

## Electronic supplementary information

### Synchrotron radiation X-ray Diffraction Computed Tomography (SRDCT). A new tool in Cultural Heritage and stone conservation for 3D non-destructive probing and phase analysis of inorganic re-treatments

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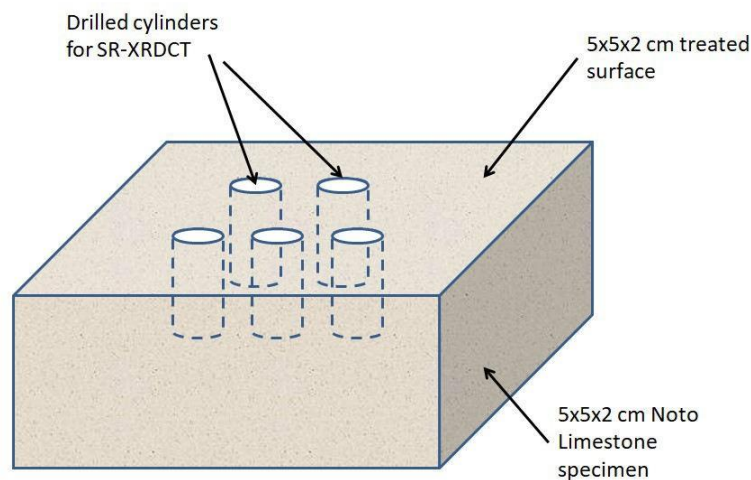


Figure S1. Scheme (not in scale) of the drilling regions to obtain the cylinders used for the SR XDCT measurements at ID15a.

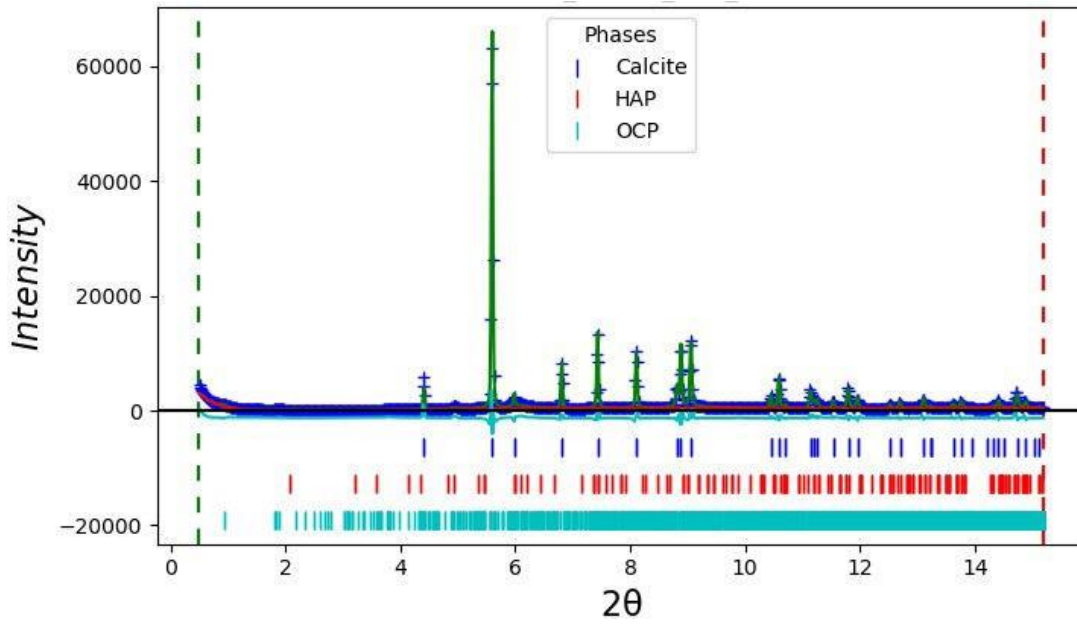


Figure S2. Refined XRD pattern extracted from the XRDCT dataset of the DAP treated Noto limestone

