

| Sample | 295-90 | 295-90 | 295-90 | 295-90 | 295-90 | 295-90 | 295-90 | 295-90 | 295-90 | 295-90 | 295-90 | 295-90 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 |
|--------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------|-----------|-----------|
| Mount | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Row | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Grain | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 5 | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| Comment | centro | centro | bordo | bordo | centro | bordo | centro | bordo | centro | bordo | | | escuro | escuro | claro | claro | escuro | escuro | claro |
| Color | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Prismático | Prismático | Prismático | Prismático | Anédrico | Anédrico | Anédrico |
| Size | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Fino | Fino | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Zonamento Oscilatório | Zonamento Oscilatório | Zonamento Oscilatório | Zonamento Oscilatório | Sim | Sim | Sim |
| BSE image | | | | | | | | | | | | | Site 11 e Site 13 | Site 11 e Site 13 | Site 11 e Site 13 | Site 11 e Site 13 | site 14 | site 14 | site 14 |
| Analysis | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 98.52 | 98.32 | 98.35 | 98.83 | 98.72 | 98.83 | 98.56 | 98.51 | 98.83 | 98.45 | 98.36 | 97.58 | 98.68 | 99.17 | 96.53 | 95.77 | 98.64 | 99.66 | 94.18 |
| WO ₃ | 0.00 | 0.26 | 0.01 | 0.33 | 0.03 | 0.00 | 0.09 | 0.00 | 0.28 | 0.08 | 0.06 | 0.13 | 0.72 | 0.56 | 1.21 | 1.12 | 0.18 | 0.06 | 0.03 |
| Nb ₂ O ₅ | 0.42 | 0.16 | 0.54 | 0.42 | 0.13 | 0.05 | 0.28 | 0.18 | 0.22 | 0.36 | 0.16 | 0.28 | 0.57 | 0.35 | 1.27 | 1.96 | 0.98 | 0.57 | 1.27 |
| Ta ₂ O ₅ | 0.14 | 0.08 | 0.18 | 0.01 | 0.18 | 0.15 | 0.03 | 0.00 | 0.10 | 0.12 | 0.06 | 0.00 | 0.00 | 0.00 | 0.10 | 0.26 | 0.01 | 0.02 | 0.19 |
| SnO ₂ | 0.02 | 0.01 | 0.02 | 0.00 | 0.00 | 0.12 | 0.02 | 0.01 | 0.02 | 0.05 | 0.00 | 0.02 | 0.00 | 0.04 | 0.08 | 0.07 | 0.11 | 0.04 | 2.43 |
| ZrO ₂ | 0.04 | 0.00 | 0.00 | 0.03 | 0.04 | 0.00 | 0.00 | 0.00 | 0.07 | 0.06 | 0.03 | 0.07 | 0.01 | 0.00 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 |
| SiO ₂ | 0.01 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.00 | 0.03 | 0.03 | 0.28 | 0.45 | 0.02 | 0.04 | 0.04 | 0.02 | 0.02 | 0.04 | 0.03 |
| Fe ₂ O ₃ | 0.46 | 0.45 | 0.15 | 0.41 | 0.22 | 0.16 | 0.27 | 0.19 | 0.08 | 0.07 | 0.07 | 0.10 | 0.55 | 0.45 | 0.85 | 1.08 | 0.42 | 0.18 | 1.95 |
| V ₂ O ₃ | 0.36 | 0.43 | 0.28 | 0.35 | 0.28 | 0.26 | 0.25 | 0.37 | 0.19 | 0.18 | 0.16 | 0.19 | 0.19 | 0.10 | 0.17 | 0.23 | 0.09 | 0.12 | 0.24 |
| Cr ₂ O ₃ | 0.07 | 0.04 | 0.04 | 0.10 | 0.03 | 0.03 | 0.10 | 0.10 | 0.07 | 0.08 | 0.02 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 | 0.03 | 0.03 |
| Al ₂ O ₃ | 0.01 | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.04 | 0.09 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bi ₂ O ₃ | 0.04 | 0.00 | 0.00 | 0.03 | 0.02 | 0.00 | 0.05 | 0.00 | 0.04 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.03 |
| BaO | 0.00 | 0.09 | 0.00 | 0.00 | 0.07 | 0.00 | 0.07 | 0.04 | 0.03 | 0.06 | 0.06 | 0.07 | 0.03 | 0.01 | 0.04 | 0.07 | 0.08 | 0.00 | 0.01 |
| CaO | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.02 | 0.01 | 0.11 | 0.12 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.01 |
| ZnO | 0.00 | 0.02 | 0.00 | 0.09 | 0.04 | 0.02 | 0.02 | 0.00 | 0.06 | 0.00 | 0.02 | 0.05 | 0.01 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.05 |
| K ₂ O | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| Na ₂ O | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.02 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| Total | 100.10 | 99.94 | 99.64 | 100.64 | 99.81 | 99.62 | 99.80 | 99.41 | 100.07 | 99.56 | 99.55 | 99.16 | 100.84 | 100.73 | 100.39 | 100.67 | 100.57 | 100.73 | 100.45 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.988 | 0.988 | 0.990 | 0.987 | 0.992 | 0.994 | 0.991 | 0.993 | 0.991 | 0.992 | 0.990 | 0.985 | 0.985 | 0.989 | 0.973 | 0.966 | 0.986 | 0.991 | 0.958 |
| W | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.002 | 0.002 | 0.004 | 0.004 | 0.001 | 0.000 | 0.000 |
| Nb | 0.003 | 0.001 | 0.003 | 0.003 | 0.001 | 0.000 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 | 0.002 | 0.003 | 0.002 | 0.008 | 0.012 | 0.006 | 0.003 | 0.008 |
| Ta | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 |
| Sn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.013 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.004 | 0.006 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fe | 0.005 | 0.005 | 0.002 | 0.004 | 0.002 | 0.002 | 0.003 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.005 | 0.005 | 0.009 | 0.011 | 0.004 | 0.002 | 0.020 |
| V | 0.004 | 0.005 | 0.003 | 0.004 | 0.003 | 0.003 | 0.003 | 0.004 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.001 | 0.001 | 0.003 |
| Cr | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.002 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total | 1.001 | 1.001 | 1.001 | 1.001 | 1.000 | 1.000 | 1.001 | 1.001 | 1.000 | 1.000 | 1.002 | 1.001 | 1.000 | 0.999 | 0.998 | 0.998 | 0.999 | 0.999 | 1.003 |

| Sample | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | |
|--------------------------------|---------------|--------------|--------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|---------------|--------------|---------------|--------------|---------------|------|
| Mount | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Row | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Grain | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 10 | 10 | 11 | |
| Comment | claro | escuro | claro | claro | escuro | escuro | claro | claro | escuro | escuro | claro | claro | escuro | escuro | claro | claro | escuro | claro | escuro | claro | escuro | escuro | claro | escuro | |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Euédrico | Euédrico | Euédrico | Euédrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | |
| Size | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Fino | Fino | Fino |
| Zoning | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | |
| BSE image | site 14 | site 15 | site 15 | site 15 | site 16 | site 16 | site 16 | site 16 | site 17 | site 17 | site 17 | site 17 | site 18 | site 18 | site 18 | site 18 | site 19 | site 19 | site 20 | site 20 | site 21 | site 22 | site 22 | site 23 | |
| Analysis | 8 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 31 | 32 | 33 | |
| wt. % | | | | | | | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 93.66 | 97.59 | 86.95 | 86.21 | 98.76 | 99.86 | 88.48 | 89.54 | 99.18 | 99.31 | 90.28 | 91.45 | 99.14 | 98.36 | 89.68 | 90.76 | 98.36 | 92.12 | 97.83 | 93.85 | 98.22 | 98.83 | 95.04 | 98.77 | |
| WO ₃ | 0.24 | 0.38 | 0.03 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.18 | 0.24 | 0.38 | 0.28 | 0.00 | 0.12 | 0.37 | 0.00 | 0.00 | 0.13 | 0.06 | 0.58 | 0.24 | 0.25 | 0.29 | 0.26 | |
| Nb ₂ O ₅ | 1.40 | 0.70 | 3.71 | 7.43 | 0.22 | 0.31 | 2.50 | 5.89 | 0.46 | 0.49 | 2.69 | 1.52 | 0.22 | 0.11 | 3.33 | 3.85 | 0.22 | 1.37 | 0.76 | 3.63 | 0.51 | 0.29 | 2.93 | 0.47 | |
| Ta ₂ O ₅ | 0.24 | 0.19 | 0.10 | 0.00 | 0.06 | 0.08 | 0.21 | 0.19 | 0.06 | 0.00 | 0.07 | 0.39 | 0.26 | 0.00 | 0.05 | 0.00 | 0.05 | 0.09 | 0.02 | 0.71 | 0.04 | 0.00 | 0.09 | 0.00 | |
| SnO ₂ | 2.67 | 0.14 | 5.13 | 3.35 | 0.10 | 0.00 | 5.58 | 1.34 | 0.10 | 0.10 | 4.07 | 4.16 | 0.09 | 0.05 | 3.74 | 1.80 | 0.00 | 3.75 | 0.25 | 0.20 | 0.12 | 0.05 | 0.15 | 0.15 | |
| ZrO ₂ | 0.00 | 0.01 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 | 0.00 | 0.04 | 0.03 | 0.00 | 0.00 | 0.00 | 0.04 | 0.04 | 0.02 | 0.00 | |
| SiO ₂ | 0.06 | 0.02 | 0.04 | 0.03 | 0.01 | 0.03 | 0.04 | 0.03 | 0.01 | 0.02 | 0.05 | 0.02 | 0.02 | 0.02 | 0.02 | 0.07 | 0.04 | 0.13 | 0.02 | 0.02 | 0.04 | 0.11 | 0.04 | 0.04 | |
| Fe ₂ O ₃ | 1.89 | 0.76 | 2.81 | 3.28 | 0.79 | 0.19 | 2.44 | 3.00 | 0.22 | 0.16 | 2.54 | 2.00 | 0.61 | 0.87 | 2.42 | 2.84 | 1.00 | 1.37 | 0.81 | 1.26 | 0.46 | 0.26 | 0.84 | 0.31 | |
| V ₂ O ₃ | 0.20 | 0.04 | 0.33 | 0.32 | 0.07 | 0.11 | 0.36 | 0.81 | 0.05 | 0.05 | 0.29 | 0.28 | 0.18 | 0.09 | 0.43 | 0.33 | 0.22 | 0.41 | 0.45 | 0.32 | 0.13 | 0.12 | 0.32 | 0.10 | |
| Cr ₂ O ₃ | 0.02 | 0.01 | 0.03 | 0.05 | 0.00 | 0.00 | 0.02 | 0.29 | 0.00 | 0.03 | 0.01 | 0.01 | 0.03 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.05 | 0.04 | 0.00 | 0.01 | 0.04 | 0.00 | |
| Al ₂ O ₃ | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.05 | 0.00 | 0.01 | 0.02 | 0.02 | 0.06 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Bi ₂ O ₃ | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.14 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.10 | 0.04 | 0.08 | 0.02 | 0.04 | 0.04 | 0.00 | 0.01 | |
| BaO | 0.09 | 0.00 | 0.00 | 0.03 | 0.09 | 0.09 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.07 | 0.11 | 0.07 | 0.00 | 0.04 | 0.01 | 0.00 | 0.10 | 0.00 | |
| CaO | 0.00 | 0.00 | 0.02 | 0.00 | 0.03 | 0.00 | 0.01 | 0.02 | 0.02 | 0.00 | 0.03 | 0.03 | 0.01 | 0.02 | 0.01 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 | 0.01 | 0.02 | 0.01 | |
| ZnO | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.06 | 0.00 | 0.00 | 0.01 | 0.00 | 0.06 | 0.01 | 0.03 | 0.00 | 0.00 | 0.01 | 0.01 | 0.09 | 0.00 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | |
| K ₂ O | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | |
| Na ₂ O | 0.00 | 0.00 | 0.02 | 0.03 | 0.00 | 0.02 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.03 | |
| Total | 100.46 | 99.86 | 99.18 | 100.76 | 100.27 | 100.74 | 99.78 | 101.09 | 100.31 | 100.47 | 100.47 | 100.16 | 100.65 | 99.80 | 100.06 | 99.80 | 100.16 | 99.63 | 100.38 | 100.75 | 99.91 | 100.04 | 99.93 | 100.21 | |
| apfu | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ti | 0.954 | 0.984 | 0.914 | 0.894 | 0.989 | 0.993 | 0.925 | 0.913 | 0.992 | 0.992 | 0.931 | 0.943 | 0.990 | 0.988 | 0.928 | 0.934 | 0.987 | 0.950 | 0.981 | 0.951 | 0.988 | 0.991 | 0.964 | 0.989 | |
| W | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | |
| Nb | 0.009 | 0.004 | 0.023 | 0.046 | 0.001 | 0.002 | 0.016 | 0.036 | 0.003 | 0.003 | 0.017 | 0.009 | 0.001 | 0.001 | 0.021 | 0.024 | 0.001 | 0.009 | 0.005 | 0.022 | 0.003 | 0.002 | 0.018 | 0.003 | |
| Ta | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Sn | 0.014 | 0.001 | 0.029 | 0.018 | 0.001 | 0.000 | 0.031 | 0.007 | 0.001 | 0.001 | 0.022 | 0.023 | 0.000 | 0.000 | 0.021 | 0.010 | 0.000 | 0.021 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Si | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.002 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | |
| Fe | 0.019 | 0.008 | 0.030 | 0.034 | 0.008 | 0.002 | 0.025 | 0.031 | 0.002 | 0.002 | 0.026 | 0.021 | 0.006 | 0.009 | 0.025 | 0.029 | 0.010 | 0.014 | 0.008 | 0.013 | 0.005 | 0.003 | 0.009 | 0.003 | |
| V | 0.002 | 0.000 | 0.004 | 0.004 | 0.001 | 0.001 | 0.004 | 0.009 | 0.001 | 0.001 | 0.003 | 0.003 | 0.002 | 0.001 | 0.005 | 0.004 | 0.002 | 0.004 | 0.005 | 0.003 | 0.001 | 0.001 | 0.004 | 0.001 | |
| Cr | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Na | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | |
| Total | 1.002 | 1.000 | 1.001 | 0.998 | 1.002 | 1.001 | 1.003 | 1.001 | 1.000 | 1.000 | 1.003 | 1.002 | 1.002 | 1.002 | 1.002 | 1.002 | 1.003 | 1.003 | 1.002 | 0.997 | 1.000 | 1.000 | 0.998 | 1.000 | |

| Sample | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 |
|------------------------------------|----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------------|
| Mount | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Row | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Grain | 11 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 8 |
| Comment | claro | escuro | claro | claro | escuro | claro | escuro | claro | escuro | escuro | claro | claro | escuro | escuro | claro | claro | escuro | escuro | claro | claro | escuro | claro | escuro |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho |
| Shape | Anédrico | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Sub-édrico |
| Size | Fino | Grosseiro | Grosseiro | Grosseiro | Médio | Médio | Médio | Médio | Fino | Fino | Fino | Fino | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim |
| BSE image | site 23 | site 24 | site 24 | site 24 | site 25 | site 25 | site 26 | site 26 | site 27 | site 27 | site 27 | site 27 | site 28 | site 28 | site 28 | site 28 | site 29 | site 29 | site 29 | site 29 | site 30 | site 30 | site 31 |
| Analysis | 34 | 1 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| wt.% | | | | | | | | | | | | | | | | | | | | | | | |
| TiO₂ | 93.63 | 99.03 | 92.81 | 87.72 | 95.94 | 93.96 | 95.52 | 93.36 | 99.22 | 98.98 | 98.27 | 98.80 | 98.25 | 97.98 | 85.59 | 98.40 | 97.96 | 95.98 | 87.44 | 88.62 | 98.35 | 93.16 | 98.28 |
| WO₃ | 0.42 | 0.01 | 0.00 | 0.01 | 0.03 | 0.00 | 0.00 | 0.30 | 0.00 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.27 | 0.00 | 0.00 | 0.51 | 0.07 |
| Nb₂O₅ | 1.11 | 0.15 | 0.61 | 4.78 | 0.14 | 0.88 | 0.27 | 0.73 | 0.24 | 0.26 | 0.30 | 0.51 | 0.30 | 0.35 | 8.24 | 0.31 | 0.25 | 0.37 | 2.01 | 1.68 | 0.24 | 1.16 | 0.15 |
| Ta₂O₅ | 0.00 | 0.00 | 0.01 | 0.15 | 0.19 | 0.00 | 0.07 | 0.12 | 0.11 | 0.07 | 0.33 | 0.00 | 0.00 | 0.00 | 0.17 | 0.00 | 0.00 | 0.04 | 0.25 | 0.06 | 0.12 | 0.18 | 0.16 |
| SnO₂ | 3.72 | 0.02 | 3.04 | 3.13 | 0.16 | 2.01 | 0.50 | 2.68 | 0.05 | 0.03 | 0.05 | 0.07 | 0.05 | 0.03 | 1.09 | 0.08 | 0.07 | 0.45 | 7.07 | 6.55 | 0.02 | 2.53 | 0.09 |
| ZrO₂ | 0.03 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.03 | 0.03 | 0.02 | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 |
| SiO₂ | 0.03 | 0.12 | 0.15 | 0.16 | 0.04 | 0.10 | 0.04 | 0.12 | 0.02 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.06 | 0.02 | 0.01 | 0.02 | 0.05 | 0.05 | 0.02 | 0.01 | 0.00 |
| Fe₂O₃ | 1.04 | 0.78 | 2.68 | 3.49 | 2.88 | 2.81 | 2.57 | 2.23 | 0.71 | 0.70 | 1.16 | 0.25 | 1.03 | 1.03 | 4.07 | 0.75 | 1.00 | 2.31 | 2.32 | 2.31 | 0.64 | 2.10 | 0.92 |
| V₂O₃ | 0.11 | 0.13 | 0.47 | 0.32 | 0.54 | 0.43 | 0.62 | 0.30 | 0.16 | 0.27 | 0.21 | 0.15 | 0.21 | 0.20 | 0.54 | 0.22 | 0.24 | 0.54 | 0.39 | 0.31 | 0.19 | 0.27 | 0.16 |
| Cr₂O₃ | 0.02 | 0.00 | 0.00 | 0.01 | 0.06 | 0.05 | 0.00 | 0.02 | 0.00 | 0.01 | 0.04 | 0.01 | 0.00 | 0.01 | 0.02 | 0.01 | 0.01 | 0.08 | 0.01 | 0.06 | 0.01 | 0.03 | 0.02 |
| Al₂O₃ | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.04 | 0.00 | 0.02 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bi₂O₃ | 0.12 | 0.04 | 0.01 | 0.05 | 0.10 | 0.08 | 0.00 | 0.00 | 0.05 | 0.03 | 0.00 | 0.00 | 0.10 | 0.03 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.10 | 0.00 | 0.12 |
| BaO | 0.02 | 0.01 | 0.01 | 0.03 | 0.08 | 0.07 | 0.00 | 0.02 | 0.00 | 0.00 | 0.01 | 0.04 | 0.00 | 0.03 | 0.05 | 0.04 | 0.00 | 0.08 | 0.01 | 0.00 | 0.07 | 0.01 | 0.08 |
| CaO | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 |
| ZnO | 0.02 | 0.01 | 0.00 | 0.04 | 0.03 | 0.00 | 0.01 | 0.02 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 | 0.04 | 0.00 |
| K₂O | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.04 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Na₂O | 0.01 | 0.00 | 0.02 | 0.04 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.03 | 0.02 | 0.03 | 0.02 | 0.00 | 0.02 | 0.00 |
| Total | 100.31 | 100.32 | 99.82 | 99.94 | 100.24 | 100.38 | 99.64 | 99.95 | 100.62 | 100.43 | 100.66 | 99.87 | 100.00 | 99.76 | 99.86 | 99.88 | 99.58 | 99.89 | 99.92 | 99.67 | 99.76 | 100.03 | 100.06 |
| apfu | | | | | | | | | | | | | | | | | | | | | | | |
| Ti | 0.958 | 0.989 | 0.951 | 0.911 | 0.968 | 0.955 | 0.969 | 0.955 | 0.989 | 0.989 | 0.983 | 0.991 | 0.987 | 0.986 | 0.891 | 0.988 | 0.986 | 0.971 | 0.918 | 0.928 | 0.989 | 0.954 | 0.988 |
| W | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.002 | 0.000 |
| Nb | 0.007 | 0.001 | 0.004 | 0.030 | 0.001 | 0.005 | 0.002 | 0.004 | 0.001 | 0.002 | 0.002 | 0.003 | 0.002 | 0.002 | 0.052 | 0.002 | 0.002 | 0.002 | 0.013 | 0.011 | 0.001 | 0.007 | 0.001 |
| Ta | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 |
| Sn | 0.020 | 0.000 | 0.016 | 0.017 | 0.001 | 0.011 | 0.003 | 0.015 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.006 | 0.000 | 0.000 | 0.002 | 0.039 | 0.036 | 0.000 | 0.014 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 |
| Fe | 0.011 | 0.008 | 0.028 | 0.036 | 0.029 | 0.029 | 0.026 | 0.023 | 0.007 | 0.007 | 0.012 | 0.002 | 0.010 | 0.010 | 0.042 | 0.007 | 0.010 | 0.023 | 0.024 | 0.024 | 0.006 | 0.022 | 0.009 |
| V | 0.001 | 0.001 | 0.005 | 0.004 | 0.006 | 0.005 | 0.007 | 0.003 | 0.002 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 0.006 | 0.002 | 0.003 | 0.006 | 0.004 | 0.003 | 0.002 | 0.003 | 0.002 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 |
| Total | 1.001 | 1.002 | 1.007 | 1.003 | 1.009 | 1.007 | 1.007 | 1.005 | 1.001 | 1.002 | 1.003 | 1.000 | 1.003 | 1.003 | 0.999 | 1.002 | 1.002 | 1.007 | 1.004 | 1.004 | 1.001 | 1.003 | 1.002 |

| Sample | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 |
|--------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Row | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Grain | 8 | 8 | 8 | 9 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Comment | escuro | claro | claro | | | | escuro | claro | escuro | claro | centro | bordo | escuro | claro | | | | | | | |
| Color | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Prismático | Prismático | Sub-édrico | Sub-édrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Fino | Fino | Médio | Médio | Médio | Médio | Grosso | Grosso | Grosso | Médio | Médio | Médio | Médio |
| Zoning | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Sim | Homogéneo | Homogéneo | Sim | Sim | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | site 31 | site 31 | site 31 | site 32 | site 32 | site 32 | site 33 | site 33 | site 34 | site 34 | site 35 | site 35 | site 36 | site 36 | | | | | | | |
| Analysis | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| wt. % | | | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 98.40 | 96.94 | 96.53 | 93.91 | 89.54 | 93.59 | 99.30 | 91.22 | 97.74 | 91.78 | 98.41 | 98.58 | 98.17 | 90.41 | 98.59 | 98.22 | 97.91 | 98.26 | 98.81 | 91.70 | 92.29 |
| WO ₃ | 0.16 | 0.58 | 0.81 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.13 | 0.07 | 0.00 | 0.12 | 0.00 | 0.00 | 0.10 | 0.19 | 0.05 | 0.16 | 0.05 |
| Nb ₂ O ₅ | 0.25 | 1.19 | 1.41 | 0.12 | 4.29 | 1.75 | 0.48 | 2.62 | 0.29 | 2.20 | 0.26 | 1.02 | 0.53 | 3.66 | 0.23 | 0.26 | 0.95 | 0.27 | 0.71 | 1.91 | 1.86 |
| Ta ₂ O ₅ | 0.00 | 0.12 | 0.00 | 0.00 | 0.25 | 0.05 | 0.00 | 0.07 | 0.00 | 0.69 | 0.00 | 0.19 | 0.12 | 0.22 | 0.00 | 0.00 | 0.15 | 0.10 | 0.00 | 0.35 | 0.00 |
| SnO ₂ | 0.17 | 0.24 | 0.20 | 0.67 | 1.77 | 1.15 | 0.08 | 2.10 | 0.02 | 1.97 | 0.03 | 0.07 | 0.11 | 2.16 | 0.06 | 0.04 | 0.07 | 0.04 | 0.12 | 2.84 | 2.79 |
| ZrO ₂ | 0.01 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 | 0.02 | 0.05 | 0.00 | 0.02 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | 0.00 | 0.00 | 0.00 |
| SiO ₂ | 0.04 | 0.05 | 0.03 | 0.02 | 0.04 | 0.06 | 0.03 | 0.00 | 0.02 | 0.05 | 0.02 | 0.02 | 0.03 | 0.09 | 0.03 | 0.04 | 0.02 | 0.03 | 0.01 | 0.06 | 0.03 |
| Fe ₂ O ₃ | 0.29 | 0.75 | 0.74 | 3.73 | 2.54 | 1.66 | 0.39 | 2.74 | 1.21 | 1.77 | 0.96 | 0.43 | 0.31 | 2.12 | 0.60 | 1.04 | 0.42 | 1.11 | 0.29 | 1.99 | 1.97 |
| V ₂ O ₃ | 0.32 | 0.19 | 0.18 | 0.62 | 0.83 | 0.86 | 0.08 | 0.31 | 0.23 | 0.53 | 0.18 | 0.12 | 0.26 | 0.96 | 0.26 | 0.20 | 0.17 | 0.20 | 0.15 | 0.63 | 0.24 |
| Cr ₂ O ₃ | 0.12 | 0.02 | 0.00 | 0.07 | 0.35 | 0.00 | 0.00 | 0.01 | 0.02 | 0.07 | 0.01 | 0.00 | 0.00 | 0.15 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.15 | 0.04 |
| Al ₂ O ₃ | 0.00 | 0.00 | 0.00 | 0.02 | 0.03 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.01 | 0.04 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 |
| Bi ₂ O ₃ | 0.00 | 0.02 | 0.00 | 0.07 | 0.07 | 0.02 | 0.10 | 0.00 | 0.05 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| BaO | 0.00 | 0.00 | 0.01 | 0.00 | 0.09 | 0.03 | 0.03 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.04 | 0.04 | 0.15 | 0.00 | 0.04 | 0.00 | 0.01 | 0.02 |
| CaO | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.02 | 0.01 | 0.03 | 0.01 | 0.01 | 0.02 | 0.02 | 0.03 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.02 | 0.00 |
| ZnO | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.12 | 0.03 | 0.00 | 0.03 | 0.08 | 0.00 | 0.07 | 0.00 | 0.08 | 0.04 | 0.07 | 0.06 | 0.00 | 0.01 | 0.04 | 0.02 |
| K ₂ O | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 |
| Na ₂ O | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.02 | 0.00 | 0.04 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 |
| Total | 99.78 | 100.15 | 99.91 | 99.32 | 100.00 | 99.31 | 100.56 | 99.16 | 99.66 | 99.47 | 100.04 | 100.70 | 99.55 | 100.06 | 99.87 | 100.07 | 99.95 | 100.30 | 100.14 | 99.87 | 99.32 |
| apfu | | | | | | | | | | | | | | | | | | | | | |
| Ti | 0.989 | 0.977 | 0.976 | 0.959 | 0.924 | 0.958 | 0.991 | 0.943 | 0.985 | 0.946 | 0.987 | 0.985 | 0.990 | 0.930 | 0.990 | 0.986 | 0.985 | 0.985 | 0.990 | 0.944 | 0.951 |
| W | 0.001 | 0.002 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 |
| Nb | 0.002 | 0.007 | 0.009 | 0.001 | 0.027 | 0.011 | 0.003 | 0.016 | 0.002 | 0.014 | 0.002 | 0.006 | 0.003 | 0.023 | 0.001 | 0.002 | 0.006 | 0.002 | 0.004 | 0.012 | 0.011 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 |
| Sn | 0.001 | 0.001 | 0.001 | 0.004 | 0.010 | 0.006 | 0.000 | 0.011 | 0.000 | 0.011 | 0.000 | 0.000 | 0.001 | 0.012 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.015 | 0.015 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Fe | 0.003 | 0.008 | 0.007 | 0.038 | 0.026 | 0.017 | 0.004 | 0.028 | 0.012 | 0.018 | 0.010 | 0.004 | 0.003 | 0.022 | 0.006 | 0.010 | 0.004 | 0.011 | 0.003 | 0.021 | 0.020 |
| V | 0.003 | 0.002 | 0.002 | 0.007 | 0.009 | 0.009 | 0.001 | 0.003 | 0.003 | 0.006 | 0.002 | 0.001 | 0.003 | 0.011 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 0.007 | 0.003 |
| Cr | 0.001 | 0.000 | 0.000 | 0.001 | 0.004 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total | 1.001 | 0.999 | 0.998 | 1.011 | 1.004 | 1.004 | 1.001 | 1.004 | 1.003 | 1.002 | 1.001 | 1.000 | 1.000 | 1.003 | 1.001 | 1.003 | 1.000 | 1.002 | 1.000 | 1.004 | 1.002 |

