

Supplementary Materials

Formation of fluorapatite in the equilibrium system CaO–P₂O₅–HF–H₂O at 298 K in a nitrogen atmosphere

Marina V. Chaikina¹, Natalia V. Bulina^{1,*}, Igor Yu. Prosanov¹, Arcady V. Ishchenko²

¹ Institute of Solid State Chemistry and Mechanochemistry, Siberian Branch of Russian Academy of Sciences

² G.K. Boreskov Institute of Catalysis, Siberian Branch of Russian Academy of Sciences

* Correspondence: bulina@solid.nsc.ru

Table S1. EDX analysis of element composition of the crystals. The data was obtained using a scanning electron micro-scope (SEM) Hitachi 3400N with energy dispersive X-ray attachment for element analysis.



Crystal 1:

Region #1	Ca	P	F	O	C	Si		Cl		Cu	Sum
at%	21.31	11.23	4.01	58.61	4.30	0.25		0.07		0.20	99.98
wt%	37.30	15.19	3.33	40.95	2.26	0.31		0.11		0.56	100.01

Region #2	Ca	P	F	O	C	Si	Na	Nb			Sum
at%	19.60	11.20	3.74	59.42	5.62	0.19	0.19	0.04			100.00
wt%	35.13	15.52	3.18	42.53	3.02	0.24	0.20	0.18			100.00

Region #3	Ca	P	F	O	C	Si		Cl			Sum
at%	20.24	11.38	3.25	59.59	5.29	0.16		0.09			100.00
wt%	36.06	15.67	2.74	42.37	2.82	0.20		0.14			100.00

Crystal 2:

Region #1	Ca	P	F	O	C	Si				Cu	Sum
at%	21.66	10.97	4.12	58.35	4.33	0.21				0.37	100.01
wt%	37.73	14.77	3.40	40.57	2.26	0.26				1.01	100.00

Region #2	Ca	P	F	O	C	Si	Na	B	Fe	Cu	Sum
at%	19.20	10.21	3.96	58.68	4.15	0.17	0.22	3.27	0.10	0.32	100.28
wt%	34.73	14.28	3.17	42.38	2.25	0.21	0.23	1.60	0.25	0.92	100.02

Region #3	Ca	P	F	O	C	Si		Pb	Nb	Cu	Sum
at%	19.06	10.98	4.35	59.14	6.09	0.16		0.00	0.01	0.21	100.00

wt%	34.33	15.29	3.72	42.53	3.29	0.20		0.00	0.02	0.61	99.99
-----	-------	-------	------	-------	------	------	--	------	------	------	-------

Crystal 3:

Region #1	Ca	P	F	O	C			Fe	Nb	Cu	Sum
at%	19.37	11.38	3.99	59.34	5.55			0.16	0.04	0.17	100.00
wt%	34.60	15.71	3.38	42.31	2.97			0.40	0.15	0.47	99.99

Region #2	Ca	P	F	O	C	Si				Cu	Sum
at%	20.59	11.11	4.46	58.53	4.75	0.26				0.30	100.00
wt%	36.29	15.14	3.73	41.18	2.51	0.32				0.83	100.00

Region #3	Ca	P	F	O	C	Si				Cu	Sum
at%	20.94	10.73	4.71	58.16	4.82	0.29				0.36	100.01
wt%	36.81	14.58	3.92	40.81	2.54	0.35				0.99	100.00