Table S1. List of mineral phases found in the rankinite-gehlenite paralava with ellinaite (sample MP-2013-6), Hatrurim Basin, Israel.

Mineral	**Formula**	**Mineral**	**Formula**
Iron (kamacite)	α-(Fe,Ni)	Goethite	FeO(OH)
Taenite	γ-(Fe,Ni)	Anhydrite	$CaSO_4$
Tetrataenite	FeNi	Baryte	$BaSO_4$
Cohenite	Fe_3C	Fluorapatite	$Ca_5(PO_4)_3F$
Troilite	FeS	Calcite	$CaCO_3$
Pyrrhotite	$Fe_{1-x}S$	Wollastonite	$CaSiO_3$
Pyrite	FeS_2	Larnite	α-Ca_2SiO_4
Pentlandite	$(Ni,Fe)_9S_8$	Flamite	α'_L-Ca_2SiO_4 = $(Na,K)Ca_9(SiO_4)_4(PO_4)$
“Gmalimite”	$(K,Ba)_6\square Fe^{2+}{}_{24}S_{27}$	Grossular	$Ca_2Al_3(SiO_4)_3$
Zoharite	$(Ba,K)_6(Fe,Cu,Ni)_{25}S_{27}$	Andradite	$Ca_2Fe_3(SiO_4)_3$
“Ba-Cr-sulfide”	(Ba,Cr)S	“Ca-Fe-silicate”	$Ca_4Fe_2(SiO_4)_3$
“Fe-Ni-As phase”	(Fe,Ni)As	Rankinite	$Ca_3(Si_2O_7)$
“Ni-Fe-As phase”	$(Ni,Fe)_2As$	Gehlenite	$Ca_2Al(AlSiO_7)$
“Ca-Fe-oxysulfide”	$CaFe_3S_2O_5$	Akermanite	$Ca_2Mg(Si_2O_7)$
Wustite	(Fe,Mg)O	Cuspidine	$Ca_4(Si_2O_7)F_2$
Perovskite	$Ca(Ti,Cr,Si,P)O_3$	Thaumasite	$Ca_3(SO_4)[Si(OH)_6](CO_3)\ 12H_2O$
Ellinaite	β-$CaCr_2O_4$	Jennite	$Ca_9(Si_3O_9)_2(OH)_8\ 8H_2O$
Chromite	$(Fe,Mg)Cr_2O_4$	Afwillite	$Ca_3(HSiO_4)_2\ 2H_2O$
Magnesiochromite	$(Mg,Fe)Cr_2O_4$	Tobermorite	$Ca_5Si_6O_{16}(OH)_2\ 4H_2O$
Magnetite	$FeFe_2O_4$	Plombierite	$Ca_5Si_6O_{16}(OH)_2\ 8H_2O$
Hematite	Fe_2O_3	CSH*	calcium silicates hydrated

Identification of mineral phases was based on the EDS, WDS and Raman data (Sharygin, 2019, Sharygin et al., 2019a-b and this work). The names in inverted commas mean poorly identified phases or potentially new mineral species. * Some of Ca-rich secondary minerals were not identified: it mainly concerns to alteration products after larnite-flamite (hydrated calcium silicates) and pyrrhotite. Fe-rich periclase, Mg-rich wustite and poorly identified oxysulfide $Ca_9Fe_{11}S_9O_{13}$ were observed in other samples of the rankinite-gehlenite paralava.

Table S2. Chemical composition (WDS, in wt.%) for essential and minor minerals of the rankinite-gehlenite paralava with ellinaite (sample MP-2013-6), Hatrurim Basin.

