

## DEPOSITED TABLES, DONDI ET AL. AMERICAN MINERALOGIST 2014, AM-14-807

TABLE I. Phase composition, agreement factors and refinement details of undoped samples.

UNDOPED	GAH	C2Z	CSZ	S2Z	C2A	C2M	CSM	S2M	SBM	SB3M	B2M	B2Mm	WLL	FRE
Quantitative phase analysis (apfu)														
Main phase	100.00	100.00	100.00	95.05(1)	100.00	88.90(6)	100.00	94.70(1)	94.70(2)	95.40(1)	100.00	95.34(1)	100.00	100.00
Others													–	–
SrSiO <sub>3</sub>	–	–	–	4.95(7)	–	–	–	5.30(8)	–	–	–	–	–	–
CaMgSi <sub>2</sub> O <sub>6</sub>	–	–	–	–	–	11.10(22)	–	–	–	–	–	–	–	–
Sr <sub>2</sub> SiO <sub>4</sub>	–	–	–	–	–	–	–	–	5.30(21)	4.60(22)	–	–	–	–
BaSiO <sub>3</sub>	–	–	–	–	–	–	–	–	–	–	–	4.66(10)	–	–
Ba <sub>2</sub> MgSi <sub>2</sub> O <sub>7</sub>	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Agreement factors and refinement details														
$\chi^2$	1.714	1.849	1.568	1.279	1.290	1.853	1.261	1.367	1.306	1.225	–	1.301	5.664	–
$R_{wp}$	0.1352	0.1150	0.1331	0.1130	0.1597	0.1508	0.1272	0.1146	0.1477	0.1552	–	0.1546	0.0812	–
$R_p$	0.0843	0.0846	0.0994	0.0793	0.1165	0.1109	0.0936	0.0806	0.1007	0.1066	–	0.1128	0.0520	–
No. of data	8333	8333	8333	8333	7999	6250	8000	6800	8333	8333	–	8000	6000	–
$R(F)$	0.0268	0.0377	0.0280	0.0216	0.0481	0.0478	0.0309	0.0249	0.0291	0.0284	–	0.0267	0.0378	–
$R(F^2)$	0.0300	0.0625	0.0481	0.0352	0.0789	0.0780	0.0497	0.0431	0.0484	0.0473	–	0.0494	0.0422	–
No. of reflections	68	363	378	394	342	364	355	284	416	423	–	1165	1184	–
Reference	[1]	[2]	This Work	[3]	This Work	This Work	This Work	[4]	[4]	[4]	[5]	[4]	[6]	[7]
Reference: [1] Ardit et al. (2012b); [2] Ardit et al. (2012a); [3] Ardit et al. (2010); [4] Ardit et al. (2012c); [5] Shimizu et al. (1995); [6] Ozel et al. (2010); [7] Bindi et al. (2006).														

**TABLE II.** Phase composition, agreement factors and refinement details of Co-doped samples.

<i>Co-DOPED</i>	<i>GAH</i>	<i>C2Z</i>	<i>CSZ</i>	<i>S2Z</i>	<i>C2A</i>	<i>C2M</i>	<i>CSM</i>	<i>S2M</i>	<i>SBM</i>	<i>SB3M</i>	<i>B2M</i>	<i>B2Mm</i>	<i>WLL</i>	<i>FRE</i>
Quantitative phase analysis (apfu)														
Main phase	100.00	100.00	100.00	92.26(2)	100.00	92.52(4)	100.00	97.19(1)	88.24(3)	91.59(2)	–	97.40(1)	100.00	96.86(1)
Others														
SrSiO <sub>3</sub>	–	–	–	7.74(9)	–	–	–	2.81(1)	–	–	–	–	–	–
CaMgSi <sub>2</sub> O <sub>6</sub>	–	–	–	–	–	7.48(5)	–	–	–	–	–	–	–	–
Sr <sub>2</sub> SiO <sub>4</sub>	–	–	–	–	–	–	–	–	11.76(3)	8.41(3)	–	–	–	–
BaSiO <sub>3</sub>	–	–	–	–	–	–	–	–	–	–	–	2.60(21)	–	–
Ba <sub>2</sub> MgSi <sub>2</sub> O <sub>7</sub>	–	–	–	–	–	–	–	–	–	–	–	–	–	3.14(20)
Agreement factors and refinement details														
$\chi^2$	1.467	1.678	1.434	1.247	1.646	1.524	1.485	1.438	2.227	2.080	–	1.496	2.038	6.818
$R_{wp}$	0.0951	0.1085	0.1294	0.1153	0.1698	0.1278	0.1375	0.1185	0.1118	0.1140	–	0.1663	0.0592	0.0656
$R_p$	0.0673	0.0824	0.0971	0.0832	0.1303	0.0965	0.1006	0.0857	0.0777	0.0761	–	0.1249	0.0455	0.0467
No. of data	8333	8333	8333	8333	7999	6250	8000	6800	6250	6250	–	8000	6000	8310
$R(F)$	0.0292	0.0506	0.0330	0.0230	0.0516	0.0543	0.0446	0.0307	0.0306	0.0265	–	0.0349	0.0636	0.0234
$R(F^2)$	0.0326	0.0736	0.0547	0.0359	0.0856	0.0889	0.0737	0.0574	0.0509	0.0449	–	0.0663	0.0679	0.0401
No. of reflections	68	363	378	393	342	364	356	284	415	422	–	1167	1186	399
Reference	[1]	[2]	This Work	This Work	This Work	[8]	[8]	[8]	[8]	[8]	[8]	This Work	[6]	This Work

Reference: [1] Ardit et al. (2012b); [2] Ardit et al. (2012a); [6] Ozel et al. (2010); [8] Dondi et al. (2013).