| Sample | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 |
|--------------------------------|---------------|--------------|---------------|---------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Mount | 7 | 7 | 7 | 7 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Row | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Grain | 8 | 9 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 5 | 5 | 5 | 5 | 6 |
| Comment | | | | | centro | centro | bordo | bordo | centro | centro | bordo | bordo | centro | escuro | escuro | claro | claro | escuro |
| Color | Preto | Preto | Preto | Vermelho | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado |
| Shape | Anédrico | Anédrico | Anédrico | Euédrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Sub-édrico |
| Size | Médio | Médio | Grosseiro | Grosseiro | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Sim | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Zonado | Zonado | Zonado | Zonado |
| BSE image | | | | site 7 | site 41 | site 41 | site 41 | site 41 | | | | | | site 43 | site 43 | site 43 | site 43 | site 44 |
| Analysis | 8 | 9 | 1 | 2 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 15 | 16 | 17 | 18 | 19 |
| wt.% | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 98.88 | 98.42 | 99.41 | 99.53 | 98.95 | 98.62 | 95.41 | 93.24 | 98.79 | 98.17 | 99.06 | 99.03 | 98.79 | 98.06 | 99.39 | 90.87 | 91.37 | 98.71 |
| WO ₃ | 0.08 | 0.39 | 0.09 | 0.00 | 0.05 | 0.02 | 0.27 | 0.16 | 0.00 | 0.12 | 0.00 | 0.00 | 0.00 | 0.61 | 0.12 | 0.21 | 0.11 | 0.05 |
| Nb ₂ O ₅ | 0.45 | 0.44 | 0.32 | 0.09 | 0.20 | 0.67 | 0.82 | 2.72 | 0.33 | 0.44 | 0.24 | 0.42 | 0.23 | 0.68 | 0.43 | 1.99 | 1.72 | 0.56 |
| Ta ₂ O ₅ | 0.19 | 0.14 | 0.06 | 0.04 | 0.05 | 0.14 | 0.16 | 0.28 | 0.00 | 0.26 | 0.00 | 0.00 | 0.00 | 0.18 | 0.21 | 0.04 | 0.21 | 0.00 |
| SnO ₂ | 0.04 | 0.05 | 0.00 | 0.02 | 0.05 | 0.09 | 1.88 | 1.36 | 0.01 | 0.07 | 0.04 | 0.03 | 0.04 | 0.00 | 0.05 | 3.89 | 4.30 | 0.03 |
| ZrO ₂ | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.02 | 0.00 | 0.03 | 0.00 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 |
| SiO ₂ | 0.02 | 0.03 | 0.04 | 0.02 | 0.02 | 0.02 | 0.06 | 0.02 | 0.04 | 0.02 | 0.02 | 0.01 | 0.03 | 0.01 | 0.02 | 0.03 | 0.00 | 0.02 |
| Fe ₂ O ₃ | 0.20 | 0.32 | 0.02 | 0.00 | 0.82 | 0.35 | 0.98 | 2.45 | 0.94 | 0.93 | 0.73 | 0.20 | 0.74 | 0.49 | 0.20 | 2.21 | 1.87 | 0.12 |
| V ₂ O ₃ | 0.09 | 0.15 | 0.14 | 0.13 | 0.22 | 0.19 | 0.21 | 0.22 | 0.13 | 0.16 | 0.21 | 0.13 | 0.30 | 0.06 | 0.04 | 0.23 | 0.24 | 0.08 |
| Cr ₂ O ₃ | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.05 | 0.00 |
| Al ₂ O ₃ | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.01 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 |
| Bi ₂ O ₃ | 0.05 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.02 | 0.04 | 0.06 | 0.04 | 0.08 | 0.09 |
| BaO | 0.03 | 0.00 | 0.00 | 0.07 | 0.00 | 0.03 | 0.00 | 0.00 | 0.02 | 0.04 | 0.02 | 0.00 | 0.08 | 0.01 | 0.00 | 0.00 | 0.04 | 0.01 |
| CaO | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.02 | 0.03 | 0.01 | 0.01 | 0.01 | 0.00 | 0.02 | 0.00 | 0.01 | 0.02 |
| ZnO | 0.05 | 0.01 | 0.03 | 0.10 | 0.00 | 0.06 | 0.00 | 0.00 | 0.02 | 0.02 | 0.09 | 0.00 | 0.05 | 0.00 | 0.00 | 0.10 | 0.00 | 0.03 |
| K ₂ O | 0.02 | 0.00 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Na ₂ O | 0.04 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.01 | 0.00 |
| Total | 100.17 | 99.95 | 100.20 | 100.05 | 100.40 | 100.24 | 99.90 | 100.50 | 100.30 | 100.31 | 100.43 | 99.87 | 100.29 | 100.20 | 100.58 | 99.64 | 100.01 | 99.72 |
| apfu | | | | | | | | | | | | | | | | | | |
| Ti | 0.991 | 0.989 | 0.994 | 0.996 | 0.989 | 0.988 | 0.971 | 0.948 | 0.988 | 0.985 | 0.989 | 0.993 | 0.989 | 0.985 | 0.992 | 0.941 | 0.944 | 0.992 |
| W | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.001 | 0.000 | 0.000 |
| Nb | 0.003 | 0.003 | 0.002 | 0.001 | 0.001 | 0.004 | 0.005 | 0.017 | 0.002 | 0.003 | 0.001 | 0.003 | 0.001 | 0.004 | 0.003 | 0.012 | 0.011 | 0.003 |
| Ta | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 |
| Sn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.010 | 0.007 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.021 | 0.024 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fe | 0.002 | 0.003 | 0.000 | 0.000 | 0.008 | 0.004 | 0.010 | 0.025 | 0.009 | 0.009 | 0.007 | 0.002 | 0.007 | 0.005 | 0.002 | 0.023 | 0.019 | 0.001 |
| V | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.001 | 0.003 | 0.001 | 0.000 | 0.002 | 0.003 | 0.001 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total | 1.001 | 0.999 | 1.000 | 1.001 | 1.002 | 1.000 | 1.001 | 1.001 | 1.002 | 1.002 | 1.002 | 1.000 | 1.003 | 0.998 | 1.000 | 1.003 | 1.002 | 0.999 |

| Sample | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 |
|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Mount | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Row | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Grain | 6 | 6 | 6 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 10 | 10 | 10 | 10 |
| Comment | escuro | claro | claro | escuro | claro | claro | escuro | escuro | claro | claro | escuro | escuro | claro | claro | escuro | escuro | claro | claro |
| Color | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado | Preto/avermel hado |
| Shape | Sub-édrico | Sub-édrico | Sub-édrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Subédrico | Subédrico | Subédrico | Subédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado |
| BSE image | site 44 | site 44 | site 44 | site 45 | site 45 | site 45 | site 46 | site 46 | site 46 | site 46 | site 47 | site 47 | site 47 | site 47 | site 48 | site 48 | site 48 | site 48 |
| Analysis | 20 | 21 | 22 | 23 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| wt.% | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 98.87 | 94.00 | 88.24 | 99.02 | 94.56 | 96.71 | 99.07 | 98.93 | 92.09 | 95.65 | 99.37 | 98.74 | 86.73 | 87.33 | 94.26 | 94.30 | 89.97 | 89.76 |
| WO ₃ | 0.13 | 0.09 | 0.01 | 0.17 | 0.59 | 1.10 | 0.26 | 0.10 | 0.04 | 1.07 | 0.25 | 0.29 | 0.00 | 0.04 | 0.00 | 0.00 | 0.04 | 0.38 |
| Nb ₂ O ₅ | 0.37 | 1.15 | 4.07 | 0.41 | 2.88 | 0.84 | 0.46 | 0.64 | 1.95 | 1.47 | 0.40 | 0.23 | 4.94 | 4.18 | 0.27 | 0.29 | 1.42 | 1.56 |
| Ta ₂ O ₅ | 0.00 | 0.25 | 0.24 | 0.19 | 0.67 | 0.02 | 0.08 | 0.00 | 0.39 | 0.08 | 0.00 | 0.18 | 0.03 | 0.17 | 0.00 | 0.00 | 0.10 | 0.11 |
| SnO ₂ | 0.03 | 2.03 | 3.04 | 0.11 | 0.25 | 0.14 | 0.19 | 0.11 | 2.55 | 0.48 | 0.14 | 0.19 | 4.70 | 4.56 | 0.63 | 0.74 | 5.00 | 5.76 |
| ZrO ₂ | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.02 | 0.03 | 0.00 |
| SiO ₂ | 0.01 | 0.02 | 0.07 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | 0.03 | 0.05 | 0.00 | 0.18 |
| Fe ₂ O ₃ | 0.09 | 2.04 | 3.45 | 0.24 | 1.18 | 0.66 | 0.29 | 0.31 | 2.72 | 1.01 | 0.23 | 0.61 | 3.05 | 3.02 | 3.46 | 3.50 | 2.48 | 1.57 |
| V ₂ O ₃ | 0.15 | 0.46 | 0.31 | 0.06 | 0.46 | 0.14 | 0.10 | 0.12 | 0.22 | 0.33 | 0.22 | 0.32 | 0.31 | 0.28 | 0.67 | 0.79 | 0.32 | 0.29 |
| Cr ₂ O ₃ | 0.00 | 0.00 | 0.08 | 0.01 | 0.04 | 0.00 | 0.02 | 0.03 | 0.03 | 0.04 | 0.00 | 0.04 | 0.05 | 0.04 | 0.02 | 0.03 | 0.00 | 0.05 |
| Al ₂ O ₃ | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 | 0.03 |
| Bi ₂ O ₃ | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | 0.04 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.04 | 0.01 | 0.00 | 0.00 |
| BaO | 0.00 | 0.03 | 0.09 | 0.04 | 0.01 | 0.10 | 0.05 | 0.09 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.00 | 0.01 | 0.07 | 0.01 |
| CaO | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 | 0.02 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.03 | 0.01 |
| ZnO | 0.02 | 0.00 | 0.05 | 0.00 | 0.00 | 0.03 | 0.00 | 0.10 | 0.05 | 0.01 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.05 | 0.00 |
| K ₂ O | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Na ₂ O | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.04 |
| Total | 99.72 | 100.17 | 99.66 | 100.27 | 100.67 | 99.80 | 100.59 | 100.46 | 100.12 | 100.15 | 100.66 | 100.70 | 99.84 | 99.79 | 99.39 | 99.77 | 99.52 | 99.74 |
| apfu | | | | | | | | | | | | | | | | | | |
| Ti | 0.993 | 0.957 | 0.918 | 0.991 | 0.957 | 0.979 | 0.990 | 0.989 | 0.944 | 0.969 | 0.990 | 0.986 | 0.906 | 0.913 | 0.961 | 0.959 | 0.937 | 0.934 |
| W | 0.000 | 0.000 | 0.000 | 0.001 | 0.002 | 0.004 | 0.001 | 0.000 | 0.000 | 0.004 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Nb | 0.002 | 0.007 | 0.025 | 0.002 | 0.017 | 0.005 | 0.003 | 0.004 | 0.012 | 0.009 | 0.002 | 0.001 | 0.031 | 0.026 | 0.002 | 0.002 | 0.009 | 0.010 |
| Ta | 0.000 | 0.001 | 0.001 | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.000 | 0.011 | 0.017 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.014 | 0.003 | 0.001 | 0.001 | 0.026 | 0.025 | 0.003 | 0.004 | 0.028 | 0.032 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.002 |
| Fe | 0.001 | 0.021 | 0.036 | 0.002 | 0.012 | 0.007 | 0.003 | 0.003 | 0.028 | 0.010 | 0.002 | 0.006 | 0.032 | 0.032 | 0.035 | 0.036 | 0.026 | 0.016 |
| V | 0.002 | 0.005 | 0.003 | 0.001 | 0.005 | 0.002 | 0.001 | 0.001 | 0.002 | 0.004 | 0.002 | 0.003 | 0.003 | 0.003 | 0.007 | 0.009 | 0.004 | 0.003 |
| Cr | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Total | 1.000 | 1.004 | 1.004 | 1.000 | 0.999 | 0.999 | 1.000 | 1.000 | 1.004 | 0.999 | 0.999 | 1.001 | 1.000 | 1.002 | 1.010 | 1.010 | 1.005 | 1.002 |

| Sample | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 |
|--------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Mount | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 12 |
| Row | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Grain | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 15 | 1 |
| Comment | escuro | escuro | claro | claro | centro | centro | bordo | bordo | escuro | escuro | claro | claro | escuro | escuro | claro | claro | centro | |
| Color | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto/avermelhado | Preto-avermelhado |
| Shape | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Fino |
| Zoning | Zonado | Zonado | Zonado | Zonado | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Homogéneo | Homogéneo |
| BSE image | site 49 | site 49 | site 49 | site 49 | | | | | site 50 | site 50 | site 50 | site 50 | site 51 | site 51 | site 51 | site 51 | | |
| Analysis | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 1 |
| wt. % | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 99.14 | 99.18 | 90.16 | 92.76 | 97.15 | 99.31 | 99.00 | 94.48 | 98.86 | 99.53 | 92.66 | 91.44 | 98.83 | 95.26 | 87.78 | 86.39 | 98.22 | 98.28 |
| WO ₃ | 0.33 | 0.29 | 0.32 | 0.33 | 0.23 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.09 | 0.04 | 0.21 | 0.33 | 0.12 | 0.11 |
| Nb ₂ O ₅ | 0.48 | 0.37 | 2.10 | 0.88 | 1.40 | 0.48 | 0.20 | 0.84 | 0.27 | 0.25 | 0.99 | 2.07 | 0.54 | 0.39 | 2.75 | 3.89 | 0.76 | 0.63 |
| Ta ₂ O ₅ | 0.00 | 0.00 | 0.08 | 0.04 | 0.18 | 0.02 | 0.00 | 0.07 | 0.00 | 0.12 | 0.16 | 0.37 | 0.14 | 0.00 | 0.20 | 0.13 | 0.09 | 0.00 |
| SnO ₂ | 0.14 | 0.02 | 4.83 | 3.22 | 0.05 | 0.04 | 0.04 | 1.01 | 0.12 | 0.06 | 3.08 | 3.14 | 0.03 | 0.51 | 5.75 | 5.38 | 0.12 | 0.15 |
| ZrO ₂ | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.06 | 0.02 | 0.00 | 0.01 |
| SiO ₂ | 0.01 | 0.01 | 0.02 | 0.42 | 0.01 | 0.01 | 0.02 | 0.43 | 0.05 | 0.02 | 0.29 | 0.00 | 0.03 | 0.03 | 0.06 | 0.05 | 0.01 | 0.04 |
| Fe ₂ O ₃ | 0.26 | 0.16 | 2.18 | 0.95 | 0.62 | 0.19 | 0.81 | 2.06 | 0.64 | 0.27 | 1.02 | 2.07 | 0.22 | 3.13 | 2.77 | 2.90 | 0.53 | 0.27 |
| V ₂ O ₃ | 0.10 | 0.06 | 0.27 | 1.03 | 0.09 | 0.13 | 0.08 | 0.45 | 0.36 | 0.06 | 1.02 | 0.56 | 0.13 | 0.32 | 0.27 | 0.60 | 0.07 | 0.10 |
| Cr ₂ O ₃ | 0.00 | 0.00 | 0.03 | 0.08 | 0.00 | 0.01 | 0.03 | 0.00 | 0.04 | 0.00 | 0.09 | 0.10 | 0.02 | 0.08 | 0.04 | 0.00 | 0.00 | 0.00 |
| Al ₂ O ₃ | 0.00 | 0.00 | 0.01 | 0.06 | 0.00 | 0.01 | 0.04 | 0.06 | 0.00 | 0.00 | 0.06 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 |
| Bi ₂ O ₃ | 0.00 | 0.01 | 0.07 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.01 | 0.05 | 0.02 | 0.00 | 0.09 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| BaO | 0.07 | 0.01 | 0.07 | 0.01 | 0.04 | 0.08 | 0.06 | 0.02 | 0.01 | 0.03 | 0.00 | 0.00 | 0.05 | 0.11 | 0.04 | 0.06 | 0.00 | 0.06 |
| CaO | 0.00 | 0.00 | 0.02 | 0.05 | 0.00 | 0.00 | 0.02 | 0.01 | 0.01 | 0.00 | 0.05 | 0.01 | 0.01 | 0.01 | 0.00 | 0.02 | 0.01 | 0.01 |
| ZnO | 0.00 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.06 | 0.00 | 0.00 | 0.05 | 0.07 | 0.00 | 0.01 | 0.05 | 0.01 |
| K ₂ O | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Na ₂ O | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 |
| Total | 100.56 | 100.13 | 100.19 | 99.84 | 99.86 | 100.29 | 100.32 | 99.44 | 100.44 | 100.46 | 99.44 | 99.77 | 100.24 | 99.96 | 99.94 | 99.80 | 99.99 | 99.68 |
| apfu | | | | | | | | | | | | | | | | | | |
| Ti | 0.990 | 0.993 | 0.934 | 0.950 | 0.980 | 0.993 | 0.990 | 0.961 | 0.987 | 0.994 | 0.952 | 0.943 | 0.990 | 0.966 | 0.917 | 0.907 | 0.987 | 0.989 |
| W | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 |
| Nb | 0.003 | 0.002 | 0.013 | 0.005 | 0.008 | 0.003 | 0.001 | 0.005 | 0.002 | 0.001 | 0.006 | 0.013 | 0.003 | 0.002 | 0.017 | 0.025 | 0.005 | 0.004 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 |
| Sn | 0.001 | 0.000 | 0.027 | 0.017 | 0.000 | 0.000 | 0.000 | 0.005 | 0.001 | 0.000 | 0.017 | 0.017 | 0.000 | 0.003 | 0.032 | 0.030 | 0.001 | 0.001 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.000 | 0.006 | 0.000 | 0.000 | 0.000 | 0.006 | 0.001 | 0.000 | 0.004 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 |
| Fe | 0.003 | 0.002 | 0.023 | 0.010 | 0.006 | 0.002 | 0.008 | 0.021 | 0.006 | 0.003 | 0.010 | 0.021 | 0.002 | 0.032 | 0.029 | 0.030 | 0.005 | 0.003 |
| V | 0.001 | 0.001 | 0.003 | 0.011 | 0.001 | 0.001 | 0.001 | 0.005 | 0.004 | 0.001 | 0.011 | 0.006 | 0.001 | 0.003 | 0.003 | 0.007 | 0.001 | 0.001 |
| Cr | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ca | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total | 1.000 | 0.999 | 1.002 | 1.004 | 0.999 | 1.000 | 1.002 | 1.005 | 1.002 | 1.001 | 1.004 | 1.003 | 1.000 | 1.009 | 1.002 | 1.002 | 1.000 | 0.999 |

| Sample | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 |
|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------|------------|------------|------------|------------|
| Mount | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Row | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Grain | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 |
| Comment | centro | bordo | centro | bordo | escuro | escuro | claro | claro | escuro | claro | escuro | escuro | claro | claro | escuro | escuro | claro | claro | centro |
| Color | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Vermelho | Vermelho | Vermelho | Vermelho | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Prismático | Prismático | Prismático | Prismático | Prismático |
| Size | Médio | Médio | Fino | Fino | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Homogéneo |
| BSE image | | | site 70 | site 70 | site 71 | site 71 | site 71 | site 71 | site 72 | site 72 | site 73 | site 73 | site 73 | site 73 | site 74 | site 74 | site 74 | site 74 | |
| Analysis | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 98.67 | 98.58 | 98.33 | 94.64 | 99.64 | 99.42 | 91.97 | 92.40 | 99.33 | 92.66 | 98.08 | 97.07 | 92.72 | 91.84 | 95.76 | 95.90 | 90.71 | 89.85 | 96.82 |
| WO ₃ | 0.18 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.03 | 0.00 | 0.04 | 0.12 | 0.21 | 0.23 | 0.00 | 0.18 | 0.43 | 0.27 | 0.00 |
| Nb ₂ O ₅ | 0.23 | 0.76 | 0.28 | 0.47 | 0.28 | 0.45 | 3.58 | 1.15 | 0.16 | 1.27 | 0.64 | 1.54 | 1.28 | 1.66 | 0.37 | 0.69 | 2.17 | 1.58 | 0.44 |
| Ta ₂ O ₅ | 0.14 | 0.12 | 0.18 | 0.00 | 0.00 | 0.00 | 0.19 | 0.18 | 0.06 | 0.00 | 0.14 | 0.30 | 0.40 | 0.66 | 0.17 | 0.31 | 0.73 | 0.45 | 0.04 |
| SnO ₂ | 0.06 | 0.05 | 0.11 | 0.14 | 0.01 | 0.11 | 1.28 | 2.79 | 0.25 | 3.00 | 0.07 | 0.04 | 2.59 | 2.58 | 0.52 | 0.98 | 2.78 | 5.73 | 0.16 |
| ZrO ₂ | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.05 | 0.04 | 0.00 | 0.01 | 0.00 | 0.01 | 0.03 |
| SiO ₂ | 0.03 | 0.04 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.08 | 0.01 | 0.09 | 0.01 | 0.02 | 0.03 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.06 |
| Fe ₂ O ₃ | 0.52 | 0.35 | 0.64 | 3.77 | 0.12 | 0.16 | 1.97 | 1.84 | 0.23 | 1.42 | 0.57 | 0.69 | 2.38 | 2.19 | 2.70 | 1.86 | 2.65 | 1.97 | 1.31 |
| V ₂ O ₃ | 0.37 | 0.11 | 0.12 | 0.13 | 0.06 | 0.07 | 0.36 | 0.85 | 0.41 | 1.11 | 0.09 | 0.12 | 0.17 | 0.53 | 0.09 | 0.33 | 0.23 | 0.20 | 0.23 |
| Cr ₂ O ₃ | 0.05 | 0.00 | 0.01 | 0.03 | 0.01 | 0.00 | 0.07 | 0.03 | 0.02 | 0.09 | 0.00 | 0.03 | 0.05 | 0.07 | 0.05 | 0.03 | 0.02 | 0.01 | 0.03 |
| Al ₂ O ₃ | 0.00 | 0.02 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.02 |
| Bi ₂ O ₃ | 0.09 | 0.00 | 0.05 | 0.08 | 0.08 | 0.00 | 0.03 | 0.07 | 0.02 | 0.02 | 0.10 | 0.03 | 0.00 | 0.04 | 0.01 | 0.00 | 0.06 | 0.01 | 0.04 |
| BaO | 0.10 | 0.00 | 0.04 | 0.05 | 0.00 | 0.00 | 0.01 | 0.05 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.01 | 0.05 | 0.00 |
| CaO | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.02 | 0.02 | 0.01 | 0.01 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | 0.02 | 0.01 |
| ZnO | 0.00 | 0.04 | 0.03 | 0.02 | 0.00 | 0.08 | 0.06 | 0.09 | 0.00 | 0.03 | 0.01 | 0.01 | 0.00 | 0.04 | 0.01 | 0.00 | 0.04 | 0.02 | 0.04 |
| K ₂ O | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 |
| Na ₂ O | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.01 | 0.00 | 0.03 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 |
| Total | 100.47 | 100.08 | 99.88 | 99.36 | 100.22 | 100.33 | 99.56 | 99.71 | 100.65 | 99.75 | 99.81 | 100.00 | 99.87 | 99.91 | 99.77 | 100.34 | 99.91 | 100.20 | 99.25 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.988 | 0.989 | 0.989 | 0.962 | 0.996 | 0.993 | 0.945 | 0.950 | 0.991 | 0.950 | 0.987 | 0.978 | 0.952 | 0.945 | 0.970 | 0.969 | 0.938 | 0.934 | 0.981 |
| W | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.002 | 0.001 | 0.000 |
| Nb | 0.001 | 0.005 | 0.002 | 0.003 | 0.002 | 0.003 | 0.022 | 0.007 | 0.001 | 0.008 | 0.004 | 0.009 | 0.008 | 0.010 | 0.002 | 0.004 | 0.013 | 0.010 | 0.003 |
| Ta | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.003 | 0.002 | 0.000 |
| Sn | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.007 | 0.015 | 0.001 | 0.016 | 0.000 | 0.000 | 0.014 | 0.014 | 0.003 | 0.005 | 0.015 | 0.032 | 0.001 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Fe | 0.005 | 0.004 | 0.006 | 0.038 | 0.001 | 0.002 | 0.020 | 0.019 | 0.002 | 0.015 | 0.006 | 0.007 | 0.024 | 0.023 | 0.027 | 0.019 | 0.027 | 0.020 | 0.013 |
| V | 0.004 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | 0.009 | 0.004 | 0.012 | 0.001 | 0.001 | 0.002 | 0.006 | 0.001 | 0.004 | 0.003 | 0.002 | 0.002 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 |
| Total | 1.002 | 1.000 | 1.001 | 1.007 | 1.000 | 1.000 | 1.001 | 1.005 | 1.002 | 1.005 | 1.000 | 0.999 | 1.004 | 1.003 | 1.006 | 1.004 | 1.003 | 1.003 | 1.003 |

