APPENDIX TABLE 3a. Annealing data for apatite AY

					Measured		Fitted			Modeled	
t (h)	*T* (°C)	Run	n	Cf	l_m (μm)	σ_m	l_c (μm)	l_a (μm)	σ_e	$l_{c,mod}$ (μm)	$\sigma_{c,mod}$
		0	110	n	16.30 (07)	0.73	16.33 (19)	16.28 (12)	0.73	16.55 (05)	0.54
1	150	64	113	n	16.07 (08)	0.87	16.34 (22)	15.96 (11)	0.86	16.43 (06)	0.61
1	350	*63	117	y	9.37 (19)	2.01	11.42 (20)	8.42 (17)	0.92	11.78 (05)	0.54
1	350	63	111	n	9.05 (23)	2.37	11.97 (25)	8.77 (17)	0.85	12.00 (05)	0.57
10	200	65	110	n	15.27 (08)	0.80	16.33 (24)	14.88 (11)	0.72	15.89 (05)	0.50
100	75	55	112	n	16.18 (08)	0.80	16.69 (21)	15.94 (12)	0.78	16.50 (05)	0.54
100	125	68	111	n	15.92 (08)	0.83	16.41 (21)	15.71 (11)	0.81	16.32 (05)	0.57
100	175	69	111	n	15.37 (07)	0.71	15.33 (22)	15.38 (12)	0.71	15.92 (05)	0.51
100	225	70	112	n	14.28 (08)	0.87	15.66 (22)	13.69 (11)	0.72	15.19 (05)	0.53
100	250	50	110	n	13.31 (08)	0.82	14.44 (20)	12.67 (12)	0.66	14.43 (04)	0.47
100	275	71	95	n	11.11 (10)	0.97	12.83 (26)	10.34 (12)	0.74	12.98 (05)	0.48
1000	100	59	110	n	16.05 (07)	0.78	16.28 (23)	15.95 (12)	0.78	16.41 (05)	0.54
1000	275	*66	110	y	8.07 (21)	2.23	10.96 (29)	6.93 (27)	0.89	11.13 (05)	0.50
1000	275	**66	17	n	8.05 (72)	2.88	10.25 (60)	9.81 (51)	0.36	11.21 (10)	0.42

APPENDIX TABLE 3b. Annealing data for apatite B2

					Measured		Fitted			Modeled	
t (h)	*T* (°C)	Run	n	Cf	l_m (μm)	σ_m	l_c (μm)	l_a (μm)	σ_e	$l_{c,mod}$ (μm)	$\sigma_{c,mod}$
		0	110	n	16.99 (07)	0.75	17.35 (18)	16.80 (11)	0.73	17.07 (05)	0.54
1	150	64	111	n	16.60 (08)	0.81	17.00 (15)	16.31 (12)	0.78	16.78 (06)	0.58
1	350	63	115	y	13.15 (08)	0.89	13.98 (20)	12.77 (10)	0.83	14.38 (05)	0.58
1	350	63	111	n	13.11 (09)	0.97	14.27 (17)	12.45 (11)	0.79	14.29 (06)	0.61
10	200	65	110	n	16.02 (08)	0.84	16.30 (16)	15.85 (11)	0.83	16.36 (06)	0.61
100	75	55	110	n	16.89 (08)	0.86	17.29 (15)	16.63 (11)	0.83	17.00 (06)	0.62
100	125	68	110	n	16.48 (08)	0.80	16.65 (15)	16.38 (11)	0.79	16.69 (06)	0.61
100	175	69	109	n	16.10 (07)	0.75	16.30 (16)	15.98 (12)	0.74	16.41 (05)	0.53
100	225	70	110	n	15.25 (07)	0.77	15.32 (20)	15.22 (11)	0.77	15.84 (05)	0.55
100	250	50	109	n	14.67 (09)	0.91	15.35 (15)	14.22 (11)	0.83	15.37 (06)	0.63
100	275	71	111	n	14.15 (09)	0.96	15.20 (19)	13.66 (10)	0.84	15.08 (06)	0.59
1000	100	59	111	n	16.52 (08)	0.82	16.86 (15)	16.28 (11)	0.80	16.72 (06)	0.60
1000	275	66	109	y	13.01 (10)	1.01	14.02 (18)	12.46 (11)	0.89	14.23 (06)	0.64
1000	275	66	110	n	13.05 (09)	0.97	13.60 (15)	12.64 (11)	0.91	14.14 (07)	0.71

