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| **Supplementary Table S2.** Chemical analyses (in wt.%) and structural formulas (apfu, calculated on basis of 4 oxygens and 3 cations) of olivine in the Khopoli olivine gabbros | | | | | | | | | | | | | | | |
| Sample | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6\* | KP1 | KP1 |
| Description | core | mantle | mcr | mcr | core | core | core | core | mantle | mantle | core | mantle | core | core | mcr |
| SiO2 | 39.78 | 38.69 | 37.68 | 38.02 | 38.49 | 39.01 | 38.89 | 37.80 | 38.32 | 39.78 | 39.22 | 40.02 | 39.02 | 38.28 | 38.32 |
| FeO | 19.96 | 23.42 | 24.52 | 23.71 | 23.72 | 24.56 | 23.56 | 25.84 | 21.68 | 21.04 | 19.92 | 22.16 | 20.49 | 23.16 | 22.05 |
| MnO | 0.19 | 0.23 | 0.38 | 0.32 | 0.62 | 0.43 | 0.41 | - | 0.45 | 0.21 | 0.35 | 0.25 | 0.49 | 0.44 | 0.42 |
| MgO | 40.43 | 37.27 | 35.72 | 37.11 | 36.37 | 36.99 | 38.17 | 34.91 | 38.36 | 40.10 | 39.89 | 38.78 | 39.42 | 37.78 | 38.51 |
| CaO | 0.30 | 0.16 | 0.17 | 0.16 | 0.22 | 0.32 | 0.24 | 0.21 | 0.21 | 0.40 | 0.30 | 0.35 | 0.43 | 0.25 | 0.31 |
| NiO | 0.10 | 0.10 | 0.26 | 0.45 | 0.16 | 0.03 | 0.03 | 0.43 | - | - | - | - | - | 0.46 | - |
| sum | 100.8 | 99.9 | 98.7 | 99.8 | 99.6 | 101.3 | 101.3 | 99.2 | 99.0 | 101.5 | 99.7 | 101.6 | 99.9 | 100.4 | 99.6 |

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| Fo | 78 | 74 | 72 | 74 | 73 | 73 | 74 | 71 | 76 | 77 | 78 | 76 | 77 | 74 | 76 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Si | 1.013 | 1.012 | 1.006 | 1.001 | 1.013 | 1.010 | 1.004 | 1.009 | 1.005 | 1.010 | 1.011 | 1.020 | 1.008 | 0.999 | 1.001 |
| Fe'' | 0.425 | 0.512 | 0.547 | 0.522 | 0.522 | 0.532 | 0.509 | 0.577 | 0.475 | 0.447 | 0.429 | 0.472 | 0.443 | 0.505 | 0.482 |
| Mn | 0.004 | 0.005 | 0.009 | 0.007 | 0.014 | 0.009 | 0.009 | 0.000 | 0.010 | 0.005 | 0.008 | 0.005 | 0.011 | 0.010 | 0.009 |
| Mg | 1.535 | 1.453 | 1.422 | 1.456 | 1.428 | 1.428 | 1.468 | 1.389 | 1.499 | 1.518 | 1.533 | 1.473 | 1.518 | 1.469 | 1.499 |
| Ca | 0.008 | 0.005 | 0.005 | 0.005 | 0.006 | 0.009 | 0.007 | 0.006 | 0.006 | 0.011 | 0.008 | 0.010 | 0.012 | 0.007 | 0.009 |
| Ni | 0.002 | 0.002 | 0.006 | 0.010 | 0.003 | 0.001 | 0.001 | 0.009 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.010 | 0.000 |
| sum | 2.987 | 2.988 | 2.994 | 2.999 | 2.987 | 2.990 | 2.996 | 2.991 | 2.995 | 2.990 | 2.989 | 2.980 | 2.992 | 2.999 | 2.999 |

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| Sample | KP1 | KP1 | KP1 | KP1 | KP1 | KP2 | KP2 | KP2 | KP2 | KP4 | KP4 | KP4 |
| Description | core | core | core | core | core | core | core | core | mcr | core | core | core |
| SiO2 | 38.59 | 38.48 | 38.81 | 39.10 | 38.32 | 39.56 | 37.68 | 38.86 | 37.93 | 38.36 | 38.34 | 38.12 |
| FeO | 22.60 | 21.39 | 20.88 | 21.08 | 21.83 | 21.58 | 22.20 | 19.80 | 21.68 | 21.31 | 19.64 | 20.31 |
| MnO | 0.34 | 0.21 | 0.19 | 0.22 | 0.41 | 0.07 | 0.33 | 0.31 | 0.48 | 0.40 | 0.24 | 0.18 |
| MgO | 38.13 | 39.18 | 39.64 | 39.36 | 38.89 | 39.74 | 37.44 | 40.11 | 38.17 | 38.13 | 39.47 | 39.72 |
| CaO | 0.30 | 0.38 | 0.22 | 0.26 | 0.23 | 0.25 | 0.25 | 0.31 | 0.28 | 0.30 | 0.22 | 0.18 |
| NiO | 0.10 | 0.28 | - | - | - | 0.43 | - | 0.28 | 0.51 | 0.43 | 0.17 | 0.35 |
| sum | 100.1 | 99.9 | 99.7 | 100.0 | 99.7 | 101.6 | 97.9 | 99.7 | 99.0 | 98.9 | 98.1 | 98.9 |

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| Fo | 75 | 77 | 77 | 77 | 76 | 77 | 75 | 78 | 76 | 76 | 78 | 78 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Si | 1.005 | 0.999 | 1.004 | 1.009 | 0.999 | 1.007 | 1.001 | 1.003 | 0.998 | 1.007 | 1.005 | 0.996 |
| Fe'' | 0.492 | 0.464 | 0.452 | 0.455 | 0.476 | 0.460 | 0.493 | 0.427 | 0.477 | 0.468 | 0.431 | 0.444 |
| Mn | 0.008 | 0.005 | 0.004 | 0.005 | 0.009 | 0.002 | 0.007 | 0.007 | 0.011 | 0.009 | 0.005 | 0.004 |
| Mg | 1.480 | 1.516 | 1.529 | 1.514 | 1.511 | 1.508 | 1.483 | 1.543 | 1.497 | 1.492 | 1.542 | 1.547 |
| Ca | 0.009 | 0.011 | 0.006 | 0.007 | 0.006 | 0.007 | 0.007 | 0.009 | 0.008 | 0.008 | 0.006 | 0.005 |
| Ni | 0.002 | 0.006 | 0.000 | 0.000 | 0.000 | 0.009 | 0.000 | 0.006 | 0.011 | 0.009 | 0.004 | 0.007 |
| sum | 2.995 | 3.001 | 2.995 | 2.991 | 3.001 | 2.993 | 2.992 | 2.995 | 3.001 | 2.993 | 2.993 | 3.004 |
| mcr = microphenocryst. Fo = atomic 100xMg/(Mg + Fe). \* Data from Melluso and Sethna (2011). | | | | | | | |  |  |  |  |  |

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| Chemical analyses (in wt.%) and structural formulas (in apfu, calculated on basis of 6 oxygens and 4 cations) of orthopyroxene, clinopyroxene and pigeonite in the Khopoli olivine gabbros | | | | | | | | | | | | | | | |
| Sample | BU6 | BU6 | BU6 | BU6 | BU6 | BU6\* | BU6\* | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6\* |
| mineral name | opx | opx | opx | opx | opx | opx | opx | cpx | cpx | cpx | cpx | cpx | cpx | cpx | cpx |
| Description | mcr | mcr | mcr | mcr | mcr | mcr | mcr | mcr | mcr | mcr | mcr | mcr | mcr | mcr | mcr |
| SiO2 | 53.51 | 55.14 | 55.14 | 53.22 | 53.95 | 56.24 | 54.03 | 52.88 | 52.93 | 53.09 | 52.77 | 51.64 | 52.44 | 51.53 | 52.04 |
| TiO2 | 0.64 | 0.46 | 0.40 | 0.66 | 0.93 | 0.46 | 0.97 | 0.60 | 0.55 | 1.27 | 0.36 | 1.30 | 0.66 | 0.31 | 0.83 |
| Al2O3 | 0.43 | 1.07 | 1.35 | 1.17 | 1.08 | 0.50 | 1.29 | 2.04 | 2.35 | 1.90 | 1.69 | 1.38 | 1.65 | 2.59 | 2.03 |
| FeO | 15.54 | 15.74 | 15.15 | 14.99 | 16.05 | 15.87 | 15.35 | 7.27 | 7.03 | 8.19 | 7.91 | 9.50 | 8.41 | 7.70 | 8.09 |
| MnO | 0.32 | 0.47 | 0.58 | 0.52 | 0.29 | 0.24 | 0.28 | - | 0.12 | 0.39 | 0.23 | 0.22 | 0.12 | 0.13 | 0.31 |
| MgO | 26.02 | 25.87 | 26.48 | 24.80 | 25.12 | 26.95 | 25.83 | 16.88 | 16.96 | 16.39 | 16.92 | 16.99 | 16.85 | 17.65 | 16.33 |
| CaO | 1.84 | 2.33 | 2.32 | 2.02 | 2.43 | 1.77 | 2.20 | 19.49 | 19.88 | 18.63 | 19.18 | 17.62 | 18.48 | 17.93 | 18.24 |
| Na2O | 0.08 | 0.31 | 0.14 | 0.12 | 0.09 | 0.13 | 0.24 | 0.32 | 0.17 | 0.35 | 0.38 | 0.50 | 0.28 | 0.18 | 0.32 |
| Cr2O3 | 0.17 | 0.22 | 0.10 | 0.19 | 0.19 | 0.24 | 0.23 | 0.47 | 1.05 | 0.19 | 0.99 | 0.25 | 0.04 | 1.22 | 0.36 |
| V2O3 | - | 0.07 | 0.04 | 0.11 | - | - | - | 0.20 | 0.06 | 0.19 | - | 0.14 | 0.33 | 0.12 | - |
| sum | 98.5 | 101.7 | 101.7 | 97.8 | 100.1 | 102.4 | 100.4 | 100.2 | 101.1 | 100.6 | 100.4 | 99.6 | 99.3 | 99.4 | 98.6 |