| Sample | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 | 295-96 |
|--------------------------------|------------|-----------|-----------|-----------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------|-----------|-----------|-----------|-----------|
| Mount | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Row | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |
| Grain | 8 | 9 | 9 | 9 | 9 | 10 | 11 | 11 | 12 | 12 | 12 | 12 | 13 | 13 | 14 | 15 | 1 | 2 | 3 |
| Comment | bordo | centro | centro | bordo | bordo | escuro | centro | bordo | centro | centro | bordo | bordo | centro | bordo | | | | | |
| Color | Preto | Caramelo | Caramelo | Caramelo | Caramelo | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Caramelo | Vermelho | Castanho | Castanho | Castanho |
| Shape | Prismático | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Fino | Fino | Fino | Fino | Fino |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Zonado | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | site 75 | | | | | | | | | | | | | | | | | | |
| Analysis | 21 | 22 | 23 | 24 | 25 | 26 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 1 | 2 | 3 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 98.10 | 97.95 | 98.22 | 98.61 | 98.06 | 98.59 | 98.53 | 97.72 | 98.27 | 98.50 | 97.83 | 98.74 | 98.27 | 97.66 | 98.24 | 99.04 | 97.94 | 98.34 | 98.41 |
| WO ₃ | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.11 | 0.00 | 0.20 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 |
| Nb ₂ O ₅ | 0.35 | 0.19 | 0.21 | 0.26 | 0.92 | 0.16 | 0.15 | 0.23 | 0.27 | 0.14 | 0.34 | 0.19 | 0.23 | 0.31 | 0.19 | 0.43 | 0.27 | 0.26 | 0.19 |
| Ta ₂ O ₅ | 0.00 | 0.00 | 0.00 | 0.13 | 0.02 | 0.10 | 0.08 | 0.11 | 0.04 | 0.00 | 0.32 | 0.21 | 0.08 | 0.27 | 0.11 | 0.00 | 0.00 | 0.10 | 0.00 |
| SnO ₂ | 0.25 | 0.04 | 0.06 | 0.04 | 0.01 | 0.07 | 0.04 | 0.07 | 0.07 | 0.02 | 0.07 | 0.07 | 0.06 | 0.06 | 0.16 | 0.08 | 0.08 | 0.10 | 0.02 |
| ZrO ₂ | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.04 | 0.00 | 0.00 |
| SiO ₂ | 0.03 | 0.00 | 0.00 | 0.03 | 0.00 | 0.02 | 0.00 | 0.01 | 0.01 | 0.03 | 0.01 | 0.02 | 0.01 | 0.02 | 0.02 | 0.04 | 0.03 | 0.01 | 0.01 |
| Fe ₂ O ₃ | 0.24 | 1.19 | 1.01 | 0.58 | 0.69 | 0.91 | 0.73 | 0.95 | 1.06 | 0.92 | 0.88 | 0.80 | 0.81 | 0.95 | 0.56 | 0.15 | 0.78 | 0.73 | 1.03 |
| V ₂ O ₃ | 0.26 | 0.10 | 0.11 | 0.13 | 0.02 | 0.17 | 0.14 | 0.16 | 0.20 | 0.19 | 0.15 | 0.19 | 0.14 | 0.19 | 0.23 | 0.14 | 0.19 | 0.23 | 0.16 |
| Cr ₂ O ₃ | 0.05 | 0.00 | 0.03 | 0.00 | 0.02 | 0.02 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.03 | 0.00 | 0.04 | 0.00 | 0.01 | 0.01 | 0.00 |
| Al ₂ O ₃ | 0.04 | 0.02 | 0.01 | 0.00 | 0.02 | 0.03 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.02 | 0.03 | 0.01 | 0.03 | 0.00 | 0.01 |
| Bi ₂ O ₃ | 0.11 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 | 0.07 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.00 | 0.01 | 0.07 | 0.00 | 0.00 | 0.10 | 0.06 |
| BaO | 0.11 | 0.03 | 0.02 | 0.00 | 0.09 | 0.03 | 0.05 | 0.00 | 0.05 | 0.08 | 0.00 | 0.04 | 0.00 | 0.04 | 0.03 | 0.06 | 0.03 | 0.04 | 0.07 |
| CaO | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| ZnO | 0.02 | 0.00 | 0.00 | 0.03 | 0.10 | 0.00 | 0.00 | 0.08 | 0.08 | 0.00 | 0.01 | 0.00 | 0.07 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.03 |
| K ₂ O | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 |
| Na ₂ O | 0.00 | 0.00 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.03 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 99.57 | 99.53 | 99.71 | 99.88 | 100.31 | 100.16 | 99.84 | 99.37 | 100.13 | 99.96 | 99.65 | 100.45 | 99.70 | 99.74 | 99.70 | 100.01 | 99.37 | 99.93 | 100.00 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.989 | 0.988 | 0.989 | 0.990 | 0.984 | 0.988 | 0.991 | 0.988 | 0.986 | 0.988 | 0.986 | 0.988 | 0.989 | 0.986 | 0.990 | 0.992 | 0.989 | 0.988 | 0.988 |
| W | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Nb | 0.002 | 0.001 | 0.001 | 0.002 | 0.006 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 | 0.003 | 0.002 | 0.002 | 0.001 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 |
| Fe | 0.002 | 0.012 | 0.010 | 0.006 | 0.007 | 0.009 | 0.007 | 0.010 | 0.011 | 0.009 | 0.009 | 0.008 | 0.008 | 0.010 | 0.006 | 0.002 | 0.008 | 0.007 | 0.010 |
| V | 0.003 | 0.001 | 0.001 | 0.001 | 0.000 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total | 1.001 | 1.003 | 1.003 | 1.001 | 1.001 | 1.002 | 1.002 | 1.003 | 1.003 | 1.002 | 1.001 | 1.002 | 1.002 | 1.002 | 1.002 | 1.000 | 1.002 | 1.001 | 1.002 |

| Sample | 295-96 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------|
| Mount | 12 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 11 | 11 | 11 | 11 | 11 | 11 |
| Row | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 |
| Grain | 4 | 1 | 1 | 2 | 1 | 2 | 4 | 5 | 6 | 7 | 7 | 8 | 9 | 9 | 1 | 1 | 1 | 2 | 2 | 2 | |
| Comment | | escuro | claro | | | | | claro | | escuro | claro | | escuro | claro | escuro | escuro | claro | centro | centro | bordo | |
| Color | Azul | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Grosseiro | Grosseiro | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro |
| Zoning | Homogéneo | Sim | Sim | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Zonado | Zonado | Zonado | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | site 52 | site 52 | site 52 | | | |
| Analysis | 4 | 1 | 2 | 3 | 1 | 2 | 4 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 5 | 6 | 7 | |
| wt.% | | | | | | | | | | | | | | | | | | | | | |
| TiO₂ | 98.44 | 98.17 | 95.29 | 99.61 | 96.08 | 99.63 | 98.93 | 98.93 | 99.04 | 98.81 | 95.75 | 98.94 | 98.41 | 95.92 | 96.24 | 98.48 | 83.16 | 99.47 | 98.41 | 99.76 | |
| WO₃ | 0.00 | 0.00 | 1.59 | 0.07 | 0.81 | 0.00 | 0.06 | 0.32 | 0.00 | 0.21 | 1.74 | 0.19 | 0.12 | 1.57 | 0.31 | 0.29 | 0.00 | 0.05 | 0.00 | 0.00 | |
| Nb₂O₅ | 0.22 | 0.24 | 1.36 | 0.41 | 1.71 | 0.30 | 0.75 | 0.72 | 0.62 | 0.40 | 1.39 | 1.21 | 0.17 | 1.06 | 1.89 | 0.61 | 12.21 | 0.56 | 0.83 | 0.26 | |
| Ta₂O₅ | 0.08 | 0.00 | 0.21 | 0.03 | 0.35 | 0.19 | 0.00 | 0.00 | 0.00 | 0.09 | 0.17 | 0.00 | 0.00 | 0.11 | 0.00 | 0.05 | 0.97 | 0.23 | 0.03 | 0.00 | |
| SnO₂ | 0.01 | 0.08 | 0.05 | 0.01 | 0.10 | 0.00 | 0.03 | 0.03 | 0.04 | 0.06 | 0.05 | 0.04 | 0.21 | 0.11 | 0.45 | 0.11 | 0.60 | 0.06 | 0.00 | 0.02 | |
| ZrO₂ | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.02 | 0.01 | 0.00 | 0.03 | 0.02 | 0.04 | 0.02 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | |
| SiO₂ | 0.01 | 0.02 | 0.04 | 0.03 | 0.01 | 0.03 | 0.01 | 0.02 | 0.01 | 0.00 | 0.02 | 0.01 | 0.03 | 0.02 | 0.03 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 | |
| Fe₂O₃ | 0.99 | 1.35 | 1.11 | 0.18 | 0.97 | 0.03 | 0.17 | 0.41 | 0.29 | 0.68 | 1.21 | 0.11 | 0.65 | 1.00 | 0.58 | 0.27 | 3.33 | 0.13 | 0.24 | 0.00 | |
| V₂O₃ | 0.13 | 0.17 | 0.14 | 0.14 | 0.30 | 0.09 | 0.11 | 0.18 | 0.17 | 0.22 | 0.12 | 0.19 | 0.53 | 0.23 | 0.27 | 0.10 | 0.59 | 0.11 | 0.17 | 0.14 | |
| Cr₂O₃ | 0.00 | 0.02 | 0.00 | 0.02 | 0.04 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | 0.02 | 0.03 | 0.01 | 0.03 | 0.00 | 0.03 | 0.00 | |
| Al₂O₃ | 0.02 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 | 0.02 | 0.00 | |
| Bi₂O₃ | 0.00 | 0.00 | 0.02 | 0.07 | 0.00 | 0.00 | 0.00 | 0.02 | 0.08 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | |
| BaO | 0.02 | 0.02 | 0.08 | 0.05 | 0.04 | 0.09 | 0.08 | 0.09 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 0.12 | 0.00 | 0.05 | 0.08 | 0.00 | 0.00 | |
| CaO | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.02 | 0.03 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.02 | |
| ZnO | 0.07 | 0.00 | 0.01 | 0.05 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.10 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.05 | 0.09 | 0.00 | 0.00 | |
| K₂O | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | |
| Na₂O | 0.03 | 0.01 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | |
| Total | 100.02 | 100.13 | 99.96 | 100.72 | 100.46 | 100.44 | 100.20 | 100.77 | 100.31 | 100.55 | 100.73 | 100.85 | 100.18 | 100.09 | 100.05 | 99.95 | 101.02 | 100.85 | 99.82 | 100.24 | |
| apfu | | | | | | | | | | | | | | | | | | | | | |
| Ti | 0.988 | 0.985 | 0.968 | 0.992 | 0.970 | 0.994 | 0.991 | 0.986 | 0.991 | 0.987 | 0.967 | 0.986 | 0.986 | 0.971 | 0.972 | 0.990 | 0.864 | 0.990 | 0.989 | 0.996 | |
| W | 0.000 | 0.000 | 0.006 | 0.000 | 0.003 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.006 | 0.001 | 0.000 | 0.005 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Nb | 0.001 | 0.001 | 0.008 | 0.002 | 0.010 | 0.002 | 0.005 | 0.004 | 0.004 | 0.002 | 0.008 | 0.007 | 0.001 | 0.006 | 0.011 | 0.004 | 0.076 | 0.003 | 0.005 | 0.002 | |
| Ta | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.004 | 0.001 | 0.000 | 0.000 | |
| Sn | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.002 | 0.001 | 0.003 | 0.000 | 0.000 | 0.000 | |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Si | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Fe | 0.010 | 0.014 | 0.011 | 0.002 | 0.010 | 0.000 | 0.002 | 0.004 | 0.003 | 0.007 | 0.012 | 0.001 | 0.006 | 0.010 | 0.006 | 0.003 | 0.035 | 0.001 | 0.002 | 0.000 | |
| V | 0.001 | 0.002 | 0.001 | 0.001 | 0.003 | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 0.006 | 0.003 | 0.003 | 0.001 | 0.007 | 0.001 | 0.002 | 0.001 | |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Zn | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Na | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | |
| Total | 1.003 | 1.004 | 0.998 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.001 | 1.001 | 0.998 | 0.999 | 1.002 | 0.998 | 0.999 | 0.999 | 0.990 | 1.000 | 1.000 | 0.999 | |

| Sample | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|
| Mount | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 12 |
| Row | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Grain | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 10 | 10 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 5 | 5 | 5 | 5 |
| Comment | escuro | claro | claro | centro | centro | bordo | bordo | centro | bordo | centro | bordo | bordo | centro | centro | bordo | bordo | centro | centro | bordo | bordo |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Médio | Médio | Médio | Médio |
| Zoning | Zonado | Zonado | Zonado | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | site 54 | site 54 | site 54 | | | | | | | | | | | | | | | | | |
| Analysis | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 41 | 42 | 43 | 44 | 45 | 46 | 5 | 6 | 7 | 8 |
| wt.% | | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 98.79 | 93.10 | 91.19 | 98.30 | 98.69 | 98.63 | 98.17 | 98.27 | 99.01 | 97.56 | 97.88 | 98.39 | 93.49 | 97.95 | 98.79 | 96.88 | 98.66 | 97.58 | 96.19 | 98.74 |
| WO ₃ | 0.00 | 0.00 | 0.04 | 0.34 | 0.00 | 0.00 | 0.04 | 0.10 | 0.01 | 0.00 | 0.00 | 0.13 | 0.06 | 0.14 | 0.09 | 0.50 | 0.00 | 0.66 | 0.00 | 0.18 |
| Nb ₂ O ₅ | 0.27 | 0.98 | 1.80 | 0.79 | 0.36 | 0.82 | 0.73 | 1.37 | 0.91 | 1.03 | 1.31 | 1.32 | 3.95 | 0.89 | 0.77 | 0.91 | 0.26 | 0.82 | 0.26 | 0.28 |
| Ta ₂ O ₅ | 0.08 | 0.00 | 0.02 | 0.00 | 0.20 | 0.01 | 0.09 | 0.17 | 0.04 | 0.31 | 0.25 | 0.39 | 0.62 | 0.08 | 0.14 | 0.09 | 0.00 | 0.00 | 0.14 | 0.02 |
| SnO ₂ | 0.00 | 4.02 | 3.63 | 0.22 | 0.13 | 0.15 | 0.76 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.25 | 0.18 | 0.07 | 0.16 | 0.03 | 0.01 | 0.90 | 0.00 |
| ZrO ₂ | 0.04 | 0.01 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.05 | 0.01 | 0.02 | 0.05 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 |
| SiO ₂ | 0.03 | 0.10 | 0.60 | 0.00 | 0.00 | 0.03 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.02 | 0.03 | 0.03 | 0.51 | 0.01 | 0.02 | 0.31 | 0.01 |
| Fe ₂ O ₃ | 0.71 | 1.51 | 1.67 | 0.51 | 0.48 | 0.43 | 0.41 | 0.36 | 0.10 | 0.33 | 0.12 | 0.08 | 1.42 | 0.54 | 0.33 | 0.43 | 0.91 | 0.87 | 0.49 | 0.59 |
| V ₂ O ₃ | 0.11 | 0.14 | 0.24 | 0.12 | 0.27 | 0.13 | 0.34 | 0.19 | 0.13 | 0.14 | 0.10 | 0.06 | 0.19 | 0.18 | 0.07 | 0.14 | 0.08 | 0.08 | 0.16 | 0.05 |
| Cr ₂ O ₃ | 0.02 | 0.07 | 0.09 | 0.00 | 0.01 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | 0.03 | 0.03 | 0.02 | 0.06 | 0.02 |
| Al ₂ O ₃ | 0.01 | 0.01 | 0.08 | 0.01 | 0.02 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.03 | 0.00 | 0.03 | 0.02 | 0.00 | 0.20 | 0.00 | 0.02 | 0.10 | 0.01 |
| Bi ₂ O ₃ | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 | 0.05 | 0.05 | 0.02 | 0.01 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.08 | 0.03 |
| BaO | 0.00 | 0.08 | 0.16 | 0.00 | 0.06 | 0.04 | 0.00 | 0.02 | 0.00 | 0.04 | 0.01 | 0.03 | 0.00 | 0.05 | 0.05 | 0.00 | 0.06 | 0.00 | 0.10 | 0.14 |
| CaO | 0.01 | 0.02 | 0.05 | 0.00 | 0.03 | 0.01 | 0.02 | 0.02 | 0.01 | 0.09 | 0.00 | 0.03 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.05 | 0.01 |
| ZnO | 0.00 | 0.03 | 0.02 | 0.00 | 0.06 | 0.09 | 0.00 | 0.03 | 0.04 | 0.00 | 0.00 | 0.04 | 0.04 | 0.06 | 0.07 | 0.03 | 0.06 | 0.10 | 0.05 | 0.07 |
| K ₂ O | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.11 | 0.00 | 0.02 | 0.01 | 0.01 |
| Na ₂ O | 0.00 | 0.01 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.05 | 0.01 |
| Total | 100.08 | 100.09 | 99.69 | 100.31 | 100.33 | 100.36 | 100.61 | 100.71 | 100.26 | 99.60 | 99.79 | 100.56 | 100.16 | 100.13 | 100.44 | 100.04 | 100.13 | 100.21 | 98.97 | 100.16 |
| apfu | | | | | | | | | | | | | | | | | | | | |
| Ti | 0.990 | 0.955 | 0.939 | 0.985 | 0.988 | 0.986 | 0.983 | 0.983 | 0.990 | 0.985 | 0.986 | 0.984 | 0.951 | 0.984 | 0.988 | 0.975 | 0.989 | 0.981 | 0.979 | 0.990 |
| W | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.002 | 0.000 | 0.001 |
| Nb | 0.002 | 0.006 | 0.011 | 0.005 | 0.002 | 0.005 | 0.004 | 0.008 | 0.005 | 0.006 | 0.008 | 0.008 | 0.024 | 0.005 | 0.005 | 0.005 | 0.002 | 0.005 | 0.002 | 0.002 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.000 | 0.022 | 0.020 | 0.001 | 0.001 | 0.001 | 0.004 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.005 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.001 | 0.008 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.007 | 0.000 | 0.000 | 0.004 | 0.000 |
| Fe | 0.007 | 0.015 | 0.017 | 0.005 | 0.005 | 0.004 | 0.004 | 0.004 | 0.001 | 0.003 | 0.001 | 0.001 | 0.014 | 0.005 | 0.003 | 0.004 | 0.009 | 0.009 | 0.005 | 0.006 |
| V | 0.001 | 0.001 | 0.003 | 0.001 | 0.003 | 0.001 | 0.004 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 |
| Cr | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Al | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 | 0.000 | 0.000 | 0.002 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 |
| Ca | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Total | 1.001 | 1.004 | 1.004 | 0.999 | 1.001 | 1.000 | 1.001 | 1.000 | 0.999 | 0.999 | 0.998 | 0.998 | 0.998 | 1.000 | 0.999 | 1.002 | 1.002 | 1.000 | 1.003 | 1.001 |

| Sample | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 |
|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Row | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Grain | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 | 9 | 9 | 9 | 10 | 10 | 10 | 10 | 11 | 11 |
| Comment | escuro | escuro | claro | claro | escuro | escuro | claro | claro | escuro | claro | centro | bordo | bordo | centro | centro | bordo | bordo | centro | centro |
| Color | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto- avermelhado | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino |
| Zoning | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | site 77 | site 77 | site 77 | site 77 | | | | | | | | | | | | | | | |
| Analysis | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 98.67 | 98.39 | 93.77 | 92.68 | 98.33 | 98.58 | 92.88 | 90.81 | 96.71 | 93.23 | 97.63 | 98.49 | 96.46 | 97.65 | 97.52 | 97.22 | 97.00 | 97.83 | 95.99 |
| WO ₃ | 0.19 | 0.12 | 2.81 | 4.16 | 0.27 | 0.00 | 0.00 | 0.32 | 0.00 | 1.49 | 0.00 | 0.11 | 0.35 | 0.03 | 0.06 | 0.08 | 0.02 | 0.00 | 0.05 |
| Nb ₂ O ₅ | 0.45 | 0.27 | 0.97 | 0.72 | 0.62 | 0.48 | 0.99 | 3.04 | 0.97 | 2.91 | 1.03 | 0.60 | 0.28 | 0.33 | 0.78 | 0.35 | 0.55 | 0.38 | 0.45 |
| Ta ₂ O ₅ | 0.11 | 0.00 | 0.00 | 0.00 | 0.07 | 0.17 | 0.00 | 0.41 | 0.12 | 0.50 | 0.45 | 0.07 | 0.20 | 0.04 | 0.00 | 0.00 | 0.06 | 0.07 | 0.03 |
| SnO ₂ | 0.02 | 0.02 | 0.02 | 0.00 | 0.03 | 0.03 | 3.77 | 1.76 | 0.27 | 0.12 | 0.31 | 0.00 | 0.06 | 0.14 | 0.27 | 0.12 | 0.23 | 0.00 | 0.18 |
| ZrO ₂ | 0.01 | 0.00 | 0.03 | 0.05 | 0.03 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 | 0.01 |
| SiO ₂ | 0.11 | 0.07 | 0.27 | 0.01 | 0.00 | 0.00 | 0.06 | 0.10 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 | 0.01 | 0.00 | 0.01 | 0.05 | 0.20 | 0.00 |
| Fe ₂ O ₃ | 0.27 | 0.72 | 1.40 | 1.42 | 0.35 | 0.29 | 1.25 | 1.83 | 0.54 | 1.33 | 0.56 | 0.40 | 2.59 | 1.20 | 0.31 | 1.03 | 0.48 | 0.36 | 3.17 |
| V ₂ O ₃ | 0.20 | 0.11 | 0.27 | 0.37 | 0.10 | 0.10 | 0.28 | 0.84 | 0.51 | 0.24 | 0.29 | 0.11 | 0.29 | 0.39 | 0.63 | 0.54 | 0.53 | 0.10 | 0.20 |
| Cr ₂ O ₃ | 0.00 | 0.00 | 0.01 | 0.23 | 0.01 | 0.01 | 0.12 | 0.10 | 0.04 | 0.00 | 0.02 | 0.00 | 0.00 | 0.02 | 0.02 | 0.04 | 0.08 | 0.00 | 0.06 |
| Al ₂ O ₃ | 0.04 | 0.07 | 0.07 | 0.00 | 0.01 | 0.00 | 0.02 | 0.01 | 0.03 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.02 | 0.01 | 0.06 | 0.07 | 0.00 |
| Bi ₂ O ₃ | 0.15 | 0.00 | 0.00 | 0.03 | 0.02 | 0.00 | 0.00 | 0.00 | 0.08 | 0.03 | 0.02 | 0.04 | 0.00 | 0.04 | 0.00 | 0.03 | 0.08 | 0.00 | 0.00 |
| BaO | 0.01 | 0.03 | 0.05 | 0.02 | 0.04 | 0.01 | 0.04 | 0.04 | 0.00 | 0.08 | 0.04 | 0.00 | 0.01 | 0.06 | 0.08 | 0.00 | 0.02 | 0.00 | 0.03 |
| CaO | 0.03 | 0.03 | 0.05 | 0.01 | 0.01 | 0.00 | 0.01 | 0.03 | 0.01 | 0.00 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 |
| ZnO | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.12 | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 | 0.07 | 0.03 | 0.00 | 0.00 | 0.08 | 0.05 |
| K ₂ O | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 |
| Na ₂ O | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 |
| Total | 100.27 | 99.83 | 99.77 | 99.71 | 99.89 | 99.72 | 99.41 | 99.40 | 99.29 | 99.99 | 100.41 | 99.86 | 100.30 | 99.98 | 99.72 | 99.48 | 99.16 | 99.13 | 100.22 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.988 | 0.989 | 0.958 | 0.955 | 0.989 | 0.991 | 0.957 | 0.939 | 0.981 | 0.953 | 0.980 | 0.990 | 0.971 | 0.983 | 0.983 | 0.982 | 0.983 | 0.988 | 0.968 |
| W | 0.001 | 0.000 | 0.010 | 0.015 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.005 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Nb | 0.003 | 0.002 | 0.006 | 0.004 | 0.004 | 0.003 | 0.006 | 0.019 | 0.006 | 0.018 | 0.006 | 0.004 | 0.002 | 0.002 | 0.005 | 0.002 | 0.003 | 0.002 | 0.003 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.002 | 0.000 | 0.002 | 0.002 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.021 | 0.010 | 0.001 | 0.001 | 0.002 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.001 | 0.001 | 0.004 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.003 | 0.000 |
| Fe | 0.003 | 0.007 | 0.014 | 0.015 | 0.003 | 0.003 | 0.013 | 0.019 | 0.006 | 0.014 | 0.006 | 0.004 | 0.026 | 0.012 | 0.003 | 0.010 | 0.005 | 0.004 | 0.032 |
| V | 0.002 | 0.001 | 0.003 | 0.004 | 0.001 | 0.001 | 0.003 | 0.009 | 0.006 | 0.003 | 0.003 | 0.001 | 0.003 | 0.004 | 0.007 | 0.006 | 0.006 | 0.001 | 0.002 |
| Cr | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 |
| Al | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total | 1.000 | 1.002 | 0.998 | 0.996 | 1.000 | 1.000 | 1.003 | 1.003 | 1.001 | 0.997 | 1.000 | 1.000 | 1.005 | 1.003 | 1.001 | 1.003 | 1.001 | 1.000 | 1.008 |

| Sample | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 | 295-98 |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Mount | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Row | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Grain | 11 | 12 | 12 | 12 | 12 | 13 | 13 | 13 | 13 | 14 | 15 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Comment | bordo | centro | centro | bordo | bordo | centro | centro | bordo | bordo | | | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Caramelo | Preto-avermelhado | Preto-avermelhado | Preto-avermelhado | Preto-avermelhado | Preto-avermelhado | Preto-avermelhado | Preto-avermelhado | Preto-avermelhado |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado | Zonado |
| BSE image | | | | | | | | | | | | site 77 | site 77 | site 77 | site 77 | site 77 | site 77 | site 77 | site 77 |
| Analysis | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO₂ | 98.19 | 96.58 | 95.98 | 96.39 | 97.16 | 97.67 | 97.75 | 97.92 | 97.48 | 98.42 | 97.95 | 97.68 | 98.89 | 98.73 | 98.81 | 95.15 | 95.66 | 97.27 | 97.28 |
| WO₃ | 0.19 | 0.59 | 0.19 | 0.51 | 0.71 | 0.01 | 0.04 | 0.00 | 0.16 | 0.00 | 0.00 | 0.41 | 0.00 | 0.00 | 0.00 | 1.41 | 1.34 | 0.00 | 0.00 |
| Nb₂O₅ | 0.64 | 1.50 | 1.85 | 1.30 | 0.94 | 0.97 | 1.00 | 0.87 | 0.86 | 0.55 | 0.43 | 1.10 | 0.45 | 0.39 | 0.48 | 1.64 | 1.23 | 0.26 | 0.37 |
| Ta₂O₅ | 0.00 | 0.06 | 0.12 | 0.22 | 0.19 | 0.00 | 0.00 | 0.22 | 0.00 | 0.10 | 0.20 | 0.18 | 0.07 | 0.02 | 0.00 | 0.10 | 0.26 | 0.07 | 0.07 |
| SnO₂ | 0.05 | 0.14 | 0.40 | 0.04 | 0.01 | 0.01 | 0.00 | 0.05 | 0.01 | 0.00 | 0.00 | 0.04 | 0.00 | 0.01 | 0.05 | 0.00 | 0.06 | 0.03 | 0.02 |
| ZrO₂ | 0.01 | 0.00 | 0.03 | 0.01 | 0.00 | 0.04 | 0.00 | 0.01 | 0.06 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 |
| SiO₂ | 0.01 | 0.01 | 0.02 | 0.00 | 0.04 | 0.01 | 0.00 | 0.01 | 0.00 | 0.05 | 0.00 | 0.02 | 0.01 | 0.01 | 0.03 | 0.01 | 0.01 | 0.01 | 0.03 |
| Fe₂O₃ | 0.29 | 0.65 | 0.59 | 0.81 | 0.74 | 0.39 | 0.42 | 0.31 | 0.36 | 0.24 | 1.17 | 0.51 | 0.31 | 0.42 | 0.30 | 1.15 | 1.15 | 1.66 | 1.83 |
| V₂O₃ | 0.16 | 0.23 | 0.21 | 0.12 | 0.15 | 0.13 | 0.14 | 0.15 | 0.14 | 0.15 | 0.14 | 0.11 | 0.10 | 0.08 | 0.10 | 0.07 | 0.11 | 0.03 | 0.06 |
| Cr₂O₃ | 0.03 | 0.01 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.02 | 0.02 |
| Al₂O₃ | 0.00 | 0.02 | 0.04 | 0.01 | 0.02 | 0.00 | 0.02 | 0.00 | 0.01 | 0.05 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 |
| Bi₂O₃ | 0.03 | 0.00 | 0.04 | 0.00 | 0.01 | 0.00 | 0.06 | 0.04 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.09 | 0.08 | 0.00 | 0.06 | 0.07 | 0.04 |
| BaO | 0.08 | 0.00 | 0.00 | 0.01 | 0.03 | 0.03 | 0.07 | 0.02 | 0.11 | 0.01 | 0.06 | 0.06 | 0.05 | 0.06 | 0.00 | 0.08 | 0.00 | 0.00 | 0.01 |
| CaO | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 |
| ZnO | 0.00 | 0.01 | 0.02 | 0.00 | 0.05 | 0.00 | 0.04 | 0.00 | 0.02 | 0.12 | 0.12 | 0.06 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.00 |
| K₂O | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 |
| Na₂O | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 99.74 | 99.80 | 99.56 | 99.43 | 100.08 | 99.27 | 99.55 | 99.62 | 99.23 | 99.72 | 100.11 | 100.20 | 99.92 | 99.83 | 99.89 | 99.65 | 99.91 | 99.42 | 99.76 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.988 | 0.976 | 0.974 | 0.978 | 0.980 | 0.987 | 0.987 | 0.988 | 0.987 | 0.990 | 0.984 | 0.982 | 0.992 | 0.992 | 0.991 | 0.969 | 0.972 | 0.984 | 0.981 |
| W | 0.001 | 0.002 | 0.001 | 0.002 | 0.002 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.005 | 0.005 | 0.000 | 0.000 |
| Nb | 0.004 | 0.009 | 0.011 | 0.008 | 0.006 | 0.006 | 0.006 | 0.005 | 0.005 | 0.003 | 0.003 | 0.007 | 0.003 | 0.002 | 0.003 | 0.010 | 0.007 | 0.002 | 0.002 |
| Ta | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 |
| Sn | 0.000 | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fe | 0.003 | 0.007 | 0.006 | 0.008 | 0.007 | 0.004 | 0.004 | 0.003 | 0.004 | 0.002 | 0.012 | 0.005 | 0.003 | 0.004 | 0.003 | 0.012 | 0.012 | 0.017 | 0.018 |
| V | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 |
| Cr | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total | 1.000 | 0.998 | 0.999 | 0.999 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.001 | 1.003 | 0.999 | 1.000 | 1.001 | 1.000 | 0.998 | 0.999 | 1.003 | 1.004 |