APPENDIX Table 3c. Annealing data for apatite FC

					Measured		Fitted			Modeled	
t (h)	*T* (°C)	Run	n	Cf	l_m (μm)	σ_m	l_c (μm)	l_a (μm)	σ_e	$l_{c,mod}$ (μm)	$\sigma_{c,mod}$
		0	102	n	16.38 (09)	0.87	16.80 (21)	16.20 (11)	0.85	16.64 (06)	0.59
1	150	64	105	n	16.16 (08)	0.78	16.39 (20)	16.06 (11)	0.77	16.48 (05)	0.53
1	350	63	111	y	11.14 (11)	1.12	13.47 (34)	10.47 (10)	0.96	13.16 (06)	0.61
1	350	**63	5	n	11.28 (60)	1.20	12.95 (79)	10.55 (43)	0.70	13.14 (19)	0.42
10	200	65	110	n	15.27 (09)	0.92	15.68 (21)	15.10 (10)	0.90	15.87 (06)	0.65
100	75	55	110	n	16.26 (08)	0.86	16.55 (21)	16.14 (11)	0.85	16.56 (06)	0.59
100	125	68	110	n	16.02 (08)	0.81	16.52 (22)	15.79 (12)	0.79	16.39 (05)	0.57
100	175	69	112	n	15.30 (08)	0.83	15.99 (19)	14.96 (11)	0.78	15.87 (05)	0.57
100	225	70	111	n	14.49 (08)	0.82	15.03 (19)	14.23 (11)	0.78	15.30 (05)	0.55
100	250	50	110	n	13.74 (09)	0.93	14.62 (18)	13.30 (11)	0.84	14.77 (06)	0.61
100	275	71	107	n	12.92 (11)	1.09	14.07 (23)	12.42 (11)	1.01	14.25 (06)	0.63
1000	100	59	110	n	15.91 (08)	0.80	16.33 (20)	15.72 (11)	0.78	16.31 (05)	0.56
1000	275	66	100	y	11.09 (12)	1.19	12.67 (20)	10.08 (12)	0.95	12.83 (07)	0.66
1000	275	66	110	n	10.79 (12)	1.25	12.35 (19)	9.99 (10)	1.04	12.76 (06)	0.60

TABLE 3d. Annealing data for apatite KP

					Measured		Fitted			Modeled	
t (h)	T (°C)	Run	n	Cf	l_m (μm)	σ_m	l_c (μm)	l_a (μm)	σ_e	$l_{c,mod}$ (μm)	$\sigma_{c,mod}$
		0	37	n	16.15 (12)	0.73	16.13 (31)	16.16 (20)	0.73	16.45 (09)	0.52
1	150	64	110	n	15.88 (09)	0.91	16.17 (18)	15.73 (11)	0.90	16.27 (06)	0.65
1	350	63	109	y	11.41 (10)	1.04	12.28 (17)	10.90 (11)	0.95	13.08 (07)	0.71
1	350	**63	8	n	10.80 (38)	1.00	11.50 (99)	10.37 (60)	0.98	12.69 (25)	0.70
10	200	65	113	n	15.55 (09)	0.99	16.41 (18)	15.03 (12)	0.92	16.04 (06)	0.68
100	75	55	113	n	15.74 (08)	0.89	16.21 (16)	15.43 (11)	0.85	16.15 (06)	0.62
100	125	68	116	n	15.49 (09)	0.99	15.92 (16)	15.22 (11)	0.97	15.97 (07)	0.72
100	175	69	111	n	15.00 (08)	0.81	15.28 (17)	14.82 (12)	0.80	15.62 (06)	0.59
100	225	70	111	n	14.83 (08)	0.85	15.44 (16)	14.44 (11)	0.79	15.50 (06)	0.58
100	250	50	35	n	13.44 (16)	0.94	13.95 (28)	13.08 (21)	0.90	14.45 (12)	0.69
100	275	71	105	y	12.89 (10)	1.02	13.52 (17)	12.48 (12)	0.97	14.09 (07)	0.69
100	275	71	32	n	12.77 (19)	1.07	14.00 (33)	12.12 (19)	0.89	14.07 (11)	0.64
1000	100	59	112	n	15.90 (10)	1.03	16.44 (16)	15.56 (11)	0.99	16.28 (07)	0.72
1000	275	66	119	y	11.64 (11)	1.15	13.10 (17)	10.72 (11)	0.93	13.21 (06)	0.66
1000	275	66	25	n	11.60 (17)	0.82	11.91 (33)	11.38 (25)	0.80	13.12 (15)	0.76