Area	EDS spot	Phase	SiO_2	TiO_2	ZrO_2	Cr_2O_3	V_2O_3	Al_2O_3	FeO	MnO	MgO	NiO	CaO	SrO	Na_2O	K_2O	P_2O_5	SO_3	F	Cl	Sum	O-F_2	Sum
M6-3	1	Gh	22.78	0.02	0.00	0.00	0.00	33.94	0.29	0.02	0.30	0.00	41.17	0.00	0.07	0.03	0.06	0.00		0.00	98.69	0.00	98.69
M6-3-2	new	Gh-c	25.43	0.04	0.00	0.00	0.00	31.20	0.54	0.00	1.47	0.00	40.43	0.00	0.27	0.08	0.00	0.00		0.00	99.47	0.00	99.47
M6-3-2	new	Gh-Ak-r	31.70	0.05	0.00	0.00	0.00	21.97	0.70	0.00	4.46	0.04	39.83	0.00	0.84	0.18	0.00	0.00		0.00	99.75	0.00	99.75
M6-8	3	Gh	23.12	0.03	0.00	0.00	0.00	34.07	0.23	0.04	0.51	0.00	41.20	0.00	0.05	0.00	0.10	0.00		0.00	99.34	0.00	99.34
M6-n6	1	Gh	22.74	0.00	0.00	0.00	0.00	34.50	0.29	0.00	0.44	0.00	41.08	0.00	0.06	0.00	0.00	0.00		0.00	99.12	0.00	99.12
M6-n7	1	Gh-Ak-r	30.89	0.22	0.00	0.00	0.00	23.01	0.50	0.00	4.73	0.00	39.51	0.00	0.97	0.10	0.00	0.00		0.00	99.93	0.00	99.93
M6-3	2	Ran	41.59	0.08	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	58.35	0.00	0.00	0.00	0.16	0.00		0.00	100.34	0.00	100.34
M6-3-2	16	Ran	41.51	0.08	0.00	0.00	0.00	0.00	0.17	0.00	0.07	0.00	58.25	0.00	0.06	0.00	0.21	0.00		0.00	100.35	0.00	100.35
M6-4		Ran	41.84	0.06	0.00	0.00	0.00	0.00	0.14	0.00	0.08	0.00	58.05	0.00	0.00	0.00	0.20	0.00		0.00	100.38	0.00	100.38
M6-n6	11	Ran	41.38	0.20	0.00	0.00	0.00	0.00	0.15	0.00	0.08	0.00	58.27	0.00	0.00	0.00	0.18	0.00		0.00	100.26	0.00	100.26
M6-8	2	Ran	41.39	0.21	0.00	0.00	0.00	0.00	0.05	0.00	0.07	0.00	58.39	0.00	0.00	0.00	0.19	0.00		0.00	100.30	0.00	100.30
M6-5-new	2	Lar	32.15	0.00	0.00	0.00	0.00	0.32	0.05	0.00	0.02	0.00	63.63	0.00	0.66	0.34	2.77	0.00		0.00	98.94	0.00	98.94
M6-5-new	3	Lar	32.37	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.02	0.00	63.87	0.00	0.57	0.33	3.02	0.00		0.00	100.23	0.00	100.23
M6-5-new	9	Lar	32.35	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.02	0.00	63.80	0.00	0.73	0.35	2.91	0.00		0.00	100.39	0.00	100.39
MP6-n7	11	Lar	31.36	0.00	0.00	0.00	0.00	0.15	0.02	0.00	0.02	0.00	62.26	0.00	0.71	0.46	4.61	0.00		0.00	99.59	0.00	99.59
M6-3	3	Flm	28.68	0.00	0.00	0.00	0.00	0.06	0.48	0.00	2.20	0.00	58.23	0.00	0.77	0.37	8.51	0.22		0.16	99.68	0.00	99.68
M6-2	16	Flm	28.94	0.00	0.00	0.00	0.00	0.11	0.20	0.00	0.96	0.00	58.13	0.00	1.04	0.55	7.68	0.34		0.39	98.34	0.00	98.34
M6-2	5	Flm	27.01	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.16	0.00	59.17	0.00	1.09	0.64	10.34	0.13		0.15	98.77	0.00	98.77
M6-2	8	Cus	32.08	1.26	0.12	0.00	0.00	0.00	0.00	0.00	0.12	0.00	60.40	0.00	0.08	0.00	0.36	0.00	9.74	0.00	104.16	4.10	100.06
M6-2	15	Cus	31.65	1.28	0.06	0.00	0.00	0.00	0.04	0.00	0.10	0.00	60.30	0.00	0.02	0.00	0.72	0.00	9.72	0.00	103.89	4.09	99.80
M6-1	15	Ap	3.14	0.00	0.00	0.00	0.03	0.00	0.37	0.00	0.00	0.00	55.19	0.08	0.00	0.00	39.05	0.10	3.33	0.00	101.28	1.40	99.88
M6-n1	3	Ap-c	3.59	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	55.10	0.24	0.03	0.00	39.60	0.07	3.59	0.00	102.26	1.51	100.75
M6-n1	4	Ap-r	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	55.22	0.23	0.00	0.00	40.53	0.10	3.44	0.00	101.88	1.45	100.43
M6-3-2	9	Ap	3.25	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.00	55.41	0.00	0.00	0.00	39.54	0.13	3.03	0.00	101.71	1.28	100.44