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| Mg# | 75 | 75 | 76 | 75 | 74 | 75 | 75 | 81 | 81 | 78 | 79 | 76 | 78 | 80 | 78 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Si | 1.969 | 1.968 | 1.961 | 1.970 | 1.959 | 1.985 | 1.950 | 1.940 | 1.926 | 1.944 | 1.940 | 1.925 | 1.948 | 1.909 | 1.945 |
| Ti | 0.018 | 0.012 | 0.011 | 0.018 | 0.025 | 0.012 | 0.026 | 0.017 | 0.015 | 0.035 | 0.010 | 0.036 | 0.018 | 0.009 | 0.023 |
| Al | 0.019 | 0.045 | 0.057 | 0.051 | 0.046 | 0.021 | 0.055 | 0.088 | 0.101 | 0.082 | 0.073 | 0.061 | 0.072 | 0.113 | 0.089 |
| Fe | 0.478 | 0.470 | 0.451 | 0.464 | 0.487 | 0.468 | 0.463 | 0.223 | 0.214 | 0.251 | 0.243 | 0.296 | 0.261 | 0.239 | 0.253 |
| Mn | 0.010 | 0.014 | 0.018 | 0.016 | 0.009 | 0.007 | 0.009 | 0.000 | 0.004 | 0.012 | 0.007 | 0.007 | 0.004 | 0.004 | 0.010 |
| Mg | 1.427 | 1.376 | 1.404 | 1.369 | 1.360 | 1.418 | 1.390 | 0.923 | 0.920 | 0.895 | 0.928 | 0.944 | 0.933 | 0.975 | 0.910 |
| Ca | 0.072 | 0.089 | 0.089 | 0.080 | 0.095 | 0.067 | 0.085 | 0.767 | 0.775 | 0.731 | 0.755 | 0.704 | 0.736 | 0.712 | 0.730 |
| Na | 0.006 | 0.022 | 0.009 | 0.009 | 0.006 | 0.009 | 0.017 | 0.023 | 0.012 | 0.025 | 0.027 | 0.036 | 0.020 | 0.013 | 0.023 |
| Cr | 0.005 | 0.006 | 0.003 | 0.006 | 0.005 | 0.007 | 0.007 | 0.014 | 0.030 | 0.005 | 0.029 | 0.007 | 0.001 | 0.036 | 0.011 |
| V | 0.000 | 0.002 | 0.001 | 0.003 | 0.000 | 0.000 | 0.000 | 0.006 | 0.002 | 0.006 | 0.000 | 0.004 | 0.010 | 0.003 | 0.000 |
| sum | 4.004 | 4.004 | 4.003 | 3.986 | 3.993 | 3.994 | 4.001 | 4.000 | 3.999 | 3.987 | 4.012 | 4.021 | 4.003 | 4.013 | 3.994 |

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| Ca | 4 | 5 | 5 | 4 | 5 | 3 | 4 | 40 | 41 | 39 | 39 | 36 | 38 | 37 | 38 |
| Fe\* | 25 | 25 | 24 | 25 | 25 | 24 | 24 | 12 | 11 | 14 | 13 | 16 | 14 | 13 | 14 |
| Mg | 72 | 71 | 72 | 71 | 70 | 72 | 71 | 48 | 48 | 47 | 48 | 48 | 48 | 51 | 48 |

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| Sample | BU6\* | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6\* | BU6\* | KP1 | KP1 | KP1 | KP1 |
| mineral name | cpx | pg | pg | pg | pg | pg | pg | pg | pg | pg | pg | opx | opx | opx | opx |
| Description | mcr | mcr | mcr | mcr | mcr | mcr | mcr | mcr | mcr | mcr | mcr | core | rim | mcr | mcr |
| SiO2 | 52.94 | 53.36 | 54.49 | 53.95 | 53.55 | 53.96 | 53.59 | 53.22 | 54.20 | 55.12 | 54.27 | 54.06 | 53.11 | 54.33 | 54.15 |
| TiO2 | 0.45 | 0.42 | 0.45 | 0.32 | 0.44 | 0.37 | 0.49 | 0.91 | 0.12 | 0.28 | 0.34 | 0.59 | 0.75 | 0.47 | 0.97 |
| Al2O3 | 1.58 | 0.50 | 0.56 | 1.24 | 1.35 | 1.20 | 1.25 | 0.76 | 0.85 | 0.73 | 1.04 | 1.41 | 1.16 | 0.76 | 1.19 |
| FeO | 6.90 | 16.02 | 15.90 | 12.74 | 12.86 | 13.93 | 12.26 | 15.23 | 14.52 | 12.93 | 14.15 | 13.45 | 14.51 | 13.39 | 14.43 |
| MnO | 0.22 | 0.44 | 0.30 | 0.49 | 0.22 | 0.40 | 0.22 | 0.36 | 0.21 | 0.27 | 0.26 | 0.46 | 0.27 | 0.19 | 0.38 |
| MgO | 17.36 | 24.10 | 24.19 | 24.45 | 24.18 | 24.98 | 24.26 | 23.62 | 25.08 | 25.14 | 25.10 | 26.38 | 26.63 | 27.00 | 26.17 |
| CaO | 19.05 | 3.32 | 3.44 | 5.66 | 5.22 | 4.85 | 5.89 | 4.33 | 3.80 | 4.30 | 4.07 | 2.73 | 2.14 | 2.49 | 2.28 |
| Na2O | 0.18 | 0.11 | 0.31 | 0.23 | 0.22 | 0.05 | 0.15 | 0.10 | 0.20 | 0.26 | 0.10 | 0.05 | 0.05 | 0.10 | 0.11 |
| Cr2O3 | 0.99 | 0.01 | 0.08 | 0.43 | 0.46 | 0.35 | 0.37 | - | - | 0.29 | 0.44 | 0.33 | 0.14 | 0.30 | 0.34 |
| V2O3 | - | - | 0.14 | - | - | - | 0.34 | 0.15 | 0.12 | - | - | 0.14 | 0.06 | - | - |
| sum | 99.7 | 98.3 | 99.9 | 99.5 | 98.5 | 100.1 | 98.8 | 98.7 | 99.1 | 99.3 | 99.8 | 99.6 | 98.8 | 99.0 | 100.0 |

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| Mg# | 81 | 73 | 73 | 77 | 77 | 76 | 78 | 73 | 75 | 77 | 76 | 78 | 77 | 78 | 76 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Si | 1.949 | 1.981 | 1.987 | 1.963 | 1.965 | 1.957 | 1.960 | 1.967 | 1.981 | 1.996 | 1.969 | 1.954 | 1.943 | 1.971 | 1.955 |
| Ti | 0.012 | 0.012 | 0.012 | 0.009 | 0.012 | 0.010 | 0.013 | 0.025 | 0.003 | 0.008 | 0.009 | 0.016 | 0.021 | 0.013 | 0.026 |
| Al | 0.069 | 0.022 | 0.024 | 0.053 | 0.058 | 0.051 | 0.054 | 0.033 | 0.037 | 0.031 | 0.044 | 0.060 | 0.050 | 0.032 | 0.051 |
| Fe | 0.212 | 0.497 | 0.485 | 0.388 | 0.395 | 0.422 | 0.375 | 0.471 | 0.444 | 0.392 | 0.429 | 0.407 | 0.444 | 0.406 | 0.436 |
| Mn | 0.007 | 0.014 | 0.009 | 0.015 | 0.007 | 0.012 | 0.007 | 0.011 | 0.006 | 0.008 | 0.008 | 0.014 | 0.008 | 0.006 | 0.012 |
| Mg | 0.953 | 1.334 | 1.315 | 1.326 | 1.323 | 1.350 | 1.323 | 1.302 | 1.366 | 1.357 | 1.358 | 1.421 | 1.452 | 1.460 | 1.408 |
| Ca | 0.752 | 0.132 | 0.134 | 0.221 | 0.205 | 0.189 | 0.231 | 0.171 | 0.149 | 0.167 | 0.158 | 0.106 | 0.084 | 0.097 | 0.088 |
| Na | 0.013 | 0.008 | 0.022 | 0.016 | 0.016 | 0.003 | 0.011 | 0.007 | 0.014 | 0.018 | 0.007 | 0.003 | 0.003 | 0.007 | 0.008 |
| Cr | 0.029 | 0.000 | 0.002 | 0.012 | 0.013 | 0.010 | 0.011 | 0.000 | 0.000 | 0.008 | 0.013 | 0.009 | 0.004 | 0.009 | 0.010 |
| V | 0.000 | 0.000 | 0.004 | 0.000 | 0.000 | 0.000 | 0.010 | 0.005 | 0.003 | 0.000 | 0.000 | 0.004 | 0.002 | 0.000 | 0.000 |
| sum | 3.996 | 4.000 | 3.996 | 4.003 | 3.994 | 4.005 | 3.995 | 3.992 | 4.003 | 3.986 | 3.996 | 3.995 | 4.011 | 3.999 | 3.993 |