| Sample | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Row | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Grain | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 8 | 9 | 9 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 4 |
| Comment | claro | centro | bordo | centro | centro | bordo | bordo | centro | bordo | | centro | bordo | centro | centro | bordo | bordo | centro | bordo | centro | centro |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Médio | Médio | Médio | Médio | Médio | Médio | Fino | Fino | Fino | Fino | Fino | Fino | Fino |
| Zoning | Zonado | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | site 57 | | | | | | | | | | | | | | | | | | | |
| Analysis | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| wt.% | | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 92.70 | 99.38 | 99.11 | 98.72 | 97.97 | 98.26 | 98.58 | 97.57 | 94.27 | 97.43 | 99.17 | 99.02 | 98.28 | 98.23 | 98.59 | 97.11 | 98.59 | 98.98 | 97.06 | 97.21 |
| WO ₃ | 0.28 | 0.00 | 0.19 | 0.00 | 0.23 | 0.08 | 0.13 | 0.25 | 0.26 | 0.02 | 0.00 | 0.00 | 0.00 | 0.15 | 0.07 | 0.00 | 0.16 | 0.12 | 0.24 | 0.00 |
| Nb ₂ O ₅ | 2.78 | 0.34 | 0.33 | 0.60 | 0.52 | 0.38 | 0.51 | 1.07 | 3.51 | 0.83 | 0.26 | 0.56 | 0.61 | 0.60 | 0.39 | 0.46 | 0.48 | 0.61 | 1.33 | 1.14 |
| Ta ₂ O ₅ | 2.34 | 0.09 | 0.03 | 0.12 | 0.18 | 0.14 | 0.11 | 0.14 | 0.40 | 0.17 | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.28 | 0.00 |
| SnO ₂ | 0.19 | 0.00 | 0.01 | 0.14 | 0.09 | 0.11 | 0.13 | 0.11 | 0.11 | 0.03 | 0.00 | 0.01 | 0.06 | 0.10 | 0.00 | 0.08 | 0.01 | 0.03 | 0.12 | 0.06 |
| ZrO ₂ | 0.04 | 0.05 | 0.00 | 0.01 | 0.00 | 0.07 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.03 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| SiO ₂ | 0.02 | 0.03 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.03 | 0.01 | 0.01 | 0.04 | 0.01 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.00 |
| Fe ₂ O ₃ | 1.67 | 0.29 | 0.07 | 0.31 | 0.57 | 0.44 | 0.43 | 0.57 | 1.05 | 0.44 | 0.01 | 0.11 | 0.55 | 0.28 | 0.43 | 1.13 | 0.22 | 0.19 | 0.66 | 0.40 |
| V ₂ O ₃ | 0.08 | 0.15 | 0.11 | 0.19 | 0.21 | 0.08 | 0.16 | 0.11 | 0.07 | 0.12 | 0.14 | 0.15 | 0.07 | 0.12 | 0.07 | 0.11 | 0.12 | 0.20 | 0.14 | 0.11 |
| Cr ₂ O ₃ | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.05 | 0.01 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.04 | 0.02 | 0.00 | 0.02 | 0.01 | 0.00 |
| Al ₂ O ₃ | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.00 | 0.03 | 0.09 | 0.00 | 0.00 | 0.01 | 0.00 |
| Bi ₂ O ₃ | 0.04 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.05 | 0.03 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.03 | 0.05 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| BaO | 0.00 | 0.03 | 0.00 | 0.07 | 0.00 | 0.07 | 0.00 | 0.04 | 0.06 | 0.02 | 0.04 | 0.00 | 0.04 | 0.01 | 0.01 | 0.04 | 0.04 | 0.02 | 0.02 | 0.12 |
| CaO | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 |
| ZnO | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.06 | 0.04 | 0.03 | 0.00 | 0.01 | 0.08 | 0.01 | 0.00 | 0.01 | 0.06 | 0.00 | 0.01 | 0.00 | 0.02 | 0.03 |
| K ₂ O | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 |
| Na ₂ O | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.04 | 0.00 | 0.01 | 0.01 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 |
| Total | 100.16 | 100.39 | 99.87 | 100.17 | 99.87 | 99.78 | 100.20 | 99.96 | 99.74 | 99.16 | 99.76 | 100.02 | 99.70 | 99.59 | 99.81 | 99.05 | 99.69 | 100.36 | 99.92 | 99.09 |
| apfu | | | | | | | | | | | | | | | | | | | | |
| Ti | 0.951 | 0.992 | 0.994 | 0.989 | 0.987 | 0.989 | 0.989 | 0.983 | 0.960 | 0.986 | 0.996 | 0.992 | 0.989 | 0.989 | 0.990 | 0.984 | 0.991 | 0.990 | 0.979 | 0.986 |
| W | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 |
| Nb | 0.017 | 0.002 | 0.002 | 0.004 | 0.003 | 0.002 | 0.003 | 0.006 | 0.021 | 0.005 | 0.002 | 0.003 | 0.004 | 0.004 | 0.002 | 0.003 | 0.003 | 0.004 | 0.008 | 0.007 |
| Ta | 0.009 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 |
| Sn | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fe | 0.017 | 0.003 | 0.001 | 0.003 | 0.006 | 0.004 | 0.004 | 0.006 | 0.011 | 0.004 | 0.000 | 0.001 | 0.006 | 0.003 | 0.004 | 0.011 | 0.002 | 0.002 | 0.007 | 0.004 |
| V | 0.001 | 0.002 | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.001 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Ca | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 |
| Total | 0.998 | 1.000 | 0.999 | 0.999 | 1.001 | 1.001 | 1.001 | 0.999 | 0.996 | 1.000 | 1.001 | 1.000 | 1.001 | 0.999 | 1.001 | 1.002 | 0.999 | 0.999 | 0.999 | 0.999 |

| Sample | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 | 295-100 |
|--------------------------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Row | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Grain | 10 | 10 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Comment | bordo | bordo | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil |
| Color | Preto | Preto | Castanho | Castanho | Castanho | Castanho | Castanho | Castanho | Castanho | Castanho | Castanho | Castanho | Castanho | Castanho | Castanho | Castanho | Castanho | Castanho | Castanho |
| Shape | Prismático | Prismático | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | |
| Analysis | 31 | 32 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 15 | 16 | 17 | 18 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 97.65 | 97.56 | 98.74 | 97.90 | 97.43 | 97.36 | 97.31 | 97.49 | 97.32 | 97.57 | 97.36 | 97.35 | 97.50 | 97.19 | 97.64 | 97.65 | 97.71 | 97.79 | 97.47 |
| WO ₃ | 0.08 | 0.00 | 0.01 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.23 | 0.00 | 0.00 | 0.01 | 0.05 |
| Nb ₂ O ₅ | 0.57 | 1.51 | 0.46 | 0.90 | 1.32 | 1.17 | 1.31 | 1.19 | 1.27 | 1.23 | 1.31 | 1.38 | 1.37 | 1.26 | 1.29 | 1.12 | 1.20 | 1.30 | 1.37 |
| Ta ₂ O ₅ | 0.00 | 0.04 | 0.00 | 0.03 | 0.16 | 0.12 | 0.17 | 0.19 | 0.11 | 0.04 | 0.07 | 0.06 | 0.19 | 0.22 | 0.07 | 0.12 | 0.19 | 0.00 | 0.21 |
| SnO ₂ | 0.00 | 0.00 | 0.04 | 0.08 | 0.11 | 0.06 | 0.08 | 0.05 | 0.07 | 0.09 | 0.06 | 0.08 | 0.02 | 0.07 | 0.11 | 0.09 | 0.08 | 0.01 | 0.04 |
| ZrO ₂ | 0.01 | 0.03 | 0.03 | 0.03 | 0.06 | 0.09 | 0.01 | 0.07 | 0.09 | 0.08 | 0.06 | 0.03 | 0.03 | 0.04 | 0.05 | 0.11 | 0.02 | 0.04 | 0.03 |
| SiO ₂ | 0.12 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.02 |
| Fe ₂ O ₃ | 0.20 | 0.16 | 0.25 | 0.38 | 0.37 | 0.45 | 0.38 | 0.42 | 0.41 | 0.45 | 0.43 | 0.37 | 0.45 | 0.47 | 0.36 | 0.40 | 0.36 | 0.30 | 0.45 |
| V ₂ O ₃ | 0.15 | 0.09 | 0.10 | 0.14 | 0.16 | 0.17 | 0.11 | 0.19 | 0.17 | 0.12 | 0.14 | 0.12 | 0.14 | 0.19 | 0.12 | 0.20 | 0.16 | 0.17 | 0.19 |
| Cr ₂ O ₃ | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 |
| Al ₂ O ₃ | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| Bi ₂ O ₃ | 0.03 | 0.07 | 0.00 | 0.02 | 0.10 | 0.05 | 0.00 | 0.00 | 0.07 | 0.08 | 0.06 | 0.02 | 0.04 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| BaO | 0.02 | 0.00 | 0.02 | 0.09 | 0.06 | 0.22 | 0.11 | 0.06 | 0.08 | 0.21 | 0.11 | 0.07 | 0.10 | 0.08 | 0.11 | 0.08 | 0.07 | 0.10 | 0.06 |
| CaO | 0.05 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 |
| ZnO | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.04 | 0.10 | 0.08 | 0.02 | 0.00 | 0.06 | 0.01 | 0.00 | 0.04 |
| K ₂ O | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 |
| Na ₂ O | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 | 0.01 | 0.02 | 0.03 |
| Total | 98.91 | 99.48 | 99.68 | 99.65 | 99.84 | 99.71 | 99.51 | 99.73 | 99.64 | 100.06 | 99.69 | 99.60 | 99.95 | 99.60 | 100.03 | 99.86 | 99.85 | 99.75 | 99.96 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.989 | 0.985 | 0.992 | 0.987 | 0.983 | 0.983 | 0.984 | 0.983 | 0.983 | 0.983 | 0.983 | 0.983 | 0.983 | 0.982 | 0.983 | 0.984 | 0.985 | 0.985 | 0.982 |
| W | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Nb | 0.003 | 0.009 | 0.003 | 0.005 | 0.008 | 0.007 | 0.008 | 0.007 | 0.008 | 0.007 | 0.008 | 0.008 | 0.008 | 0.008 | 0.008 | 0.007 | 0.007 | 0.008 | 0.008 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 |
| Sn | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 |
| Si | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fe | 0.002 | 0.002 | 0.003 | 0.004 | 0.004 | 0.005 | 0.004 | 0.004 | 0.004 | 0.005 | 0.004 | 0.004 | 0.005 | 0.005 | 0.004 | 0.004 | 0.004 | 0.003 | 0.005 |
| V | 0.002 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 |
| Ca | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 |
| Total | 1.000 | 0.998 | 1.000 | 1.000 | 0.999 | 1.000 | 0.999 | 0.999 | 1.000 | 1.000 | 1.000 | 0.999 | 1.000 | 1.000 | 0.999 | 1.000 | 1.000 | 1.000 | 1.000 |

| Sample | 295-450 | 295-454 | 295-454 | 295-454 | 295-468 | 295-484 | 295-484 | 295-484 | 295-484 | 295-484 | 295-484 | 295-484 | 295-484 | 295-484 | 295-484 | 295-484 | 295-484 | 295-484 | 295-484 | 295-484 |
|--------------------------------|------------|-----------|-----------|-----------|---------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Mount | 15 | 7 | 7 | 7 | 2 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Row | 2 | 3 | 3 | 3 | 17 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Grain | 2 | 1 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Comment | claro | | | | bordo | centro | centro | bordo | bordo | centro | bordo | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil |
| Color | Preto | Vermelho | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Prismático | Anédrico | Anédrico | Anédrico | Anédric | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático | Prismático |
| Size | Médio | Grosseiro | Grosseiro | Grosseiro | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Zonado | Homogéneo | Homogéneo | Homogéneo | | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | site 79 | | | | | | | | | | | | | | | | | | | |
| Analysis | 8 | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| wt.% | | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 92.33 | 99.23 | 99.08 | 98.64 | 97.76 | 95.93 | 94.51 | 96.17 | 96.51 | 96.92 | 96.56 | 94.85 | 95.37 | 95.00 | 95.45 | 95.14 | 96.82 | 97.42 | 97.04 | 96.94 |
| WO ₃ | 3.06 | 0.00 | 0.00 | 0.01 | 0.40 | 0.33 | 0.92 | 0.20 | 0.36 | 0.38 | 0.24 | 1.03 | 1.09 | 0.94 | 0.81 | 0.89 | 0.54 | 0.14 | 0.32 | 0.32 |
| Nb ₂ O ₅ | 0.49 | 0.17 | 0.04 | 0.11 | 0.18 | 0.17 | 0.25 | 0.20 | 0.19 | 0.14 | 0.20 | 0.29 | 0.28 | 0.28 | 0.27 | 0.28 | 0.13 | 0.12 | 0.11 | 0.11 |
| Ta ₂ O ₅ | 0.07 | 0.12 | 0.02 | 0.03 | 0.07 | 0.00 | 0.00 | 0.10 | 0.00 | 0.04 | 0.03 | 0.02 | 0.10 | 0.01 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 |
| SnO ₂ | 1.71 | 0.00 | 0.00 | 0.00 | 0.01 | 2.26 | 2.10 | 1.74 | 1.81 | 1.75 | 1.53 | 2.48 | 2.54 | 2.52 | 2.40 | 2.34 | 1.91 | 1.64 | 1.53 | 1.55 |
| ZrO ₂ | 0.07 | 0.01 | 0.02 | 0.01 | 0.07 | 0.07 | 0.03 | 0.05 | 0.04 | 0.05 | 0.04 | 0.03 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.06 |
| SiO ₂ | 0.01 | 0.00 | 0.04 | 0.07 | 0.03 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 | 0.00 | 0.00 |
| Fe ₂ O ₃ | 1.90 | 0.02 | 0.01 | 0.03 | 0.09 | 0.29 | 0.41 | 0.31 | 0.27 | 0.24 | 0.19 | 0.52 | 0.43 | 0.51 | 0.42 | 0.43 | 0.30 | 0.34 | 0.21 | 0.24 |
| V ₂ O ₃ | 0.16 | 0.20 | 0.21 | 0.18 | 0.12 | 0.55 | 0.59 | 0.50 | 0.60 | 0.61 | 0.49 | 0.58 | 0.58 | 0.64 | 0.63 | 0.69 | 0.51 | 0.57 | 0.54 | 0.53 |
| Cr ₂ O ₃ | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.04 | 0.01 | 0.05 | 0.05 | 0.02 | 0.06 | 0.04 | 0.06 | 0.05 | 0.05 | 0.03 | 0.03 | 0.02 | 0.03 |
| Al ₂ O ₃ | 0.16 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.11 | 0.04 | 0.05 | 0.03 | 0.21 | 0.08 | 0.09 | 0.09 | 0.08 | 0.06 | 0.05 | 0.04 | 0.03 | 0.06 |
| Bi ₂ O ₃ | 0.05 | 0.00 | 0.06 | 0.04 | 0.05 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.11 | 0.03 | 0.07 | 0.08 | 0.00 | 0.00 | 0.05 |
| BaO | 0.00 | 0.01 | 0.11 | 0.03 | 0.02 | 0.10 | 0.00 | 0.04 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.04 | 0.00 | 0.02 | 0.01 | 0.00 | 0.07 |
| CaO | 0.01 | 0.02 | 0.01 | 0.03 | 0.03 | 0.02 | 0.03 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 | 0.00 | 0.00 |
| ZnO | 0.06 | 0.00 | 0.00 | 0.00 | 0.07 | 0.07 | 0.05 | 0.08 | 0.00 | 0.07 | 0.05 | 0.04 | 0.00 | 0.00 | 0.00 | 0.06 | 0.09 | 0.04 | 0.00 | 0.00 |
| K ₂ O | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Na ₂ O | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.01 | 0.00 |
| Total | 100.08 | 99.77 | 99.60 | 99.19 | 98.89 | 99.85 | 99.07 | 99.45 | 99.94 | 100.27 | 99.63 | 100.02 | 100.55 | 100.31 | 100.21 | 100.04 | 100.50 | 100.49 | 99.80 | 99.96 |
| apfu | | | | | | | | | | | | | | | | | | | | |
| Ti | 0.951 | 0.996 | 0.996 | 0.995 | 0.992 | 0.976 | 0.970 | 0.979 | 0.978 | 0.979 | 0.979 | 0.968 | 0.968 | 0.967 | 0.970 | 0.969 | 0.977 | 0.980 | 0.982 | 0.981 |
| W | 0.011 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.003 | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | 0.004 | 0.003 | 0.003 | 0.003 | 0.002 | 0.000 | 0.001 | 0.001 |
| Nb | 0.003 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.009 | 0.000 | 0.000 | 0.000 | 0.000 | 0.012 | 0.011 | 0.009 | 0.010 | 0.009 | 0.008 | 0.013 | 0.014 | 0.014 | 0.013 | 0.013 | 0.010 | 0.009 | 0.008 | 0.008 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fe | 0.020 | 0.000 | 0.000 | 0.000 | 0.001 | 0.003 | 0.004 | 0.003 | 0.003 | 0.002 | 0.002 | 0.005 | 0.004 | 0.005 | 0.004 | 0.004 | 0.003 | 0.003 | 0.002 | 0.002 |
| V | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.006 | 0.006 | 0.005 | 0.006 | 0.007 | 0.005 | 0.006 | 0.006 | 0.007 | 0.007 | 0.008 | 0.005 | 0.006 | 0.006 | 0.006 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.001 | 0.001 | 0.000 | 0.003 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 |
| Total | 1.000 | 1.000 | 1.000 | 1.000 | 0.999 | 1.002 | 1.001 | 1.002 | 1.002 | 1.002 | 1.002 | 1.001 | 1.000 | 1.001 | 1.001 | 1.001 | 1.002 | 1.003 | 1.001 | 1.001 |

| Sample | 295-484 | 295-488 | 295-488 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 |
|--------------------------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Row | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Grain | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 |
| Comment | Perfil | centro | bordo | centro | centro | bordo | bordo | centro | bordo | centro | centro | bordo | bordo | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil |
| Color | Preto | Preto | Preto | Caramelo | Caramelo | Caramelo | Caramelo | Vermelho | Vermelho | Preto | Preto | Preto | Preto | Caramelo | Caramelo | Caramelo | Caramelo | Caramelo | Caramelo |
| Shape | Prismático | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | site 80 | site 80 | | | | | | | | | | |
| Analysis | 10 | 7 | 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 97.04 | 95.81 | 97.66 | 90.73 | 87.74 | 89.67 | 95.15 | 96.88 | 99.02 | 94.09 | 96.11 | 96.90 | 93.68 | 96.11 | 95.54 | 92.80 | 92.78 | 92.55 | 92.88 |
| WO ₃ | 0.03 | 1.31 | 0.11 | 1.12 | 0.67 | 1.48 | 0.57 | 1.16 | 0.12 | 1.81 | 0.51 | 0.54 | 1.40 | 0.58 | 0.55 | 1.35 | 1.51 | 1.33 | 1.58 |
| Nb ₂ O ₅ | 0.20 | 0.57 | 0.53 | 3.72 | 6.45 | 3.39 | 0.93 | 0.58 | 0.24 | 1.71 | 1.25 | 1.18 | 1.77 | 0.86 | 1.13 | 1.81 | 1.72 | 1.74 | 1.76 |
| Ta ₂ O ₅ | 0.11 | 0.01 | 0.00 | 1.09 | 1.48 | 1.29 | 0.40 | 0.14 | 0.00 | 0.62 | 0.27 | 0.35 | 0.66 | 0.41 | 0.30 | 0.61 | 0.64 | 0.91 | 0.73 |
| SnO ₂ | 1.64 | 0.09 | 0.12 | 1.18 | 1.19 | 1.42 | 1.08 | 0.08 | 0.00 | 0.65 | 0.61 | 0.61 | 0.62 | 0.91 | 0.98 | 1.03 | 1.02 | 1.03 | 0.98 |
| ZrO ₂ | 0.06 | 0.01 | 0.01 | 0.01 | 0.03 | 0.06 | 0.04 | 0.03 | 0.01 | 0.03 | 0.01 | 0.02 | 0.05 | 0.02 | 0.00 | 0.02 | 0.01 | 0.01 | 0.06 |
| SiO ₂ | 0.02 | 0.02 | 0.01 | 0.02 | 0.00 | 0.02 | 0.01 | 0.03 | 0.03 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 |
| Fe ₂ O ₃ | 0.22 | 0.57 | 0.24 | 2.19 | 2.94 | 2.28 | 0.97 | 0.96 | 0.10 | 1.60 | 0.91 | 0.87 | 1.57 | 0.91 | 0.98 | 1.72 | 1.70 | 1.70 | 1.75 |
| V ₂ O ₃ | 0.54 | 0.95 | 0.67 | 0.07 | 0.13 | 0.11 | 0.08 | 0.13 | 0.08 | 0.08 | 0.06 | 0.14 | 0.15 | 0.03 | 0.13 | 0.09 | 0.08 | 0.11 | 0.14 |
| Cr ₂ O ₃ | 0.05 | 0.15 | 0.22 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.03 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.02 | 0.02 | 0.00 | 0.02 |
| Al ₂ O ₃ | 0.03 | 0.01 | 0.00 | 0.16 | 0.18 | 0.12 | 0.08 | 0.01 | 0.02 | 0.14 | 0.12 | 0.12 | 0.20 | 0.08 | 0.09 | 0.13 | 0.14 | 0.16 | 0.13 |
| Bi ₂ O ₃ | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 |
| BaO | 0.01 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.07 | 0.03 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| CaO | 0.02 | 0.01 | 0.02 | 0.00 | 0.03 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.04 | 0.01 |
| ZnO | 0.05 | 0.00 | 0.00 | 0.07 | 0.05 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.02 | 0.05 | 0.00 | 0.09 | 0.00 | 0.01 |
| K ₂ O | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 |
| Na ₂ O | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 |
| Total | 100.03 | 99.55 | 99.60 | 100.38 | 100.90 | 99.86 | 99.41 | 100.06 | 99.64 | 100.78 | 99.90 | 100.83 | 100.21 | 100.07 | 99.81 | 99.58 | 99.75 | 99.70 | 100.06 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.981 | 0.974 | 0.985 | 0.933 | 0.906 | 0.930 | 0.972 | 0.978 | 0.995 | 0.956 | 0.974 | 0.974 | 0.956 | 0.974 | 0.971 | 0.954 | 0.953 | 0.952 | 0.952 |
| W | 0.000 | 0.005 | 0.000 | 0.004 | 0.002 | 0.005 | 0.002 | 0.004 | 0.000 | 0.006 | 0.002 | 0.002 | 0.005 | 0.002 | 0.002 | 0.005 | 0.005 | 0.005 | 0.006 |
| Nb | 0.001 | 0.003 | 0.003 | 0.023 | 0.040 | 0.021 | 0.006 | 0.004 | 0.001 | 0.010 | 0.008 | 0.007 | 0.011 | 0.005 | 0.007 | 0.011 | 0.011 | 0.011 | 0.011 |
| Ta | 0.000 | 0.000 | 0.000 | 0.004 | 0.006 | 0.005 | 0.001 | 0.001 | 0.000 | 0.002 | 0.001 | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.003 | 0.003 |
| Sn | 0.009 | 0.000 | 0.001 | 0.006 | 0.007 | 0.008 | 0.006 | 0.000 | 0.000 | 0.004 | 0.003 | 0.003 | 0.003 | 0.005 | 0.005 | 0.006 | 0.006 | 0.006 | 0.005 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Fe | 0.002 | 0.006 | 0.002 | 0.023 | 0.030 | 0.024 | 0.010 | 0.010 | 0.001 | 0.016 | 0.009 | 0.009 | 0.016 | 0.009 | 0.010 | 0.018 | 0.017 | 0.017 | 0.018 |
| V | 0.006 | 0.010 | 0.007 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| Cr | 0.001 | 0.002 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.003 | 0.003 | 0.002 | 0.001 | 0.000 | 0.000 | 0.002 | 0.002 | 0.002 | 0.003 | 0.001 | 0.001 | 0.002 | 0.002 | 0.003 | 0.002 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Zn | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Total | 1.002 | 1.001 | 1.002 | 0.998 | 0.996 | 0.997 | 1.000 | 0.999 | 0.999 | 0.998 | 1.000 | 1.001 | 1.000 | 1.001 | 1.000 | 0.999 | 0.999 | 1.000 | 0.999 |