APPENDIX TABLE 3e. Annealing data for apatite OL

					Measured		Fitted			Modeled	
t (h)	T (°C)	Run	n	Cf	l_m (μm)	σ_m	l_c (μm)	l_a (μm)	σ_e	$l_{c,mod}$ (μm)	$\sigma_{c,mod}$
		0	110	n	16.42 (07)	0.75	16.50 (23)	16.38 (12)	0.75	16.65 (05)	0.52
1	150	64	110	n	16.03 (08)	0.80	16.28 (21)	15.91 (12)	0.79	16.38 (05)	0.57
1	350	63*	112	y	8.28 (17)	1.85	9.41 (16)	8.15 (50)	2.09	10.24 (06)	0.66
1	350	63	7	n	5.03 (97)	2.37	0.00 (00)	0.00 (00)		10.56 (09)	0.23
10	200	65	110	n	15.22 (08)	0.80	16.18 (25)	14.88 (11)	0.74	15.86 (05)	0.53
100	75	55	111	n	16.11 (08)	0.88	16.23 (26)	16.07 (11)	0.88	16.46 (06)	0.60
100	125	68	110	n	15.81 (08)	0.82	16.00 (21)	15.72 (11)	0.82	16.23 (06)	0.58
100	175	69	113	n	15.37 (07)	0.75	16.16 (23)	15.05 (11)	0.70	15.95 (05)	0.51
100	225	70	111	n	13.93 (07)	0.73	14.78 (28)	13.61 (12)	0.69	14.97 (04)	0.47
100	250	50	110	n	12.44 (08)	0.85	13.71 (23)	11.94 (10)	0.72	13.93 (05)	0.49
100	275	*71	114	y	9.69 (18)	1.97	11.56 (24)	9.40 (22)	0.85	12.14 (06)	0.59
100	275	71	111	n	9.88 (18)	1.90	12.44 (26)	9.15 (19)	0.81	12.29 (05)	0.54
1000	100	59	112	n	15.90 (08)	0.86	16.05 (20)	15.83 (11)	0.85	16.29 (06)	0.60
1000	275	66	0	y	0.00 (00)		0.00 (00)	0.00 (00)		0.00 (00)	