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| Ca | 39 | 7 | 7 | 11 | 11 | 10 | 12 | 9 | 8 | 9 | 8 | 5 | 4 | 5 | 5 |
| Fe\* | 11 | 26 | 25 | 21 | 21 | 22 | 20 | 25 | 23 | 21 | 22 | 22 | 23 | 21 | 23 |
| Mg | 50 | 67 | 68 | 68 | 69 | 68 | 68 | 67 | 70 | 71 | 70 | 73 | 73 | 74 | 72 |

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| Sample | KP1 | KP1 | KP1 | KP1 | KP1 | KP1 | KP1 | KP1 | KP1 | KP1 | KP1 | KP1 | KP1 | KP2 | KP2 |
| mineral name | cpx | cpx | cpx | cpx | cpx | cpx | cpx | cpx | pg | pg | pg | pg | pg | opx | opx |
| Description | mcr | mcr | core | core | mcr | core | core | mcr | mcr | mcr | mcr | core | mcr | core | rim |
| SiO2 | 52.10 | 52.39 | 53.16 | 52.74 | 52.01 | 51.84 | 52.24 | 52.57 | 55.29 | 53.78 | 53.72 | 55.06 | 54.88 | 53.55 | 53.92 |
| TiO2 | 0.85 | 0.46 | 0.00 | 0.00 | 0.29 | 0.43 | 0.59 | 0.50 | 0.49 | 0.35 | 0.51 | 0.15 | 0.31 | 0.40 | 1.32 |
| Al2O3 | 2.09 | 2.24 | 1.76 | 1.27 | 2.40 | 1.91 | 2.39 | 2.29 | 1.09 | 0.70 | 1.03 | 0.72 | 0.70 | 1.20 | 1.38 |
| FeO | 8.03 | 7.20 | 6.79 | 7.28 | 6.74 | 7.04 | 6.88 | 6.82 | 13.89 | 13.98 | 14.07 | 13.02 | 13.48 | 14.90 | 13.90 |
| MnO | 0.13 | - | 0.07 | 0.21 | 0.14 | 0.05 | 0.07 | - | 0.51 | 0.37 | 0.39 | 0.57 | 0.30 | 0.17 | 0.31 |
| MgO | 17.19 | 17.26 | 17.78 | 19.08 | 17.20 | 17.59 | 17.03 | 17.38 | 25.06 | 26.27 | 25.64 | 25.96 | 26.45 | 26.20 | 25.54 |
| CaO | 18.72 | 20.04 | 18.56 | 17.45 | 19.27 | 18.77 | 19.55 | 19.95 | 4.34 | 3.58 | 3.89 | 3.69 | 3.74 | 2.28 | 1.97 |
| Na2O | 0.24 | 0.35 | 0.30 | 0.14 | 0.35 | 0.19 | 0.33 | 0.35 | 0.20 | 0.20 | 0.10 | 0.10 | 0.11 | 0.09 | - |
| Cr2O3 | 0.59 | 1.14 | 0.72 | 1.04 | 0.88 | 0.92 | 0.92 | 1.04 | 0.27 | 0.21 | 0.17 | 0.03 | - | 0.03 | 0.21 |
| V2O3 | 0.09 | 0.16 | 0.53 | 0.27 | 0.14 | - | 0.20 | - | 0.18 | 0.04 | 0.09 | 0.02 | 0.16 | 0.20 | - |
| sum | 100.0 | 101.2 | 99.7 | 99.5 | 99.4 | 98.8 | 100.2 | 100.9 | 101.3 | 99.5 | 99.6 | 99.3 | 100.1 | 99.0 | 98.6 |

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| Mg# | 79 | 81 | 82 | 82 | 82 | 82 | 82 | 82 | 76 | 77 | 76 | 78 | 78 | 76 | 77 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Si | 1.921 | 1.911 | 1.952 | 1.943 | 1.923 | 1.929 | 1.918 | 1.917 | 1.974 | 1.958 | 1.954 | 1.993 | 1.975 | 1.956 | 1.966 |
| Ti | 0.024 | 0.013 | 0.000 | 0.000 | 0.008 | 0.012 | 0.016 | 0.014 | 0.013 | 0.010 | 0.014 | 0.004 | 0.008 | 0.011 | 0.036 |
| Al | 0.091 | 0.096 | 0.076 | 0.055 | 0.105 | 0.084 | 0.103 | 0.098 | 0.046 | 0.030 | 0.044 | 0.031 | 0.030 | 0.052 | 0.059 |
| Fe | 0.248 | 0.219 | 0.209 | 0.224 | 0.208 | 0.219 | 0.211 | 0.208 | 0.415 | 0.426 | 0.428 | 0.394 | 0.406 | 0.455 | 0.424 |
| Mn | 0.004 | 0.000 | 0.002 | 0.007 | 0.004 | 0.001 | 0.002 | 0.000 | 0.015 | 0.011 | 0.012 | 0.017 | 0.009 | 0.005 | 0.009 |
| Mg | 0.945 | 0.938 | 0.974 | 1.048 | 0.948 | 0.976 | 0.932 | 0.945 | 1.334 | 1.426 | 1.391 | 1.401 | 1.419 | 1.426 | 1.388 |
| Ca | 0.740 | 0.783 | 0.730 | 0.689 | 0.763 | 0.748 | 0.769 | 0.780 | 0.166 | 0.140 | 0.151 | 0.143 | 0.144 | 0.089 | 0.077 |
| Na | 0.017 | 0.025 | 0.022 | 0.010 | 0.025 | 0.014 | 0.023 | 0.025 | 0.014 | 0.014 | 0.007 | 0.007 | 0.008 | 0.006 | 0.000 |
| Cr | 0.017 | 0.033 | 0.021 | 0.030 | 0.026 | 0.027 | 0.027 | 0.030 | 0.008 | 0.006 | 0.005 | 0.001 | 0.000 | 0.001 | 0.006 |
| V | 0.003 | 0.005 | 0.016 | 0.008 | 0.004 | 0.000 | 0.006 | 0.000 | 0.005 | 0.001 | 0.002 | 0.001 | 0.005 | 0.006 | 0.000 |
| sum | 4.009 | 4.022 | 4.002 | 4.015 | 4.014 | 4.011 | 4.009 | 4.017 | 3.990 | 4.021 | 4.009 | 3.991 | 4.003 | 4.007 | 3.965 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ca | 38 | 40 | 38 | 35 | 40 | 38 | 40 | 40 | 9 | 7 | 8 | 7 | 7 | 5 | 4 |
| Fe\* | 13 | 11 | 11 | 12 | 11 | 11 | 11 | 11 | 22 | 22 | 22 | 21 | 21 | 23 | 23 |
| Mg | 49 | 48 | 51 | 53 | 49 | 50 | 49 | 49 | 69 | 71 | 70 | 72 | 72 | 72 | 73 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | KP2 | KP2 | KP2 | KP2 | KP2 | KP2 | KP2 | KP2 | KP2 | KP2 | KP2 | KP2 | KP2 | KP2 | KP2 |
| mineral name | opx | opx | cpx | cpx | cpx | cpx | cpx | cpx | cpx | pg | pg | pg | pg | pg | pg |
| Description | mcr | mcr | cpx cluster | core | rim | core | core | rim | mcr | core | core | mcr | mcr | mcr | mcr |
| SiO2 | 53.79 | 54.15 | 52.52 | 52.30 | 51.60 | 51.81 | 52.29 | 52.70 | 51.85 | 54.77 | 54.80 | 55.89 | 54.06 | 54.07 | 54.21 |
| TiO2 | 0.95 | 0.23 | 0.80 | 0.20 | 1.27 | 0.57 | 0.19 | 0.81 | 0.59 | 0.25 | 0.36 | 0.22 | 0.13 | 0.24 | 0.06 |
| Al2O3 | 0.97 | 0.54 | 1.66 | 1.69 | 1.73 | 2.32 | 1.89 | 2.12 | 2.19 | 0.88 | 0.79 | 0.64 | 0.80 | 1.01 | 0.61 |
| FeO | 15.46 | 15.48 | 7.49 | 7.08 | 8.60 | 6.70 | 6.60 | 7.78 | 6.60 | 14.44 | 13.25 | 14.45 | 14.51 | 13.33 | 12.60 |
| MnO | 0.35 | 0.47 | 0.32 | 0.22 | 0.29 | 0.11 | - | 0.42 | 0.38 | 0.31 | 0.26 | 0.25 | 0.34 | 0.43 | 0.27 |
| MgO | 25.50 | 25.57 | 17.28 | 18.80 | 16.23 | 16.63 | 17.19 | 17.17 | 16.90 | 25.55 | 26.53 | 26.44 | 25.88 | 25.26 | 25.77 |
| CaO | 2.41 | 2.42 | 19.35 | 17.35 | 19.42 | 19.79 | 19.24 | 19.64 | 19.69 | 3.76 | 3.28 | 3.58 | 3.32 | 4.49 | 4.02 |
| Na2O | 0.18 | 0.17 | 0.18 | 0.23 | 0.34 | 0.34 | 0.32 | 0.28 | 0.23 | 0.21 | 0.29 | 0.21 | 0.06 | - | 0.22 |
| Cr2O3 | - | 0.06 | 0.49 | 1.01 | - | 0.84 | 0.92 | 0.66 | 0.89 | 0.11 | 0.38 | 0.04 | 0.16 | 0.12 | 0.11 |
| V2O3 | - | 0.13 | - | 0.09 | 0.08 | - | 0.02 | - | 0.03 | 0.09 | - | 0.28 | 0.12 | 0.05 | 0.17 |
| sum | 99.6 | 99.2 | 100.1 | 99.0 | 99.6 | 99.1 | 98.7 | 101.6 | 99.4 | 100.4 | 99.9 | 102.0 | 99.4 | 99.0 | 98.1 |