| Sample | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Row | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Grain | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 |
| Comment | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil |
| Color | Caramelo | Caramelo | Caramelo | Caramelo | Caramelo | Caramelo | Caramelo | Caramelo | Caramelo | Caramelo | Caramelo | Caramelo | Caramelo | Caramelo | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | site 80 | site 80 | site 80 | site 80 | site 80 |
| Analysis | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 1 | 2 | 3 | 4 | 5 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 92.70 | 92.85 | 94.30 | 96.06 | 95.79 | 95.78 | 95.56 | 95.58 | 95.53 | 95.52 | 95.48 | 94.96 | 95.47 | 95.84 | 96.09 | 96.71 | 95.60 | 97.11 | 96.71 |
| WO ₃ | 1.48 | 1.47 | 0.93 | 0.56 | 0.49 | 0.46 | 0.51 | 0.41 | 0.60 | 0.51 | 0.59 | 0.49 | 0.65 | 0.48 | 1.90 | 0.83 | 1.29 | 0.78 | 0.71 |
| Nb ₂ O ₅ | 1.79 | 1.90 | 1.29 | 0.88 | 1.00 | 0.91 | 1.12 | 1.03 | 1.15 | 1.22 | 1.23 | 1.38 | 1.05 | 0.98 | 0.86 | 0.48 | 0.49 | 0.49 | 0.40 |
| Ta ₂ O ₅ | 0.66 | 0.70 | 0.48 | 0.24 | 0.23 | 0.27 | 0.25 | 0.23 | 0.26 | 0.17 | 0.41 | 0.33 | 0.14 | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| SnO ₂ | 1.06 | 0.97 | 1.04 | 0.99 | 1.02 | 0.90 | 1.10 | 1.01 | 1.03 | 1.02 | 0.97 | 1.03 | 1.09 | 1.06 | 0.15 | 0.19 | 0.23 | 0.20 | 0.16 |
| ZrO ₂ | 0.04 | 0.02 | 0.04 | 0.04 | 0.02 | 0.02 | 0.04 | 0.02 | 0.02 | 0.02 | 0.00 | 0.01 | 0.02 | 0.05 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 |
| SiO ₂ | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | 0.02 | 0.01 | 0.00 | 0.11 | 0.04 | 0.05 |
| Fe ₂ O ₃ | 1.69 | 1.71 | 1.32 | 0.96 | 0.97 | 0.97 | 0.95 | 0.94 | 1.01 | 0.98 | 1.00 | 1.11 | 0.95 | 0.86 | 1.22 | 1.46 | 1.73 | 1.34 | 1.40 |
| V ₂ O ₃ | 0.13 | 0.11 | 0.12 | 0.12 | 0.08 | 0.07 | 0.09 | 0.15 | 0.11 | 0.09 | 0.08 | 0.12 | 0.08 | 0.08 | 0.16 | 0.23 | 0.23 | 0.17 | 0.21 |
| Cr ₂ O ₃ | 0.00 | 0.06 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 | 0.00 | 0.03 | 0.03 | 0.01 | 0.02 | 0.02 | 0.01 |
| Al ₂ O ₃ | 0.11 | 0.11 | 0.12 | 0.09 | 0.08 | 0.08 | 0.08 | 0.08 | 0.11 | 0.07 | 0.10 | 0.12 | 0.07 | 0.09 | 0.02 | 0.02 | 0.05 | 0.03 | 0.03 |
| Bi ₂ O ₃ | 0.00 | 0.00 | 0.00 | 0.10 | 0.05 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.03 | 0.04 | 0.00 | 0.09 | 0.00 | 0.10 | 0.00 | 0.03 |
| BaO | 0.04 | 0.01 | 0.00 | 0.03 | 0.04 | 0.05 | 0.07 | 0.02 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.04 | 0.06 | 0.05 | 0.04 |
| CaO | 0.00 | 0.02 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.00 |
| ZnO | 0.07 | 0.11 | 0.05 | 0.00 | 0.06 | 0.00 | 0.02 | 0.14 | 0.08 | 0.02 | 0.04 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.06 |
| K ₂ O | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 |
| Na ₂ O | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.01 |
| Total | 99.77 | 100.02 | 99.72 | 100.09 | 99.88 | 99.54 | 99.81 | 99.61 | 99.94 | 99.65 | 99.92 | 99.64 | 99.57 | 99.83 | 100.57 | 100.02 | 99.99 | 100.25 | 99.83 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.953 | 0.952 | 0.963 | 0.974 | 0.973 | 0.975 | 0.971 | 0.973 | 0.970 | 0.972 | 0.970 | 0.967 | 0.972 | 0.973 | 0.971 | 0.977 | 0.968 | 0.978 | 0.977 |
| W | 0.005 | 0.005 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.007 | 0.003 | 0.004 | 0.003 | 0.002 |
| Nb | 0.011 | 0.012 | 0.008 | 0.005 | 0.006 | 0.006 | 0.007 | 0.006 | 0.007 | 0.007 | 0.008 | 0.008 | 0.006 | 0.006 | 0.005 | 0.003 | 0.003 | 0.003 | 0.002 |
| Ta | 0.002 | 0.003 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.006 | 0.005 | 0.006 | 0.005 | 0.006 | 0.005 | 0.006 | 0.005 | 0.006 | 0.006 | 0.005 | 0.006 | 0.006 | 0.006 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 |
| Fe | 0.017 | 0.018 | 0.013 | 0.010 | 0.010 | 0.010 | 0.010 | 0.010 | 0.010 | 0.010 | 0.010 | 0.011 | 0.010 | 0.009 | 0.012 | 0.015 | 0.017 | 0.014 | 0.014 |
| V | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| Cr | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.002 | 0.002 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total | 0.999 | 0.999 | 1.000 | 1.001 | 1.001 | 1.000 | 1.000 | 1.001 | 1.000 | 1.000 | 1.000 | 0.999 | 1.000 | 0.999 | 0.999 | 1.002 | 1.001 | 1.002 | 1.002 |

| Sample | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Row | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Grain | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 |
| Comment | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil |
| Color | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | site 80 | site 80 | site 80 | site 80 | site 80 | site 80 | site 80 | site 80 | site 80 | site 80 | site 80 | site 80 | site 80 | site 80 | site 80 | | | | |
| Analysis | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 1 | 2 | 3 | 4 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 97.47 | 96.97 | 96.23 | 97.60 | 95.44 | 97.34 | 99.26 | 99.43 | 99.45 | 98.30 | 98.61 | 96.55 | 95.22 | 94.48 | 94.85 | 93.56 | 93.25 | 93.33 | 93.69 |
| WO ₃ | 0.89 | 1.70 | 0.91 | 0.21 | 0.95 | 0.41 | 0.00 | 0.05 | 0.19 | 0.24 | 0.16 | 0.66 | 1.15 | 1.85 | 2.06 | 1.39 | 1.58 | 1.65 | 1.62 |
| Nb ₂ O ₅ | 0.44 | 0.37 | 0.56 | 0.27 | 0.44 | 0.57 | 0.37 | 0.28 | 0.38 | 0.38 | 0.36 | 0.46 | 0.62 | 0.93 | 1.91 | 1.86 | 1.81 | 1.77 | 1.97 |
| Ta ₂ O ₅ | 0.00 | 0.15 | 0.00 | 0.04 | 0.09 | 0.00 | 0.07 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.14 | 0.00 | 0.48 | 0.55 | 0.66 | 0.56 | 0.60 |
| SnO ₂ | 0.11 | 0.13 | 0.17 | 0.18 | 0.15 | 0.13 | 0.00 | 0.00 | 0.01 | 0.05 | 0.00 | 0.13 | 0.12 | 0.17 | 0.10 | 0.67 | 0.57 | 0.62 | 0.58 |
| ZrO ₂ | 0.04 | 0.03 | 0.00 | 0.02 | 0.00 | 0.03 | 0.03 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.02 | 0.05 | 0.00 | 0.03 | 0.05 |
| SiO ₂ | 0.00 | 0.00 | 0.08 | 0.01 | 0.13 | 0.03 | 0.00 | 0.00 | 0.02 | 0.03 | 0.01 | 0.02 | 0.10 | 0.14 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 |
| Fe ₂ O ₃ | 0.98 | 0.81 | 1.70 | 1.35 | 2.57 | 1.04 | 0.34 | 0.22 | 0.28 | 0.72 | 0.63 | 1.77 | 1.78 | 1.91 | 1.37 | 1.63 | 1.69 | 1.62 | 1.59 |
| V ₂ O ₃ | 0.14 | 0.18 | 0.16 | 0.26 | 0.16 | 0.13 | 0.09 | 0.11 | 0.15 | 0.07 | 0.09 | 0.22 | 0.17 | 0.14 | 0.11 | 0.11 | 0.16 | 0.12 | 0.12 |
| Cr ₂ O ₃ | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 |
| Al ₂ O ₃ | 0.03 | 0.01 | 0.03 | 0.02 | 0.06 | 0.03 | 0.01 | 0.00 | 0.01 | 0.03 | 0.00 | 0.04 | 0.08 | 0.07 | 0.02 | 0.14 | 0.15 | 0.15 | 0.14 |
| Bi ₂ O ₃ | 0.06 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.00 | 0.05 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.10 | 0.00 |
| BaO | 0.00 | 0.13 | 0.02 | 0.00 | 0.08 | 0.05 | 0.04 | 0.04 | 0.00 | 0.08 | 0.04 | 0.00 | 0.08 | 0.09 | 0.08 | 0.04 | 0.02 | 0.05 | 0.02 |
| CaO | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.02 | 0.03 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 |
| ZnO | 0.00 | 0.09 | 0.01 | 0.00 | 0.00 | 0.03 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.05 | 0.03 | 0.00 | 0.00 | 0.06 |
| K ₂ O | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 |
| Na ₂ O | 0.00 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.00 | 0.03 | 0.01 | 0.01 | 0.00 | 0.02 | 0.06 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 |
| Total | 100.20 | 100.61 | 99.92 | 100.01 | 100.12 | 99.82 | 100.27 | 100.33 | 100.52 | 99.97 | 99.92 | 100.01 | 99.63 | 99.83 | 101.08 | 100.08 | 100.00 | 100.04 | 100.44 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.982 | 0.977 | 0.972 | 0.982 | 0.965 | 0.982 | 0.992 | 0.994 | 0.992 | 0.987 | 0.990 | 0.974 | 0.967 | 0.961 | 0.959 | 0.956 | 0.953 | 0.955 | 0.955 |
| W | 0.003 | 0.006 | 0.003 | 0.001 | 0.003 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.002 | 0.004 | 0.006 | 0.007 | 0.005 | 0.006 | 0.006 | 0.006 |
| Nb | 0.003 | 0.002 | 0.003 | 0.002 | 0.003 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.003 | 0.004 | 0.006 | 0.012 | 0.011 | 0.011 | 0.011 | 0.012 |
| Ta | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| Sn | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | 0.003 | 0.003 | 0.003 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.001 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.002 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 |
| Fe | 0.010 | 0.008 | 0.017 | 0.014 | 0.026 | 0.010 | 0.003 | 0.002 | 0.003 | 0.007 | 0.006 | 0.018 | 0.018 | 0.019 | 0.014 | 0.017 | 0.017 | 0.017 | 0.016 |
| V | 0.001 | 0.002 | 0.002 | 0.003 | 0.002 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.002 | 0.002 | 0.002 | 0.002 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Total | 1.001 | 0.999 | 1.001 | 1.003 | 1.004 | 1.002 | 1.000 | 1.001 | 1.000 | 1.001 | 1.001 | 1.003 | 1.001 | 0.999 | 0.997 | 0.999 | 0.998 | 0.999 | 0.999 |

| Sample | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-498 | 295-500 | 295-500 | 295-500 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----------|
| Mount | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 1 | 1 | 15 |
| Row | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 13 | 13 | 7 |
| Grain | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 4 |
| Comment | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | | | |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Vermelho | Vermelho | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Prismático | Prismático | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Fino | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | |
| Analysis | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 2 | 3 | 11 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 93.78 | 93.95 | 93.85 | 94.32 | 93.81 | 93.76 | 96.46 | 96.57 | 96.08 | 96.29 | 93.88 | 93.67 | 93.58 | 93.10 | 93.53 | 97.60 | 98.74 | 98.28 | 98.68 |
| WO ₃ | 1.36 | 1.76 | 1.53 | 1.44 | 1.59 | 1.36 | 0.77 | 0.33 | 0.79 | 0.59 | 1.67 | 1.48 | 1.64 | 1.49 | 1.45 | 0.93 | 0.21 | 0.00 | 0.00 |
| Nb ₂ O ₅ | 1.81 | 1.69 | 1.69 | 1.81 | 1.81 | 1.74 | 1.34 | 1.45 | 1.31 | 1.19 | 1.86 | 1.95 | 1.98 | 1.89 | 2.02 | 0.34 | 0.10 | 0.21 | 0.12 |
| Ta ₂ O ₅ | 0.34 | 0.57 | 0.67 | 0.23 | 0.61 | 0.51 | 0.26 | 0.44 | 0.22 | 0.36 | 0.52 | 0.78 | 0.33 | 0.43 | 0.68 | 0.06 | 0.00 | 0.00 | 0.00 |
| SnO ₂ | 0.62 | 0.64 | 0.66 | 0.62 | 0.66 | 0.60 | 0.60 | 0.63 | 0.54 | 0.56 | 0.70 | 0.58 | 0.62 | 0.63 | 0.61 | 0.11 | 0.09 | 0.00 | 0.00 |
| ZrO ₂ | 0.00 | 0.00 | 0.01 | 0.03 | 0.05 | 0.04 | 0.05 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 | 0.01 | 0.04 | 0.00 |
| SiO ₂ | 0.02 | 0.01 | 0.06 | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.03 | 0.55 | 0.24 |
| Fe ₂ O ₃ | 1.60 | 1.59 | 1.96 | 1.55 | 1.53 | 1.61 | 1.02 | 1.01 | 1.05 | 0.93 | 1.67 | 1.64 | 1.57 | 1.66 | 1.66 | 0.82 | 0.57 | 0.13 | 0.32 |
| V ₂ O ₃ | 0.11 | 0.13 | 0.14 | 0.16 | 0.15 | 0.13 | 0.18 | 0.14 | 0.12 | 0.10 | 0.09 | 0.04 | 0.13 | 0.13 | 0.09 | 0.02 | 0.43 | 0.24 | 0.21 |
| Cr ₂ O ₃ | 0.01 | 0.00 | 0.01 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | 0.02 | 0.04 |
| Al ₂ O ₃ | 0.17 | 0.14 | 0.15 | 0.14 | 0.14 | 0.15 | 0.11 | 0.12 | 0.14 | 0.14 | 0.15 | 0.15 | 0.18 | 0.19 | 0.18 | 0.13 | 0.00 | 0.10 | 0.07 |
| Bi ₂ O ₃ | 0.09 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.03 | 0.00 | 0.03 | 0.08 | 0.05 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 |
| BaO | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.07 | 0.00 | 0.00 | 0.04 | 0.07 | 0.00 | 0.01 | 0.03 | 0.06 |
| CaO | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.02 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.20 | 0.04 |
| ZnO | 0.00 | 0.08 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.04 | 0.00 | 0.05 | 0.04 | 0.00 | 0.00 | 0.10 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 |
| K ₂ O | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| Na ₂ O | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.04 | 0.00 |
| Total | 99.97 | 100.60 | 100.73 | 100.32 | 100.46 | 99.99 | 100.81 | 100.77 | 100.29 | 100.31 | 100.71 | 100.31 | 100.14 | 99.75 | 100.31 | 100.09 | 100.23 | 99.87 | 99.78 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.957 | 0.956 | 0.953 | 0.958 | 0.954 | 0.957 | 0.970 | 0.971 | 0.971 | 0.973 | 0.954 | 0.955 | 0.955 | 0.954 | 0.954 | 0.982 | 0.989 | 0.985 | 0.990 |
| W | 0.005 | 0.006 | 0.005 | 0.005 | 0.006 | 0.005 | 0.003 | 0.001 | 0.003 | 0.002 | 0.006 | 0.005 | 0.006 | 0.005 | 0.005 | 0.003 | 0.001 | 0.000 | 0.000 |
| Nb | 0.011 | 0.010 | 0.010 | 0.011 | 0.011 | 0.011 | 0.008 | 0.009 | 0.008 | 0.007 | 0.011 | 0.012 | 0.012 | 0.012 | 0.012 | 0.002 | 0.001 | 0.001 | 0.001 |
| Ta | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.003 | 0.001 | 0.002 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.003 | 0.003 | 0.004 | 0.003 | 0.004 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.004 | 0.003 | 0.003 | 0.003 | 0.003 | 0.001 | 0.000 | 0.000 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.007 | 0.003 |
| Fe | 0.016 | 0.016 | 0.020 | 0.016 | 0.016 | 0.016 | 0.010 | 0.010 | 0.011 | 0.009 | 0.017 | 0.017 | 0.016 | 0.017 | 0.017 | 0.008 | 0.006 | 0.001 | 0.003 |
| V | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.005 | 0.003 | 0.002 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.003 | 0.003 | 0.003 | 0.002 | 0.000 | 0.002 | 0.001 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 | 0.001 |
| Zn | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Total | 1.000 | 0.999 | 0.999 | 0.999 | 0.998 | 0.999 | 1.000 | 1.000 | 1.000 | 1.001 | 0.999 | 0.998 | 0.999 | 1.000 | 0.999 | 1.000 | 1.002 | 1.003 | 1.002 |

| Sample | 295-500 | 295-500 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 15 | 15 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Row | 7 | 7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Grain | 5 | 6 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 |
| Comment | | | centro | centro | bordo | bordo | centro | centro | bordo | bordo | centro | centro | bordo | bordo | centro | centro | bordo | bordo | centro |
| Color | Vermelho | Vermelho | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Fino |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | |
| Analysis | 12 | 13 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 98.02 | 97.97 | 94.13 | 94.28 | 92.97 | 93.77 | 96.31 | 97.34 | 99.25 | 97.66 | 98.42 | 98.42 | 97.38 | 94.84 | 98.25 | 98.19 | 98.79 | 98.83 | 92.72 |
| WO ₃ | 0.05 | 0.00 | 3.43 | 2.93 | 4.13 | 2.99 | 0.57 | 0.37 | 0.00 | 0.13 | 0.00 | 0.12 | 0.48 | 0.25 | 0.36 | 0.00 | 0.32 | 0.16 | 1.99 |
| Nb ₂ O ₅ | 0.24 | 0.48 | 0.84 | 0.74 | 0.65 | 0.64 | 1.19 | 1.39 | 0.30 | 1.16 | 0.21 | 0.21 | 0.76 | 2.30 | 0.47 | 0.75 | 0.49 | 0.42 | 2.62 |
| Ta ₂ O ₅ | 0.08 | 0.01 | 0.00 | 0.07 | 0.01 | 0.32 | 0.54 | 0.31 | 0.03 | 0.19 | 0.11 | 0.09 | 0.21 | 0.74 | 0.04 | 0.04 | 0.00 | 0.00 | 0.30 |
| SnO ₂ | 0.07 | 0.13 | 0.16 | 0.14 | 0.11 | 0.12 | 0.26 | 0.15 | 0.20 | 0.16 | 0.06 | 0.09 | 0.09 | 0.15 | 0.01 | 0.05 | 0.00 | 0.02 | 0.11 |
| ZrO ₂ | 0.02 | 0.06 | 0.06 | 0.01 | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.03 | 0.00 | 0.01 | 0.02 | 0.00 |
| SiO ₂ | 0.05 | 0.03 | 0.02 | 0.02 | 0.01 | 0.02 | 0.03 | 0.01 | 0.03 | 0.03 | 0.04 | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.02 |
| Fe ₂ O ₃ | 0.11 | 0.46 | 1.10 | 1.12 | 1.42 | 1.33 | 0.86 | 0.74 | 0.45 | 0.72 | 0.42 | 0.43 | 0.53 | 0.90 | 0.12 | 0.11 | 0.13 | 0.07 | 1.63 |
| V ₂ O ₃ | 0.22 | 0.25 | 0.20 | 0.15 | 0.11 | 0.17 | 0.14 | 0.08 | 0.16 | 0.13 | 0.27 | 0.27 | 0.25 | 0.44 | 0.11 | 0.11 | 0.13 | 0.13 | 0.19 |
| Cr ₂ O ₃ | 0.03 | 0.04 | 0.05 | 0.02 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| Al ₂ O ₃ | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.05 | 0.02 | 0.04 | 0.03 | 0.00 | 0.01 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | 0.02 |
| Bi ₂ O ₃ | 0.00 | 0.12 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 | 0.06 | 0.04 | 0.00 | 0.00 | 0.04 | 0.02 | 0.03 | 0.00 | 0.03 | 0.00 |
| BaO | 0.00 | 0.05 | 0.08 | 0.02 | 0.04 | 0.00 | 0.00 | 0.02 | 0.00 | 0.06 | 0.00 | 0.09 | 0.00 | 0.01 | 0.04 | 0.05 | 0.02 | 0.02 | 0.01 |
| CaO | 0.02 | 0.00 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.01 | 0.01 | 0.03 | 0.02 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 |
| ZnO | 0.14 | 0.00 | 0.00 | 0.02 | 0.15 | 0.01 | 0.00 | 0.00 | 0.02 | 0.01 | 0.04 | 0.01 | 0.00 | 0.03 | 0.02 | 0.01 | 0.05 | 0.14 | 0.00 |
| K ₂ O | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Na ₂ O | 0.01 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.02 | 0.00 | 0.03 | 0.02 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| Total | 99.07 | 99.62 | 100.09 | 99.60 | 99.71 | 99.44 | 99.98 | 100.47 | 100.53 | 100.41 | 99.63 | 99.75 | 99.80 | 99.80 | 99.53 | 99.37 | 99.96 | 99.87 | 99.61 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.991 | 0.988 | 0.963 | 0.966 | 0.957 | 0.964 | 0.974 | 0.978 | 0.990 | 0.980 | 0.990 | 0.990 | 0.983 | 0.965 | 0.991 | 0.991 | 0.991 | 0.992 | 0.952 |
| W | 0.000 | 0.000 | 0.012 | 0.010 | 0.015 | 0.011 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.007 |
| Nb | 0.001 | 0.003 | 0.005 | 0.005 | 0.004 | 0.004 | 0.007 | 0.008 | 0.002 | 0.007 | 0.001 | 0.001 | 0.005 | 0.014 | 0.003 | 0.005 | 0.003 | 0.003 | 0.016 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.002 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Sn | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fe | 0.001 | 0.005 | 0.011 | 0.011 | 0.015 | 0.014 | 0.009 | 0.007 | 0.004 | 0.007 | 0.004 | 0.004 | 0.005 | 0.009 | 0.001 | 0.001 | 0.001 | 0.001 | 0.017 |
| V | 0.002 | 0.003 | 0.002 | 0.002 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 | 0.003 | 0.003 | 0.003 | 0.005 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 |
| Cr | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.001 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total | 1.000 | 1.001 | 0.996 | 0.997 | 0.996 | 0.997 | 0.999 | 0.999 | 1.001 | 1.001 | 1.001 | 1.001 | 1.000 | 0.999 | 0.999 | 0.999 | 0.999 | 1.000 | 0.997 |

| Sample | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Row | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Grain | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Comment | bordo | centro | bordo | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Fino | Fino | Fino | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | |
| Analysis | 18 | 1 | 2 | 1 | 2 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 13 | 14 | 15 | 16 | 17 | 18 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 96.96 | 96.39 | 98.25 | 93.49 | 96.73 | 93.34 | 92.84 | 93.23 | 93.89 | 93.52 | 93.53 | 94.29 | 94.00 | 92.79 | 92.81 | 92.07 | 92.51 | 92.35 | 92.28 |
| WO ₃ | 0.03 | 0.23 | 0.09 | 2.92 | 0.44 | 3.44 | 3.63 | 3.43 | 2.44 | 3.02 | 3.15 | 2.52 | 2.84 | 2.18 | 2.01 | 2.42 | 2.41 | 2.09 | 2.55 |
| Nb ₂ O ₅ | 0.39 | 1.57 | 0.24 | 0.80 | 0.28 | 0.88 | 0.91 | 0.87 | 1.04 | 0.89 | 0.88 | 0.79 | 0.80 | 1.95 | 2.08 | 2.31 | 2.19 | 2.15 | 1.99 |
| Ta ₂ O ₅ | 0.13 | 0.57 | 0.00 | 0.12 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 | 0.01 | 0.05 | 0.09 | 0.15 | 0.12 | 0.15 | 0.35 | 0.01 | 0.20 | 0.00 |
| SnO ₂ | 0.04 | 0.17 | 0.20 | 0.16 | 0.17 | 0.16 | 0.12 | 0.12 | 0.15 | 0.14 | 0.15 | 0.12 | 0.16 | 0.12 | 0.20 | 0.18 | 0.10 | 0.16 | 0.16 |
| ZrO ₂ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 | 0.00 | 0.01 | 0.05 | 0.00 | 0.00 | 0.03 | 0.03 | 0.04 | 0.03 |
| SiO ₂ | 0.03 | 0.02 | 0.02 | 0.06 | 0.02 | 0.00 | 0.06 | 0.01 | 0.03 | 0.01 | 0.04 | 0.01 | 0.02 | 0.03 | 0.00 | 0.05 | 0.01 | 0.06 | 0.06 |
| Fe ₂ O ₃ | 1.50 | 0.73 | 0.63 | 1.28 | 0.94 | 1.30 | 1.43 | 1.40 | 1.17 | 1.32 | 1.32 | 1.07 | 1.14 | 1.53 | 1.57 | 1.65 | 1.77 | 1.63 | 1.74 |
| V ₂ O ₃ | 0.29 | 0.13 | 0.09 | 0.21 | 0.37 | 0.20 | 0.23 | 0.19 | 0.19 | 0.17 | 0.19 | 0.18 | 0.15 | 0.21 | 0.26 | 0.25 | 0.22 | 0.21 | 0.18 |
| Cr ₂ O ₃ | 0.00 | 0.00 | 0.00 | 0.07 | 0.13 | 0.06 | 0.08 | 0.00 | 0.09 | 0.07 | 0.07 | 0.04 | 0.02 | 0.07 | 0.06 | 0.08 | 0.07 | 0.08 | 0.04 |
| Al ₂ O ₃ | 0.02 | 0.03 | 0.45 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.00 | 0.03 | 0.00 | 0.03 | 0.02 |
| Bi ₂ O ₃ | 0.08 | 0.01 | 0.03 | 0.05 | 0.04 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.04 | 0.03 | 0.03 | 0.04 | 0.08 | 0.01 |
| BaO | 0.01 | 0.10 | 0.04 | 0.03 | 0.12 | 0.04 | 0.00 | 0.00 | 0.05 | 0.00 | 0.04 | 0.00 | 0.04 | 0.11 | 0.00 | 0.04 | 0.00 | 0.01 | 0.05 |
| CaO | 0.01 | 0.01 | 0.01 | 0.04 | 0.00 | 0.00 | 0.03 | 0.01 | 0.00 | 0.03 | 0.00 | 0.02 | 0.02 | 0.00 | 0.01 | 0.03 | 0.03 | 0.01 | 0.01 |
| ZnO | 0.00 | 0.00 | 0.02 | 0.00 | 0.12 | 0.07 | 0.04 | 0.00 | 0.00 | 0.02 | 0.10 | 0.03 | 0.00 | 0.02 | 0.00 | 0.09 | 0.07 | 0.05 | 0.00 |
| K ₂ O | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| Na ₂ O | 0.01 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.02 | 0.00 | 0.01 | 0.00 | 0.04 | 0.00 |
| Total | 99.52 | 99.95 | 100.08 | 99.30 | 99.38 | 99.63 | 99.52 | 99.31 | 99.09 | 99.26 | 99.57 | 99.20 | 99.44 | 99.20 | 99.16 | 99.62 | 99.46 | 99.19 | 99.13 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.979 | 0.975 | 0.985 | 0.962 | 0.982 | 0.960 | 0.957 | 0.960 | 0.966 | 0.962 | 0.960 | 0.968 | 0.965 | 0.956 | 0.956 | 0.948 | 0.952 | 0.952 | 0.953 |
| W | 0.000 | 0.001 | 0.000 | 0.010 | 0.002 | 0.012 | 0.013 | 0.012 | 0.009 | 0.011 | 0.011 | 0.009 | 0.010 | 0.008 | 0.007 | 0.009 | 0.009 | 0.007 | 0.009 |
| Nb | 0.002 | 0.010 | 0.001 | 0.005 | 0.002 | 0.005 | 0.006 | 0.005 | 0.006 | 0.006 | 0.005 | 0.005 | 0.005 | 0.012 | 0.013 | 0.014 | 0.014 | 0.013 | 0.012 |
| Ta | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 |
| Sn | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 |
| Fe | 0.015 | 0.007 | 0.006 | 0.013 | 0.010 | 0.013 | 0.015 | 0.014 | 0.012 | 0.014 | 0.014 | 0.011 | 0.012 | 0.016 | 0.016 | 0.017 | 0.018 | 0.017 | 0.018 |
| V | 0.003 | 0.001 | 0.001 | 0.002 | 0.004 | 0.002 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.003 | 0.003 | 0.002 | 0.002 | 0.002 |
| Cr | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 |
| Al | 0.000 | 0.000 | 0.007 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ca | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Total | 1.003 | 0.999 | 1.003 | 0.998 | 1.003 | 0.997 | 0.997 | 0.996 | 0.998 | 0.997 | 0.996 | 0.998 | 0.997 | 0.998 | 0.998 | 0.997 | 0.997 | 0.998 | 0.997 |

