical analyses of amphiboles
2	following the IMA 2012 recommendations
3	
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8	
9	Abstract
10	A Microsoft Excel spreadsheet has been programmed to assist with classification of chemical
11	analyses of orthorhombic and monoclinic amphiboles following the 2012 nomenclature
12	recommended by the International Mineralogical Association. The spreadsheet is intended for
13	use only with compositional data (wt% oxides and halogens, rather than atomic proportions) and
14	provides options for the estimation of $Fe^{3+}/\Sigma Fe$ and $Mn^{3+}/\Sigma Mn$ ratios and OH content. Various
15	cation normalization schemes can be automatically or manually selected. For each analysis, the
16	output includes the group, subgroup (or B-occupancy for the oxo-amphiboles), and species name
17	including any mandatory chemical prefixes, along with a formula based on 24 anions. The
18	formula results can be exported in a form suitable for the AMPH2012 program. Prefixes related
19	to space groups (proto-) and suffixes $(-P2_1/m)$ are not assigned in the spreadsheet. Large data sets
20	(up to 200 analyses at a time) can be accommodated by the spreadsheet, which is accompanied
21	by results calculated for more than 650 amphibole analyses taken from the literature.
22	
23	Keywords: amphibole, electron microprobe, Excel, guidelines, nomenclature, spreadsheet

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