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| Mg# | 75 | 75 | 80 | 83 | 77 | 82 | 82 | 80 | 82 | 76 | 78 | 77 | 76 | 77 | 78 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Si | 1.959 | 1.980 | 1.934 | 1.935 | 1.923 | 1.924 | 1.944 | 1.917 | 1.921 | 1.975 | 1.973 | 1.980 | 1.970 | 1.973 | 1.988 |
| Ti | 0.026 | 0.006 | 0.022 | 0.005 | 0.036 | 0.016 | 0.005 | 0.022 | 0.017 | 0.007 | 0.010 | 0.006 | 0.004 | 0.006 | 0.002 |
| Al | 0.042 | 0.023 | 0.072 | 0.074 | 0.076 | 0.102 | 0.083 | 0.091 | 0.096 | 0.038 | 0.033 | 0.027 | 0.034 | 0.044 | 0.027 |
| Fe | 0.471 | 0.474 | 0.231 | 0.219 | 0.268 | 0.208 | 0.205 | 0.237 | 0.205 | 0.436 | 0.399 | 0.428 | 0.442 | 0.407 | 0.386 |
| Mn | 0.011 | 0.015 | 0.010 | 0.007 | 0.009 | 0.003 | 0.000 | 0.013 | 0.012 | 0.009 | 0.008 | 0.007 | 0.011 | 0.013 | 0.008 |
| Mg | 1.385 | 1.394 | 0.948 | 1.037 | 0.902 | 0.920 | 0.952 | 0.931 | 0.933 | 1.373 | 1.424 | 1.396 | 1.405 | 1.373 | 1.409 |
| Ca | 0.094 | 0.095 | 0.763 | 0.688 | 0.775 | 0.787 | 0.766 | 0.766 | 0.782 | 0.145 | 0.126 | 0.136 | 0.130 | 0.176 | 0.158 |
| Na | 0.012 | 0.012 | 0.013 | 0.016 | 0.025 | 0.024 | 0.023 | 0.020 | 0.017 | 0.014 | 0.020 | 0.015 | 0.004 | 0.000 | 0.015 |
| Cr | 0.000 | 0.002 | 0.014 | 0.030 | 0.000 | 0.025 | 0.027 | 0.019 | 0.026 | 0.003 | 0.011 | 0.001 | 0.005 | 0.003 | 0.003 |
| V | 0.000 | 0.004 | 0.000 | 0.003 | 0.002 | 0.000 | 0.001 | 0.000 | 0.001 | 0.003 | 0.000 | 0.008 | 0.004 | 0.002 | 0.005 |
| sum | 4.000 | 4.005 | 4.007 | 4.014 | 4.015 | 4.009 | 4.007 | 4.016 | 4.009 | 4.004 | 4.005 | 4.004 | 4.008 | 3.997 | 4.001 |

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| Ca | 5 | 5 | 39 | 35 | 40 | 41 | 40 | 39 | 40 | 7 | 6 | 7 | 7 | 9 | 8 |
| Fe\* | 25 | 25 | 12 | 12 | 14 | 11 | 11 | 13 | 11 | 23 | 21 | 22 | 23 | 21 | 20 |
| Mg | 71 | 71 | 49 | 53 | 46 | 48 | 50 | 48 | 48 | 70 | 73 | 71 | 71 | 70 | 72 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | KP2 | KP2 | KP4 | KP4 | KP4 | KP4 | KP4 | KP4 | KP4 | KP4 | KP4 |
| mineral name | pg | pg | cpx | cpx | cpx | cpx | cpx | pg | pg | pg | pg |
| Description | mcr | mcr | core | mcr | mcr | core | core | mcr | mcr | mcr | mcr |
| SiO2 | 53.87 | 53.76 | 51.49 | 51.30 | 50.84 | 52.54 | 52.15 | 54.42 | 55.18 | 54.32 | 53.45 |
| TiO2 | 0.26 | 0.62 | 0.27 | 0.68 | 1.05 | 0.53 | 0.54 | 0.31 | 0.18 | 0.20 | 0.39 |
| Al2O3 | 0.75 | 0.54 | 2.33 | 2.91 | 2.26 | 1.97 | 2.47 | 0.53 | 0.59 | 0.71 | 1.14 |
| FeO | 13.93 | 16.65 | 5.93 | 7.15 | 6.67 | 6.16 | 6.47 | 13.52 | 13.41 | 13.06 | 13.77 |
| MnO | 0.13 | 0.47 | - | 0.12 | 0.14 | 0.19 | - | 0.35 | 0.17 | 0.41 | 0.08 |
| MgO | 25.96 | 23.88 | 17.58 | 16.25 | 16.88 | 17.27 | 17.02 | 26.30 | 26.17 | 26.21 | 25.48 |
| CaO | 3.78 | 3.55 | 18.98 | 19.07 | 18.57 | 19.86 | 19.40 | 3.38 | 3.65 | 3.84 | 4.10 |
| Na2O | 0.10 | 0.17 | 0.31 | 0.24 | 0.44 | 0.26 | 0.23 | - | 0.05 | 0.07 | 0.08 |
| Cr2O3 | 0.19 | 0.06 | 1.37 | 1.21 | 0.97 | 0.70 | 0.91 | - | 0.22 | 0.13 | 0.19 |
| V2O3 | 0.05 | - | 0.13 | 0.04 | - | - | 0.04 | - | 0.17 | - | - |
| sum | 99.0 | 99.7 | 98.4 | 99.0 | 97.8 | 99.5 | 99.2 | 98.8 | 99.8 | 99.0 | 98.7 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mg# | 77 | 72 | 84 | 80 | 82 | 83 | 82 | 78 | 78 | 78 | 77 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Si | 1.967 | 1.975 | 1.918 | 1.909 | 1.911 | 1.936 | 1.927 | 1.983 | 1.989 | 1.977 | 1.958 |
| Ti | 0.007 | 0.017 | 0.008 | 0.019 | 0.030 | 0.015 | 0.015 | 0.008 | 0.005 | 0.005 | 0.011 |
| Al | 0.032 | 0.023 | 0.102 | 0.128 | 0.100 | 0.086 | 0.107 | 0.023 | 0.025 | 0.031 | 0.049 |
| Fe | 0.425 | 0.511 | 0.185 | 0.223 | 0.210 | 0.190 | 0.200 | 0.412 | 0.404 | 0.397 | 0.422 |
| Mn | 0.004 | 0.015 | 0.000 | 0.004 | 0.004 | 0.006 | 0.000 | 0.011 | 0.005 | 0.013 | 0.002 |
| Mg | 1.413 | 1.308 | 0.976 | 0.902 | 0.946 | 0.949 | 0.937 | 1.428 | 1.406 | 1.422 | 1.391 |
| Ca | 0.148 | 0.140 | 0.757 | 0.760 | 0.748 | 0.784 | 0.768 | 0.132 | 0.141 | 0.150 | 0.161 |
| Na | 0.007 | 0.012 | 0.022 | 0.017 | 0.032 | 0.019 | 0.016 | 0.000 | 0.004 | 0.005 | 0.005 |
| Cr | 0.006 | 0.002 | 0.040 | 0.036 | 0.029 | 0.021 | 0.027 | 0.000 | 0.006 | 0.004 | 0.006 |
| V | 0.001 | 0.000 | 0.004 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.005 | 0.000 | 0.000 |
| sum | 4.010 | 4.002 | 4.013 | 3.998 | 4.011 | 4.005 | 3.999 | 3.997 | 3.990 | 4.003 | 4.006 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ca | 7 | 7 | 39 | 40 | 39 | 41 | 40 | 7 | 7 | 8 | 8 |
| Fe\* | 22 | 27 | 10 | 12 | 11 | 10 | 10 | 21 | 21 | 21 | 21 |
| Mg | 71 | 66 | 51 | 48 | 50 | 49 | 49 | 72 | 72 | 72 | 70 |
| mcr = microphenocryst; opx = orthopyroxene; cpx = clinopyroxene; pg = pigeonite. Mg# = atomic 100xMg/(Mg + Fe). Ca, Fe\* (Fe + Mn) and Mg in mol%.\* Data from Melluso and Sethna (2011). | | | | | | | | | | | |