APPENDIX TABLE 3f. Annealing data for apatite PC

					Measured		Fitted			Modeled	
t (h)	T (°C)	Run	n	Cf	l_m (μm)	σ_m	l_c (μm)	l_a (μm)	σ_e	$l_{c,mod}$ (μm)	$\sigma_{c,mod}$
		0	103	n	16.14 (08)	0.82	16.08 (19)	16.18 (12)	0.82	16.44 (06)	0.60
1	150	64	110	n	15.76 (09)	0.89	16.07 (20)	15.61 (11)	0.89	16.20 (06)	0.63
1	350	63	110	y	12.57 (09)	0.90	13.45 (17)	12.00 (12)	0.80	13.86 (06)	0.59
1	350	63	110	n	12.42 (09)	0.91	13.52 (22)	11.82 (12)	0.80	13.82 (05)	0.55
10	200	65	111	n	14.98 (07)	0.73	15.40 (19)	14.76 (11)	0.71	15.63 (05)	0.51
100	75	55	109	n	15.97 (08)	0.84	16.14 (16)	15.86 (12)	0.83	16.31 (06)	0.63
100	125	68	110	n	15.51 (07)	0.76	16.01 (20)	15.27 (11)	0.73	16.02 (05)	0.52
100	175	69	110	n	15.16 (07)	0.76	15.55 (18)	14.92 (12)	0.74	15.74 (05)	0.55
100	225	70	110	n	14.37 (08)	0.82	15.19 (18)	13.91 (11)	0.73	15.19 (05)	0.53
100	250	50	110	n	14.22 (07)	0.70	14.92 (19)	13.78 (12)	0.63	15.06 (04)	0.46
100	275	71	110	n	13.31 (08)	0.82	14.12 (17)	12.83 (11)	0.71	14.41 (05)	0.52
1000	100	59	110	n	15.51 (08)	0.82	15.94 (19)	15.27 (12)	0.80	16.00 (05)	0.56
1000	275	66	110	y	11.96 (09)	0.97	13.21 (20)	11.36 (10)	0.81	13.53 (06)	0.59
1000	275	66	110	n	11.73 (10)	1.04	13.18 (17)	10.92 (10)	0.75	13.31 (06)	0.58

APPENDIX TABLE 3g. Annealing data for apatite PQ

					Measured		Fitted			Modeled	
t (h)	T (°C)	Run	n	Cf	l_m (μm)	σ_m	l_c (μm)	l_a (μm)	σ_e	$l_{c,mod}$ (μm)	$\sigma_{c,mod}$
		0	102	n	15.78 (07)	0.75	15.84 (23)	15.74 (14)	0.75	16.19 (05)	0.54
1	150	64	105	n	15.87 (09)	0.95	16.52 (23)	15.57 (12)	0.92	16.28 (06)	0.64
1	350	**63	74	y	8.18 (24)	2.09	9.97 (56)	4.90 (91)	0.76	10.88 (10)	0.85
1	350	**63	12	n	8.19 (99)	3.32	11.84 (76)	8.30 (11)	0.36	11.51 (16)	0.56
10	200	65	110	n	14.81 (08)	0.88	15.64 (21)	14.42 (11)	0.83	15.54 (06)	0.58
100	75	55	98	n	15.82 (09)	0.87	16.00 (21)	15.74 (12)	0.87	16.24 (06)	0.63
100	125	68	110	n	15.56 (08)	0.80	16.17 (22)	15.31 (11)	0.77	16.08 (05)	0.53
100	175	69	110	n	14.77 (08)	0.80	15.57 (24)	14.47 (11)	0.76	15.54 (05)	0.54
100	225	70	110	n	13.41 (09)	0.92	14.82 (26)	12.83 (11)	0.80	14.59 (05)	0.57
100	250	50	109	n	11.82 (12)	1.29	13.43 (21)	11.06 (11)	1.12	13.46 (07)	0.74
100	275	71*	116	y	10.36 (15)	1.59	12.33 (22)	9.69 (16)	0.88	12.53 (06)	0.61
100	275	71	21	n	10.35 (30)	1.32	12.68 (47)	9.36 (22)	0.82	12.58 (09)	0.39
1000	100	59	109	n	15.55 (07)	0.74	15.82 (22)	15.44 (12)	0.73	16.06 (05)	0.52
1000	275	66	0	y	0.00 (00)		0.00 (00)	0.00 (00)		0.00 (00)	