Symbols: Gh – gehlenite; Ak – akermanite; Ran – rankinite; Flm – flamite; Cus – cuspidine; Ap – fluorapatite; Si-Prv – Si-rich perovskite; Mg-Crt – magnesiochromite; Crt – chromite; Mgt – magnetite; Wu – wustite; c, r – core, rim of grain. F is determined by EDS.

Table S2 (cont.). Chemical composition (WDS, in wt.%) for essential and minor minerals of the rankinite-gehlenite paralava with ellinaite (sample MP-2013-6), Hatrurim Basin.

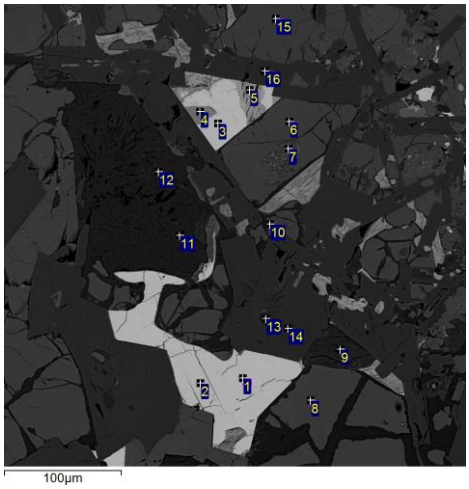
Area	EDS spot	Phase	SiO_2	TiO_2	ZrO_2	Cr_2O_3	V_2O_3	Al_2O_3	FeO	MnO	MgO	NiO	CaO	SrO	Na_2O	K_2O	P_2O_5	SO_3	F	Cl	Sum	O-F_2	Sum
M6-n1	5	Si-Prv	5.07	44.81	0.00	1.61	1.62	0.79	0.23	0.00	0.46	0.00	42.94	0.00	0.14	0.05	0.74	0.00		0.00	98.46	0.00	98.46
M6-n1	6	Si-Prv	5.76	44.20	0.05	1.62	1.73	0.89	0.18	0.00	0.47	0.00	43.13	0.00	0.15	0.05	0.76	0.00		0.00	99.00	0.00	99.00
M6-n1	7,12	Si-Prv	4.55	45.98	0.00	1.71	1.71	0.90	0.19	0.00	0.40	0.00	42.30	0.09	0.11	0.04	0.41	0.00		0.00	98.39	0.00	98.39
M6-n1	8	Si-Prv	7.22	40.87	0.37	1.95	1.80	1.29	0.26	0.00	0.98	0.00	42.56	0.00	0.09	0.03	0.71	0.00		0.00	98.13	0.00	98.13
M6-n1	9	Si-Prv	6.35	42.06	0.17	1.74	1.63	1.13	0.17	0.03	0.71	0.00	42.85	0.00	0.18	0.03	0.97	0.00		0.00	98.03	0.00	98.03
M6-3	10	Si-Prv	9.74	37.61	0.15	1.71	1.46	1.34	0.26	0.00	1.10	0.00	45.04	0.00	0.38	0.13	1.38	0.00		0.00	100.31	0.00	100.31
M6-3-2	20	Si-Prv	8.49	39.48	0.22	2.21	1.72	1.26	0.22	0.04	1.01	0.00	44.68	0.00	0.23	0.06	0.71	0.00		0.00	100.34	0.00	100.34
M6-2	3	Si-Prv	9.27	38.97	0.00	1.76	1.68	1.21	0.33	0.00	1.04	0.00	44.67	0.00	0.32	0.07	1.50	0.00		0.00	100.82	0.00	100.82
M6-11-2	7,8,9	Si-Prv	8.18	40.30	0.15	2.65	1.79	1.48	0.51	0.00	0.99	0.00	41.42	0.00	0.46	0.04	0.67	0.00		0.00	98.64	0.00	98.64
M6-11-2	2	Si-Prv	10.33	36.03	0.10	2.50	1.92	1.38	0.40	0.00	1.37	0.00	44.37	0.00	0.28	0.12	1.05	0.00		0.00	99.85	0.00	99.85