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| Chemical analyses (in wt.%) and structural formulas (in apfu, calculated on basis of 32 oxygens and 20 cations) of feldspars in the Khopoli olivine gabbros | | | | | | | | | | | | | | | |
| Sample | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6\* | BU6\* | BU6 | BU6 |
| Description | core | rim | core | mcr | rim | mcr | core | mcr | mcr | core | rim | core | rim | rim | int |
| SiO2 | 50.64 | 52.70 | 51.68 | 56.59 | 55.16 | 54.25 | 53.44 | 52.72 | 53.63 | 51.63 | 50.26 | 51.04 | 51.85 | 59.82 | 65.01 |
| Al2O3 | 30.27 | 28.59 | 28.86 | 25.83 | 26.64 | 27.66 | 28.79 | 29.43 | 29.12 | 29.77 | 31.41 | 29.32 | 29.11 | 24.84 | 20.77 |
| FeO | 0.59 | 0.88 | 0.39 | 1.18 | 0.96 | 0.74 | 0.66 | 0.66 | 0.54 | 0.39 | 0.83 | 0.33 | 0.46 | 0.29 | 0.37 |
| CaO | 14.06 | 12.33 | 12.91 | 8.48 | 9.55 | 11.11 | 11.78 | 12.25 | 11.78 | 13.58 | 14.21 | 13.90 | 13.47 | 7.31 | 1.73 |
| Na2O | 3.52 | 4.59 | 4.27 | 5.99 | 5.56 | 4.99 | 4.65 | 4.74 | 5.01 | 3.83 | 3.57 | 3.61 | 3.74 | 6.76 | 6.95 |
| K2O | 0.16 | 0.27 | 0.12 | 0.66 | 0.66 | 0.58 | 0.38 | 0.44 | 0.41 | 0.12 | 0.25 | 0.20 | 0.15 | 0.96 | 6.00 |
| BaO | - | - | 0.27 | 0.19 | - | - | 0.29 | - | - | 0.17 | - | 0.41 | 0.27 | - | 0.44 |
| SrO | - | - | - | 0.49 | 0.25 | 0.15 | 0.18 | 0.36 | 0.64 | 0.53 | 0.25 | 0.30 | 0.39 | 0.34 | - |
| sum | 99.2 | 99.4 | 98.5 | 99.4 | 98.8 | 99.5 | 100.2 | 100.6 | 101.1 | 100.0 | 100.8 | 99.1 | 99.4 | 100.3 | 101.3 |

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| An | 68 | 59 | 62 | 42 | 47 | 53 | 56 | 57 | 54 | 65 | 67 | 66 | 65 | 35 | 8 |
| Ab | 31 | 40 | 37 | 54 | 50 | 44 | 41 | 41 | 43 | 34 | 31 | 32 | 34 | 59 | 58 |
| Or | 1 | 2 | 1 | 4 | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 2 | 1 | 5 | 34 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| K/Ca | 0.0133 | 0.0260 | 0.0111 | 0.0921 | 0.0826 | 0.0623 | 0.0389 | 0.0428 | 0.0412 | 0.0103 | 0.0208 | 0.0171 | 0.0133 | 0.1564 | 4.1334 |

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| Si | 9.319 | 9.662 | 9.566 | 10.317 | 10.121 | 9.906 | 9.720 | 9.572 | 9.678 | 9.444 | 9.152 | 9.438 | 9.533 | 10.694 | 11.580 |
| Al | 6.568 | 6.181 | 6.298 | 5.553 | 5.761 | 5.955 | 6.174 | 6.300 | 6.196 | 6.419 | 6.741 | 6.391 | 6.310 | 5.235 | 4.362 |
| Fe | 0.091 | 0.135 | 0.060 | 0.179 | 0.148 | 0.113 | 0.100 | 0.101 | 0.082 | 0.059 | 0.127 | 0.051 | 0.071 | 0.043 | 0.054 |
| Ca | 2.773 | 2.422 | 2.561 | 1.657 | 1.877 | 2.174 | 2.296 | 2.384 | 2.279 | 2.662 | 2.772 | 2.754 | 2.654 | 1.400 | 0.330 |
| Na | 1.256 | 1.632 | 1.532 | 2.117 | 1.977 | 1.767 | 1.640 | 1.668 | 1.753 | 1.357 | 1.261 | 1.294 | 1.333 | 2.343 | 2.400 |
| K | 0.037 | 0.063 | 0.028 | 0.153 | 0.155 | 0.135 | 0.089 | 0.102 | 0.094 | 0.027 | 0.058 | 0.047 | 0.035 | 0.219 | 1.363 |
| Ba | 0.000 | 0.000 | 0.019 | 0.014 | 0.000 | 0.000 | 0.020 | 0.000 | 0.000 | 0.012 | 0.000 | 0.030 | 0.019 | 0.000 | 0.031 |
| Sr | 0.000 | 0.000 | 0.000 | 0.052 | 0.026 | 0.016 | 0.019 | 0.038 | 0.067 | 0.057 | 0.027 | 0.032 | 0.042 | 0.035 | 0.000 |
| sum | 20.044 | 20.095 | 20.065 | 20.041 | 20.065 | 20.067 | 20.058 | 20.164 | 20.148 | 20.038 | 20.137 | 20.037 | 19.997 | 19.970 | 20.120 |

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| Sample | BU6 | KP1 | KP1 | KP1 | KP1 | KP1 | KP1 | KP1 | KP2 | KP2 | KP2 | KP2 | KP2 | KP4 | KP4 |
| Description | int | core | rim | int | int | core | rim | int | core | rim | int | core | core | core | int |
| SiO2 | 63.42 | 53.89 | 53.67 | 56.67 | 53.57 | 51.51 | 51.48 | 51.08 | 51.95 | 52.36 | 52.40 | 52.92 | 52.66 | 51.63 | 52.96 |
| Al2O3 | 19.39 | 28.21 | 28.74 | 27.24 | 29.28 | 30.71 | 30.47 | 30.30 | 30.35 | 29.80 | 29.40 | 28.93 | 29.41 | 29.73 | 29.31 |
| FeO | 0.51 | 0.55 | 0.78 | 0.43 | 0.66 | 0.50 | 0.45 | 0.26 | 0.48 | 0.96 | 0.72 | 0.32 | 0.46 | 0.71 | 0.56 |
| CaO | 1.30 | 11.24 | 11.79 | 10.11 | 12.33 | 14.45 | 14.33 | 14.24 | 14.01 | 13.34 | 13.45 | 12.09 | 13.19 | 13.91 | 12.56 |
| Na2O | 4.80 | 5.26 | 5.09 | 5.93 | 4.90 | 3.73 | 3.67 | 3.90 | 4.11 | 4.24 | 4.25 | 4.59 | 4.23 | 3.84 | 4.70 |
| K2O | 8.07 | 0.35 | 0.31 | 0.68 | 0.36 | 0.26 | 0.19 | 0.18 | 0.17 | 0.20 | 0.18 | 0.25 | 0.15 | 0.18 | 0.41 |
| BaO | 0.72 | 0.25 | 0.00 | 0.00 | 0.23 | 0.27 | 0.16 | 0.00 | 0.17 | 0.00 | 0.03 | 0.08 | 0.00 | 0.04 | 0.08 |
| SrO | 0.64 | 0.22 | 0.65 | 0.54 | 0.82 | 0.59 | 0.88 | 0.70 | 0.39 | 0.41 | 0.63 | 0.73 | 0.00 | 0.77 | 0.28 |
| sum | 98.9 | 100.0 | 101.0 | 101.6 | 102.1 | 102.0 | 101.6 | 100.6 | 101.6 | 101.3 | 101.1 | 99.9 | 100.1 | 100.8 | 100.8 |