APPENDIX TABLE 3h. Annealing data for apatite SC

					Measured		Fitted			Modeled	
t (h)	T (°C)	Run	n	Cf	l_m (μm)	σ_m	l_c (μm)	l_a (μm)	σ_e	$l_{c,mod}$ (μm)	$\sigma_{c,mod}$
		0	108	n	16.06 (07)	0.75	16.39 (26)	15.94 (11)	0.74	16.43 (05)	0.51
1	150	64	110	n	15.82 (07)	0.75	16.02 (23)	15.73 (12)	0.75	16.24 (05)	0.52
1	350	63*	51	y	7.67 (32)	2.29	9.31 (19)	5.26 (37)	1.11	9.84 (11)	0.77
1	350	63	0	n	0.00 (00)		0.00 (00)	0.00 (00)		0.00 (00)	
10	200	65	110	n	15.16 (07)	0.78	16.04 (23)	14.77 (11)	0.72	15.79 (05)	0.51
100	75	55	110	n	16.05 (08)	0.86	16.55 (22)	15.82 (11)	0.84	16.41 (06)	0.60
100	125	68	107	n	15.82 (08)	0.80	16.36 (24)	15.61 (11)	0.78	16.25 (05)	0.56
100	175	69	110	n	14.97 (08)	0.82	15.23 (23)	14.86 (11)	0.82	15.66 (05)	0.57
100	225	70	110	n	13.68 (08)	0.84	14.95 (23)	13.16 (11)	0.72	14.78 (05)	0.49
100	250	50	110	n	12.21 (08)	0.79	13.69 (27)	11.66 (11)	0.65	13.79 (04)	0.44
100	275	71*	106	y	9.03 (21)	2.21	11.68 (33)	8.86 (30)	0.95	12.01 (05)	0.51
100	275	71	49	n	9.28 (37)	2.55	12.32 (33)	8.40 (21)	1.07	12.00 (10)	0.68
1000	100	59	110	n	15.69 (07)	0.77	15.89 (24)	15.60 (13)	0.77	16.15 (05)	0.55
1000	275	66	0	y	0.00 (00)		0.00 (00)	0.00 (00)		0.00 (00)	

APPENDIX TABLE 3i. Annealing data for apatite TI

					Measured		Fitted			Modeled	
t (h)	T (°C)	Run	n	Cf	l_m (μm)	σ_m	l_c (μm)	l_a (μm)	σ_e	$l_{c,mod}$ (μm)	$\sigma_{c,mod}$
		0	110	n	16.45 (08)	0.80	16.82 (17)	16.26 (11)	0.79	16.68 (05)	0.57
1	150	64	110	n	16.07 (08)	0.86	16.60 (16)	15.70 (12)	0.81	16.39 (06)	0.60
1	350	63	110	y	12.13 (08)	0.85	13.63 (25)	11.58 (10)	0.69	13.74 (05)	0.48
1	350	63	43	n	12.06 (15)	0.95	13.20 (33)	11.48 (18)	0.84	13.59 (09)	0.57
10	200	65	110	n	15.31 (08)	0.81	15.92 (18)	14.99 (11)	0.76	15.87 (05)	0.52
100	75	55	106	n	16.20 (08)	0.80	16.64 (20)	16.00 (11)	0.78	16.52 (05)	0.55
100	125	68	110	n	15.77 (08)	0.82	16.28 (20)	15.51 (11)	0.79	16.20 (05)	0.57
100	175	69	110	n	15.39 (07)	0.74	15.91 (20)	15.12 (12)	0.71	15.93 (05)	0.50
100	225	70	110	n	14.44 (07)	0.77	15.17 (22)	14.14 (11)	0.72	15.30 (05)	0.52
100	250	50	110	n	14.09 (08)	0.79	14.70 (20)	13.81 (11)	0.76	15.03 (05)	0.54
100	275	71	120	n	13.17 (08)	0.87	14.23 (20)	12.69 (10)	0.77	14.40 (05)	0.52
1000	100	59	110	n	15.80 (07)	0.75	16.37 (20)	15.52 (11)	0.72	16.23 (05)	0.52
1000	275	66	110	y	11.90 (09)	0.98	13.19 (19)	11.31 (10)	0.80	13.51 (05)	0.56
1000	275	66	110	n	11.82 (10)	0.99	12.97 (20)	11.27 (11)	0.87	13.45 (06)	0.60

