

Figure S1. Scanning electron microscopy of control uninfected valve. **(A)** Low magnification view showing the surface and the depth of the valve along the dissection-cutting plane. **(B)** Erythrocytes located on the surface of the valve, which presented a stratified matrix along its depth. **(C)** High magnification view showing the layered organization with bundles of collagen-like or elastin-like appearance (arrow). No bacteria were observed.

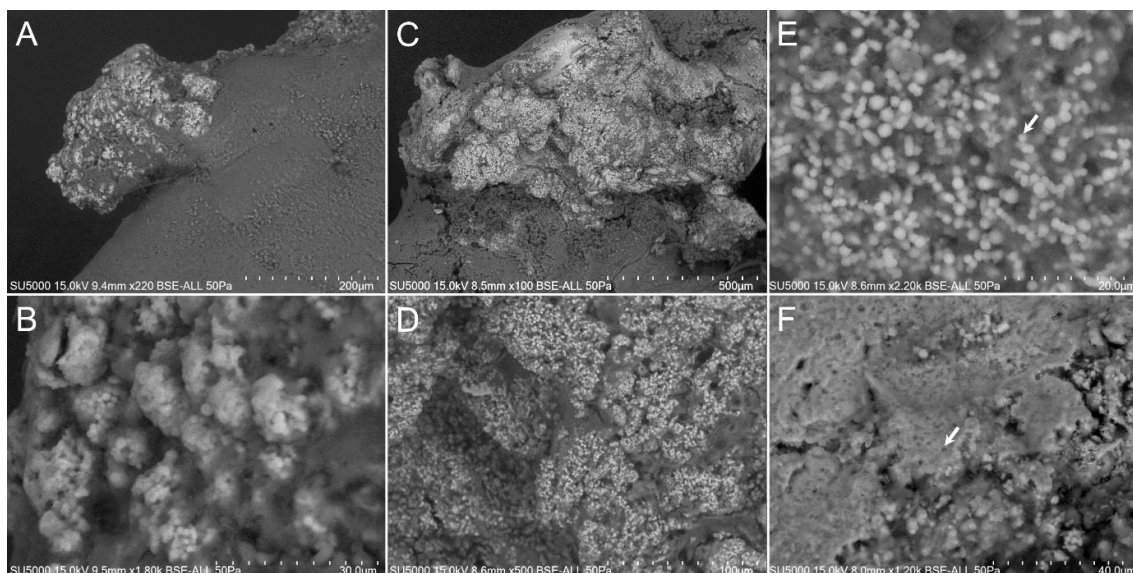


Figure S2. Scanning electron microscopy of *S. gallolyticus* infected vegetation showing bright regions. **(A–D)** Low magnification views of the bright regions, from the periphery of the vegetation to its center. **(E)** High magnification showing single bacteria or bacteria in chains. **(F)** Holes with bacteria ghost shapes in an amorphous matrix of a bright region.

