**Article title**

Genesis and new mineral chemistry data of carlosbarbosaite, a new potential U and Nb ore source from miarolitic-, A-type granites and NYF pegmatites of the La Chinchilla pluton, Velasco ranges, La Rioja, Argentina

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Electron microprobe analytical data of miarolitic amazonite and other granitic K-feldspar (oxide data in wt. %), and calculated mineral formulae and end member molar fractions from La Chinchilla granites and miarolitic pegmatites.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | 5310-FK 1 | 5310-FK 2 | 5309-FK 1 | 5307A Amz 1 | 5307A Amz 2 | 5307A Amz 3 | 5307A Amz rim 4 | 5307A Amz rim 5 | 5307A Amz rim 6 | 5307A Amz rim 7 | 5307A Amz rim 9 |
| SiO2 | 65.18 | 64.51 | 64.20 | 64.58 | 64.68 | 65.07 | 64.42 | 64.88 | 65.33 | 65.52 | 64.17 |
| TiO2 | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. |
| Al2O3 | 19.21 | 18.95 | 19.17 | 19.12 | 19.05 | 19.13 | 18.88 | 19.22 | 19.13 | 19.15 | 18.86 |
| FeO | 0.05 | 0.05 | b.d. | 0.02 | 0.01 | b.d. | 0.03 | b.d. | 0.04 | 0.06 | b.d. |
| MnO | b.d. | b.d. | 0.06 | b.d. | 0.03 | b.d. | b.d. | b.d. | 0.03 | b.d. | b.d. |
| MgO | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. |
| CaO | 0.00 | b.d. | 0.00 | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. |
| Na2O | 0.95 | 0.69 | 0.40 | 0.48 | 0.58 | 0.68 | 0.54 | 0.45 | 0.81 | 0.44 | 0.83 |
| K2O | 15.26 | 15.84 | 16.39 | 15.95 | 15.42 | 15.49 | 15.49 | 15.53 | 15.56 | 15.64 | 14.98 |
| SrO | b.d. | 0.04 | b.d. | 0.02 | b.d. | 0.05 | b.d. | 0.01 | b.d. | b.d. | 0.04 |
| PbO | b.d. | 0.04 | b.d. | 0.04 | b.d. | 0.03 | b.d. | b.d. | b.d. | b.d. | 0.04 |
| BaO | b.d. | b.d. | 0.06 | b.d. | 0.00 | b.d. | b.d. | b.d. | b.d. | b.d. | 0.04 |
| Cs2O | b.d. | b.d. | 0.03 | b.d. | b.d. | 0.07 | b.d. | 0.03 | 0.05 | 0.02 | 0.02 |
| P2O5 | 0.01 | b.d. | 0.05 | 0.08 | 0.03 | 0.04 | 0.01 | 0.02 | b.d. | 0.05 | 0.02 |
| Total | 100.65 | 100.13 | 100.35 | 100.28 | 99.79 | 100.56 | 99.37 | 100.14 | 100.94 | 100.88 | 98.99 |
| Number of cations on the basis of 8O |
| Si | 2.979 | 2.977 | 2.964 | 2.973 | 2.982 | 2.981 | 2.985 | 2.981 | 2.982 | 2.988 | 2.982 |
| Ti | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 1.035 | 1.031 | 1.043 | 1.037 | 1.035 | 1.033 | 1.031 | 1.041 | 1.029 | 1.029 | 1.033 |
| Fe | 0.002 | 0.002 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.002 | 0.002 | 0.000 |
| Mn | 0.000 | 0.000 | 0.002 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 |
| Mg | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ca | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.084 | 0.062 | 0.036 | 0.043 | 0.051 | 0.061 | 0.049 | 0.040 | 0.072 | 0.039 | 0.074 |
| K | 0.890 | 0.932 | 0.965 | 0.937 | 0.907 | 0.905 | 0.916 | 0.910 | 0.906 | 0.910 | 0.888 |
| Sr | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Pb | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Cs | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 |
| P | 0.000 | 0.000 | 0.002 | 0.003 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.002 | 0.001 |
| Total | 4.990 | 5.005 | 5.013 | 4.994 | 4.978 | 4.984 | 4.981 | 4.973 | 4.992 | 4.970 | 4.981 |
| Or % mol | 91.37 | 93.79 | 96.41 | 95.61 | 94.63 | 93.72 | 94.95 | 95.79 | 92.68 | 95.91 | 92.27 |
| An % mol | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ab % mol | 8.61 | 6.21 | 3.58 | 4.39 | 5.37 | 6.28 | 5.05 | 4.21 | 7.32 | 4.09 | 7.73 |