| Sample | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 | 295-511 |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Row | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Grain | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Comment | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | |
| Analysis | 19 | 20 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 19 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO₂ | 92.86 | 92.93 | 97.48 | 97.75 | 97.35 | 97.54 | 95.77 | 97.95 | 97.87 | 97.37 | 97.77 | 97.49 | 97.59 | 97.34 | 97.53 | 97.91 | 96.81 | 96.84 | 97.03 |
| WO₃ | 2.99 | 3.27 | 0.00 | 0.00 | 0.12 | 0.13 | 0.63 | 0.00 | 0.01 | 0.20 | 0.00 | 0.24 | 0.27 | 0.11 | 0.26 | 0.00 | 0.99 | 1.12 | 0.52 |
| Nb₂O₅ | 1.57 | 1.39 | 0.25 | 0.25 | 0.43 | 0.56 | 0.73 | 0.23 | 0.33 | 0.30 | 0.31 | 0.31 | 0.55 | 0.27 | 0.21 | 0.26 | 0.65 | 0.66 | 0.74 |
| Ta₂O₅ | 0.08 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.09 | 0.00 | 0.11 | 0.00 | 0.06 | 0.00 | 0.12 | 0.10 | 0.05 | 0.00 | 0.00 | 0.00 |
| SnO₂ | 0.18 | 0.11 | 0.03 | 0.06 | 0.09 | 0.05 | 0.08 | 0.02 | 0.09 | 0.07 | 0.07 | 0.13 | 0.09 | 0.13 | 0.11 | 0.08 | 0.09 | 0.10 | 0.07 |
| ZrO₂ | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 | 0.06 | 0.01 | 0.00 | 0.00 | 0.03 | 0.01 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 |
| SiO₂ | 0.01 | 0.00 | 0.12 | 0.11 | 0.09 | 0.04 | 0.30 | 0.05 | 0.05 | 0.02 | 0.02 | 0.03 | 0.01 | 0.09 | 0.03 | 0.03 | 0.02 | 0.02 | 0.20 |
| Fe₂O₃ | 1.64 | 1.70 | 0.78 | 0.68 | 0.78 | 0.64 | 0.81 | 0.67 | 0.70 | 0.96 | 0.74 | 0.95 | 0.77 | 0.86 | 0.81 | 0.75 | 0.62 | 0.65 | 0.67 |
| V₂O₃ | 0.26 | 0.20 | 0.28 | 0.30 | 0.25 | 0.24 | 0.23 | 0.25 | 0.28 | 0.28 | 0.32 | 0.27 | 0.31 | 0.31 | 0.28 | 0.27 | 0.22 | 0.21 | 0.20 |
| Cr₂O₃ | 0.00 | 0.04 | 0.01 | 0.00 | 0.03 | 0.05 | 0.04 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.02 | 0.04 |
| Al₂O₃ | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.21 | 0.04 | 0.02 | 0.03 | 0.00 | 0.01 | 0.00 | 0.00 | 0.05 | 0.02 | 0.00 | 0.00 | 0.36 |
| Bi₂O₃ | 0.06 | 0.00 | 0.10 | 0.00 | 0.00 | 0.01 | 0.04 | 0.02 | 0.01 | 0.00 | 0.06 | 0.03 | 0.00 | 0.03 | 0.02 | 0.05 | 0.00 | 0.04 | 0.00 |
| BaO | 0.01 | 0.00 | 0.03 | 0.00 | 0.07 | 0.01 | 0.04 | 0.04 | 0.04 | 0.04 | 0.06 | 0.05 | 0.07 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.12 |
| CaO | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 | 0.03 | 0.01 | 0.03 | 0.00 | 0.02 | 0.02 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.01 | 0.04 |
| ZnO | 0.00 | 0.00 | 0.09 | 0.01 | 0.08 | 0.01 | 0.12 | 0.00 | 0.03 | 0.00 | 0.07 | 0.00 | 0.00 | 0.02 | 0.15 | 0.02 | 0.00 | 0.00 | 0.01 |
| K₂O | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.02 | 0.08 |
| Na₂O | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 | 0.03 | 0.01 | 0.00 | 0.01 |
| Total | 99.76 | 99.73 | 99.23 | 99.22 | 99.34 | 99.40 | 99.06 | 99.38 | 99.48 | 99.43 | 99.47 | 99.63 | 99.66 | 99.32 | 99.59 | 99.49 | 99.42 | 99.71 | 100.08 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.954 | 0.955 | 0.985 | 0.987 | 0.983 | 0.986 | 0.972 | 0.989 | 0.987 | 0.984 | 0.987 | 0.984 | 0.985 | 0.985 | 0.985 | 0.988 | 0.982 | 0.981 | 0.974 |
| W | 0.011 | 0.012 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.003 | 0.004 | 0.002 |
| Nb | 0.010 | 0.009 | 0.002 | 0.002 | 0.003 | 0.003 | 0.004 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.003 | 0.002 | 0.001 | 0.002 | 0.004 | 0.004 | 0.004 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.002 | 0.001 | 0.001 | 0.000 | 0.004 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 |
| Fe | 0.017 | 0.017 | 0.008 | 0.007 | 0.008 | 0.007 | 0.008 | 0.007 | 0.007 | 0.010 | 0.007 | 0.010 | 0.008 | 0.009 | 0.008 | 0.008 | 0.006 | 0.007 | 0.007 |
| V | 0.003 | 0.002 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.002 | 0.002 | 0.002 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.006 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Ca | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Zn | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Na | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 |
| Total | 0.997 | 0.997 | 1.001 | 1.001 | 1.000 | 1.001 | 1.000 | 1.002 | 1.003 | 1.002 | 1.002 | 1.002 | 1.001 | 1.003 | 1.003 | 1.002 | 1.000 | 0.999 | 1.001 |

| Sample | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Row | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Grain | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 4 |
| Comment | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | |
| Analysis | 4 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 18 | 19 | 20 | 1 | 2 | 3 | 4 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO₂ | 97.36 | 94.59 | 95.00 | 94.58 | 94.09 | 94.67 | 93.98 | 94.64 | 95.84 | 96.53 | 96.34 | 95.90 | 96.61 | 97.87 | 98.09 | 98.73 | 96.92 | 98.01 | 98.35 |
| WO₃ | 0.12 | 2.09 | 1.36 | 1.87 | 1.98 | 2.30 | 2.44 | 1.70 | 0.30 | 0.00 | 1.29 | 1.20 | 0.37 | 0.04 | 0.05 | 0.30 | 0.26 | 0.16 | 0.15 |
| Nb₂O₅ | 0.45 | 1.40 | 1.44 | 1.21 | 1.22 | 1.26 | 1.32 | 0.87 | 0.33 | 0.29 | 0.64 | 0.72 | 0.41 | 0.43 | 0.39 | 0.56 | 0.89 | 0.59 | 0.51 |
| Ta₂O₅ | 0.00 | 0.11 | 0.04 | 0.24 | 0.08 | 0.04 | 0.29 | 0.00 | 0.00 | 0.00 | 0.04 | 0.02 | 0.00 | 0.25 | 0.00 | 0.09 | 0.13 | 0.00 | 0.00 |
| SnO₂ | 0.02 | 0.03 | 0.08 | 0.02 | 0.02 | 0.02 | 0.00 | 0.01 | 0.13 | 0.16 | 0.08 | 0.07 | 0.01 | 0.05 | 0.00 | 0.18 | 0.21 | 0.27 | 0.24 |
| ZrO₂ | 0.00 | 0.04 | 0.00 | 0.01 | 0.03 | 0.02 | 0.04 | 0.04 | 0.00 | 0.04 | 0.01 | 0.02 | 0.05 | 0.00 | 0.04 | 0.00 | 0.03 | 0.02 | 0.02 |
| SiO₂ | 0.02 | 0.04 | 0.04 | 0.08 | 0.11 | 0.03 | 0.03 | 0.46 | 0.20 | 0.00 | 0.01 | 0.02 | 0.01 | 0.03 | 0.02 | 0.04 | 0.04 | 0.07 | 0.05 |
| Fe₂O₃ | 0.17 | 1.00 | 0.78 | 0.95 | 1.03 | 1.08 | 1.19 | 1.11 | 2.11 | 1.61 | 0.79 | 0.97 | 1.80 | 0.32 | 0.18 | 0.58 | 0.76 | 0.42 | 0.28 |
| V₂O₃ | 0.79 | 0.34 | 0.39 | 0.29 | 0.33 | 0.31 | 0.25 | 0.25 | 0.45 | 0.58 | 0.30 | 0.20 | 0.84 | 0.76 | 0.80 | 0.16 | 0.19 | 0.20 | 0.19 |
| Cr₂O₃ | 0.24 | 0.05 | 0.10 | 0.08 | 0.07 | 0.04 | 0.08 | 0.04 | 0.24 | 0.26 | 0.02 | 0.04 | 0.23 | 0.16 | 0.16 | 0.01 | 0.02 | 0.00 | 0.00 |
| Al₂O₃ | 0.00 | 0.02 | 0.03 | 0.04 | 0.01 | 0.03 | 0.00 | 0.37 | 0.08 | 0.05 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 |
| Bi₂O₃ | 0.12 | 0.00 | 0.09 | 0.07 | 0.00 | 0.12 | 0.03 | 0.02 | 0.02 | 0.00 | 0.11 | 0.06 | 0.00 | 0.03 | 0.07 | 0.08 | 0.00 | 0.06 | 0.03 |
| BaO | 0.03 | 0.03 | 0.04 | 0.10 | 0.00 | 0.04 | 0.01 | 0.00 | 0.05 | 0.00 | 0.02 | 0.04 | 0.02 | 0.08 | 0.01 | 0.01 | 0.00 | 0.02 | 0.04 |
| CaO | 0.00 | 0.02 | 0.00 | 0.02 | 0.03 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | 0.01 | 0.03 | 0.04 | 0.01 | 0.01 | 0.00 | 0.03 | 0.01 |
| ZnO | 0.04 | 0.00 | 0.01 | 0.08 | 0.11 | 0.11 | 0.12 | 0.03 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 |
| K₂O | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.15 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Na₂O | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 |
| Total | 99.39 | 99.74 | 99.39 | 99.64 | 99.11 | 100.06 | 99.82 | 99.68 | 99.75 | 99.54 | 99.74 | 99.30 | 100.39 | 100.11 | 99.83 | 100.79 | 99.46 | 99.91 | 99.88 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.984 | 0.965 | 0.969 | 0.965 | 0.965 | 0.965 | 0.961 | 0.961 | 0.969 | 0.977 | 0.977 | 0.977 | 0.972 | 0.983 | 0.986 | 0.985 | 0.981 | 0.986 | 0.988 |
| W | 0.000 | 0.007 | 0.005 | 0.007 | 0.007 | 0.008 | 0.009 | 0.006 | 0.001 | 0.000 | 0.004 | 0.004 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 |
| Nb | 0.003 | 0.009 | 0.009 | 0.007 | 0.007 | 0.008 | 0.008 | 0.005 | 0.002 | 0.002 | 0.004 | 0.004 | 0.002 | 0.003 | 0.002 | 0.003 | 0.005 | 0.004 | 0.003 |
| Ta | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.001 | 0.001 | 0.001 | 0.002 | 0.000 | 0.000 | 0.006 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 |
| Fe | 0.002 | 0.010 | 0.008 | 0.010 | 0.011 | 0.011 | 0.012 | 0.011 | 0.021 | 0.016 | 0.008 | 0.010 | 0.018 | 0.003 | 0.002 | 0.006 | 0.008 | 0.004 | 0.003 |
| V | 0.008 | 0.004 | 0.004 | 0.003 | 0.004 | 0.003 | 0.003 | 0.003 | 0.005 | 0.006 | 0.003 | 0.002 | 0.009 | 0.008 | 0.009 | 0.002 | 0.002 | 0.002 | 0.002 |
| Cr | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.003 | 0.003 | 0.000 | 0.000 | 0.002 | 0.002 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.006 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 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 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 |
| Total | 1.002 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 1.002 | 1.006 | 1.006 | 0.999 | 0.999 | 1.006 | 1.002 | 1.002 | 1.000 | 1.000 | 1.001 | 1.000 |

| Sample | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 | 295-514 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 17 | 17 | 17 | 17 |
| Row | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 2 |
| Grain | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 5 | 7 | 1 |
| Comment | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | centro | centro | bordo | |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Fino | Fino |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | | |
| Analysis | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 2 | 8 | 13 | 1 |
| wt.% | | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 98.26 | 97.64 | 98.83 | 98.65 | 97.49 | 98.52 | 98.51 | 98.81 | 97.62 | 98.12 | 97.22 | 96.30 | 96.37 | 97.62 | 98.74 | 98.21 | 94.91 | 98.27 | 97.75 | 99.03 |
| WO ₃ | 0.18 | 0.51 | 0.03 | 0.07 | 0.00 | 0.00 | 0.16 | 0.03 | 0.00 | 0.12 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.11 | 0.38 | 0.00 | 0.29 | 0.14 |
| Nb ₂ O ₅ | 0.62 | 0.57 | 0.31 | 0.21 | 0.28 | 0.32 | 0.30 | 0.33 | 0.22 | 0.26 | 0.32 | 0.33 | 0.35 | 0.29 | 0.29 | 0.27 | 1.47 | 0.42 | 0.50 | 0.24 |
| Ta ₂ O ₅ | 0.01 | 0.00 | 0.00 | 0.05 | 0.08 | 0.03 | 0.20 | 0.01 | 0.16 | 0.00 | 0.00 | 0.09 | 0.00 | 0.42 | 0.00 | 0.02 | 0.00 | 0.12 | 0.00 | 0.05 |
| SnO ₂ | 0.36 | 0.33 | 0.40 | 0.41 | 0.39 | 0.38 | 0.38 | 0.42 | 0.40 | 0.38 | 0.43 | 0.40 | 0.35 | 0.32 | 0.35 | 0.32 | 0.55 | 0.03 | 0.00 | 0.00 |
| ZrO ₂ | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 | 0.02 | 0.00 | 0.04 | 0.01 | 0.03 | 0.03 |
| SiO ₂ | 0.03 | 0.18 | 0.02 | 0.02 | 0.01 | 0.05 | 0.03 | 0.02 | 0.05 | 0.02 | 0.04 | 0.04 | 0.04 | 0.04 | 0.08 | 0.03 | 0.04 | 0.01 | 0.04 | 0.03 |
| Fe ₂ O ₃ | 0.44 | 0.58 | 0.15 | 0.21 | 1.64 | 0.33 | 0.18 | 0.25 | 1.42 | 0.71 | 2.03 | 2.65 | 2.72 | 1.62 | 0.16 | 0.29 | 1.06 | 0.10 | 0.13 | 0.09 |
| V ₂ O ₃ | 0.19 | 0.22 | 0.46 | 0.40 | 0.46 | 0.41 | 0.47 | 0.42 | 0.50 | 0.46 | 0.42 | 0.37 | 0.37 | 0.39 | 0.43 | 0.41 | 0.56 | 0.00 | 0.00 | 0.01 |
| Cr ₂ O ₃ | 0.02 | 0.00 | 0.03 | 0.03 | 0.04 | 0.02 | 0.04 | 0.02 | 0.04 | 0.03 | 0.01 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.15 | 0.00 | 0.00 | 0.00 |
| Al ₂ O ₃ | 0.01 | 0.10 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 | 0.00 | 0.03 | 0.03 | 0.02 | 0.03 | 0.00 | 0.00 | 0.00 |
| Bi ₂ O ₃ | 0.06 | 0.01 | 0.00 | 0.12 | 0.00 | 0.02 | 0.04 | 0.03 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.14 | 0.04 | 0.00 | 0.06 | 0.00 | 0.06 | 0.07 |
| BaO | 0.01 | 0.15 | 0.03 | 0.04 | 0.00 | 0.02 | 0.00 | 0.00 | 0.05 | 0.05 | 0.07 | 0.00 | 0.05 | 0.05 | 0.02 | 0.08 | 0.10 | 0.12 | 0.12 | 0.08 |
| CaO | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.02 | 0.02 | 0.00 | 0.02 | 0.00 | 0.01 |
| ZnO | 0.00 | 0.02 | 0.00 | 0.01 | 0.03 | 0.02 | 0.00 | 0.07 | 0.00 | 0.04 | 0.03 | 0.00 | 0.06 | 0.06 | 0.00 | 0.05 | 0.00 | 0.08 | 0.00 | 0.01 |
| K ₂ O | 0.01 | 0.05 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | 0.01 | 0.00 | 0.01 | 0.00 |
| Na ₂ O | 0.01 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.00 |
| Total | 100.19 | 100.36 | 100.26 | 100.25 | 100.46 | 100.13 | 100.34 | 100.42 | 100.53 | 100.20 | 100.58 | 100.28 | 100.35 | 101.04 | 100.20 | 99.86 | 99.37 | 99.22 | 98.92 | 99.79 |
| apfu | | | | | | | | | | | | | | | | | | | | |
| Ti | 0.986 | 0.980 | 0.990 | 0.988 | 0.977 | 0.988 | 0.987 | 0.989 | 0.979 | 0.984 | 0.975 | 0.968 | 0.968 | 0.976 | 0.988 | 0.988 | 0.968 | 0.994 | 0.992 | 0.995 |
| W | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 |
| Nb | 0.004 | 0.003 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.009 | 0.003 | 0.003 | 0.001 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.003 | 0.000 | 0.000 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 |
| Fe | 0.004 | 0.006 | 0.001 | 0.002 | 0.016 | 0.003 | 0.002 | 0.002 | 0.014 | 0.007 | 0.020 | 0.027 | 0.027 | 0.016 | 0.002 | 0.003 | 0.011 | 0.001 | 0.001 | 0.001 |
| V | 0.002 | 0.002 | 0.005 | 0.004 | 0.005 | 0.004 | 0.005 | 0.005 | 0.005 | 0.005 | 0.004 | 0.004 | 0.004 | 0.004 | 0.005 | 0.004 | 0.006 | 0.000 | 0.000 | 0.000 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 |
| K | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 |
| Total | 1.000 | 1.001 | 1.001 | 1.001 | 1.004 | 1.001 | 1.000 | 1.002 | 1.004 | 1.002 | 1.006 | 1.004 | 1.005 | 1.004 | 1.001 | 1.002 | 1.002 | 1.001 | 0.999 | 0.999 |

| Sample | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 |
|------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Mount | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Row | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Grain | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Comment | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | |
| Analysis | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO₂ | 98.02 | 96.44 | 96.59 | 97.42 | 95.72 | 96.50 | 97.62 | 97.54 | 95.71 | 95.51 | 96.16 | 95.13 | 95.18 | 94.38 | 96.11 | 97.83 | 98.13 | 97.83 | 97.61 |
| WO₃ | 1.19 | 2.05 | 1.82 | 1.93 | 2.37 | 2.10 | 1.19 | 1.13 | 2.44 | 2.14 | 1.90 | 0.75 | 0.77 | 0.51 | 0.35 | 0.22 | 0.15 | 0.00 | 0.39 |
| Nb₂O₅ | 0.35 | 0.38 | 0.43 | 0.45 | 0.59 | 0.72 | 0.45 | 0.40 | 0.69 | 0.73 | 0.55 | 1.36 | 1.49 | 2.41 | 1.19 | 0.59 | 0.54 | 0.51 | 0.67 |
| Ta₂O₅ | 0.01 | 0.00 | 0.16 | 0.14 | 0.04 | 0.00 | 0.11 | 0.07 | 0.07 | 0.21 | 0.00 | 0.23 | 0.29 | 0.32 | 0.17 | 0.06 | 0.00 | 0.15 | 0.00 |
| SnO₂ | 0.06 | 0.04 | 0.07 | 0.09 | 0.03 | 0.11 | 0.02 | 0.08 | 0.06 | 0.01 | 0.04 | 0.17 | 0.31 | 0.26 | 0.27 | 0.15 | 0.15 | 0.11 | 0.22 |
| ZrO₂ | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.02 | 0.04 | 0.03 | 0.03 | 0.05 | 0.06 | 0.05 | 0.05 | 0.00 | 0.02 | 0.01 | 0.05 | 0.00 | 0.00 |
| SiO₂ | 0.04 | 0.02 | 0.02 | 0.00 | 0.02 | 0.03 | 0.04 | 0.02 | 0.02 | 0.00 | 0.01 | 0.13 | 0.04 | 0.03 | 0.03 | 0.04 | 0.03 | 0.02 | 0.00 |
| Fe₂O₃ | 0.38 | 0.70 | 0.73 | 0.57 | 0.92 | 0.78 | 0.35 | 0.39 | 0.83 | 0.89 | 0.67 | 1.06 | 0.98 | 1.11 | 1.04 | 0.62 | 0.49 | 0.45 | 0.55 |
| V₂O₃ | 0.15 | 0.10 | 0.15 | 0.19 | 0.22 | 0.20 | 0.13 | 0.16 | 0.19 | 0.20 | 0.14 | 0.44 | 0.47 | 0.40 | 0.32 | 0.22 | 0.17 | 0.21 | 0.18 |
| Cr₂O₃ | 0.00 | 0.00 | 0.00 | 0.05 | 0.02 | 0.00 | 0.00 | 0.04 | 0.02 | 0.01 | 0.00 | 0.05 | 0.08 | 0.05 | 0.00 | 0.02 | 0.02 | 0.02 | 0.00 |
| Al₂O₃ | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.01 | 0.01 | 0.09 | 0.04 | 0.02 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 |
| Bi₂O₃ | 0.06 | 0.04 | 0.03 | 0.04 | 0.05 | 0.00 | 0.07 | 0.11 | 0.00 | 0.03 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | 0.03 |
| BaO | 0.03 | 0.13 | 0.08 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | 0.05 | 0.01 | 0.01 | 0.02 | 0.06 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 |
| CaO | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.02 | 0.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 |
| ZnO | 0.07 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.05 | 0.06 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 | 0.09 | 0.03 |
| K₂O | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.02 | 0.00 |
| Na₂O | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 |
| Total | 100.40 | 99.96 | 100.10 | 100.88 | 100.00 | 100.57 | 100.05 | 100.00 | 100.13 | 99.86 | 99.62 | 99.65 | 99.75 | 99.57 | 99.53 | 99.85 | 99.75 | 99.47 | 99.72 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.984 | 0.978 | 0.978 | 0.979 | 0.972 | 0.974 | 0.985 | 0.984 | 0.972 | 0.972 | 0.978 | 0.966 | 0.967 | 0.962 | 0.976 | 0.985 | 0.986 | 0.988 | 0.985 |
| W | 0.004 | 0.007 | 0.006 | 0.007 | 0.008 | 0.007 | 0.004 | 0.004 | 0.009 | 0.008 | 0.007 | 0.003 | 0.003 | 0.002 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 |
| Nb | 0.002 | 0.002 | 0.003 | 0.003 | 0.004 | 0.004 | 0.003 | 0.002 | 0.004 | 0.004 | 0.003 | 0.008 | 0.009 | 0.015 | 0.007 | 0.004 | 0.003 | 0.003 | 0.004 |
| Ta | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 |
| Sn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 |
| Fe | 0.004 | 0.007 | 0.007 | 0.006 | 0.009 | 0.008 | 0.004 | 0.004 | 0.008 | 0.009 | 0.007 | 0.011 | 0.010 | 0.011 | 0.011 | 0.006 | 0.005 | 0.005 | 0.006 |
| V | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.005 | 0.005 | 0.004 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 |
| Cr | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total | 0.999 | 0.998 | 0.998 | 0.998 | 0.997 | 0.998 | 0.998 | 0.998 | 0.997 | 0.997 | 0.998 | 1.001 | 1.000 | 0.998 | 1.001 | 1.001 | 0.999 | 1.001 | 1.000 |

