

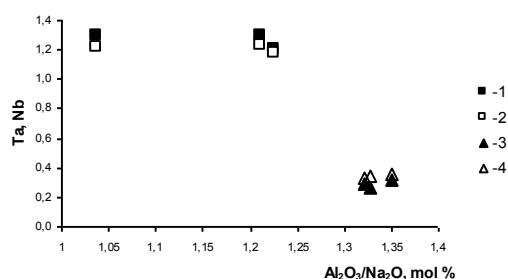
## Ta, Nb in Topaz or Cryolite bearing granitic melts (experimental data)

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Experiments conducted at 800°C and 1kb show phase relation in the system Si-Al-Na-Li-F-H<sub>2</sub>O. Under the condition of fluorine phases saturation, an equilibrium crystallization of fluorine minerals and/or the origin of aluminum-fluorine (salt) is possible [1]. The experimentally determined phase relations are in general agreement with compositions of topaz and/or cryolite bearing granites from different regions. Nb and Ta are incompatible during magmatic fractionation. They are concentrated in evolved granitic melts. Concentrations of Ta, Nb in silica melt significantly depend on Alumina Saturation Index of melts [2, 3, etc.]. Sharp change of contents of these metals in silica melt is also concerned with phase relations in high Fluorine system.



**Figure 1** Cry-bearing melts: 1-Ta, 2-Nb. Topaz-bearing melts: 3-Ta, 4-Nb.

[1] Gramenitskii & Shchekina (2001) *Geochem.Int.* **43**, 39-52. [2] Linnen & Keppler (1997) *Contr Min Petr.* **128**, 213-227. [3] Chevychelov etc (2010) *Geochem.Int.* **48**, 456-464.