APPENDIX TABLE 3j. Annealing data for apatite UN

					Measured		Fitted			Modeled	
t (h)	T (°C)	Run	n	Cf	l_m (μm)	σ_m	l_c (μm)	l_a (μm)	σ_e	$l_{c,mod}$ (μm)	$\sigma_{c,mod}$
		0	110	n	16.21 (07)	0.72	16.78 (28)	16.00 (12)	0.70	16.53 (05)	0.48
1	150	64	110	n	15.96 (07)	0.77	16.56 (26)	15.71 (12)	0.75	16.35 (05)	0.53
1	350	*63	60	y	7.33 (29)	2.23	9.51 (23)	5.73 (27)	1.13	10.33 (08)	0.65
1	350	63	0	n	0.00 (00)		0.00 (00)	0.00 (00)		0.00 (00)	
10	200	65	111	n	14.98 (08)	0.84	15.95 (29)	14.61 (12)	0.80	15.68 (05)	0.56
100	75	55	110	n	16.15 (08)	0.82	16.81 (26)	15.90 (11)	0.80	16.49 (05)	0.56
100	125	68	111	n	15.84 (08)	0.87	16.29 (27)	15.66 (12)	0.86	16.27 (06)	0.60
100	175	69	111	n	14.82 (09)	0.92	15.77 (29)	14.49 (11)	0.88	15.58 (06)	0.61
100	225	70	110	n	13.56 (08)	0.85	14.17 (25)	13.33 (11)	0.83	14.71 (06)	0.60
100	250	50	110	n	12.44 (08)	0.88	14.15 (28)	11.82 (11)	0.71	13.95 (05)	0.48
100	275	**71	110	y	9.82 (16)	1.65	11.27 (35)	9.99 (33)	1.09	12.35 (06)	0.62
100	275	71	111	n	10.07 (16)	1.67	12.22 (25)	9.18 (15)	0.85	12.31 (05)	0.57
1000	100	59	110	n	15.96 (07)	0.70	15.97 (25)	15.96 (13)	0.70	16.34 (05)	0.50
1000	275	66	0	y	0.00 (00)		0.00 (00)	0.00 (00)		0.00 (00)	

APPENDIX TABLE 3k. Annealing data for apatite WK

					Measured		Fitted			Modeled	
t (h)	T (°C)	Run	n	Cf	l_m (μm)	σ_m	l_c (μm)	l_a (μm)	σ_e	$l_{c,mod}$ (μm)	$\sigma_{c,mod}$
		0	111	n	15.97 (09)	0.98	16.53 (23)	15.73 (11)	0.96	16.36 (06)	0.66
1	150	64	110	n	15.92 (07)	0.78	16.24 (22)	15.79 (11)	0.77	16.32 (05)	0.55
1	350	**63	41	y	6.74 (35)	2.23	9.81 (56)	4.81 (63)	0.79	10.31 (09)	0.60
1	350	63	0	n	0.00 (00)		0.00 (00)	0.00 (00)		0.00 (00)	
10	200	65	110	n	15.04 (07)	0.71	16.03 (26)	14.72 (10)	0.65	15.75 (04)	0.44
100	75	55	111	n	15.90 (08)	0.88	16.21 (26)	15.79 (11)	0.88	16.32 (06)	0.61
100	125	68	111	n	15.38 (08)	0.88	15.98 (28)	15.18 (11)	0.86	15.97 (06)	0.59
100	175	69	110	n	14.64 (09)	0.95	15.67 (26)	14.24 (11)	0.90	15.45 (06)	0.63
100	225	70	110	n	13.73 (08)	0.85	14.98 (29)	13.29 (11)	0.77	14.84 (05)	0.53
100	250	50	105	n	12.24 (10)	0.98	14.00 (29)	11.61 (11)	0.82	13.82 (05)	0.55
100	275	*71	110	y	9.93 (15)	1.56	12.55 (40)	8.92 (24)	0.97	12.32 (05)	0.56
100	275	71	110	n	10.04 (14)	1.47	12.57 (28)	9.11 (12)	0.86	12.42 (05)	0.49
1000	100	59	110	n	15.98 (08)	0.82	16.27 (29)	15.89 (11)	0.81	16.38 (05)	0.55
1000	275	66	0	y	0.00 (00)		0.00 (00)	0.00 (00)		0.00 (00)	