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| An | 6 | 53 | 54 | 46 | 56 | 66 | 66 | 65 | 64 | 62 | 62 | 57 | 63 | 65 | 58 |
| Ab | 45 | 45 | 44 | 50 | 42 | 32 | 33 | 34 | 35 | 37 | 37 | 41 | 36 | 34 | 40 |
| Or | 49 | 2 | 2 | 4 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| K/Ca | 7.4068 | 0.0373 | 0.0313 | 0.0804 | 0.0343 | 0.0216 | 0.0158 | 0.0150 | 0.0144 | 0.0181 | 0.0159 | 0.0247 | 0.0137 | 0.0151 | 0.0386 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Si | 11.704 | 9.813 | 9.705 | 10.120 | 9.619 | 9.288 | 9.316 | 9.314 | 9.373 | 9.467 | 9.505 | 9.662 | 9.572 | 9.408 | 9.592 |
| Al | 4.218 | 6.056 | 6.128 | 5.735 | 6.198 | 6.529 | 6.501 | 6.513 | 6.455 | 6.352 | 6.287 | 6.226 | 6.303 | 6.385 | 6.258 |
| Fe | 0.078 | 0.084 | 0.118 | 0.065 | 0.099 | 0.075 | 0.069 | 0.039 | 0.072 | 0.145 | 0.110 | 0.048 | 0.070 | 0.108 | 0.085 |
| Ca | 0.257 | 2.193 | 2.284 | 1.934 | 2.373 | 2.792 | 2.779 | 2.781 | 2.708 | 2.584 | 2.614 | 2.365 | 2.569 | 2.716 | 2.437 |
| Na | 1.717 | 1.859 | 1.786 | 2.052 | 1.706 | 1.305 | 1.286 | 1.377 | 1.439 | 1.487 | 1.493 | 1.624 | 1.491 | 1.356 | 1.650 |
| K | 1.901 | 0.082 | 0.071 | 0.156 | 0.081 | 0.060 | 0.044 | 0.042 | 0.039 | 0.047 | 0.042 | 0.058 | 0.035 | 0.041 | 0.094 |
| Ba | 0.052 | 0.018 | 0.000 | 0.000 | 0.016 | 0.019 | 0.011 | 0.000 | 0.012 | 0.000 | 0.002 | 0.006 | 0.000 | 0.003 | 0.006 |
| Sr | 0.069 | 0.023 | 0.068 | 0.056 | 0.085 | 0.061 | 0.092 | 0.074 | 0.041 | 0.043 | 0.067 | 0.077 | 0.000 | 0.081 | 0.029 |
| sum | 19.996 | 20.129 | 20.160 | 20.116 | 20.176 | 20.130 | 20.099 | 20.139 | 20.139 | 20.124 | 20.119 | 20.066 | 20.040 | 20.098 | 20.151 |

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| --- | --- | --- |
| Sample | KP4 | KP4 |
| Description | core | int |
| SiO2 | 51.11 | 51.74 |
| Al2O3 | 30.99 | 30.26 |
| FeO | 0.43 | 0.39 |
| CaO | 14.72 | 14.33 |
| Na2O | 3.56 | 3.80 |
| K2O | 0.18 | 0.14 |
| BaO | 0.18 | 0.41 |
| SrO | 0.57 | 0.13 |
| sum | 101.7 | 101.2 |

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| --- | --- | --- |
| An | 68 | 66 |
| Ab | 31 | 32 |
| Or | 1 | 1 |

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| --- | --- | --- |
| K/Ca | 0.0144 | 0.0116 |