M6-11-2	3	Si-Prv	8.41	40.21	0.05	2.76	1.89	1.42	0.39	0.00	1.06	0.00	42.20	0.00	0.33	0.04	0.95	0.00		0.00	99.72	0.00	99.72
M6-11-2	4	Si-Prv	8.78	39.05	0.40	2.70	1.93	1.46	0.41	0.00	1.15	0.00	41.94	0.00	0.33	0.05	0.75	0.00		0.00	98.96	0.00	98.96
M6-8	7	Si-Prv	9.27	38.44	0.24	2.45	1.68	1.41	0.18	0.00	1.04	0.00	44.37	0.00	0.30	0.07	1.04	0.00		0.00	100.51	0.00	100.51
M6-8	8	Si-Prv	9.09	38.80	0.14	2.44	1.60	1.43	0.13	0.00	1.23	0.00	44.35	0.00	0.29	0.10	0.95	0.00		0.00	100.54	0.00	100.54
M6-n6	8,7	Mg-Crt	0.17	2.20	0.00	61.95	7.38	1.45	16.30	0.49	9.17	0.00	0.45	0.00	0.00	0.00	0.00	0.00		0.00	99.57	0.00	99.57
M6-n6	3	Mg-Crt	0.20	2.27	0.00	61.32	8.26	1.22	16.56	0.52	9.26	0.00	0.58	0.00	0.00	0.00	0.00	0.00		0.00	100.21	0.00	100.19
M6-n7	5	Mg-Crt	0.24	3.24	0.00	62.29	8.61	0.87	10.61	0.50	13.33	0.00	0.56	0.00	0.00	0.00	0.00	0.00		0.00	100.25	0.00	100.25
M6-11-1	4	Crt	0.00	2.38	0.00	64.29	3.90	1.09	25.17	0.44	3.08	0.00	0.22	0.00	0.00	0.00	0.00	0.00		0.00	100.58	0.00	100.58
M6-11-1	3	Crt	0.00	1.52	0.00	62.21	3.31	3.45	25.23	0.46	3.78	0.00	0.22	0.00	0.00	0.00	0.00	0.00		0.00	100.18	0.00	100.18
MP6-n1-2	13	Wu	0.00	0.00	0.00	0.00	0.00	0.00	99.99	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00		0.00	100.25	0.00	100.25
MP6-n1-2	14	Wu	0.00	0.00	0.00	0.00	0.00	0.00	99.59	0.00	0.68	0.00	0.23	0.00	0.00	0.00	0.00	0.00		0.00	100.50	0.00	100.50
MP6-n1-3	13	Wu	0.00	0.00	0.00	0.00	0.00	0.00	99.87	0.00	0.18	0.00	0.21	0.00	0.00	0.00	0.00	0.00		0.00	100.26	0.00	100.26
M6-11-1	2	Mgt	0.00	0.37	0.00	2.99	0.22	2.22	86.82	0.12	0.53	0.15	0.63	0.00	0.00	0.00	0.00	0.00		0.00	94.05	0.00	94.05

Symbols: Gh – gehlenite; Ak – akermanite; Ran – rankinite; Flm – flamite; Cus – cuspidine; Ap – fluorapatite; Si-Prv – Si-rich perovskite; Mg-Crt – magnesiochromite; Crt – chromite; Mgt – magnetite; Wu – wustite; c, r – core, rim of grain. F is determined by EDS.

