Erratum

Accurate determination of ferric iron in garnets by bulk Mössbauer and synchrotron micro-XANES spectroscopies by M. Darby Dyar, Elly A. Breves, Erica Emerson, Samuel Bell, Melissa Nelms, Marie V. Ozanne, Samantha Peel, Marco L. Carmosino, Jonathan M. Tucker, Mickey E. Gunter, Jeremy S. Delaney, Antonio Lanzirotti, and Alan B. Woodland (October, vol. 97, p. 1726–1659, 2012. Article DOI: 10.2138/am.2012.4107; Erratum DOI: 10.2138/am-2016-E101310).

We here correct provenance information and species names in Table 1, in keeping with the new nomenclature of the garnet supergroup (Grew et al. 2013). Also, in the original version of Table 2, three values of FeO and Fe_2O_3 may have been incorrectly reported from electron microprobe analysis (EMPA). Because of the large errors propagated onto calculations of iron redox state based on stoichiometry, these values were not used further or even commented upon in the paper, and are hereby retracted. We now provide a revised table that reports all Fe as FeO_T, and corrects the resultant analytical totals and Mössbauer-based FeO and Fe_2O_3. These changes *in no way impact any of the subsequent content of our paper* because both Mössbauer spectroscopy and synchrotron X-ray absorption near-edge spectroscopy use units of $\%Fe^{3+}$ that are independent of total Fe contents.

We are grateful to Ryan Quinn, John Valley, Zeb Page, and John Fournelle for noting these problems and to Peter Crowley for help with reconstructing corrected sample locations.

Reference cited

Grew, E.S., Locock, A.J., Mills, S.J., Galuskina, I.O., Galuskin, E.V., and Halenium, U. (2013) Nomenclature of the garnet supergroup. American Mineralogist, 98, 785–811.

Table 1 (revised). Samples studied

Sample	Sample description	Species/Locality
A32W	Adirondack A-32-W	Grossular Willsboro-Lewis skarn belt, wollastonite and clinopyroxene-bearing rocks, Willsboro, NY
9710	Adirondack AK97-10	Almandine, anorthosite, Woolen Mill, NY, Rte. 9N, west of Elizabethtown
9723	Adirondack AK97-23	Almandine, anorthosite, summit of Whiteface Mountain
9729	Adirondack AK97-29	Almandine, Treadway Mountain Formation, Rte. 8, east of Brandt Lake, NY
2A	Adirondack AK97-2a	Almandine, Barton Mine, Pit 1, garnet amphibolite, Gore Mountain, NY
2B	Adirondack AK97-2b	Almandine, Barton Mine, Pit 2, metagabbro, Gore Mountain, NY
8A	Adirondack AK97-8a	Almandine, Rte. 3 in Childwold Quadrangle, NY, garnet-phlogopite gneiss
9B	Adirondack AK97-9b	Grossular, Willsboro Mine, clinopyroxene-bearing rocks, Willsboro, NY
HE1	Adirondack HE-1	Almandine, Barton Mine, Pit 1, garnet amphibolite, Gore Mountain, NY
HRM1	Adirondack HRM-1	Grossular, Willsboro-Lewis skarn belt, wollastonite and clinopyroxene-bearing rocks, Willsboro, NY
AHUN	AH-UN	Grossular, unknown provenance (Anne Hofmeister)
G5183	BPM 27	Grossular, Los Angeles Museum, Bishop, Inyo County, CA (Anne Hofmeister)
ALM	Fort Wrangell	Almandine in mica schist, Fort Wrangell, AK, from MIT teaching collection
G89	HMM 103089	Grossular-bearing marble layer intercalated in metapelites, Phippsburg, ME
G17	HMM 123017	Grossular, cal-silicate deposit, Day Hill, Cornish, York Co., ME
AND	HMM 87373	Andradite, Val Malenco, Sondrio Province, Lombardy, Italy, sample from Harvard Mineralogical Museum
1251	Kb-12-51	Pyrope in garnet peridotite, Jagersfontein Mine, South Africa (Howard Wilshire)
129	Kb-12-9	Pyrope in garnet peridotite, Jagersfontein Mine, South Africa (Howard Wilshire)
BBKG	Kenya "melanite"	Andradite, Rusinga Island, Kenya, Africa (Erick Bestland)

Table 2 (corrected). Garnet compositions studied

Sample	A32W		9710		9723		9729		2A		2B		8A		9B		HE1		HRM1	
No. analyses	10	s.d.	10	s.d.	10	s.d.	10	s.d.	10	s.d.	20	s.d.	10	s.d.	10	s.d.	10	s.d.	10	s.d.
SiO_2	38.43	0.32	37.70	0.34	36.95	0.34	36.43	0.37	39.71	0.31	39.25	0.39	39.14	0.26	38.13	0.28	39.34	0.24	37.08	0.12
TiO_2	0.30	0.01	0.24	0.13	0.13	0.01	0.02	0.01	0.06	0.02	0.03	0.03	0.02	0.01	0.36	0.03	0.07	0.01	0.54	0.02
Al_2O_3	18.29	0.45	20.09	0.38	21.18	0.12	21.30	0.13	21.74	0.26	22.23	0.30	22.41	0.11	18.20	0.14	22.48	0.17	9.56	0.13
EMPA FeOT	6.17	0.93	28.44	0.32	25.87	0.75	33.04	0.30	19.91	0.52	21.59	1.06	25.19	0.25	10.02	0.36	21.59	0.43	16.43	0.33
MgO	0.27	0.14	3.24	0.11	4.37	0.11	4.95	0.05	11.10	0.24	9.97	0.60	11.19	0.06	0.49	0.02	11.29	0.08	0.19	0.02
MnO	0.28	0.02	0.68	0.06	1.34	0.11	1.27	0.03	0.39	0.04	0.46	0.06	0.83	0.03	0.67	0.04	0.46	0.02	0.08	0.02
CaO	35.38	0.17	9.03	0.32	9.35	0.64	1.97	0.04	6.85	0.12	6.74	0.37	1.76	0.05	31.21	0.18	5.25	0.05	34.20	0.16
Na_2O	0.02	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01
K_2O	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Total	99.14		99.43		99.19		99.01		99.76		100.29		100.54		99.11		100.48		98.8	
"True" Fe^{3+}	76		9		7		0		0		6		0		48		3		95	
FeO MS	1.50		25.91		24.11		33.04		19.91		20.21		25.19		5.21		20.87		0.88	
Fe_2O_3 MS	5.18		2.81		1.96		0.00		0.00		1.54		0.00		5.35		0.80		17.29	
New Total	99.66		99.71		99.40		99.00		99.76		100.44		100.54		99.65		100.56		99.82	

Sample	AHUN		G5183		ALM		G89		G17		AND		1251		129		BBKG	
No. analyses	10	s.d.	10	s.d.	30	s.d.	20	s.d.	20	s.d.	23	s.d.	10	s.d.	10	s.d.	10	s.d.
SiO_2	36.89	0.34	37.96	0.18	37.38	0.36	38.75	0.30	38.77	0.26	34.87	0.44	41.64	0.19	42.42	0.14	29.43	0.49
TiO_2	1.66	0.18	0.82	0.09	0.05	0.03	0.30	0.08	0.44	0.15	0.02	0.02	0.15	0.01	0.16	0.01	13.49	0.90
Al_2O_3	10.51	0.81	14.89	0.14	21.41	0.67	20.22	1.17	20.12	0.52	0.07	0.03	17.23	0.18	22.73	0.17	1.20	0.07
EMPA FeO_T	13.57	1.33	8.87	0.24	32.71	0.40	5.35	2.34	5.03	5.00	27.59	0.14	6.84	0.07	9.30	0.06	20.00	0.36
MgO	0.07	0.01	0.07	0.01	5.50	0.22	0.09	0.01	0.08	0.01	0.16	0.32	20.04	0.14	21.11	0.08	0.68	0.07
MnO	1.01	0.30	1.01	0.13	1.18	0.54	0.34	0.09	0.30	0.15	0.02	0.87	0.33	0.03	0.26	0.03	0.30	0.04
CaO	34.07	0.53	34.54	0.17	1.62	0.08	34.28	0.61	34.56	1.27	33.34	11.96	6.54	0.08	3.78	0.05	31.99	0.09
Na_2O	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.05	0.01	0.29	0.02
K_2O	0.00	0.00	0.02	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00
Total	97.80		98.20		99.87		99.34		99.32		96.09		92.78		99.83		97.38	
"True" Fe^{3+}	93		81		0		41		23		100		8		3		76	
FeO MS	0.99		1.69		32.71		3.17		3.86		0.00		6.27		9.00		4.78	
Fe_2O_3 MS	13.99		7.99		0.00		2.42		1.30		30.67		0.63		0.34		16.92	
New Total	99.20		99.00		99.87		99.58		99.45		99.17		92.85		99.86		99.08	

Notes: s.d. = standard deviation. EMPA values are measured by electron microprobe and reported as total FeO. MS = FeO and Fe_2O_3 calculated using Fe^{3+} values from Mössbauer spectroscopy.