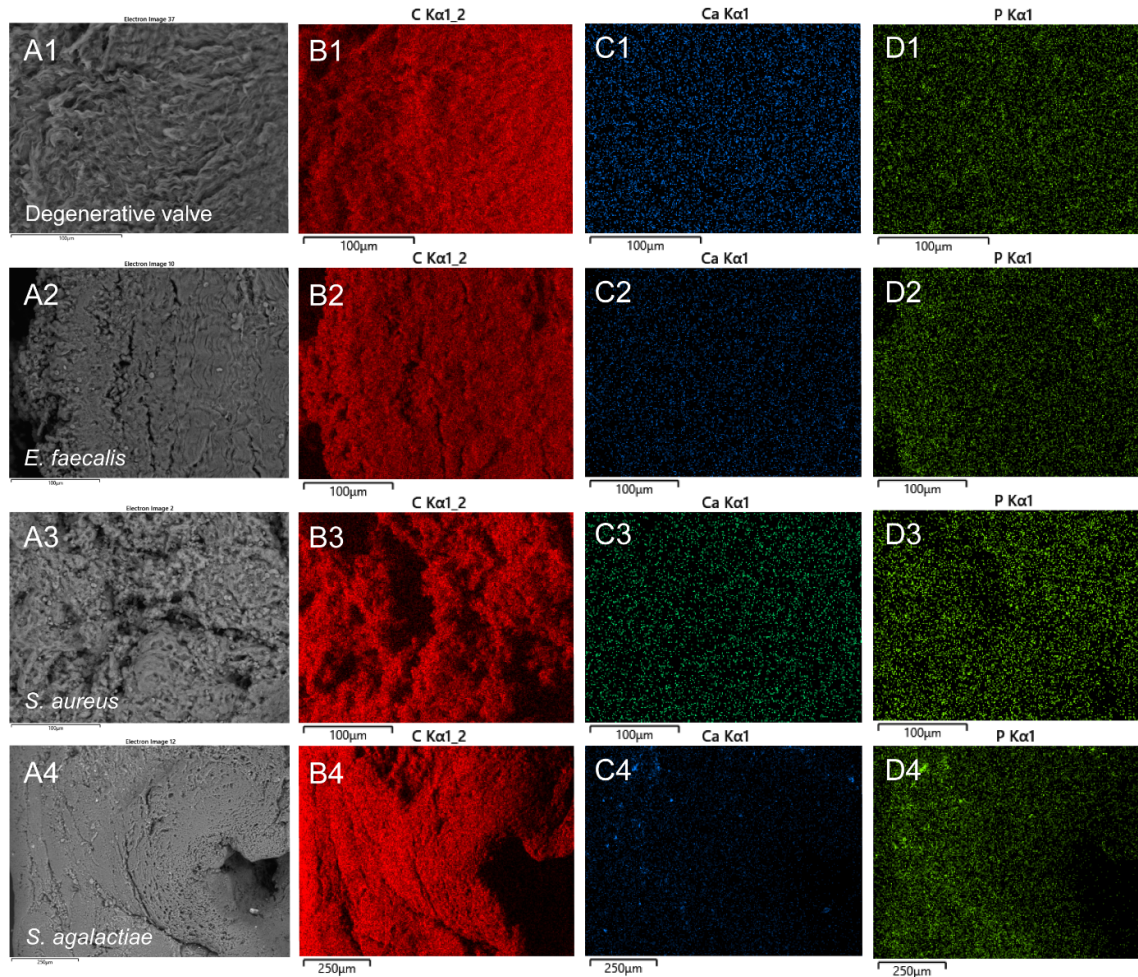


Figure S3. Scanning electron microscopy coupled to energy-dispersive X-ray (EDX) spectroscopy of representative regions from the degenerative control valve and *E. faecalis*, *S. aureus* and *S. agalactiae* infected vegetations. Degenerative valve, (2) *E. faecalis*, (3) *S. aureus*. (4), *S. agalactiae* vegetation. (A)SEM view. (B–D) Multi-element EDX mapping images of C, Ca and P.

Table S1. Weight and atomic percentage of C, O, N, P and Ca in the bright and non-bright regions of the *S. oralis* vegetation.

Weight% non-bright zone					Weight% bright zone					
C	O	N	Ca	Ca/P	C	O	N	Ca	P	Ca/P
57,05	26,36	14,74	0,27	0,22	51,58	30,81	13,81	2,61	1,29	2,02
57,57	27,38	14,81	0,12	0,12	50,52	28,63	17,3	1,59	0,83	1,92
51,81	25,55	20,84	0,6	0,33	49,16	28,17	15,24	3,95	1,77	2,23
55,63	24,82	16,72	0,71	0,33	53,88	26,69	14,45	2,98	1,41	2,11
Mean weight% non-white zone					Mean weight% white zone					
55,52	26,03	16,78	0,43	0,25	51,29	28,58	15,2	2,78	1,33	2,07
Atomic% non-bright zone					Atomic% bright zone					
C	O	N	Ca	Ca/P	C	O	N	Ca	P	Ca/P
63,58	22,05	14,08	0,09	0,09	58,96	25,96	13,54	0,89	0,57	1,56
63,33	22,61	13,97	0,04	0,05	57,57	24,5	16,9	0,54	0,37	1,46
58,05	21,49	20,03	0,2	0,14	57,56	24,76	15,3	1,39	0,8	1,74
62,44	20,91	16,09	0,24	0,14	61,34	22,81	14,11	1,02	0,62	1,65
Mean atomic% non-white zone					Mean atomic% white zone					
61,85	21,77	16,04	0,14	0,11	58,86	24,51	14,96	0,96	0,59	1,6