| Sample | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 | 295-532 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Row | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Grain | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 6 |
| Comment | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | |
| Analysis | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 1 | 2 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 97.69 | 97.10 | 95.28 | 93.76 | 97.77 | 95.57 | 95.04 | 96.75 | 93.12 | 93.91 | 93.50 | 94.41 | 95.88 | 97.98 | 97.73 | 97.40 | 94.52 | 97.41 | 93.58 |
| WO ₃ | 0.25 | 0.77 | 0.01 | 0.17 | 0.02 | 1.58 | 1.29 | 0.55 | 1.24 | 1.39 | 1.86 | 1.18 | 0.47 | 0.16 | 0.00 | 0.11 | 0.93 | 0.00 | 1.10 |
| Nb ₂ O ₅ | 0.58 | 0.78 | 0.26 | 0.27 | 0.15 | 0.75 | 1.28 | 0.99 | 2.30 | 1.56 | 1.58 | 1.45 | 1.57 | 0.60 | 0.64 | 0.50 | 1.93 | 0.23 | 2.18 |
| Ta ₂ O ₅ | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 | 0.20 | 0.26 | 0.28 | 0.39 | 0.11 | 0.30 | 0.38 | 0.13 | 0.00 | 0.01 | 0.05 | 0.26 | 0.09 | 0.40 |
| SnO ₂ | 0.21 | 0.24 | 0.39 | 0.26 | 0.35 | 0.40 | 0.23 | 0.18 | 0.43 | 0.47 | 0.42 | 0.28 | 0.19 | 0.12 | 0.07 | 0.21 | 0.45 | 0.44 | 0.44 |
| ZrO ₂ | 0.00 | 0.00 | 0.00 | 0.05 | 0.02 | 0.00 | 0.03 | 0.00 | 0.04 | 0.02 | 0.00 | 0.03 | 0.02 | 0.02 | 0.01 | 0.21 | 0.00 | 0.01 | 0.04 |
| SiO ₂ | 0.04 | 0.01 | 0.00 | 1.19 | 0.01 | 0.01 | 0.02 | 0.03 | 0.00 | 0.01 | 0.02 | 0.18 | 0.01 | 0.06 | 0.02 | 0.08 | 0.01 | 0.05 | 0.04 |
| Fe ₂ O ₃ | 0.51 | 0.71 | 3.23 | 1.46 | 0.58 | 0.95 | 0.82 | 0.41 | 1.28 | 1.22 | 1.23 | 1.07 | 0.76 | 0.36 | 0.20 | 0.14 | 0.84 | 0.40 | 0.99 |
| V ₂ O ₃ | 0.18 | 0.21 | 0.56 | 0.58 | 0.56 | 0.17 | 0.16 | 0.19 | 0.35 | 0.32 | 0.36 | 0.35 | 0.26 | 0.11 | 0.53 | 0.54 | 0.61 | 0.54 | 0.39 |
| Cr ₂ O ₃ | 0.01 | 0.01 | 0.03 | 0.04 | 0.03 | 0.00 | 0.00 | 0.03 | 0.05 | 0.02 | 0.02 | 0.05 | 0.00 | 0.02 | 0.07 | 0.06 | 0.09 | 0.03 | 0.02 |
| Al ₂ O ₃ | 0.02 | 0.03 | 0.01 | 1.02 | 0.00 | 0.02 | 0.02 | 0.01 | 0.02 | 0.01 | 0.05 | 0.10 | 0.02 | 0.02 | 0.00 | 0.02 | 0.02 | 0.03 | 0.01 |
| Bi ₂ O ₃ | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 | 0.02 | 0.00 | 0.00 | 0.03 | 0.07 | 0.05 | 0.00 |
| BaO | 0.06 | 0.07 | 0.00 | 0.08 | 0.00 | 0.00 | 0.03 | 0.00 | 0.06 | 0.00 | 0.01 | 0.04 | 0.00 | 0.06 | 0.05 | 0.02 | 0.02 | 0.12 | 0.01 |
| CaO | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | 0.00 | 0.02 | 0.00 | 0.01 | 0.02 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 |
| ZnO | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.01 | 0.04 | 0.00 | 0.00 |
| K ₂ O | 0.00 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 |
| Na ₂ O | 0.00 | 0.01 | 0.01 | 0.06 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.03 | 0.01 | 0.00 |
| Total | 99.54 | 100.10 | 99.78 | 99.08 | 99.50 | 99.67 | 99.20 | 99.51 | 99.29 | 99.08 | 99.47 | 99.52 | 99.39 | 99.56 | 99.34 | 99.38 | 99.83 | 99.40 | 99.19 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.986 | 0.980 | 0.966 | 0.949 | 0.987 | 0.974 | 0.972 | 0.981 | 0.957 | 0.964 | 0.960 | 0.964 | 0.975 | 0.988 | 0.987 | 0.984 | 0.963 | 0.985 | 0.961 |
| W | 0.001 | 0.003 | 0.000 | 0.001 | 0.000 | 0.006 | 0.005 | 0.002 | 0.004 | 0.005 | 0.007 | 0.004 | 0.002 | 0.001 | 0.000 | 0.000 | 0.003 | 0.000 | 0.004 |
| Nb | 0.004 | 0.005 | 0.002 | 0.002 | 0.001 | 0.005 | 0.008 | 0.006 | 0.014 | 0.010 | 0.010 | 0.009 | 0.010 | 0.004 | 0.004 | 0.003 | 0.012 | 0.001 | 0.013 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 |
| Sn | 0.001 | 0.001 | 0.002 | 0.001 | 0.002 | 0.002 | 0.001 | 0.001 | 0.002 | 0.003 | 0.002 | 0.002 | 0.001 | 0.001 | 0.000 | 0.001 | 0.002 | 0.002 | 0.002 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.000 | 0.016 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 |
| Fe | 0.005 | 0.007 | 0.033 | 0.015 | 0.006 | 0.010 | 0.008 | 0.004 | 0.013 | 0.012 | 0.013 | 0.011 | 0.008 | 0.004 | 0.002 | 0.001 | 0.009 | 0.004 | 0.010 |
| V | 0.002 | 0.002 | 0.006 | 0.006 | 0.006 | 0.002 | 0.002 | 0.002 | 0.004 | 0.004 | 0.004 | 0.004 | 0.003 | 0.001 | 0.006 | 0.006 | 0.007 | 0.006 | 0.004 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.016 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 |
| Total | 1.000 | 1.000 | 1.009 | 1.011 | 1.002 | 0.999 | 0.998 | 0.999 | 0.998 | 0.999 | 0.999 | 1.000 | 0.999 | 1.000 | 1.001 | 1.000 | 0.999 | 1.002 | 0.998 |

| Sample | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 | 295-537 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Row | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Grain | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Comment | centro | centro | bordo | bordo | centro | bordo | centro | centro | bordo | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Vermelho | Vermelho | Vermelho | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Sub-édrico | Sub-édrico | Sub-édrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino | Fino |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | |
| Analysis | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 99.17 | 98.30 | 98.52 | 96.84 | 96.53 | 96.92 | 94.72 | 96.05 | 97.72 | 98.26 | 99.46 | 96.22 | 96.97 | 98.25 | 98.36 | 99.32 | 99.01 | 99.07 | 97.38 |
| WO ₃ | 0.11 | 0.00 | 0.16 | 0.18 | 1.25 | 0.25 | 0.00 | 0.00 | 0.15 | 0.34 | 0.03 | 1.00 | 0.73 | 0.12 | 0.18 | 0.19 | 0.00 | 0.00 | 1.30 |
| Nb ₂ O ₅ | 0.47 | 0.51 | 0.26 | 0.73 | 0.89 | 0.80 | 0.39 | 0.21 | 0.38 | 0.49 | 0.28 | 0.85 | 0.44 | 0.72 | 0.76 | 0.62 | 0.45 | 0.56 | 0.79 |
| Ta ₂ O ₅ | 0.01 | 0.00 | 0.02 | 0.02 | 0.00 | 0.02 | 0.00 | 0.09 | 0.14 | 0.01 | 0.11 | 0.02 | 0.04 | 0.33 | 0.21 | 0.00 | 0.00 | 0.03 | 0.08 |
| SnO ₂ | 0.00 | 0.00 | 0.07 | 0.04 | 0.00 | 0.05 | 0.36 | 0.35 | 0.23 | 0.00 | 0.02 | 0.00 | 0.01 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 |
| ZrO ₂ | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.02 | 0.00 | 0.04 | 0.00 | 0.02 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| SiO ₂ | 0.10 | 0.26 | 0.03 | 0.15 | 0.01 | 0.37 | 0.06 | 0.10 | 0.03 | 0.10 | 0.05 | 0.34 | 0.32 | 0.08 | 0.04 | 0.06 | 0.12 | 0.04 | 0.03 |
| Fe ₂ O ₃ | 0.03 | 0.16 | 0.16 | 1.76 | 0.62 | 0.83 | 3.62 | 2.33 | 1.16 | 0.41 | 0.26 | 0.85 | 0.67 | 0.39 | 0.26 | 0.13 | 0.19 | 0.11 | 0.87 |
| V ₂ O ₃ | 0.14 | 0.12 | 0.14 | 0.05 | 0.20 | 0.11 | 0.20 | 0.26 | 0.28 | 0.23 | 0.16 | 0.28 | 0.20 | 0.21 | 0.17 | 0.18 | 0.16 | 0.14 | 0.27 |
| Cr ₂ O ₃ | 0.01 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 |
| Al ₂ O ₃ | 0.01 | 0.03 | 0.01 | 0.02 | 0.04 | 0.14 | 0.02 | 0.01 | 0.00 | 0.04 | 0.02 | 0.11 | 0.20 | 0.10 | 0.13 | 0.05 | 0.06 | 0.01 | 0.04 |
| Bi ₂ O ₃ | 0.00 | 0.03 | 0.04 | 0.03 | 0.00 | 0.00 | 0.08 | 0.03 | 0.06 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| BaO | 0.10 | 0.02 | 0.07 | 0.00 | 0.03 | 0.06 | 0.01 | 0.06 | 0.04 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 | 0.09 | 0.03 | 0.09 | 0.05 | 0.02 |
| CaO | 0.02 | 0.08 | 0.04 | 0.03 | 0.03 | 0.04 | 0.02 | 0.01 | 0.02 | 0.03 | 0.00 | 0.07 | 0.06 | 0.03 | 0.02 | 0.01 | 0.03 | 0.03 | 0.00 |
| ZnO | 0.06 | 0.03 | 0.00 | 0.01 | 0.00 | 0.00 | 0.05 | 0.00 | 0.08 | 0.00 | 0.00 | 0.13 | 0.00 | 0.00 | 0.03 | 0.04 | 0.00 | 0.03 | 0.00 |
| K ₂ O | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| Na ₂ O | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.02 | 0.00 | 0.03 | 0.01 | 0.00 | 0.00 | 0.02 | 0.03 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 |
| Total | 100.26 | 99.56 | 99.53 | 99.87 | 99.60 | 99.60 | 99.56 | 99.52 | 100.32 | 100.01 | 100.40 | 99.96 | 99.66 | 100.33 | 100.32 | 100.65 | 100.15 | 100.08 | 100.81 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.992 | 0.988 | 0.993 | 0.976 | 0.979 | 0.977 | 0.963 | 0.973 | 0.981 | 0.986 | 0.993 | 0.971 | 0.978 | 0.984 | 0.985 | 0.990 | 0.990 | 0.992 | 0.977 |
| W | 0.000 | 0.000 | 0.001 | 0.001 | 0.004 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.003 | 0.003 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.004 |
| Nb | 0.003 | 0.003 | 0.002 | 0.004 | 0.005 | 0.005 | 0.002 | 0.001 | 0.002 | 0.003 | 0.002 | 0.005 | 0.003 | 0.004 | 0.005 | 0.004 | 0.003 | 0.003 | 0.005 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.001 | 0.003 | 0.000 | 0.002 | 0.000 | 0.005 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.004 | 0.004 | 0.001 | 0.000 | 0.001 | 0.002 | 0.000 | 0.000 |
| Fe | 0.000 | 0.002 | 0.002 | 0.018 | 0.006 | 0.008 | 0.037 | 0.024 | 0.012 | 0.004 | 0.003 | 0.009 | 0.007 | 0.004 | 0.003 | 0.001 | 0.002 | 0.001 | 0.009 |
| V | 0.001 | 0.001 | 0.001 | 0.000 | 0.002 | 0.001 | 0.002 | 0.003 | 0.003 | 0.002 | 0.002 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.003 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.002 | 0.003 | 0.002 | 0.002 | 0.001 | 0.001 | 0.000 | 0.001 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 |
| Total | 1.000 | 1.000 | 1.001 | 1.003 | 0.999 | 1.002 | 1.009 | 1.006 | 1.003 | 1.000 | 1.000 | 1.001 | 1.002 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.999 |

| Sample | 283-159 | 283-173 | 283-173 | 283-173 | 283-173 | 283-173 | 283-175 | 283-175 | 283-175 | 283-175 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 |
|--------------------------------|-----------|------------------|------------------|------------------|------------------|------------|----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Mount | 17 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Row | 6 | 9 | 9 | 9 | 9 | 9 | 10 | 10 | 10 | 10 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Grain | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| Comment | bordo | centro | bordo | centro | bordo | | claro | centro | bordo | | centro | centro | bordo | bordo | centro | bordo | Perfil | Perfil | Perfil | Perfil |
| Color | Preto | Preto-Esverdeado | Preto-Esverdeado | Preto-Esverdeado | Preto-Esverdeado | Preto | Preto | Preto | Preto | Laranja | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Prismático | Anédrico | Anédrico | Anédrico | Anédrico | Prismático | Prismático | Prismático | Prismático | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico |
| Size | Fino | Médio | Médio | Fino | Fino | Fino | Médio | Fino | Fino | Fino | Grosseiro | Grosseiro | Grosseiro | Grosseiro | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | zonado | Homogéneo | Homogéneo | Homogéneo | Zonado | Zonado | Zonado | Zonado | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | site 136 | site 137 | | | | site 82 | site 82 | site 82 | site 82 | | | | | | |
| Analysis | 2 | 1 | 2 | 3 | 4 | 5 | 2 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 |
| wt.% | | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 97.86 | 94.14 | 95.76 | 98.69 | 98.63 | 97.82 | 94.00 | 99.58 | 99.58 | 98.43 | 89.39 | 95.98 | 96.94 | 94.77 | 98.20 | 98.53 | 97.15 | 97.24 | 95.78 | 94.61 |
| WO ₃ | 0.28 | 2.29 | 1.09 | 0.00 | 0.00 | 0.07 | 2.55 | 0.32 | 0.53 | 0.16 | 4.42 | 0.19 | 0.32 | 1.29 | 0.00 | 0.11 | 0.54 | 0.35 | 0.51 | 1.77 |
| Nb ₂ O ₅ | 0.15 | 0.50 | 0.53 | 0.76 | 0.36 | 0.21 | 0.42 | 0.24 | 0.19 | 0.08 | 0.74 | 0.30 | 0.29 | 0.43 | 0.34 | 0.23 | 0.24 | 0.21 | 0.34 | 0.47 |
| Ta ₂ O ₅ | 0.00 | 0.32 | 0.42 | 0.00 | 0.03 | 0.16 | 0.12 | 0.00 | 0.05 | 0.04 | 0.15 | 0.00 | 0.15 | 0.10 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | 0.05 |
| SnO ₂ | 0.02 | 0.83 | 0.82 | 0.00 | 0.00 | 0.01 | 1.71 | 0.00 | 0.00 | 0.04 | 2.46 | 2.20 | 1.50 | 2.21 | 0.02 | 0.09 | 1.43 | 1.58 | 1.80 | 2.13 |
| ZrO ₂ | 0.05 | 0.03 | 0.00 | 0.00 | 0.00 | 0.02 | 0.05 | 0.03 | 0.00 | 0.04 | 0.05 | 0.01 | 0.02 | 0.04 | 0.01 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| SiO ₂ | 0.21 | 0.04 | 0.05 | 0.04 | 0.01 | 0.15 | 0.03 | 0.10 | 0.06 | 0.06 | 0.03 | 0.04 | 0.02 | 0.03 | 0.00 | 0.03 | 0.02 | 0.01 | 0.12 | 0.01 |
| Fe ₂ O ₃ | 0.19 | 1.32 | 1.02 | 0.06 | 0.05 | 0.58 | 1.57 | 0.09 | 0.16 | 0.37 | 1.73 | 0.25 | 0.33 | 0.64 | 0.35 | 0.20 | 0.22 | 0.23 | 0.41 | 0.68 |
| V ₂ O ₃ | 0.05 | 0.00 | 0.00 | 0.00 | 0.02 | 0.20 | 0.15 | 0.00 | 0.00 | 0.30 | 0.49 | 0.43 | 0.57 | 0.42 | 0.46 | 0.41 | 0.45 | 0.44 | 0.56 | 0.39 |
| Cr ₂ O ₃ | 0.01 | 0.00 | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.00 | 0.00 | 0.06 | 0.05 | 0.12 | 0.08 | 0.06 | 0.16 | 0.15 | 0.11 | 0.12 | 0.07 | 0.10 |
| Al ₂ O ₃ | 0.02 | 0.05 | 0.03 | 0.02 | 0.01 | 0.19 | 0.07 | 0.01 | 0.00 | 0.00 | 0.10 | 0.09 | 0.03 | 0.07 | 0.00 | 0.00 | 0.04 | 0.03 | 0.07 | 0.05 |
| Bi ₂ O ₃ | 0.00 | 0.00 | 0.05 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.03 | 0.00 | 0.00 | 0.00 | 0.04 | 0.04 | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| BaO | 0.03 | 0.07 | 0.15 | 0.05 | 0.03 | 0.14 | 0.05 | 0.09 | 0.13 | 0.17 | 0.00 | 0.08 | 0.04 | 0.06 | 0.04 | 0.09 | 0.04 | 0.00 | 0.08 | 0.00 |
| CaO | 0.02 | 0.02 | 0.04 | 0.01 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.02 | 0.03 | 0.02 |
| ZnO | 0.07 | 0.00 | 0.02 | 0.09 | 0.03 | 0.00 | 0.01 | 0.03 | 0.00 | 0.06 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.06 | 0.03 | 0.00 | 0.00 | 0.14 |
| K ₂ O | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Na ₂ O | 0.02 | 0.02 | 0.02 | 0.09 | 0.06 | 0.09 | 0.00 | 0.01 | 0.02 | 0.04 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.02 | 0.01 | 0.02 |
| Total | 98.97 | 99.62 | 99.99 | 99.83 | 99.26 | 99.72 | 100.74 | 100.52 | 100.74 | 99.89 | 99.60 | 99.74 | 100.33 | 100.18 | 99.68 | 99.93 | 100.28 | 100.34 | 99.77 | 100.42 |
| apfu | | | | | | | | | | | | | | | | | | | | |
| Ti | 0.991 | 0.966 | 0.973 | 0.991 | 0.995 | 0.985 | 0.958 | 0.993 | 0.992 | 0.989 | 0.935 | 0.975 | 0.978 | 0.966 | 0.989 | 0.989 | 0.980 | 0.980 | 0.974 | 0.964 |
| W | 0.001 | 0.008 | 0.004 | 0.000 | 0.000 | 0.000 | 0.009 | 0.001 | 0.002 | 0.001 | 0.016 | 0.001 | 0.001 | 0.005 | 0.000 | 0.000 | 0.002 | 0.001 | 0.002 | 0.006 |
| Nb | 0.001 | 0.003 | 0.003 | 0.005 | 0.002 | 0.001 | 0.003 | 0.001 | 0.001 | 0.001 | 0.005 | 0.002 | 0.002 | 0.003 | 0.002 | 0.001 | 0.001 | 0.001 | 0.002 | 0.003 |
| Ta | 0.000 | 0.001 | 0.002 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.000 | 0.004 | 0.004 | 0.000 | 0.000 | 0.000 | 0.009 | 0.000 | 0.000 | 0.000 | 0.014 | 0.012 | 0.008 | 0.012 | 0.000 | 0.000 | 0.008 | 0.008 | 0.010 | 0.011 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.003 | 0.001 | 0.001 | 0.000 | 0.000 | 0.002 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 |
| Fe | 0.002 | 0.014 | 0.010 | 0.001 | 0.000 | 0.006 | 0.016 | 0.001 | 0.002 | 0.004 | 0.018 | 0.003 | 0.003 | 0.006 | 0.004 | 0.002 | 0.002 | 0.002 | 0.004 | 0.007 |
| V | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.002 | 0.000 | 0.000 | 0.003 | 0.005 | 0.005 | 0.006 | 0.005 | 0.005 | 0.004 | 0.005 | 0.005 | 0.006 | 0.004 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 |
| Al | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.003 | 0.001 | 0.000 | 0.000 | 0.000 | 0.002 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 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 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 |
| Total | 1.000 | 0.999 | 1.000 | 1.001 | 1.000 | 1.004 | 0.999 | 1.000 | 0.999 | 1.003 | 0.997 | 1.001 | 1.001 | 1.000 | 1.002 | 1.002 | 1.001 | 1.001 | 1.002 | 1.000 |

| Sample | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 |
|--------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Mount | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Row | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Grain | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Comment | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil | Perfil2 | Perfil2 | Perfil2 |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | |
| Analysis | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 1 | 2 | 3 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 92.60 | 92.91 | 92.06 | 93.05 | 91.44 | 91.35 | 91.58 | 91.16 | 89.03 | 88.83 | 88.86 | 89.70 | 96.06 | 96.54 | 96.27 | 96.80 | 93.19 | 93.12 | 92.57 |
| WO ₃ | 2.44 | 1.94 | 3.13 | 2.41 | 3.55 | 2.94 | 3.48 | 3.86 | 4.97 | 5.10 | 5.18 | 4.51 | 0.44 | 0.54 | 0.52 | 0.30 | 2.11 | 1.99 | 2.63 |
| Nb ₂ O ₅ | 0.77 | 0.69 | 0.61 | 0.66 | 0.66 | 0.57 | 0.59 | 0.56 | 0.30 | 0.33 | 0.38 | 0.43 | 0.27 | 0.16 | 0.30 | 0.25 | 0.51 | 0.51 | 0.71 |
| Ta ₂ O ₅ | 0.10 | 0.13 | 0.03 | 0.14 | 0.00 | 0.20 | 0.00 | 0.17 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.01 | 0.05 | 0.00 | 0.00 |
| SnO ₂ | 2.55 | 2.52 | 2.43 | 2.31 | 2.40 | 2.42 | 2.52 | 2.10 | 3.02 | 3.16 | 2.90 | 2.74 | 2.14 | 1.96 | 1.55 | 1.29 | 2.23 | 2.07 | 2.00 |
| ZrO ₂ | 0.02 | 0.05 | 0.08 | 0.04 | 0.05 | 0.00 | 0.02 | 0.02 | 0.03 | 0.00 | 0.02 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 |
| SiO ₂ | 0.03 | 0.02 | 0.03 | 0.02 | 0.02 | 0.04 | 0.02 | 0.01 | 0.03 | 0.02 | 0.01 | 0.00 | 0.06 | 0.03 | 0.12 | 0.07 | 0.01 | 0.03 | 0.02 |
| Fe ₂ O ₃ | 1.30 | 1.14 | 1.33 | 1.05 | 1.34 | 1.31 | 1.33 | 1.29 | 1.87 | 1.96 | 1.76 | 1.60 | 0.33 | 0.21 | 0.43 | 0.34 | 1.17 | 1.09 | 1.23 |
| V ₂ O ₃ | 0.34 | 0.31 | 0.34 | 0.29 | 0.35 | 0.45 | 0.43 | 0.47 | 0.69 | 0.64 | 0.61 | 0.67 | 0.40 | 0.50 | 0.51 | 0.38 | 0.42 | 0.38 | 0.45 |
| Cr ₂ O ₃ | 0.03 | 0.04 | 0.05 | 0.07 | 0.07 | 0.11 | 0.04 | 0.06 | 0.03 | 0.02 | 0.03 | 0.10 | 0.16 | 0.08 | 0.11 | 0.12 | 0.04 | 0.04 | 0.07 |
| Al ₂ O ₃ | 0.09 | 0.12 | 0.10 | 0.10 | 0.12 | 0.10 | 0.11 | 0.09 | 0.12 | 0.14 | 0.16 | 0.14 | 0.02 | 0.01 | 0.12 | 0.04 | 0.12 | 0.08 | 0.09 |
| Bi ₂ O ₃ | 0.03 | 0.02 | 0.00 | 0.10 | 0.00 | 0.00 | 0.01 | 0.00 | 0.11 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.01 | 0.03 | 0.00 |
| BaO | 0.00 | 0.05 | 0.02 | 0.04 | 0.01 | 0.05 | 0.03 | 0.08 | 0.01 | 0.03 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.05 | 0.03 | 0.00 |
| CaO | 0.01 | 0.03 | 0.03 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.02 | 0.01 | 0.09 | 0.03 | 0.00 | 0.02 | 0.00 |
| ZnO | 0.06 | 0.00 | 0.01 | 0.00 | 0.04 | 0.07 | 0.04 | 0.01 | 0.02 | 0.11 | 0.00 | 0.00 | 0.04 | 0.00 | 0.06 | 0.00 | 0.03 | 0.03 | 0.00 |
| K ₂ O | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Na ₂ O | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 |
| Total | 100.34 | 99.98 | 100.27 | 100.29 | 100.07 | 99.60 | 100.20 | 99.89 | 100.24 | 100.39 | 100.00 | 99.94 | 99.95 | 100.04 | 100.18 | 99.67 | 99.95 | 99.42 | 99.80 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.952 | 0.955 | 0.948 | 0.955 | 0.946 | 0.948 | 0.946 | 0.945 | 0.931 | 0.928 | 0.930 | 0.936 | 0.975 | 0.978 | 0.974 | 0.981 | 0.957 | 0.960 | 0.953 |
| W | 0.009 | 0.007 | 0.011 | 0.009 | 0.013 | 0.011 | 0.012 | 0.014 | 0.018 | 0.018 | 0.019 | 0.016 | 0.002 | 0.002 | 0.002 | 0.001 | 0.007 | 0.007 | 0.009 |
| Nb | 0.005 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.003 | 0.002 | 0.002 | 0.002 | 0.003 | 0.002 | 0.001 | 0.002 | 0.002 | 0.003 | 0.003 | 0.004 |
| Ta | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.014 | 0.014 | 0.013 | 0.013 | 0.013 | 0.013 | 0.014 | 0.012 | 0.017 | 0.017 | 0.016 | 0.015 | 0.011 | 0.011 | 0.008 | 0.007 | 0.012 | 0.011 | 0.011 |
| Zr | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 |
| Fe | 0.013 | 0.012 | 0.014 | 0.011 | 0.014 | 0.014 | 0.014 | 0.013 | 0.020 | 0.020 | 0.018 | 0.017 | 0.003 | 0.002 | 0.004 | 0.003 | 0.012 | 0.011 | 0.013 |
| V | 0.004 | 0.003 | 0.004 | 0.003 | 0.004 | 0.005 | 0.005 | 0.005 | 0.008 | 0.007 | 0.007 | 0.007 | 0.004 | 0.005 | 0.005 | 0.004 | 0.005 | 0.004 | 0.005 |
| Cr | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 |
| Al | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.003 | 0.002 | 0.000 | 0.000 | 0.002 | 0.001 | 0.002 | 0.001 | 0.001 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 |
| Total | 0.999 | 1.000 | 0.998 | 0.999 | 0.998 | 0.999 | 0.998 | 0.996 | 0.998 | 0.998 | 0.996 | 0.998 | 1.001 | 1.001 | 1.002 | 1.002 | 1.001 | 1.000 | 0.998 |