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| --- | --- | --- |
| Si | 9.234 | 9.371 |
| Al | 6.601 | 6.462 |
| Fe | 0.064 | 0.059 |
| Ca | 2.850 | 2.780 |
| Na | 1.247 | 1.334 |
| K | 0.041 | 0.032 |
| Ba | 0.013 | 0.029 |
| Sr | 0.060 | 0.013 |
| sum | 20.109 | 20.081 |
| mcr = microphenocryst; int = interstitial. An, Ab and Or in mol%. \* Data from Melluso and Sethna (2011). | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Chemical analyses (in wt.%) and structural formulas (in apfu) of chromiferous spinel, magnetite, ilmenite and pseudobrookite in the Khopoli olivine gabbros | | | | | | | | | | | | | | | |
| Sample | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6 | BU6\* | BU6\* | BU6\* | BU6\* | BU6\* | BU6\* |
| mineral name | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp |
| Description | incl | incl | incl | incl | incl | incl | incl | incl | incl | incl | incl | incl | incl | incl | incl |
| TiO2 | 2.12 | 1.94 | 2.66 | 2.73 | 1.76 | 1.65 | 1.90 | 1.46 | 1.98 | 1.62 | 1.55 | 1.31 | 2.65 | 7.68 | 6.63 |
| Al2O3 | 12.66 | 12.55 | 10.77 | 12.73 | 12.45 | 11.78 | 12.45 | 10.70 | 14.04 | 12.93 | 12.32 | 12.25 | 10.71 | 8.60 | 8.60 |
| FeO | 32.60 | 34.02 | 47.52 | 32.22 | 33.92 | 34.96 | 34.48 | 37.66 | 32.64 | 33.24 | 32.74 | 33.52 | 35.78 | 39.55 | 42.22 |
| MnO | 0.60 | 0.49 | 0.36 | 0.58 | 0.91 | 0.04 | 0.60 | 0.55 | 0.48 | 0.55 | 0.25 | 0.39 | 0.65 | 0.36 | 0.75 |
| MgO | 5.57 | 5.81 | 3.66 | 8.09 | 5.08 | 4.77 | 5.94 | 5.04 | 6.55 | 5.62 | 6.01 | 5.98 | 5.11 | 4.40 | 4.84 |
| Cr2O3 | 44.53 | 43.89 | 32.60 | 43.72 | 44.65 | 44.04 | 46.30 | 43.35 | 42.65 | 47.59 | 47.05 | 47.18 | 45.60 | 37.33 | 35.52 |
| NiO | - | - | 0.25 | 0.10 | 0.41 | 0.24 | 0.15 | 0.05 | 0.25 | - | - | - | - | - | - |
| V2O3 | 0.38 | 0.62 | 1.68 | 0.83 | 0.53 | 0.74 | 0.75 | 1.14 | 0.85 | - | - | - | - | - | - |
| sum | 98.5 | 99.3 | 99.5 | 101.0 | 99.7 | 98.2 | 102.6 | 99.9 | 99.4 | 101.6 | 99.9 | 100.6 | 100.5 | 97.9 | 98.6 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Fe2O3 wt% | 6.80 | 8.51 | 19.12 | 9.10 | 7.85 | 8.19 | 8.33 | 11.85 | 7.98 | 6.89 | 7.41 | 8.36 | 8.65 | 7.58 | 12.47 |
| FeO wt% | 26.48 | 26.37 | 30.31 | 24.03 | 26.85 | 27.59 | 26.98 | 27.00 | 25.46 | 27.04 | 26.08 | 26.00 | 27.99 | 32.73 | 31.00 |
| sum | 99.2 | 100.2 | 101.4 | 101.9 | 100.5 | 99.0 | 103.4 | 101.1 | 100.2 | 102.2 | 100.7 | 101.5 | 101.4 | 98.7 | 99.8 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ti | 0.434 | 0.394 | 0.550 | 0.537 | 0.358 | 0.342 | 0.375 | 0.298 | 0.397 | 0.322 | 0.313 | 0.263 | 0.539 | 1.624 | 1.386 |
| Al | 4.065 | 3.990 | 3.483 | 3.919 | 3.972 | 3.828 | 3.843 | 3.423 | 4.409 | 4.031 | 3.896 | 3.850 | 3.413 | 2.850 | 2.817 |
| Fe3+ | 1.393 | 1.727 | 3.948 | 1.789 | 1.599 | 1.698 | 1.642 | 2.422 | 1.601 | 1.371 | 1.496 | 1.678 | 1.761 | 1.604 | 2.607 |
| Fe2+ | 6.032 | 5.948 | 6.956 | 5.252 | 6.078 | 6.362 | 5.913 | 6.131 | 5.674 | 5.983 | 5.852 | 5.798 | 6.330 | 7.695 | 7.204 |
| Mn | 0.140 | 0.111 | 0.083 | 0.128 | 0.209 | 0.008 | 0.134 | 0.126 | 0.108 | 0.123 | 0.057 | 0.088 | 0.149 | 0.086 | 0.177 |
| Mg | 2.262 | 2.335 | 1.497 | 3.152 | 2.049 | 1.959 | 2.320 | 2.039 | 2.602 | 2.216 | 2.404 | 2.377 | 2.060 | 1.844 | 2.005 |
| Cr | 9.590 | 9.361 | 7.073 | 9.033 | 9.553 | 9.600 | 9.591 | 9.307 | 8.987 | 9.953 | 9.982 | 9.947 | 9.748 | 8.298 | 7.804 |
| Ni | 0.000 | 0.000 | 0.055 | 0.021 | 0.090 | 0.053 | 0.031 | 0.011 | 0.053 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| V | 0.083 | 0.134 | 0.369 | 0.173 | 0.114 | 0.163 | 0.158 | 0.247 | 0.182 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| sum | 24.000 | 24.000 | 24.014 | 24.005 | 24.022 | 24.013 | 24.008 | 24.003 | 24.013 | 24.000 | 24.000 | 24.000 | 24.000 | 24.000 | 24.000 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ulv | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ilm | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mg# | 27 | 28 | 18 | 38 | 25 | 24 | 28 | 25 | 32 | 27 | 29 | 29 | 25 | 19 | 22 |
| Cr# | 70 | 70 | 67 | 70 | 71 | 71 | 71 | 73 | 67 | 71 | 72 | 72 | 74 | 74 | 73 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | BU6\* | KP1 | KP1 | KP1 | KP1 | KP1 | KP2 | KP2 | KP2 | KP2 | KP4 | KP4 | BU6 | BU6 | BU6 |
| mineral name | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | cr-sp | mt | mt | mt |
| Description | incl | incl | incl | incl | incl | incl | incl | incl | incl | incl | incl | incl | mcr | mcr | mcr |
| TiO2 | 1.99 | 2.15 | 3.64 | 1.77 | 2.10 | 1.70 | 1.49 | 1.60 | 1.98 | 3.87 | 1.97 | 1.69 | 15.48 | 17.80 | 18.49 |
| Al2O3 | 12.15 | 13.66 | 12.08 | 11.74 | 12.31 | 12.33 | 12.30 | 13.16 | 14.89 | 9.02 | 13.11 | 12.51 | 0.28 | 0.57 | 0.24 |
| FeO | 33.93 | 31.19 | 37.31 | 37.75 | 37.91 | 36.62 | 33.94 | 32.48 | 20.97 | 42.52 | 36.71 | 34.54 | 74.19 | 70.40 | 69.29 |
| MnO | - | - | 0.69 | 0.30 | 0.96 | 0.66 | 0.20 | 0.68 | 0.44 | 0.56 | 0.62 | 0.65 | 0.78 | 0.75 | 0.11 |
| MgO | 5.56 | 7.13 | 5.14 | 5.36 | 5.18 | 5.50 | 6.08 | 5.93 | 10.02 | 4.78 | 4.70 | 5.67 | 5.35 | 5.22 | 3.77 |
| Cr2O3 | 47.19 | 43.55 | 40.62 | 40.95 | 39.98 | 43.09 | 44.57 | 42.86 | 48.05 | 35.64 | 39.76 | 43.27 | 0.20 | 1.80 | 1.29 |
| NiO | - | - | - | 0.05 | 0.23 | - | - | - | 0.20 | 0.48 | - | 0.04 | 0.40 | 0.72 | 0.32 |
| V2O3 | - | 0.74 | 1.33 | 0.95 | 0.97 | 0.83 | 0.54 | 1.08 | 0.82 | 0.96 | 0.92 | 0.94 | 0.34 | - | 0.88 |
| sum | 100.8 | 98.4 | 100.8 | 98.9 | 99.6 | 100.7 | 99.1 | 97.8 | 97.4 | 97.8 | 97.8 | 99.3 | 97.0 | 97.3 | 94.4 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Fe2O3 wt% | 6.96 | 7.02 | 9.10 | 12.10 | 12.08 | 10.81 | 9.12 | 8.0 | 1.6 | 15.6 | 10.1 | 9.30 | 41.65 | 34.97 | 30.86 |
| FeO wt% | 27.67 | 24.87 | 29.12 | 26.86 | 27.04 | 26.90 | 25.74 | 25.3 | 19.6 | 28.5 | 27.6 | 26.17 | 36.71 | 38.94 | 41.52 |
| sum | 101.5 | 99.1 | 101.7 | 100.1 | 100.9 | 101.8 | 100.0 | 98.6 | 97.5 | 99.4 | 98.8 | 100.2 | 101.2 | 100.8 | 97.5 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ti | 0.400 | 0.434 | 0.734 | 0.362 | 0.427 | 0.342 | 0.302 | 0.328 | 0.394 | 0.813 | 0.407 | 0.343 | 0.419 | 0.483 | 0.523 |
| Al | 3.827 | 4.318 | 3.813 | 3.769 | 3.919 | 3.878 | 3.915 | 4.227 | 4.645 | 2.970 | 4.246 | 3.980 | 0.012 | 0.024 | 0.011 |
| Fe3+ | 1.400 | 1.417 | 1.834 | 2.479 | 2.456 | 2.170 | 1.852 | 1.644 | 0.314 | 3.268 | 2.098 | 1.890 | 1.128 | 0.949 | 0.874 |
| Fe2+ | 6.185 | 5.581 | 6.523 | 6.117 | 6.107 | 6.002 | 5.811 | 5.760 | 4.329 | 6.662 | 6.339 | 5.910 | 1.105 | 1.174 | 1.306 |
| Mn | 0.000 | 0.000 | 0.157 | 0.068 | 0.221 | 0.150 | 0.046 | 0.158 | 0.098 | 0.133 | 0.143 | 0.148 | 0.024 | 0.023 | 0.004 |
| Mg | 2.215 | 2.853 | 2.054 | 2.174 | 2.087 | 2.189 | 2.445 | 2.409 | 3.956 | 1.992 | 1.925 | 2.283 | 0.287 | 0.281 | 0.211 |
| Cr | 9.972 | 9.238 | 8.601 | 8.815 | 8.537 | 9.091 | 9.512 | 9.238 | 10.058 | 7.868 | 8.639 | 9.238 | 0.006 | 0.051 | 0.038 |
| Ni | 0.000 | 0.000 | 0.000 | 0.010 | 0.049 | 0.000 | 0.000 | 0.000 | 0.043 | 0.108 | 0.000 | 0.008 | 0.012 | 0.021 | 0.010 |
| V | 0.000 | 0.159 | 0.285 | 0.208 | 0.211 | 0.178 | 0.117 | 0.235 | 0.175 | 0.214 | 0.203 | 0.203 | 0.010 | 0.000 | 0.026 |
| sum | 24.000 | 24.000 | 24.000 | 24.003 | 24.012 | 24.000 | 24.000 | 24.000 | 24.011 | 24.027 | 24.000 | 24.002 | 3.003 | 3.005 | 3.002 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ulv | - | - | - | - | - | - | - | - | - | - | - | - | 37 | 46 | 52 |
| Ilm | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mg# | 26 | 34 | 24 | 26 | 26 | 27 | 30 | 30 | 48 | 23 | 23 | 28 | - | - | - |
| Cr# | 72 | 68 | 69 | 70 | 69 | 70 | 71 | 69 | 68 | 73 | 67 | 70 | - | - | - |