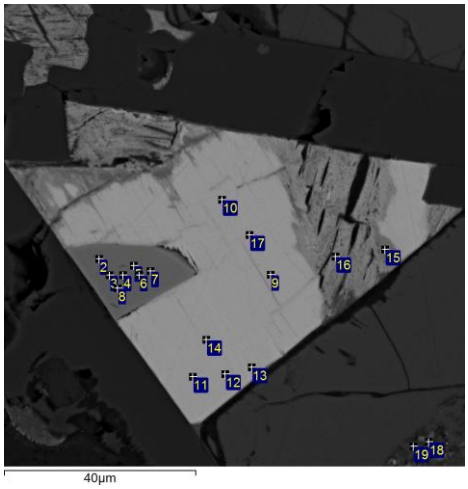
Table S3. Variations of chemical composition (in wt.%) for the ellinaite-1 grain from rankinite-gehlenite paralava (sample MP-2013-6), Hatrurim Basin.

Method	Picture	EDS spot	TiO_2 total	Cr_2O_3	V_2O_3	Al_2O_3	FeO	MnO	MgO	CaO	Na_2O	Sum	Sum oxy	Ti^{3+}	Ti^{4+}	Ti_2O_3 calc.	TiO_2 calc.	Sum
	ideal $CaCr_2O_4$			73.05						26.95		100.00	8.000					100.00
EDS	MP-6-4	4	3.52	62.63	6.66	0.60	0.48	0.00		26.11	0.15	100.15	8.091	0.091	0.000	3.17	0.00	99.80
EDS	MP-6-4 2	2	3.65	61.69	7.16	0.77	0.49	0.00		26.11	0.15	100.02	8.094	0.094	0.001	3.26	0.02	99.66
EDS	MP-6-4 2	3	3.54	61.79	7.44	0.74	0.46	0.04		26.16	0.15	100.32	8.092	0.092	0.000	3.19	0.00	99.97
EDS	MP-6-4 2	4	3.62	62.04	7.19	0.89	0.50	0.00		25.92	0.31	100.47	8.084	0.084	0.009	2.94	0.35	100.14
EDS	MP-6-4 2	5	3.22	62.67	6.71	0.60	0.54	0.00		26.12	0.15	100.01	8.081	0.081	0.003	2.79	0.12	99.70
EDS	MP-6-4 2	6	3.44	62.51	6.80	0.67	0.48	0.03		26.12	0.15	100.20	8.089	0.089	0.000	3.08	0.01	99.86
EDS	MP-6-4 2	7	2.87	63.31	6.69	0.66	0.64	0.00		26.08	0.15	100.40	8.074	0.074	0.001	2.56	0.02	100.12
EDS	MP-6-4 2	8	3.49	62.00	7.56	0.72	0.66	0.00		26.15	0.15	100.73	8.090	0.090	0.000	3.13	0.02	100.38
EDS	M6-4-new	3	2.65	63.24	7.55	0.63	0.49	0.00	0.00	26.04	0.26	100.86	8.064	0.064	0.004	2.24	0.16	100.61
EDS	M6-4-new	4	2.75	61.95	7.91	0.64	0.37	0.00	0.00	26.20	0.15	99.97	8.071	0.071	0.001	2.45	0.03	99.70
EDS	M6-4-new	5	3.00	62.55	7.52	0.72	0.45	0.00	0.00	25.80	0.27	100.31	8.077	0.077	0.001	2.67	0.03	100.01
EDS	M6-4-new	6	3.55	62.22	7.11	0.78	0.37	0.00	0.00	25.97	0.23	100.23	8.092	0.092	0.000	3.19	0.01	99.88
EDS	M6-4-new	7	3.62	62.38	6.87	0.66	0.42	0.00	0.00	26.00	0.20	100.15	8.094	0.094	0.000	3.25	0.01	99.79
EDS	M6-4-new	8	3.40	62.74	6.87	0.58	0.55	0.00	0.00	25.97	0.19	100.30	8.088	0.088	0.001	3.04	0.03	99.96
EDS	M6-4-new	9	2.65	63.56	6.68	0.72	0.59	0.00	0.00	26.06	0.22	100.48	8.063	0.063	0.006	2.18	0.23	100.24
EDS	M6-4-new	10	2.50	63.81	6.66	0.66	0.64	0.03	0.00	25.99	0.20	100.49	8.061	0.061	0.003	2.13	0.13	100.25
EDS	M6-4-new	11	2.35	63.63	6.56	0.53	0.75	0.03	0.00	25.87	0.15	99.87	8.059	0.059	0.003	2.02	0.10	99.65
EDS	M6-4-new	12	1.97	63.88	6.55	0.49	0.76	0.01		25.93	0.18	99.77	8.042	0.042	0.009	1.46	0.35	99.61
WDS	M6-4-new	12	2.10	63.97	6.67	0.40	0.88	0.01	0.00	26.13	0.16	100.32	8.042	0.042	0.012	1.47	0.47	100.16