| Sample | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|---------------|---------------|---------------|---------------|--------------|--------------|--------------|--------------|---------------|--------------|---------------|--------------|
| Mount | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Row | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Grain | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Comment | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto |
| Shape | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | |
| Analysis | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 92.17 | 92.79 | 92.39 | 91.19 | 91.59 | 92.53 | 90.11 | 92.01 | 90.14 | 90.31 | 89.73 | 90.58 | 90.40 | 89.27 | 89.36 | 89.84 | 90.51 | 90.46 | 89.11 |
| WO ₃ | 2.81 | 2.50 | 2.61 | 3.41 | 3.00 | 2.76 | 4.01 | 2.81 | 4.22 | 4.45 | 5.39 | 3.83 | 4.02 | 4.92 | 4.43 | 5.70 | 4.29 | 4.73 | 5.48 |
| Nb ₂ O ₅ | 0.62 | 0.62 | 0.56 | 0.44 | 0.54 | 0.51 | 0.43 | 0.65 | 0.48 | 0.53 | 0.53 | 0.70 | 0.75 | 0.78 | 0.53 | 0.52 | 0.44 | 0.50 | 0.57 |
| Ta ₂ O ₅ | 0.14 | 0.12 | 0.09 | 0.06 | 0.00 | 0.02 | 0.16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.14 | 0.01 | 0.02 | 0.07 | 0.07 | 0.00 | 0.29 |
| SnO ₂ | 1.99 | 2.10 | 2.34 | 2.49 | 2.53 | 2.44 | 2.47 | 2.53 | 2.52 | 2.19 | 2.32 | 1.89 | 2.22 | 2.27 | 2.33 | 1.99 | 2.09 | 1.87 | 1.54 |
| ZrO ₂ | 0.00 | 0.01 | 0.03 | 0.03 | 0.00 | 0.04 | 0.02 | 0.02 | 0.04 | 0.04 | 0.01 | 0.06 | 0.00 | 0.04 | 0.02 | 0.06 | 0.02 | 0.06 | 0.03 |
| SiO ₂ | 0.05 | 0.01 | 0.02 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.03 | 0.03 | 0.01 | 0.03 | 0.01 | 0.05 | 0.15 | 0.03 | 0.03 | 0.00 | 0.04 |
| Fe ₂ O ₃ | 1.23 | 1.20 | 1.19 | 1.41 | 1.33 | 1.17 | 1.66 | 1.25 | 1.65 | 1.75 | 1.74 | 1.67 | 1.59 | 1.69 | 1.78 | 1.82 | 1.59 | 1.82 | 1.98 |
| V ₂ O ₃ | 0.51 | 0.32 | 0.43 | 0.60 | 0.49 | 0.44 | 0.57 | 0.45 | 0.68 | 0.59 | 0.53 | 0.48 | 0.44 | 0.49 | 0.50 | 0.49 | 0.52 | 0.44 | 0.37 |
| Cr ₂ O ₃ | 0.06 | 0.05 | 0.09 | 0.09 | 0.10 | 0.08 | 0.10 | 0.15 | 0.12 | 0.08 | 0.05 | 0.05 | 0.09 | 0.05 | 0.06 | 0.06 | 0.09 | 0.07 | 0.03 |
| Al ₂ O ₃ | 0.12 | 0.12 | 0.12 | 0.12 | 0.10 | 0.11 | 0.14 | 0.13 | 0.13 | 0.09 | 0.08 | 0.10 | 0.13 | 0.08 | 0.13 | 0.10 | 0.14 | 0.11 | 0.11 |
| Bi ₂ O ₃ | 0.00 | 0.03 | 0.00 | 0.06 | 0.00 | 0.02 | 0.06 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.07 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 | 0.11 |
| BaO | 0.08 | 0.02 | 0.03 | 0.00 | 0.07 | 0.06 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.05 | 0.03 | 0.01 | 0.04 | 0.00 | 0.00 |
| CaO | 0.02 | 0.01 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 | 0.00 | 0.01 | 0.00 | 0.04 | 0.00 | 0.01 | 0.03 | 0.02 |
| ZnO | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.05 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 |
| K ₂ O | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Na ₂ O | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.03 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.01 |
| Total | 99.84 | 99.90 | 99.90 | 99.94 | 99.76 | 100.23 | 99.80 | 100.08 | 100.03 | 100.12 | 100.41 | 99.49 | 99.88 | 99.70 | 99.53 | 100.75 | 99.83 | 100.09 | 99.68 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.951 | 0.956 | 0.953 | 0.945 | 0.949 | 0.951 | 0.939 | 0.949 | 0.937 | 0.938 | 0.934 | 0.943 | 0.941 | 0.933 | 0.934 | 0.932 | 0.941 | 0.940 | 0.934 |
| W | 0.010 | 0.009 | 0.009 | 0.012 | 0.011 | 0.010 | 0.014 | 0.010 | 0.015 | 0.016 | 0.019 | 0.014 | 0.014 | 0.018 | 0.016 | 0.020 | 0.015 | 0.017 | 0.020 |
| Nb | 0.004 | 0.004 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.004 | 0.003 | 0.003 | 0.003 | 0.004 | 0.005 | 0.005 | 0.003 | 0.003 | 0.003 | 0.003 | 0.004 |
| Ta | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Sn | 0.011 | 0.011 | 0.013 | 0.014 | 0.014 | 0.013 | 0.014 | 0.014 | 0.014 | 0.012 | 0.013 | 0.010 | 0.012 | 0.013 | 0.013 | 0.011 | 0.012 | 0.010 | 0.009 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.001 |
| Fe | 0.013 | 0.012 | 0.012 | 0.015 | 0.014 | 0.012 | 0.017 | 0.013 | 0.017 | 0.018 | 0.018 | 0.017 | 0.017 | 0.018 | 0.019 | 0.019 | 0.017 | 0.019 | 0.021 |
| V | 0.006 | 0.004 | 0.005 | 0.007 | 0.005 | 0.005 | 0.006 | 0.005 | 0.008 | 0.007 | 0.006 | 0.005 | 0.005 | 0.005 | 0.006 | 0.005 | 0.006 | 0.005 | 0.004 |
| Cr | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 |
| Al | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 |
| Total | 0.999 | 0.999 | 0.999 | 0.999 | 0.999 | 0.998 | 0.998 | 0.999 | 0.999 | 0.998 | 0.996 | 0.998 | 0.998 | 0.995 | 0.997 | 0.995 | 0.997 | 0.997 | 0.995 |

| Sample | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-491 | 283-496 | 283-496 | 283-496 | 283-497 | 283-497 | 283-497 | 283-497 |
|--------------------------------|---------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|--------------|------------------|------------------|--------------|--------------|---------------|------------------|--------------|---------------|---------------|---------------|--------------|
| Mount | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 17 | 17 | 17 | 17 | 17 | 7 | 18 | 18 | 2 | 2 | 2 | 2 |
| Row | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 6 | 6 | 7 | 8 | 8 | 9 | 9 | 9 | 9 |
| Grain | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 1 | 1 | 2 | 1 | 1 | 1 | 1 |
| Comment | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | Perfil2 | centro | bordo | centro | bordo | | escuro | escuro | centro | centro | bordo | bordo |
| Color | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto | Preto-Esverdeado | Preto-Esverdeado | Amarelo | Amarelo | Preto | Preto-Esverdeado | Azul | Vermelho | Vermelho | Vermelho | Vermelho |
| Shape | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Prismático | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Fino | Fino | Fino | Fino | Fino | Grosseiro | Médio | Fino | Grosseiro | Grosseiro | Grosseiro | Grosseiro |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Zonado | Zonado | Zonado | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | site 123 | | site 124 | | | |
| Analysis | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 4 | 1 | 2 | 3 | 4 |
| wt. % | | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 89.75 | 88.33 | 88.01 | 88.21 | 87.57 | 86.80 | 86.89 | 87.94 | 96.96 | 98.75 | 99.10 | 99.03 | 99.65 | 99.86 | 99.25 | 98.54 | 99.13 | 99.45 | 99.51 | 98.60 |
| WO ₃ | 5.79 | 6.78 | 6.16 | 5.98 | 7.21 | 6.21 | 6.44 | 5.20 | 0.29 | 0.54 | 0.41 | 0.12 | 0.00 | 0.13 | 0.31 | 0.31 | 0.00 | 0.08 | 0.00 | 0.10 |
| Nb ₂ O ₅ | 0.47 | 0.51 | 0.59 | 0.56 | 0.67 | 1.24 | 1.36 | 1.46 | 0.14 | 0.25 | 0.38 | 0.15 | 0.12 | 0.43 | 0.07 | 0.26 | 0.35 | 0.36 | 0.14 | 0.12 |
| Ta ₂ O ₅ | 0.03 | 0.06 | 0.21 | 0.00 | 0.02 | 0.04 | 0.06 | 0.04 | 0.16 | 0.00 | 0.02 | 0.09 | 0.04 | 0.15 | 0.13 | 0.00 | 0.11 | 0.00 | 0.18 | 0.06 |
| SnO ₂ | 1.42 | 1.37 | 1.75 | 1.81 | 2.27 | 2.51 | 2.20 | 2.42 | 1.27 | 0.00 | 0.00 | 0.06 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.02 | 0.03 |
| ZrO ₂ | 0.00 | 0.00 | 0.06 | 0.07 | 0.07 | 0.07 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.02 | 0.01 | 0.04 | 0.00 | 0.04 | 0.08 | 0.01 | 0.05 | 0.02 |
| SiO ₂ | 0.02 | 0.05 | 0.01 | 0.03 | 0.03 | 0.03 | 0.05 | 0.03 | 0.04 | 0.04 | 0.03 | 0.04 | 0.01 | 0.02 | 0.05 | 0.07 | 0.02 | 0.02 | 0.01 | 0.01 |
| Fe ₂ O ₃ | 2.02 | 2.12 | 2.22 | 1.98 | 2.19 | 2.25 | 2.16 | 2.01 | 0.25 | 0.03 | 0.04 | 0.01 | 0.02 | 0.07 | 0.04 | 0.03 | 0.06 | 0.06 | 0.00 | 0.02 |
| V ₂ O ₃ | 0.40 | 0.55 | 0.68 | 0.82 | 0.81 | 0.93 | 0.87 | 0.87 | 0.39 | 0.00 | 0.00 | 0.02 | 0.02 | 0.15 | 0.00 | 0.01 | 0.16 | 0.19 | 0.14 | 0.23 |
| Cr ₂ O ₃ | 0.04 | 0.00 | 0.03 | 0.03 | 0.01 | 0.05 | 0.03 | 0.10 | 0.05 | 0.01 | 0.05 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 |
| Al ₂ O ₃ | 0.14 | 0.15 | 0.12 | 0.14 | 0.12 | 0.10 | 0.10 | 0.11 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 |
| Bi ₂ O ₃ | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.04 | 0.00 | 0.07 | 0.03 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 |
| BaO | 0.05 | 0.05 | 0.03 | 0.08 | 0.04 | 0.01 | 0.02 | 0.02 | 0.04 | 0.17 | 0.02 | 0.09 | 0.02 | 0.02 | 0.08 | 0.03 | 0.08 | 0.01 | 0.12 | 0.11 |
| CaO | 0.00 | 0.02 | 0.02 | 0.00 | 0.01 | 0.00 | 0.03 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 | 0.03 | 0.00 | 0.00 |
| ZnO | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.04 | 0.06 | 0.00 | 0.06 | 0.00 | 0.06 | 0.00 | 0.04 | 0.00 | 0.00 | 0.03 | 0.01 | 0.02 | 0.00 | 0.02 |
| K ₂ O | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.03 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 |
| Na ₂ O | 0.00 | 0.00 | 0.01 | 0.02 | 0.01 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | 0.04 | 0.05 | 0.01 | 0.01 | 0.05 | 0.07 | 0.01 | 0.01 | 0.03 | 0.05 |
| Total | 100.12 | 99.98 | 99.93 | 99.74 | 101.01 | 100.33 | 100.31 | 100.30 | 99.71 | 99.85 | 100.18 | 99.74 | 99.96 | 100.89 | 100.06 | 99.39 | 100.08 | 100.27 | 100.26 | 99.38 |
| apfu | | | | | | | | | | | | | | | | | | | | |
| Ti | 0.935 | 0.926 | 0.925 | 0.927 | 0.916 | 0.913 | 0.914 | 0.920 | 0.982 | 0.993 | 0.992 | 0.995 | 0.998 | 0.993 | 0.995 | 0.994 | 0.993 | 0.994 | 0.996 | 0.994 |
| W | 0.021 | 0.024 | 0.022 | 0.022 | 0.026 | 0.022 | 0.023 | 0.019 | 0.001 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Nb | 0.003 | 0.003 | 0.004 | 0.004 | 0.004 | 0.008 | 0.009 | 0.009 | 0.001 | 0.002 | 0.002 | 0.001 | 0.001 | 0.003 | 0.000 | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 |
| Ta | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Sn | 0.008 | 0.008 | 0.010 | 0.010 | 0.013 | 0.014 | 0.012 | 0.013 | 0.007 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 |
| Si | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fe | 0.021 | 0.022 | 0.023 | 0.021 | 0.023 | 0.024 | 0.023 | 0.021 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 |
| V | 0.004 | 0.006 | 0.008 | 0.009 | 0.009 | 0.010 | 0.010 | 0.010 | 0.004 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.002 | 0.002 | 0.002 | 0.002 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 |
| Ca | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.002 | 0.000 | 0.000 | 0.001 | 0.001 |
| Total | 0.995 | 0.994 | 0.996 | 0.997 | 0.994 | 0.996 | 0.995 | 0.996 | 1.001 | 0.999 | 0.999 | 1.000 | 1.000 | 1.000 | 1.001 | 1.001 | 1.000 | 1.000 | 1.001 | 1.001 |

| Sample | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-497 | 283-502 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mount | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 17 |
| Row | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 8 |
| Grain | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 6 | 7 | 8 | 8 | 9 | 1 |
| Comment | centro | centro | bordo | bordo | centro | centro | bordo | bordo | centro | centro | bordo | bordo | | | | centro | bordo | | centro |
| Color | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Vermelho | Preto | Preto | Preto | Preto | Preto | Laranja | Laranja | Preto | Preto | Vermelho | Preto |
| Shape | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Sub-édrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Fino | Fino | Fino | Fino | Fino | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | | | | | | | | | | | | | | | | |
| Analysis | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 1 |
| wt.% | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 98.57 | 98.97 | 99.24 | 99.79 | 98.83 | 99.49 | 99.10 | 99.64 | 99.57 | 99.36 | 99.84 | 99.28 | 97.40 | 98.37 | 98.93 | 99.10 | 96.50 | 99.16 | 99.21 |
| WO ₃ | 0.00 | 0.00 | 0.25 | 0.00 | 0.34 | 0.00 | 0.07 | 0.07 | 0.09 | 0.00 | 0.00 | 0.17 | 0.42 | 0.20 | 0.00 | 0.00 | 0.00 | 0.10 | 0.96 |
| Nb ₂ O ₅ | 0.10 | 0.18 | 0.09 | 0.14 | 0.15 | 0.16 | 0.07 | 0.09 | 0.21 | 0.22 | 0.21 | 0.23 | 0.81 | 0.12 | 0.22 | 0.26 | 1.89 | 0.08 | 0.15 |
| Ta ₂ O ₅ | 0.03 | 0.00 | 0.00 | 0.00 | 0.05 | 0.04 | 0.00 | 0.08 | 0.00 | 0.01 | 0.00 | 0.15 | 0.02 | 0.00 | 0.00 | 0.00 | 0.14 | 0.14 | 0.00 |
| SnO ₂ | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 |
| ZrO ₂ | 0.01 | 0.00 | 0.00 | 0.03 | 0.01 | 0.06 | 0.07 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.02 | 0.03 | 0.01 |
| SiO ₂ | 0.04 | 0.02 | 0.00 | 0.01 | 0.04 | 0.04 | 0.02 | 0.02 | 0.00 | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 | 0.03 | 0.00 | 0.02 | 0.02 | 0.03 |
| Fe ₂ O ₃ | 0.02 | 0.00 | 0.04 | 0.00 | 0.04 | 0.01 | 0.02 | 0.00 | 0.04 | 0.03 | 0.03 | 0.06 | 0.04 | 0.02 | 0.03 | 0.02 | 0.54 | 0.02 | 0.05 |
| V ₂ O ₃ | 0.16 | 0.12 | 0.12 | 0.14 | 0.17 | 0.17 | 0.22 | 0.18 | 0.11 | 0.19 | 0.16 | 0.11 | 0.18 | 0.16 | 0.12 | 0.14 | 0.08 | 0.19 | 0.00 |
| Cr ₂ O ₃ | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.04 | 0.01 | 0.03 | 0.03 | 0.00 |
| Al ₂ O ₃ | 0.00 | 0.01 | 0.01 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 |
| Bi ₂ O ₃ | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.06 | 0.00 | 0.00 | 0.09 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| BaO | 0.10 | 0.00 | 0.00 | 0.00 | 0.10 | 0.00 | 0.14 | 0.05 | 0.04 | 0.00 | 0.00 | 0.00 | 0.03 | 0.09 | 0.08 | 0.04 | 0.05 | 0.11 | 0.05 |
| CaO | 0.00 | 0.01 | 0.00 | 0.02 | 0.02 | 0.03 | 0.01 | 0.03 | 0.01 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 |
| ZnO | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.04 | 0.03 | 0.00 | 0.03 | 0.03 | 0.03 | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 |
| K ₂ O | 0.03 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.01 |
| Na ₂ O | 0.04 | 0.01 | 0.00 | 0.04 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.07 | 0.01 | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 |
| Total | 99.16 | 99.32 | 99.78 | 100.18 | 99.83 | 100.08 | 99.78 | 100.36 | 100.19 | 99.91 | 100.39 | 100.15 | 99.00 | 99.16 | 99.50 | 99.61 | 99.33 | 99.99 | 100.51 |
| apfu | | | | | | | | | | | | | | | | | | | |
| Ti | 0.995 | 0.996 | 0.996 | 0.996 | 0.993 | 0.995 | 0.995 | 0.995 | 0.996 | 0.995 | 0.995 | 0.993 | 0.988 | 0.994 | 0.996 | 0.995 | 0.978 | 0.995 | 0.992 |
| W | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 |
| Nb | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.005 | 0.001 | 0.001 | 0.002 | 0.012 | 0.000 | 0.001 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 |
| Sn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fe | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.006 | 0.000 | 0.000 |
| V | 0.002 | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.002 | 0.000 |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 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 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total | 1.001 | 0.999 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.001 | 0.999 | 0.998 | 1.000 | 1.001 | 0.999 | 0.998 | 1.001 | 0.998 |

| Sample | 283-502 | 283-502 | 283-502 | 283-502 | 283-502 | 283-502 | 283-502 | 283-503 | 283-503 | 283-503 | 283-503 | 283-503 | 283-503 | 283-503 | 283-503 | 283-503 | 283-507 | 283-507 | 283-507 | 283-507 | |
|--------------------------------|-----------|-----------|-----------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----------|-----------|-----------|-----------|
| Mount | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 18 | 18 | |
| Row | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 11 | 11 | 3 | 3 | |
| Grain | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 4 | 4 | 1 | 1 | 1 | 1 | |
| Comment | centro | bordo | bordo | claro | escuro | centro | bordo | centro | centro | bordo | bordo | centro | bordo | | centro | bordo | centro | bordo | centro | bordo | |
| Color | Preto | Preto | Preto | Preto | Preto | Laranja | Laranja | Preto | Preto | Preto | Preto | Azul | Azul | Vermelho | Preto | Preto | Preto | Preto | Preto | Preto | |
| Shape | Anédrico | Anédrico | Anédrico | Prismático | Prismático | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Anédrico | Prismático | Prismático | Anédrico | Anédrico | Anédrico | Anédrico |
| Size | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Médio | Fino | Fino | Médio | Médio | Médio | Fino | Fino | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | zonado | zonado | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | site 110 | site 110 | | | | | | | | | | site 111 | | | | | | |
| Analysis | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 1 | 2 | |
| wt.% | | | | | | | | | | | | | | | | | | | | | |
| TiO ₂ | 98.85 | 99.36 | 98.63 | 90.28 | 97.96 | 98.47 | 98.37 | 97.60 | 98.13 | 97.45 | 99.02 | 99.72 | 99.47 | 96.83 | 98.45 | 99.66 | 99.26 | 99.25 | 98.21 | 97.21 | |
| WO ₃ | 0.72 | 0.15 | 0.55 | 5.22 | 0.26 | 0.00 | 0.04 | 0.00 | 0.06 | 0.32 | 0.01 | 0.35 | 0.32 | 0.67 | 0.03 | 0.00 | 0.00 | 0.00 | 0.89 | 1.32 | |
| Nb ₂ O ₅ | 0.22 | 0.07 | 0.08 | 0.45 | 0.63 | 0.11 | 0.08 | 0.17 | 0.19 | 0.19 | 0.11 | 0.17 | 0.22 | 0.45 | 0.13 | 0.15 | 0.30 | 0.16 | 0.14 | 0.09 | |
| Ta ₂ O ₅ | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.07 | 0.17 | 0.00 | 0.09 | 0.00 | 0.14 | 0.03 | 0.09 | 0.06 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.06 | |
| SnO ₂ | 0.01 | 0.04 | 0.00 | 0.86 | 0.04 | 0.02 | 0.23 | 0.33 | 0.51 | 0.24 | 0.05 | 0.00 | 0.03 | 0.36 | 0.01 | 0.00 | 0.05 | 0.00 | 0.01 | 0.01 | |
| ZrO ₂ | 0.05 | 0.05 | 0.00 | 0.07 | 0.00 | 0.02 | 0.04 | 0.05 | 0.07 | 0.11 | 0.03 | 0.03 | 0.03 | 0.00 | 0.00 | 0.02 | 0.05 | 0.02 | 0.01 | 0.00 | |
| SiO ₂ | 0.03 | 0.00 | 0.03 | 0.38 | 0.13 | 0.02 | 0.01 | 0.04 | 0.04 | 0.10 | 0.12 | 0.09 | 0.04 | 0.11 | 0.24 | 0.02 | 0.04 | 0.04 | 0.06 | 0.06 | |
| Fe ₂ O ₃ | 0.11 | 0.03 | 0.11 | 2.35 | 0.50 | 0.23 | 0.35 | 0.00 | 0.06 | 0.03 | 0.02 | 0.09 | 0.20 | 0.76 | 0.61 | 0.09 | 0.07 | 0.11 | 0.27 | 0.45 | |
| V ₂ O ₃ | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.31 | 0.22 | 0.98 | 0.79 | 0.94 | 0.37 | 0.10 | 0.18 | 0.25 | 0.43 | 0.45 | 0.01 | 0.02 | 0.00 | 0.00 | |
| Cr ₂ O ₃ | 0.00 | 0.03 | 0.01 | 0.01 | 0.01 | 0.11 | 0.02 | 0.03 | 0.08 | 0.06 | 0.04 | 0.00 | 0.01 | 0.00 | 0.06 | 0.05 | 0.00 | 0.00 | 0.03 | 0.00 | |
| Al ₂ O ₃ | 0.01 | 0.01 | 0.00 | 0.18 | 0.07 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.03 | 0.00 | 0.08 | 0.17 | 0.00 | 0.01 | 0.01 | 0.01 | 0.04 | |
| Bi ₂ O ₃ | 0.00 | 0.05 | 0.01 | 0.00 | 0.00 | 0.07 | 0.09 | 0.01 | 0.00 | 0.05 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.04 | 0.06 | 0.02 | 0.00 | 0.07 | |
| BaO | 0.09 | 0.13 | 0.07 | 0.07 | 0.06 | 0.10 | 0.15 | 0.12 | 0.09 | 0.21 | 0.09 | 0.15 | 0.04 | 0.06 | 0.06 | 0.09 | 0.05 | 0.00 | 0.04 | 0.01 | |
| CaO | 0.01 | 0.02 | 0.03 | 0.04 | 0.02 | 0.02 | 0.00 | 0.02 | 0.01 | 0.03 | 0.05 | 0.03 | 0.00 | 0.04 | 0.01 | 0.03 | 0.02 | 0.00 | 0.01 | 0.00 | |
| ZnO | 0.00 | 0.05 | 0.05 | 0.08 | 0.00 | 0.04 | 0.03 | 0.00 | 0.00 | 0.07 | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.09 | 0.05 | |
| K ₂ O | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.01 | |
| Na ₂ O | 0.03 | 0.01 | 0.00 | 0.05 | 0.03 | 0.04 | 0.03 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.04 | 0.01 | 0.05 | 0.03 | 0.01 | 0.02 | |
| Total | 100.11 | 99.98 | 99.62 | 100.06 | 99.74 | 99.64 | 99.84 | 99.36 | 100.13 | 99.79 | 100.16 | 100.82 | 100.65 | 99.77 | 100.27 | 100.61 | 99.96 | 99.74 | 99.80 | 99.39 | |
| apfu | | | | | | | | | | | | | | | | | | | | | |
| Ti | 0.992 | 0.997 | 0.994 | 0.936 | 0.986 | 0.992 | 0.991 | 0.987 | 0.986 | 0.984 | 0.991 | 0.992 | 0.991 | 0.979 | 0.984 | 0.993 | 0.995 | 0.996 | 0.990 | 0.986 | |
| W | 0.002 | 0.001 | 0.002 | 0.019 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 | 0.005 | |
| Nb | 0.001 | 0.000 | 0.000 | 0.003 | 0.004 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.003 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Sn | 0.000 | 0.000 | 0.000 | 0.005 | 0.000 | 0.000 | 0.001 | 0.002 | 0.003 | 0.001 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Si | 0.000 | 0.000 | 0.000 | 0.005 | 0.002 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.003 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | |
| Fe | 0.001 | 0.000 | 0.001 | 0.024 | 0.005 | 0.002 | 0.004 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.002 | 0.008 | 0.006 | 0.001 | 0.001 | 0.001 | 0.003 | 0.005 | |
| V | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 | 0.002 | 0.011 | 0.008 | 0.010 | 0.004 | 0.001 | 0.002 | 0.003 | 0.005 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Cr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Al | 0.000 | 0.000 | 0.000 | 0.003 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Ba | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Ca | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Zn | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Na | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | |
| Total | 0.999 | 1.000 | 0.999 | 0.998 | 1.001 | 1.003 | 1.002 | 1.003 | 1.002 | 1.003 | 1.001 | 1.000 | 0.999 | 1.002 | 1.004 | 1.001 | 1.001 | 1.001 | 1.000 | 0.999 | |

| Sample | 283-520 | 283-520 | 283-520 | 283-525 | 283-525 |
|--------------------------------|------------|------------|------------|-----------|-----------|
| Mount | 2 | 2 | 2 | 19 | 19 |
| Row | 13 | 13 | 13 | 3 | 3 |
| Grain | 1 | 2 | 2 | 1 | 1 |
| Comment | centro | centro | bordo | centro | bordo |
| Color | Preto | Preto | Preto | Preto | Preto |
| Shape | Prismático | Prismático | Prismático | Anédrico | Anédrico |
| Size | Fino | Fino | Fino | Médio | Médio |
| Zoning | Homogéneo | Homogéneo | Homogéneo | Homogéneo | Homogéneo |
| BSE image | | | | site 134 | site 134 |
| Analysis | 1 | 3 | 4 | 1 | 2 |
| wt.% | | | | | |
| TiO ₂ | 98.12 | 98.75 | 98.08 | 98.88 | 98.25 |
| WO ₃ | 0.11 | 0.00 | 0.03 | 0.04 | 0.00 |
| Nb ₂ O ₅ | 0.14 | 0.15 | 0.67 | 0.50 | 0.43 |
| Ta ₂ O ₅ | 0.00 | 0.00 | 0.02 | 0.00 | 0.09 |
| SnO ₂ | 0.01 | 0.00 | 0.00 | 0.07 | 0.08 |
| ZrO ₂ | 0.01 | 0.01 | 0.02 | 0.00 | 0.02 |
| SiO ₂ | 0.04 | 0.03 | 0.01 | 0.04 | 0.09 |
| Fe ₂ O ₃ | 0.34 | 0.14 | 0.22 | 0.04 | 0.19 |
| V ₂ O ₃ | 0.13 | 0.00 | 0.14 | 0.04 | 0.07 |
| Cr ₂ O ₃ | 0.04 | 0.01 | 0.05 | 0.02 | 0.00 |
| Al ₂ O ₃ | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| Bi ₂ O ₃ | 0.00 | 0.00 | 0.06 | 0.09 | 0.00 |
| BaO | 0.14 | 0.03 | 0.04 | 0.07 | 0.12 |
| CaO | 0.01 | 0.01 | 0.02 | 0.00 | 0.05 |
| ZnO | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| K ₂ O | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 |
| Na ₂ O | 0.01 | 0.00 | 0.01 | 0.03 | 0.01 |
| Total | 99.10 | 99.14 | 99.38 | 99.85 | 99.44 |
| apfu | | | | | |
| Ti | 0.992 | 0.996 | 0.990 | 0.993 | 0.991 |
| W | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Nb | 0.001 | 0.001 | 0.004 | 0.003 | 0.003 |
| Ta | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Zr | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Si | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 |
| Fe | 0.003 | 0.001 | 0.002 | 0.000 | 0.002 |
| V | 0.001 | 0.000 | 0.002 | 0.000 | 0.001 |
| Cr | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 |
| Al | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Bi | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ba | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 |
| Ca | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Zn | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| K | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Na | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Total | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |