

Supplementary Tables

Table S1. Results of the quantitative analyses (wt %) extracted from Rietveld refinements for the undoped BCP series and the two Zn-dopes BCP series. Standard deviations are indicated in parentheses.

Samples	Mineralogical composition (wt %)					
	HAp	β -TCP	α -CDP	CaCO ₃	CaO	ZnO
00Zn-500	91.2 (9)	-	4.4 (3)	3.70 (15)	0.79 (9)	-
00Zn-600	88.1 (9)	2.9 (3)	7.2 (3)	0.86 (9)	0.96 (6)	-
00Zn-700	87.1 (9)	7.9 (3)	3.9 (3)	0.46 (3)	0.64 (3)	-
00Zn-800	88.4 (9)	11.1 (3)	-	-	0.47 (3)	-
00Zn-900	96.6 (6)	3.2 (3)	-	-	0.19 (3)	-
00Zn-1000	98.4 (9)	1.5 (3)	-	-	0.11 (3)	-
00Zn-1100	100 (-)	-	-	-	-	-
15Zn-500	86.3 (9)	2.8 (3)	6.4 (3)	2.45 (12)	1.51 (6)	0.42 (6)
15Zn-600	79.6 (9)	7.2 (6)	10.8 (6)	-	2.18 (9)	0.28 (6)
15Zn-700	70.1 (9)	21.7 (9)	6.2 (9)	0.4 (2)	1.49 (9)	0.10 (3)
15Zn-800	76.6 (9)	22.2 (6)	-	-	0.94 (6)	0.29 (6)
15Zn-900	89.3 (6)	10.3 (6)	-	-	0.08 (6)	0.28 (9)
15Zn-1000	91.1 (6)	8.9 (6)	-	-	-	-
15Zn-1100	92.1 (9)	7.9 (6)	-	-	-	-
20Zn-500	84.7 (9)	3.1 (6)	7.3 (9)	2.6 (2)	1.78 (9)	0.48 (6)
20Zn-600	80.7 (9)	5.9 (3)	9.7 (6)	-	3.02 (9)	0.68 (6)
20Zn-700	77.0 (9)	16.7 (3)	3.2 (3)	-	2.63 (9)	0.46 (6)
20Zn-800	82.8 (9)	14.9 (3)	-	-	1.45 (6)	0.84 (9)
20Zn-900	94.9 (9)	3.5 (3)	-	-	0.81 (6)	0.80 (9)
20Zn-1000	99.4 (9)	-	-	-	0.57 (6)	-
20Zn-1100	99.4 (9)	-	-	-	0.57 (6)	-

Table S2. Structural parameters of the β -TCP phase obtained by Rietveld refinements.

Samples	β -TCP structural parameters					
	a (Å)	c (Å)	V (Å ³)	Zn Occ in Ca4 (*)	Zn Occ in Ca5 (*)	Refined composition
00Zn-500	-	-	-	-	-	-
00Zn-600	10.4313 (8)	37.329 (4)	3517.6 (5)	-	-	Ca ₃ (PO ₄) ₂
00Zn-700	10.4209 (3)	37.3486 (9)	3512.47 (2)	-	-	Ca ₃ (PO ₄) ₂
00Zn-800	10.4260 (2)	37.3689 (8)	3517.85 (9)	-	-	Ca ₃ (PO ₄) ₂
00Zn-900	10.4188 (5)	37.3670 (2)	3512.82 (9)	-	-	Ca ₃ (PO ₄) ₂
00Zn-1000	10.4091 (2)	37.3680 (6)	3506.95 (8)	-	-	Ca ₃ (PO ₄) ₂
00Zn-1100	-	-	-	-	-	-
15Zn-500	10.437 (2)	37.209 (6)	3510 (1)	-	-	Ca ₃ (PO ₄) ₂
15Zn-600	10.3816 (8)	37.233 (3)	3475.2 (5)	28 (13)	30 (11)	Ca _{2.8(1)} Zn _{0.2(1)} (PO ₄) ₂
15Zn-700	10.3887 (2)	37.290 (1)	3485.4 (1)	0 (-)	37 (5)	Ca _{2.90(2)} Zn _{0.10(2)} (PO ₄) ₂
15Zn-800	10.3976 (1)	37.3250 (5)	3494.57 (7)	0 (-)	44 (3)	Ca _{2.90(2)} Zn _{0.10(2)} (PO ₄) ₂
15Zn-900	10.3966 (3)	37.332 (1)	3494.5 (2)	38 (6)	24 (6)	Ca _{2.82(2)} Zn _{0.18(2)} (PO ₄) ₂
15Zn-1000	10.3842 (5)	37.334 (2)	3486.5 (3)	50 (-)	0 (-)	Ca _{2.86(-)} Zn _{0.14(-)} (PO ₄) ₂
15Zn-1100	10.3842 (5)	37.340 (2)	3484.1 (3)	50 (-)	0 (-)	Ca _{2.86(-)} Zn _{0.14(-)} (PO ₄) ₂
20Zn-500	10.422 (2)	37.22 (1)	3501 (2)	-	-	Ca ₃ (PO ₄) ₂
20Zn-600	10.3813 (7)	37.214 (4)	3473.3 (5)	50 (-)	0 (-)	Ca _{2.86(-)} Zn _{0.14(-)} (PO ₄) ₂
20Zn-700	10.3799 (3)	37.257 (1)	3476.3 (2)	22 (5)	52 (4)	Ca _{2.79(2)} Zn _{0.21(2)} (PO ₄) ₂
20Zn-800	10.3960 (1)	37.3243 (6)	3493.47 (9)	30 (5)	39 (4)	Ca _{2.78(2)} Zn _{0.22(2)} (PO ₄) ₂
20Zn-900	10.4119 (4)	37.337 (1)	3505.3 (2)	50 (-)	0 (-)	Ca _{2.86(-)} Zn _{0.14(-)} (PO ₄) ₂
20Zn-1000	-	-	-	-	-	-
20Zn-1100	-	-	-	-	-	-

* Zn occupancy (i.e. calcium substitution) in the Ca4 and Ca5 crystallographic site of the β -TCP structure.