WDS	M6-4-new	10,11	2.31	63.60	6.60	0.40	0.71	0.03	0.00	26.19	0.15	99.99	8.048	0.048	0.012	1.67	0.45	99.81
WDS	M6-4-new	8,9	2.73	63.20	6.94	0.47	0.61	0.00	0.00	26.24	0.19	100.39	8.060	0.060	0.011	2.08	0.42	100.16
WDS	M6-4-new	7	3.07	63.02	6.84	0.51	0.53	0.00	0.02	26.24	0.11	100.34	8.079	0.079	0.000	2.76	0.01	100.03
WDS	M6-4-new	6	3.57	62.19	7.21	0.61	0.53	0.00	0.00	26.33	0.15	100.59	8.088	0.088	0.005	3.05	0.18	100.25
WDS	M6-4-new	5	3.43	62.13	7.43	0.57	0.48	0.04	0.00	26.18	0.18	100.44	8.085	0.085	0.004	2.94	0.16	100.11
WDS	M6-4-new	4	2.69	62.24	7.97	0.57	0.48	0.00	0.00	26.51	0.08	100.54	8.069	0.069	0.001	2.39	0.04	100.27
WDS	M6-4-new	3	2.82	62.03	8.11	0.57	0.45	0.00	0.00	26.47	0.09	100.54	8.073	0.073	0.000	2.53	0.01	100.26
WDS	M6-4-new	new	3.28	61.74	7.82	0.62	0.49	0.00	0.00	26.18	0.14	100.27	8.085	0.085	0.000	2.96	0.00	99.94
WDS	M6-4-new	new	4.08	61.38	7.64	0.66	0.56	0.00	0.00	26.10	0.18	100.60	8.104	0.104	0.001	3.63	0.05	100.19
WDS	M6-4-new	new	4.51	60.72	7.43	0.78	0.65	0.03	0.03	25.96	0.15	100.26	8.117	0.117	0.000	4.05	0.01	99.81
WDS	M6-4-new	new	4.71	60.64	7.45	0.68	0.69	0.03	0.02	25.98	0.14	100.34	8.122	0.122	0.000	4.23	0.01	99.87
WDS	M6-4-new	new	3.86	61.96	7.53	0.63	0.52	0.03	0.00	26.17	0.18	100.89	8.099	0.099	0.001	3.44	0.04	100.51
WDS	M6-4-new	new	3.59	62.46	7.16	0.61	0.63	0.00	0.00	26.10	0.27	100.82	8.080	0.080	0.012	2.81	0.47	100.50
WDS	M6-4-new	new	3.04	61.53	7.66	0.61	0.50	0.00	0.01	26.49	0.14	99.97	8.065	0.065	0.014	2.26	0.53	99.72
WDS	M6-4-new	new	3.30	62.61	7.04	0.67	0.56	0.00	0.00	26.38	0.15	100.71	8.080	0.080	0.006	2.77	0.22	100.40
WDS	M6-4-new	new	3.38	62.13	7.45	0.65	0.47	0.00	0.01	26.38	0.16	100.64	8.082	0.082	0.006	2.85	0.22	100.32
WDS	M6-4-new	new	3.54	62.54	7.12	0.58	0.55	0.00	0.00	26.02	0.19	100.55	8.091	0.091	0.000	3.18	0.01	100.19
WDS	M6-4-new	new	3.20	62.55	6.92	0.54	0.64	0.03	0.00	26.01	0.17	100.06	8.078	0.078	0.005	2.70	0.20	99.75
WDS	M6-4-new	new	2.31	63.60	6.80	0.47	0.81	0.00	0.01	26.16	0.07	100.22	8.059	0.059	0.001	2.04	0.04	100.00
	Ellinaite-1	*n=38*	3.19	62.50	7.17	0.62	0.56	0.01	0.00	26.13	0.17	100.35	8.079	0.079	0.004	2.75	0.14	100.04
		sd	0.61	0.82	0.44	0.10	0.12	0.01	0.01	0.17	0.05					0.71	0.19	
		min	1.97	60.64	6.55	0.40	0.37	0.00	0.00	25.87	0.07					1.47	0.00	
		max	4.71	63.97	8.11	0.89	0.88	0.04	0.03	26.51	0.31					4.23	0.53	

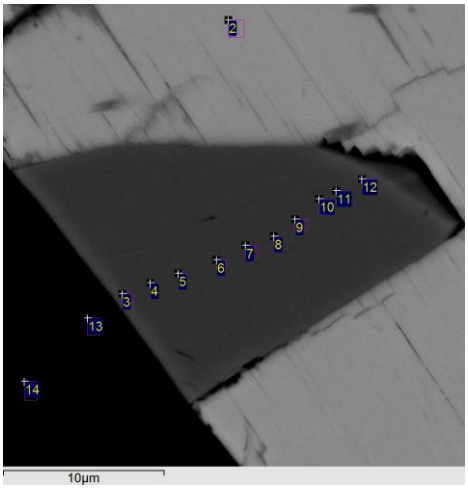
SiO_2, NiO and SrO are below detection limits (<0.005 wt.%). Formula based on 3 cations and 4 oxygens. Ti_2O_3 and TiO_2 are calculated by charge balance.



MP-6-4 – BSE image



MP-6-4 2 – BSE image

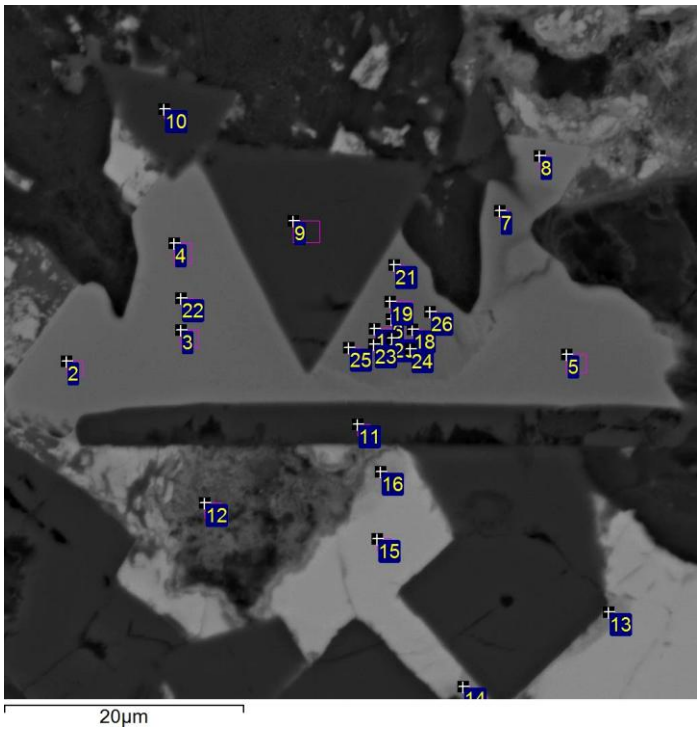


M6-4-new – BSE image

Table S4. Variations of chemical composition (in wt.%) for the ellinaite-2 grain from rankinite-gehlenite paralava (sample MP-2013-6), Hatrurim Basin.

Method	Picture	EDS spot	TiO_2 total	Cr_2O_3	V_2O_3	Al_2O_3	FeO	MnO	MgO	CaO	Na_2O	Sum	Sum oxy	Ti^{3+}	Ti^{4+}	Ti_2O_3 calc.	TiO_2 calc.	Sum
	ideal $CaCr_2O_4$			73.05						26.95		100.00	8.000					100.00
EDS	MP-13-6-4 2	6	1.17	68.07	4.37	0.32	0.85	0.00	0.50	25.08	0.22	100.58	8.028	0.028	0.002	0.97	0.09	100.47
EDS	MP-13-6-4 2	17	0.97	67.40	4.87	0.32	0.32	0.09	0.00	26.23	0.16	100.36	8.023	0.023	0.002	0.82	0.06	100.27
EDS	MP-13-6-4 2	18	1.20	67.77	4.49	0.36	0.85	0.00	0.28	25.30	0.21	100.46	8.031	0.031	0.000	1.08	0.00	100.34
EDS	MP-13-6-4 2	19	1.27	67.96	4.46	0.30	0.82	0.00	0.32	25.16	0.25	100.54	8.032	0.032	0.001	1.12	0.02	100.41