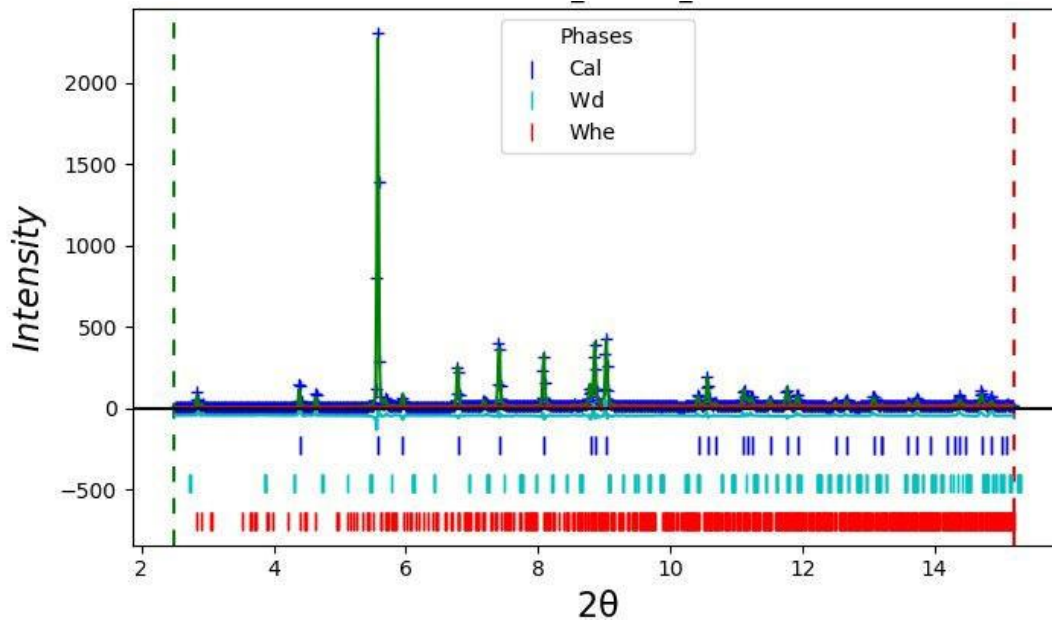


Figure S3. Refined XRD pattern extracted from the XRDCT dataset of the AmOx treated Noto limestone

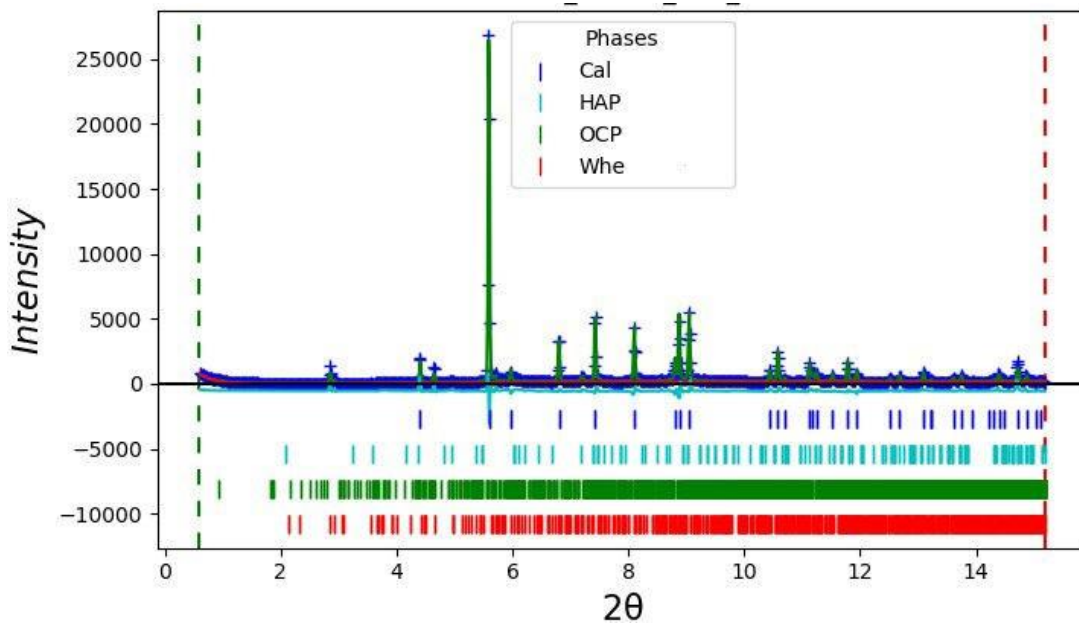


Figure S4. Refined XRD pattern extracted from the XRDCT dataset of the AmOx→DAP treated Noto limestone

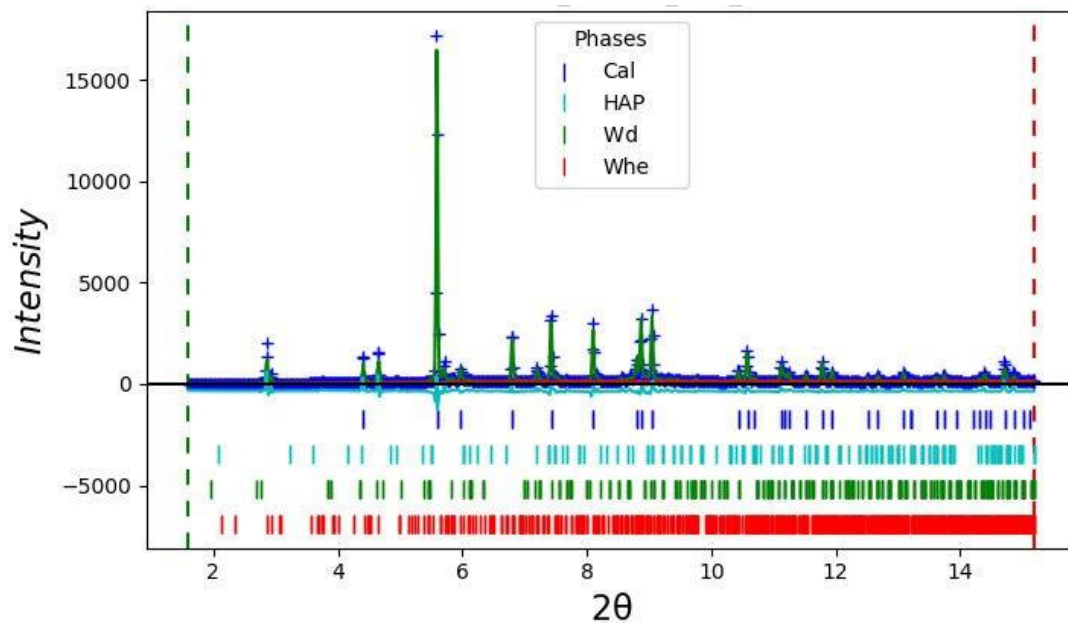


Figure S5. Refined XRD pattern extracted from the XRDCT dataset of the DAP→AmOx treated Noto limestone

**Table ST1. DAP treated Noto limestone. Weight fraction (Wt) and estimated standard deviation (Esd) of calcite, hydroxyapatite and octacalcium phosphate as a function of the penetration depth from the treated surface.**

Penetration depth (µm)	Calcite		Hydroxyapatite		Octacalcium phosphate	
	Wt (%)	Esd (%)	Wt (%)	Esd (%)	Wt (%)	Esd (%)
0	53.95	1.53	35.15	1.41	10.90	1.69
-15	77.46	0.91	8.59	0.97	13.95	0.87
-30	71.37	1.06	17.40	0.72	11.23	0.82
-45	78.90	1.16	14.33	0.73	6.77	0.81
-60	81.17	0.99	12.52	0.60	6.30	0.67
-75	89.22	0.69	6.55	0.56	4.23	0.48
-90	87.58	0.68	7.26	0.55	5.16	0.47
-105	86.93	0.68	7.60	0.55	5.48	0.47
-120	86.66	0.68	7.86	0.55	5.48	0.47
-135	87.03	0.68	8.02	0.54	4.95	0.46
-150	87.29	0.68	8.19	0.54	4.52	0.45
-165	87.54	0.68	8.36	0.53	4.10	0.44
-180	88.26	0.69	8.30	0.53	3.44	0.44
-195	89.00	0.69	8.17	0.52	2.83	0.42
-210	90.15	0.69	7.69	0.50	2.16	0.40
-225	91.01	0.69	7.38	0.49	1.61	0.39
-240	91.81	0.69	7.08	0.47	1.11	0.38
-255	92.32	0.69	6.86	0.46	0.82	0.37
-270	92.73	0.69	6.74	0.46	0.53	0.37
-285	92.99	0.69	6.70	0.46	0.31	0.36
-300	93.42	0.70	6.50	0.46	0.09	0.36
-315	93.88	0.70	6.12	0.45	0.00	0.00
-330	94.20	0.70	5.80	0.45	0.00	0.00
-345	94.02	0.70	5.98	0.45	0.00	0.00
-360	94.06	0.71	5.94	0.45	0.00	0.00
-375	94.24	0.71	5.76	0.45	0.00	0.00
-390	94.36	0.72	5.64	0.45	0.00	0.00
-405	94.48	0.72	5.52	0.45	0.00	0.00
-420	94.61	0.72	5.39	0.45	0.00	0.00

-435	94.64	0.72	5.36	0.44	0.00	0.00
-450	94.55	0.73	5.45	0.44	0.00	0.00
-465	94.71	0.74	5.29	0.45	0.00	0.00
-480	94.80	0.74	5.20	0.45	0.00	0.00
-495	94.68	0.74	5.32	0.45	0.00	0.00
-510	94.84	0.74	5.16	0.45	0.00	0.00
-525	94.91	0.74	5.09	0.44	0.00	0.00
-540	94.95	0.75	5.05	0.44	0.00	0.00
-555	95.07	0.75	4.93	0.44	0.00	0.00
-570	95.12	0.75	4.88	0.44	0.00	0.00
-585	95.23	0.74	4.77	0.43	0.00	0.00
-600	95.23	0.74	4.77	0.43	0.00	0.00
-615	95.26	0.75	4.74	0.44	0.00	0.00
-630	95.54	0.75	4.46	0.44	0.00	0.00
-645	95.67	0.76	4.33	0.43	0.00	0.00
-660	95.73	0.76	4.27	0.44	0.00	0.00
-675	95.80	0.77	4.20	0.44	0.00	0.00
-690	95.20	0.77	4.80	0.43	0.00	0.00
-705	95.26	0.90	4.74	0.41	0.00	0.00
-720	95.07	0.91	4.93	0.42	0.00	0.00
-735	95.14	0.92	4.86	0.42	0.00	0.00
-750	95.28	0.90	4.72	0.41	0.00	0.00
-765	95.22	0.89	4.78	0.41	0.00	0.00
-780	95.15	0.89	4.85	0.40	0.00	0.00
-795	95.15	0.88	4.85	0.40	0.00	0.00
-810	95.22	0.88	4.78	0.40	0.00	0.00
-825	95.34	0.88	4.66	0.39	0.00	0.00
-840	95.41	0.88	4.59	0.39	0.00	0.00
-855	95.79	0.87	4.21	0.39	0.00	0.00
-870	95.91	0.87	4.09	0.38	0.00	0.00
-885	95.85	0.87	4.15	0.38	0.00	0.00
-900	95.79	0.87	4.21	0.39	0.00	0.00

-915	95.76	0.87	4.24	0.39	0.00	0.00
-930	96.46	0.84	3.54	0.37	0.00	0.00
-945	96.41	0.84	3.59	0.37	0.00	0.00
-960	96.37	0.84	3.63	0.37	0.00	0.00
-975	96.31	0.84	3.69	0.37	0.00	0.00
-990	96.14	0.85	3.86	0.37	0.00	0.00
-1005	96.11	0.86	3.89	0.38	0.00	0.00
-1020	96.18	0.86	3.82	0.38	0.00	0.00
-1035	96.22	0.85	3.78	0.37	0.00	0.00
-1050	96.27	0.85	3.73	0.37	0.00	0.00
-1065	96.31	0.86	3.69	0.37	0.00	0.00
-1080	96.29	0.87	3.71	0.38	0.00	0.00
-1095	96.10	0.88	3.90	0.38	0.00	0.00
-1110	96.16	0.88	3.84	0.38	0.00	0.00
-1125	96.13	0.87	3.87	0.38	0.00	0.00
-1140	96.04	0.87	3.96	0.38	0.00	0.00
-1155	96.11	0.87	3.89	0.38	0.00	0.00
-1170	96.19	0.87	3.81	0.37	0.00	0.00
-1185	96.25	0.86	3.75	0.37	0.00	0.00
-1200	96.34	0.84	3.66	0.36	0.00	0.00
-1215	96.43	0.83	3.57	0.35	0.00	0.00
-1230	96.42	0.84	3.58	0.36	0.00	0.00
-1245	96.38	0.85	3.62	0.36	0.00	0.00
-1260	96.32	0.85	3.68	0.36	0.00	0.00
-1275	96.43	0.86	3.57	0.36	0.00	0.00
-1290	96.54	0.85	3.46	0.36	0.00	0.00
-1305	96.35	0.85	3.65	0.36	0.00	0.00
-1320	96.31	0.84	3.69	0.36	0.00	0.00
-1335	96.44	0.83	3.56	0.35	0.00	0.00
-1350	96.42	0.83	3.58	0.35	0.00	0.00
-1365	96.43	0.83	3.57	0.34	0.00	0.00
-1380	96.36	0.82	3.64	0.34	0.00	0.00

-1395	96.18	0.83	3.82	0.35	0.00	0.00
-1410	96.21	0.83	3.79	0.35	0.00	0.00
-1425	96.15	0.84	3.85	0.36	0.00	0.00
-1440	95.98	0.86	4.02	0.37	0.00	0.00

**Table ST2. DAP treated Noto limestone. Weight fraction (Wt) and estimated standard deviation (Esd) of calcite and whewellite, as a function of the penetration depth from the treated surface.**

Penetration depth (µm)	Calcite		Whewellite	
	Wt (%)	Esd (%)	Wt (%)	Esd (%)
0	89.65	0.66	10.35	0.35
-15	91.81	0.69	8.19	0.33
-30	93.10	0.76	6.90	0.35
-45	93.26	0.77	6.74	0.35
-60	93.15	0.76	6.85	0.35
-75	92.84	0.77	7.16	0.37
-90	92.12	0.81	7.88	0.41
-105	90.11	0.73	9.89	0.38
-120	90.24	0.77	9.76	0.40
-135	90.41	0.76	9.59	0.39
-150	90.30	0.78	9.70	0.40
-165	89.58	0.78	10.42	0.42
-180	89.19	0.79	10.81	0.43
-195	89.26	0.80	10.74	0.43
-210	89.32	0.80	10.68	0.43
-225	88.94	0.80	11.06	0.43
-240	88.46	0.80	11.54	0.44
-255	88.87	0.78	11.13	0.43
-270	89.17	0.77	10.83	0.41
-285	89.93	0.75	10.07	0.39
-300	90.77	0.74	9.23	0.38
-315	90.80	0.74	9.20	0.37
-330	90.35	0.75	9.65	0.38
-345	89.66	0.76	10.34	0.40
-360	89.56	0.77	10.44	0.41
-375	89.18	0.77	10.82	0.42
-390	88.94	0.76	11.06	0.41
-405	89.13	0.76	10.87	0.40
-420	89.61	0.74	10.39	0.38



-435	90.35	0.73	9.65	0.36
-450	90.85	0.72	9.15	0.35
-465	91.04	0.71	8.96	0.34
-480	91.21	0.71	8.79	0.34
-495	91.52	0.70	8.48	0.33
-510	92.96	0.72	7.04	0.33
-525	92.94	0.73	7.06	0.34
-540	93.34	0.73	6.66	0.33
-555	93.69	0.73	6.31	0.33
-570	93.78	0.73	6.22	0.33
-585	93.62	0.73	6.38	0.33
-600	93.60	0.72	6.40	0.33
-615	93.79	0.72	6.21	0.32
-630	93.86	0.71	6.14	0.31
-645	94.09	0.70	5.91	0.30
-660	94.74	0.71	5.26	0.30
-675	94.84	0.71	5.16	0.30
-690	94.93	0.70	5.07	0.30
-705	94.88	0.69	5.12	0.29
-720	94.75	0.69	5.25	0.29
-735	94.67	0.70	5.33	0.30
-750	94.57	0.71	5.43	0.30
-765	94.70	0.71	5.30	0.30
-780	94.82	0.70	5.18	0.29
-795	94.84	0.71	5.16	0.30
-810	95.02	0.70	4.98	0.29
-825	95.21	0.70	4.79	0.28
-840	95.34	0.70	4.66	0.28
-855	95.65	0.70	4.35	0.28
-870	95.90	0.69	4.10	0.27
-885	96.18	0.68	3.82	0.26
-900	96.26	0.68	3.74	0.26

-915	96.43	0.67	3.57	0.25
-930	96.68	0.66	3.32	0.24
-945	96.98	0.66	3.02	0.24
-960	97.14	0.68	2.86	0.24
-975	97.19	0.69	2.81	0.25
-990	97.19	0.69	2.81	0.24
-1005	97.30	0.69	2.70	0.24
-1020	97.40	0.68	2.60	0.23
-1035	97.42	0.68	2.58	0.23
-1050	97.46	0.68	2.54	0.23
-1065	97.55	0.68	2.45	0.23
-1080	97.68	0.67	2.32	0.22
-1095	97.70	0.67	2.30	0.22
-1110	97.80	0.67	2.20	0.21
-1125	97.95	0.67	2.05	0.21
-1140	98.07	0.66	1.93	0.21
-1155	98.17	0.67	1.83	0.21
-1170	98.25	0.68	1.75	0.21
-1185	98.25	0.68	1.75	0.21
-1200	98.27	0.68	1.73	0.21
-1215	98.20	0.66	1.80	0.20
-1230	98.17	0.65	1.83	0.20
-1245	98.11	0.67	1.89	0.21
-1260	98.06	0.68	1.94	0.21
-1275	98.03	0.68	1.97	0.21
-1290	98.03	0.67	1.97	0.21
-1305	98.12	0.66	1.88	0.20
-1320	98.21	0.65	1.79	0.19
-1335	98.17	0.65	1.83	0.20
-1350	98.09	0.66	1.91	0.20
-1365	98.01	0.66	1.99	0.21
-1380	98.03	0.67	1.97	0.21

-1395	98.14	0.67	1.86	0.20
-1410	98.22	0.68	1.78	0.20
-1425	89.65	0.66	10.35	0.35
-1440	91.81	0.69	8.19	0.33
-1455	93.10	0.76	6.90	0.35
-1470	93.26	0.77	6.74	0.35

**Table ST3. AmOx→DAP treated Noto limestone. Weight fraction (Wt) and estimated standard deviation (Esd) of calcite, whewellite, hydroxyapatite and octacalcium phosphate as a function of the penetration depth from the treated surface.**

Penetration depth (μm)	Calcite		Whewellite		Hydroxyapatite		Octacalcium phosphate	
	Wt (%)	Esd (%)	Wt (%)	Esd (%)	Wt (%)	Esd (%)	Wt (%)	Esd (%)
0	61.82	1.53	9.34	0.89	21.72	0.57	7.10	0.62
-15	75.29	1.39	7.83	0.67	13.00	0.40	3.90	0.41
-30	75.58	1.34	8.49	0.66	12.18	0.38	3.70	0.38
-45	72.69	1.36	9.24	0.70	10.92	0.39	7.20	0.38
-60	75.57	1.28	9.12	0.65	11.63	0.36	3.70	0.35
-75	74.42	1.30	10.04	0.68	11.99	0.37	3.50	0.35
-90	77.00	1.23	10.12	0.64	9.83	0.34	3.10	0.32
-105	83.26	0.66	12.97	0.44	1.70	0.30	2.08	0.40
-120	80.70	0.63	14.18	0.44	1.76	0.29	3.36	0.39
-135	79.77	0.62	14.78	0.43	1.74	0.28	3.71	0.38
-150	78.73	0.62	16.52	0.43	2.29	0.26	2.47	0.53
-165	76.66	0.62	18.31	0.44	2.61	0.26	2.41	0.53
-180	75.30	0.62	19.48	0.45	2.88	0.26	2.34	0.53
-195	75.33	0.62	19.41	0.45	3.01	0.26	2.26	0.52
-210	75.87	0.62	18.89	0.44	3.06	0.26	2.18	0.51
-225	76.96	0.62	17.92	0.43	2.99	0.25	2.12	0.50
-240	77.91	0.61	17.22	0.42	2.97	0.25	1.90	0.49
-255	79.46	0.62	16.01	0.41	2.62	0.25	1.91	0.49
-270	81.01	0.63	15.85	0.41	3.14	0.25	0.00	0.00
-285	81.90	0.62	15.03	0.40	3.07	0.24	0.00	0.00
-300	82.95	0.61	14.14	0.38	2.91	0.23	0.00	0.00
-315	84.35	0.59	13.06	0.35	2.59	0.22	0.00	0.00
-330	84.80	0.59	12.76	0.35	2.44	0.21	0.00	0.00
-345	84.46	0.60	13.11	0.36	2.43	0.22	0.00	0.00
-360	84.11	0.61	13.48	0.37	2.41	0.22	0.00	0.00
-375	84.66	0.61	13.08	0.37	2.26	0.22	0.00	0.00
-390	85.59	0.61	12.26	0.35	2.15	0.22	0.00	0.00
-405	85.99	0.59	11.99	0.34	2.02	0.21	0.00	0.00
-420	86.14	0.60	11.88	0.35	1.98	0.21	0.00	0.00

-435	86.59	0.60	11.49	0.35	1.92	0.21	0.00	0.00
-450	87.17	0.59	10.98	0.34	1.85	0.21	0.00	0.00
-465	88.06	0.59	10.17	0.32	1.76	0.20	0.00	0.00
-480	88.38	0.58	9.86	0.31	1.75	0.20	0.00	0.00
-495	88.30	0.58	9.88	0.31	1.83	0.20	0.00	0.00
-510	88.30	0.59	9.88	0.31	1.82	0.20	0.00	0.00
-525	88.14	0.59	10.04	0.32	1.82	0.20	0.00	0.00
-540	88.22	0.60	10.00	0.32	1.79	0.20	0.00	0.00
-555	88.75	0.61	9.58	0.32	1.67	0.20	0.00	0.00
-570	89.24	0.60	9.15	0.31	1.60	0.19	0.00	0.00
-585	89.45	0.59	8.90	0.30	1.65	0.19	0.00	0.00
-600	89.96	0.63	8.49	0.32	1.55	0.20	0.00	0.00
-615	90.39	0.64	8.13	0.31	1.47	0.20	0.00	0.00
-630	90.38	0.65	8.22	0.32	1.40	0.20	0.00	0.00
-645	90.36	0.66	8.24	0.33	1.41	0.21	0.00	0.00
-660	90.79	0.66	7.81	0.32	1.40	0.21	0.00	0.00
-675	91.48	0.65	7.10	0.31	1.43	0.20	0.00	0.00
-690	91.95	0.64	6.61	0.29	1.44	0.19	0.00	0.00
-705	92.08	0.64	6.52	0.29	1.40	0.20	0.00	0.00
-720	92.01	0.65	6.61	0.30	1.38	0.20	0.00	0.00
-735	91.63	0.66	6.85	0.31	1.52	0.21	0.00	0.00
-750	91.49	0.66	6.81	0.31	1.70	0.21	0.00	0.00
-765	91.41	0.68	6.74	0.31	1.85	0.22	0.00	0.00
-780	91.26	0.70	6.74	0.32	2.00	0.22	0.00	0.00
-795	91.04	0.71	6.84	0.33	2.12	0.23	0.00	0.00
-810	91.21	0.71	6.72	0.32	2.07	0.23	0.00	0.00
-825	91.37	0.71	6.61	0.32	2.02	0.22	0.00	0.00
-840	91.54	0.70	6.54	0.31	1.92	0.22	0.00	0.00
-855	92.00	0.68	6.24	0.30	1.76	0.21	0.00	0.00
-870	92.66	0.66	5.83	0.29	1.51	0.20	0.00	0.00
-885	92.99	0.65	5.58	0.28	1.43	0.20	0.00	0.00
-900	93.11	0.65	5.44	0.27	1.45	0.19	0.00	0.00

-915	93.37	0.65	5.21	0.27	1.42	0.19	0.00	0.00
-930	93.39	0.66	5.12	0.27	1.49	0.19	0.00	0.00
-945	93.53	0.65	4.98	0.26	1.49	0.19	0.00	0.00
-960	93.64	0.66	4.84	0.27	1.52	0.20	0.00	0.00
-975	93.53	0.67	4.87	0.27	1.60	0.20	0.00	0.00
-990	93.53	0.66	4.83	0.27	1.64	0.20	0.00	0.00
-1005	93.49	0.65	4.79	0.26	1.72	0.20	0.00	0.00
-1020	93.40	0.65	4.73	0.26	1.86	0.20	0.00	0.00
-1035	93.48	0.65	4.67	0.26	1.86	0.19	0.00	0.00
-1050	93.70	0.65	4.56	0.25	1.74	0.19	0.00	0.00
-1065	93.78	0.65	4.49	0.25	1.73	0.19	0.00	0.00
-1080	93.86	0.65	4.36	0.25	1.78	0.19	0.00	0.00
-1095	93.89	0.66	4.29	0.25	1.82	0.19	0.00	0.00
-1110	93.67	0.68	4.42	0.26	1.91	0.20	0.00	0.00
-1125	93.44	0.69	4.63	0.26	1.93	0.20	0.00	0.00
-1140	93.48	0.69	4.61	0.26	1.91	0.20	0.00	0.00
-1155	93.30	0.70	4.73	0.27	1.97	0.21	0.00	0.00
-1170	93.38	0.70	4.73	0.27	1.89	0.20	0.00	0.00
-1185	93.40	0.70	4.72	0.27	1.88	0.20	0.00	0.00
-1200	93.39	0.70	4.71	0.27	1.90	0.21	0.00	0.00
-1215	93.48	0.70	4.61	0.27	1.91	0.21	0.00	0.00
-1230	93.54	0.70	4.59	0.27	1.88	0.20	0.00	0.00
-1245	93.77	0.69	4.38	0.26	1.85	0.20	0.00	0.00
-1260	93.99	0.69	4.19	0.26	1.82	0.20	0.00	0.00
-1275	93.96	0.70	4.19	0.26	1.86	0.20	0.00	0.00
-1290	93.85	0.70	4.25	0.26	1.90	0.20	0.00	0.00
-1305	93.76	0.72	4.28	0.27	1.95	0.21	0.00	0.00
-1320	93.56	0.74	4.45	0.28	1.99	0.22	0.00	0.00
-1335	93.28	0.77	4.63	0.29	2.09	0.22	0.00	0.00
-1350	93.22	0.78	4.66	0.29	2.12	0.23	0.00	0.00
-1365	93.43	0.77	4.51	0.29	2.06	0.23	0.00	0.00



**Table ST4. DAP→ AmOx treated Noto limestone. Weight fraction (Wt) and estimated standard deviation (Esd) of calcite, whewellite, hydroxyapatite, and weddellite as a function of the penetration depth from the treated surface.**

Penetration depth (µm)	Calcite		Whewellite		Hydroxyapatite		Weddellite	
	Wt (%)	Esd (%)	Wt (%)	Esd (%)	Wt (%)	Esd (%)	Wt (%)	Esd (%)
0	55.07	0.00	35.63	0.00	7.52	0.00	1.77	0.00
-15	67.49	0.00	28.17	0.00	3.61	0.00	0.73	0.00
-30	73.45	0.00	23.59	0.00	2.47	0.00	0.49	0.00
-45	73.14	0.00	23.76	0.00	2.72	0.00	0.37	0.00
-60	72.96	0.00	24.45	0.00	2.28	0.00	0.31	0.00
-75	72.97	0.00	24.62	0.00	2.16	0.00	0.24	0.00
-90	73.21	0.71	22.88	0.56	3.37	0.37	0.54	0.00
-105	73.51	0.69	21.97	0.52	4.36	0.36	0.16	0.00
-120	72.17	0.68	22.26	0.52	5.46	0.36	0.11	0.00
-135	71.77	0.68	21.70	0.51	6.48	0.37	0.06	0.00
-150	71.38	0.69	21.35	0.52	7.07	0.39	0.19	0.11
-165	72.38	0.69	19.91	0.51	7.53	0.39	0.18	0.11
-180	74.16	0.69	17.95	0.48	7.89	0.39	0.00	0.00
-195	76.25	0.68	15.99	0.45	7.76	0.38	0.00	0.00
-210	77.57	0.68	14.57	0.44	7.85	0.37	0.00	0.00
-225	78.33	0.68	13.49	0.42	8.18	0.37	0.00	0.00
-240	78.59	0.69	12.67	0.42	8.74	0.38	0.00	0.00
-255	79.59	0.69	11.55	0.40	8.86	0.38	0.00	0.00
-270	80.32	0.70	10.74	0.40	8.94	0.38	0.00	0.00
-285	80.72	0.70	10.28	0.39	8.99	0.38	0.00	0.00
-300	82.16	0.71	8.95	0.37	8.89	0.38	0.00	0.00
-315	84.05	0.70	7.48	0.34	8.47	0.37	0.00	0.00
-330	85.30	0.69	6.58	0.32	8.11	0.36	0.00	0.00
-345	86.03	0.69	6.03	0.31	7.95	0.35	0.00	0.00
-360	86.17	0.70	5.94	0.31	7.89	0.35	0.00	0.00
-375	86.62	0.70	5.64	0.31	7.74	0.35	0.00	0.00
-390	87.35	0.70	5.25	0.30	7.40	0.34	0.00	0.00
-405	88.20	0.71	4.80	0.29	7.00	0.34	0.00	0.00
-420	88.69	0.70	4.65	0.29	6.66	0.33	0.00	0.00