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| Sample | BU6 | BU6 | BU6 | BU6 | KP1 | KP1 | BU6 | BU6 | BU6 | BU6 | BU6 | KP1 | KP4 | BU6 | BU6 |
| mineral name | mt | mt | mt | mt | mt | mt | il | il | il | il | il | il | il | pseudbr | pseudbr |
| Description | mcr | mcr | mcr | mcr | mcr | mcr | lamella | lamella | lamella | lamella | lamella | lamella | lamella | lamella | lamella |
| TiO2 | 23.76 | 24.61 | 28.24 | 27.02 | 18.05 | 17.01 | 46.82 | 51.33 | 51.60 | 46.98 | 45.72 | 50.75 | 47.06 | 56.99 | 50.92 |
| Al2O3 | 0.18 | 0.19 | 0.33 | 0.03 | 0.18 | 0.33 | 0.13 | 0.51 | 0.15 | 0.34 | 0.23 | 0.82 | - | 0.14 | 0.25 |
| FeO | 64.01 | 62.29 | 59.41 | 60.34 | 67.29 | 67.81 | 42.25 | 35.19 | 35.83 | 40.64 | 39.74 | 37.19 | 42.50 | 41.39 | 42.23 |
| MnO | 0.43 | 0.51 | 0.56 | 0.37 | 0.50 | 0.63 | 0.54 | 0.56 | 0.18 | 0.49 | 0.63 | 0.32 | 0.76 | 0.73 | 0.57 |
| MgO | 5.45 | 5.63 | 4.80 | 5.40 | 6.37 | 7.86 | 6.72 | 8.54 | 7.34 | 6.30 | 10.37 | 7.42 | 6.14 | 1.44 | 1.16 |
| Cr2O3 | 0.51 | 1.05 | 0.17 | 0.85 | 0.30 | 0.08 | 0.57 | 0.55 | 0.40 | 0.75 | 0.22 | 0.22 | 0.10 | - | 0.13 |
| NiO | - | - | - | - | 0.41 | 0.37 | - | 0.30 | - | 0.17 | 0.70 | - | - | - | - |
| V2O3 | - | - | - | - | - | 0.83 | 0.65 | 0.21 | 0.53 | 0.10 | 0.88 | 0.38 | 1.01 | 0.65 | - |
| sum | 94.3 | 94.3 | 93.5 | 94.0 | 93.1 | 94.9 | 97.7 | 97.2 | 96.0 | 95.8 | 98.5 | 97.1 | 97.6 | 101.3 | 95.3 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Fe2O3 wt% | 23.00 | 20.70 | 12.91 | 15.79 | 34.38 | 37.94 | 14.07 | 5.4 | 3.0 | 11.2 | 19.7 | 5.7 | 13.2 | 28.33 | 32.74 |
| FeO wt% | 43.31 | 43.67 | 47.80 | 46.13 | 36.35 | 33.68 | 29.59 | 30.4 | 33.1 | 30.5 | 22.0 | 32.1 | 30.6 | 15.89 | 12.76 |
| sum | 96.6 | 96.4 | 94.8 | 95.6 | 96.5 | 98.7 | 99.1 | 97.7 | 96.3 | 96.9 | 100.5 | 97.7 | 98.9 | 104.2 | 98.5 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ti | 0.666 | 0.690 | 0.806 | 0.764 | 0.506 | 0.462 | 0.857 | 0.935 | 0.961 | 0.880 | 0.808 | 0.931 | 0.867 | - | - |
| Al | 0.008 | 0.008 | 0.015 | 0.001 | 0.008 | 0.014 | 0.004 | 0.015 | 0.004 | 0.010 | 0.006 | 0.024 | 0.000 | - | - |
| Fe3+ | 0.645 | 0.581 | 0.368 | 0.446 | 0.965 | 1.031 | 0.258 | 0.097 | 0.056 | 0.210 | 0.348 | 0.104 | 0.244 | - | - |
| Fe2+ | 1.350 | 1.361 | 1.516 | 1.449 | 1.134 | 1.017 | 0.602 | 0.615 | 0.686 | 0.636 | 0.432 | 0.654 | 0.627 | - | - |
| Mn | 0.014 | 0.016 | 0.018 | 0.012 | 0.016 | 0.019 | 0.011 | 0.012 | 0.004 | 0.010 | 0.013 | 0.007 | 0.016 | - | - |
| Mg | 0.303 | 0.313 | 0.271 | 0.302 | 0.354 | 0.423 | 0.244 | 0.308 | 0.271 | 0.234 | 0.363 | 0.270 | 0.224 | - | - |
| Cr | 0.015 | 0.031 | 0.005 | 0.025 | 0.009 | 0.002 | 0.011 | 0.011 | 0.008 | 0.015 | 0.004 | 0.004 | 0.002 | - | - |
| Ni | 0.000 | 0.000 | 0.000 | 0.000 | 0.012 | 0.011 | 0.000 | 0.006 | 0.000 | 0.002 | 0.013 | 0.000 | 0.000 | - | - |
| V | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.024 | 0.013 | 0.004 | 0.011 | 0.003 | 0.017 | 0.007 | 0.020 | - | - |
| sum | 3.000 | 3.000 | 3.000 | 3.000 | 3.003 | 3.003 | 2.000 | 2.002 | 2.000 | 2.001 | 2.004 | 2.000 | 2.000 | - | - |

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| Ulv | 63 | 67 | 79 | 75 | 44 | 39 | - | - | - | - | - | - | - | - | - |
| Ilm | - | - | - | - | - | - | 85 | 94 | 97 | 88 | 77 | 94 | 86 | - | - |
| Mg# | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cr# | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

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| --- | --- | --- |
| Sample | BU6 | BU6 |
| mineral name | pseudbr | pseudbr |
| Description | lamella | lamella |
| TiO2 | 54.72 | 56.03 |
| Al2O3 | 0.31 | - |
| FeO | 31.92 | 31.79 |
| MnO | 0.35 | 0.10 |
| MgO | 8.83 | 9.17 |
| Cr2O3 | 0.16 | 0.24 |
| NiO | - | - |
| V2O3 | 0.30 | 0.11 |
| sum | 96.6 | 97.4 |

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| --- | --- | --- |
| Fe2O3 wt% | 34.9 | 34.2 |
| FeO wt% | 0.5 | 1.0 |
| sum | 100.1 | 100.9 |

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| --- | --- | --- |
| Ti | - | - |
| Al | - | - |
| Fe3+ | - | - |
| Fe2+ | - | - |
| Mn | - | - |
| Mg | - | - |
| Cr | - | - |
| Ni | - | - |
| V | - | - |
| sum | - | - |

|  |  |  |
| --- | --- | --- |
| Ulv | - | - |
| Ilm | - | - |
| Mg# | - | - |
| Cr# | - | - |
| Chromiferous spinels structural formulas were calculated on basis of 32 oxygens and 24 cations; magnetites were calculated on basis of 4 oxygens and 3 cations; ilmenites were calculated on basis of | | |
| 3 oxygens and 2 cations; Cr# = atomic Crx100/(Cr+Al), Mg# atomic Mgx100/(Mg+Fe2+). Ulv = ulvöspinel mol.%; Ilm = ilmenite mol.%; incl = inclusion; mcr = microphenocryst; | | |
| cr-sp = chromiferous spinel; mt = magnetite; il = ilmenite; pseudobr = pseudobrookite. \*Data from Melluso et al. 2010. | | |

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| --- | --- | --- | --- | --- |
| Chemical analyses (in wt.%) | | | | |
| and structural formulas (in apfu, calculated on basis | | | | |
| 24 oxygens) of apatite in the Khopoli olivine gabbros | | | | |
| Sample | BU6 | BU6 | KP1 | KP4 |
| Description | incl | incl | incl | incl |
| SiO2 | 0.28 | 0.41 | 0.93 | 0.29 |
| FeO | 0.77 | 0.92 | 0.75 | 0.61 |
| CaO | 53.92 | 53.13 | 53.74 | 55.20 |
| P2O5 | 42.68 | 42.57 | 42.98 | 44.05 |
| SrO | - | 0.09 | - | - |
| La2O3 | - | - | 0.33 | 0.56 |
| Ce2O3 | 0.56 | 0.40 | 0.15 | 0.61 |
| Pr2O3 | 0.12 | - | 0.37 | 0.93 |
| Nd2O3 | 0.39 | - | 0.75 | 0.98 |
| Sm2O3 | 0.24 | - | - | 0.50 |
| Eu2O3 | - | - | 0.08 | - |
| Gd2O3 | 0.16 | - | - | - |
| Dy2O3 | 0.40 | 0.23 | 0.07 | 0.62 |
| ThO2 | 0.08 | - | - | - |
| UO2 | - | - | 0.60 | - |
| F | 3.27 | 3.99 | 3.97 | 3.28 |
| Cl | - | 0.30 | 0.58 | - |
| SO3 | 0.35 | 0.07 | 0.38 | 0.05 |
| sum | 103.2 | 102.1 | 105.7 | 107.7 |

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| O=F,Cl | 1.38 | 1.75 | 1.80 | 1.38 |
| sum | 101.8 | 100.4 | 103.9 | 106.3 |

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| --- | --- | --- | --- | --- |
| Fe | 0.101 | 0.121 | 0.096 | 0.077 |
| Ca | 9.015 | 8.957 | 8.831 | 8.960 |
| Sr | 0.000 | 0.009 | 0.000 | 0.000 |
| La | 0.000 | 0.000 | 0.018 | 0.031 |
| Ce | 0.032 | 0.023 | 0.008 | 0.034 |
| Pr | 0.007 | 0.000 | 0.021 | 0.052 |
| Nd | 0.022 | 0.000 | 0.041 | 0.053 |
| Sm | 0.013 | 0.000 | 0.000 | 0.026 |
| Eu | 0.000 | 0.000 | 0.004 | 0.000 |
| Gd | 0.008 | 0.000 | 0.000 | 0.000 |
| Dy | 0.046 | 0.027 | 0.004 | 0.030 |
| Th | 0.006 | 0.000 | 0.000 | 0.000 |
| U | 0.000 | 0.000 | 0.041 | 0.000 |
| sum | 9.250 | 9.137 | 9.064 | 9.263 |

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| --- | --- | --- | --- | --- |
| Si | 0.043 | 0.065 | 0.143 | 0.044 |
| P | 5.639 | 5.671 | 5.581 | 5.650 |
| S | 0.123 | 0.027 | 0.130 | 0.017 |
| sum | 5.805 | 5.763 | 5.854 | 5.711 |

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| --- | --- | --- | --- | --- |
| F | 0.806 | 0.993 | 0.963 | 0.786 |
| Cl | 0.000 | 0.040 | 0.075 | 0.000 |
| OH | 1.194 | 0.967 | 0.961 | 1.214 |
| sum | 2.000 | 2.000 | 2.000 | 2.000 |
| incl = inclusion | |  |  |  |