# Structure and microwave dielectric properties

# of Bi- and Ge-doped calcium molybdate

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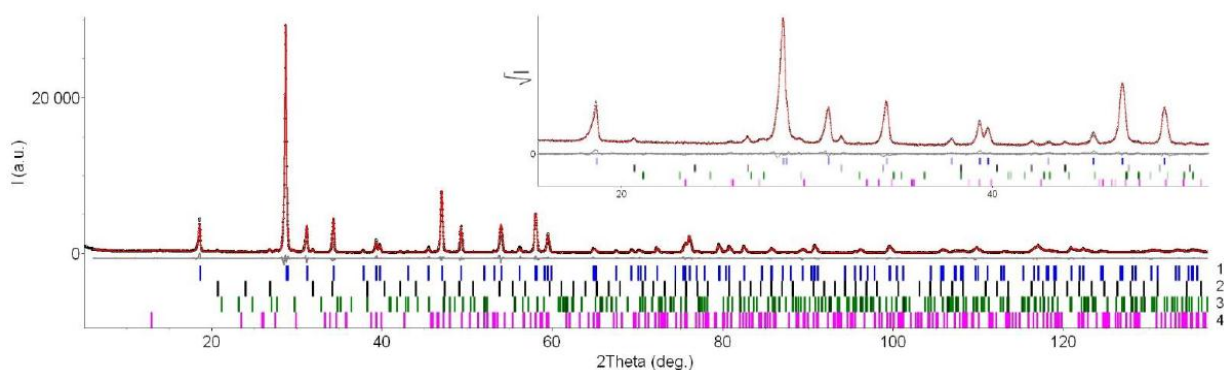
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**Figure S1** Measured (black dots) and calculated (red line) diffraction spectra, the difference curve (gray line), and stick diagrams for a $Ca_{0.9}Bi_{0.1}Mo_{0.95}Ge_{0.05}O_4$ sample. Stick diagrams of main phase (1) and impurities (2–4) are presented. Information about phases are given in Table S1. In inset, the fragment of the spectra with $\sqrt{I}$ as $y$ axis is shown.

**Table S1** Phase composition of $Ca_{0.9}Bi_{0.1}Mo_{0.95}Ge_{0.05}O_4$ sample and unit cell parameters of main phase and impurities as a results of Rietveld analysis.

|     | Phase Name | SG | $a$ (Å) | $b$ (Å) | $c$ (Å) | $V$ (Å³) | Wt.% Riet. | PDF Ref. |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | $Ca_{0.9}Bi_{0.1}Mo_{0.95}Ge_{0.05}O_4$ | I41/a | 5.2242 | | 11.4679 | 312.98 | 98.6 | 04-010-2151 |
| 2 | $Bi_4(GeO_4)_3$ | I-43d | 10.5013 | | | 1158.05 | 0.8 | 04-015-5373 |
| 3* | $Ca(CO_3)$ | Pbnm | 4.324 | 6.443 | 8.388 | 233.68 | 0.3 | 04-015-410 |
| 4* | $MoO_3$ | Pbnm | 3.946 | 13.748 | 3.688 | 200.09 | 0.3 | 04-012-8070 |