(continued)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | 5307A Amz rim 10 | 5307A Amz rim 11 | 5307A Amz 12 | 5307A Amz 13 | 5307A Amz 14 | 5307A Amz 15 | 5307 A Amz 16 | 5307A Amz 17 | 5307C Amz 1 | 5307CAmz 2 | 5307CAmz 3 |
| SiO2 | 64.57 | 64.78 | 64.26 | 64.80 | 64.72 | 64.51 | 64.55 | 64.77 | 64.72 | 64.33 | 63.66 |
| TiO2 | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. |
| Al2O3 | 19.13 | 18.92 | 19.02 | 19.01 | 18.87 | 18.96 | 18.74 | 19.15 | 18.98 | 18.85 | 18.65 |
| FeO | b.d. | b.d. | 0.03 | b.d. | 0.03 | 0.03 | b.d. | b.d. | 0.02 | 0.03 | 0.02 |
| MnO | 0.01 | 0.01 | 0.00 | 0.03 | 0.07 | 0.03 | b.d. | 0.03 | b.d. | 0.05 | b.d. |
| MgO | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. |
| CaO | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. |
| Na2O | 0.42 | 0.65 | 0.58 | 0.50 | 0.34 | 0.64 | 0.62 | 0.64 | 0.63 | 0.48 | 0.56 |
| K2O | 15.61 | 15.82 | 15.51 | 15.63 | 15.68 | 15.43 | 15.80 | 15.66 | 15.42 | 15.71 | 15.74 |
| SrO | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | b.d. | 0.05 | b.d. |
| PbO | b.d. | 0.05 | b.d. | b.d. | 0.07 | b.d. | b.d. | b.d. | 0.03 | b.d. | b.d. |
| BaO | 0.01 | b.d. | b.d. | 0.05 | b.d. | b.d. | b.d. | b.d. | 0.01 | b.d. | b.d. |
| Cs2O | 0.02 | 0.03 | 0.00 | b.d. | 0.02 | 0.03 | 0.04 | b.d. | 0.01 | 0.01 | 0.04 |
| P2O5 | 0.05 | b.d. | b.d. | 0.08 | b.d. | b.d. | 0.01 | b.d. | b.d. | b.d. | 0.07 |
| Total | 99.82 | 100.25 | 99.39 | 100.10 | 99.80 | 99.64 | 99.75 | 100.24 | 99.83 | 99.53 | 98.75 |
| Number of cations on the basis of 8O |
| Si | 2.978 | 2.983 | 2.978 | 2.981 | 2.989 | 2.982 | 2.986 | 2.978 | 2.985 | 2.982 | 2.977 |
| Ti | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 1.040 | 1.027 | 1.039 | 1.031 | 1.027 | 1.033 | 1.022 | 1.037 | 1.032 | 1.030 | 1.028 |
| Fe | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 |
| Mn | 0.001 | 0.000 | 0.000 | 0.001 | 0.003 | 0.001 | 0.000 | 0.001 | 0.000 | 0.002 | 0.000 |
| Mg | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ca | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.037 | 0.058 | 0.052 | 0.044 | 0.030 | 0.057 | 0.056 | 0.057 | 0.056 | 0.043 | 0.051 |
| K | 0.918 | 0.929 | 0.917 | 0.917 | 0.924 | 0.910 | 0.932 | 0.918 | 0.907 | 0.929 | 0.939 |
| Sr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Pb | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Cs | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 |
| P | 0.002 | 0.000 | 0.000 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 |
| Total | 4.977 | 4.998 | 4.987 | 4.979 | 4.975 | 4.985 | 4.997 | 4.991 | 4.981 | 4.989 | 5.000 |
| Or % mol | 96.10 | 94.13 | 94.63 | 95.40 | 96.82 | 94.11 | 94.36 | 94.17 | 94.18 | 95.54 | 94.86 |
| An % mol | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| Ab % mol | 3.90 | 5.87 | 5.37 | 4.60 | 3.18 | 5.89 | 5.64 | 5.83 | 5.81 | 4.46 | 5.14 |

b.d.: below detection limit