EDS	MP-13-6-4 2	20	1.20	68.02	4.40	0.40	0.45	0.00	0.41	25.50	0.22	100.60	8.030	0.030	0.001	1.05	0.03	100.48
EDS	MP-13-6-4 2	21	1.03	67.60	4.33	0.47	0.30	0.00	0.00	26.09	0.19	100.01	8.027	0.027	0.000	0.93	0.00	99.91
EDS	MP-13-6-4 2	23	0.92	67.38	4.94	0.26	0.39	0.00	0.00	26.17	0.21	100.27	8.018	0.018	0.006	0.61	0.24	100.20
EDS	MP-13-6-4 2	24	1.28	67.98	4.40	0.38	0.70	0.00	0.38	25.31	0.25	100.68	8.030	0.030	0.003	1.04	0.12	100.56
EDS	MP-13-6-4 2	25	0.93	66.43	5.49	0.26	0.66	0.00	0.20	26.01	0.16	100.14	8.012	0.012	0.012	0.42	0.47	100.09
EDS	MP-13-6-4 2	26	1.33	67.79	4.19	0.38	0.56	0.05	0.23	25.60	0.23	100.36	8.030	0.030	0.004	1.04	0.17	100.24
	Ellinaite-2	*n=10*	1.13	67.64	4.59	0.35	0.59	0.01	0.23	25.65	0.21	100.40	8.026	0.026	0.003	0.91	0.12	100.30
		sd	0.15	0.49	0.39	0.07	0.22	0.03	0.18	0.44	0.03					0.23	0.14	
		min	0.92	66.43	4.19	0.26	0.30	0.00	0.00	25.08	0.00					0.42	0.00	
		max	1.33	68.07	5.49	0.47	0.85	0.09	0.50	26.23	0.25					1.12	0.47	

SiO_2, NiO and SrO are below detection limits (<0.005 wt.%). Formula based on 3 cations and 4 oxygens. Ti_2O_3 and TiO_2 are calculated by charge balance.



MP-13-6-4 2 – BSE image