

## Feldspars and feldspathoids VII: the feldspathoids

Earlier in this series, we arrived at the chemical formulae for feldspars by substituting 3+ cations for Si<sup>4+</sup> in a quadrupled analog of the formula for quartz. Here, we arrive at the formulae for

feldspathoids by making similar substitutions, but with a quartz formula that is only doubled or tripled. The results are minerals poorer in Si than the alkali feldspars, as the gray contours show.

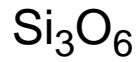
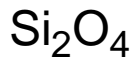
Let's begin with the chemical formula for quartz, the most familiar silica mineral.



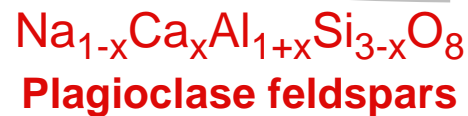
Let's *double* that formula.

Let's *triple* that formula.

Let's *quadruple* that formula.



0.55



0.35

0.45

0.65

0.75

0.85

0.95

SiO<sub>2</sub>  
Quartz etc.

Feldspathoids  
Feldspars

Si

(Si + Al + K + Na + Ca)