-435	89.11	0.71	4.47	0.29	6.43	0.33	0.00	0.00
-450	89.67	0.71	4.09	0.28	6.24	0.33	0.00	0.00
-465	90.51	0.70	3.60	0.26	5.89	0.32	0.00	0.00
-480	90.54	0.70	3.56	0.26	5.90	0.32	0.00	0.00
-495	90.65	0.70	3.46	0.26	5.89	0.32	0.00	0.00
-510	90.53	0.70	3.37	0.25	6.10	0.32	0.00	0.00
-525	90.49	0.69	3.34	0.25	6.17	0.31	0.00	0.00
-540	91.11	0.69	3.07	0.24	5.81	0.30	0.00	0.00
-555	91.42	0.70	2.95	0.24	5.63	0.31	0.00	0.00
-570	91.30	0.70	2.95	0.24	5.75	0.31	0.00	0.00
-585	93.76	0.70	2.33	0.24	3.91	0.31	0.00	0.00
-600	92.94	0.70	2.58	0.25	4.47	0.32	0.00	0.00
-615	92.44	0.68	2.81	0.25	4.75	0.31	0.00	0.00
-630	92.25	0.68	2.84	0.24	4.91	0.30	0.00	0.00
-645	92.25	0.67	2.75	0.24	4.99	0.30	0.00	0.00
-660	92.00	0.68	2.83	0.24	5.18	0.31	0.00	0.00
-675	92.10	0.69	2.71	0.24	5.19	0.31	0.00	0.00
-690	94.42	0.71	1.86	0.24	3.72	0.32	0.00	0.00
-705	94.59	0.71	1.79	0.24	3.61	0.32	0.00	0.00
-720	94.98	0.72	1.62	0.23	3.40	0.32	0.00	0.00
-735	95.07	0.72	1.61	0.23	3.32	0.31	0.00	0.00
-750	95.61	0.72	1.48	0.23	2.92	0.31	0.00	0.00
-765	96.04	0.73	1.42	0.23	2.54	0.30	0.00	0.00
-780	96.30	0.72	1.37	0.23	2.33	0.30	0.00	0.00
-795	96.28	0.73	1.48	0.23	2.24	0.30	0.00	0.00
-810	96.42	0.73	1.46	0.23	2.12	0.29	0.00	0.00
-825	96.34	0.72	1.46	0.22	2.21	0.29	0.00	0.00
-840	96.40	0.72	1.43	0.22	2.17	0.29	0.00	0.00
-855	96.26	0.71	1.53	0.22	2.21	0.29	0.00	0.00
-870	95.97	0.73	1.66	0.23	2.38	0.29	0.00	0.00
-885	96.05	0.74	1.56	0.23	2.39	0.30	0.00	0.00
-900	96.35	0.78	1.40	0.24	2.25	0.31	0.00	0.00

-915	96.62	0.76	1.25	0.23	2.13	0.30	0.00	0.00
-930	96.48	0.74	1.32	0.23	2.20	0.30	0.00	0.00
-945	96.46	0.74	1.27	0.22	2.27	0.30	0.00	0.00
-960	96.54	0.72	1.23	0.21	2.22	0.29	0.00	0.00
-975	96.31	0.70	1.25	0.21	2.44	0.28	0.00	0.00
-990	96.10	0.70	1.33	0.21	2.57	0.28	0.00	0.00
-1005	95.95	0.70	1.42	0.21	2.63	0.28	0.00	0.00
-1020	95.93	0.70	1.48	0.21	2.59	0.28	0.00	0.00
-1035	95.80	0.70	1.58	0.22	2.61	0.28	0.00	0.00
-1050	95.57	0.70	1.63	0.22	2.80	0.28	0.00	0.00
-1065	95.64	0.70	1.53	0.21	2.82	0.28	0.00	0.00
-1080	95.82	0.69	1.43	0.20	2.75	0.27	0.00	0.00
-1095	96.03	0.70	1.30	0.20	2.67	0.28	0.00	0.00
-1110	95.78	0.71	1.33	0.21	2.89	0.28	0.00	0.00
-1125	95.64	0.72	1.36	0.20	3.00	0.28	0.00	0.00
-1140	95.66	0.73	1.36	0.21	2.99	0.29	0.00	0.00
-1155	95.44	0.72	1.50	0.21	3.06	0.29	0.00	0.00
-1170	95.22	0.72	1.56	0.21	3.22	0.29	0.00	0.00
-1185	95.49	0.72	1.45	0.21	3.07	0.28	0.00	0.00
-1200	95.67	0.71	1.39	0.20	2.94	0.28	0.00	0.00
-1215	95.92	0.71	1.20	0.19	2.87	0.27	0.00	0.00
-1230	96.20	0.71	1.06	0.18	2.74	0.27	0.00	0.00
-1245	96.25	0.72	1.08	0.19	2.67	0.27	0.00	0.00
-1260	96.36	0.72	1.03	0.19	2.61	0.27	0.00	0.00
-1275	96.53	0.71	0.91	0.18	2.56	0.27	0.00	0.00
-1290	96.46	0.70	0.89	0.18	2.65	0.27	0.00	0.00
-1305	96.19	0.70	0.96	0.18	2.85	0.27	0.00	0.00
-1320	96.08	0.70	1.03	0.18	2.89	0.27	0.00	0.00
-1335	96.10	0.70	1.06	0.18	2.84	0.27	0.00	0.00
-1350	96.05	0.70	1.12	0.18	2.84	0.26	0.00	0.00
-1365	96.02	0.71	1.15	0.19	2.82	0.27	0.00	0.00
-1380	96.33	0.71	1.08	0.19	2.59	0.27	0.00	0.00

-1395	96.59	0.70	0.99	0.18	2.42	0.26	0.00	0.00
-1410	96.66	0.71	0.97	0.18	2.37	0.26	0.00	0.00
-1425	96.44	0.72	1.08	0.19	2.47	0.27	0.00	0.00
-1440	96.07	0.74	1.25	0.20	2.68	0.28	0.00	0.00
-1455	95.92	0.74	1.31	0.20	2.77	0.28	0.00	0.00
-1470	95.86	0.73	1.34	0.20	2.80	0.28	0.00	0.00