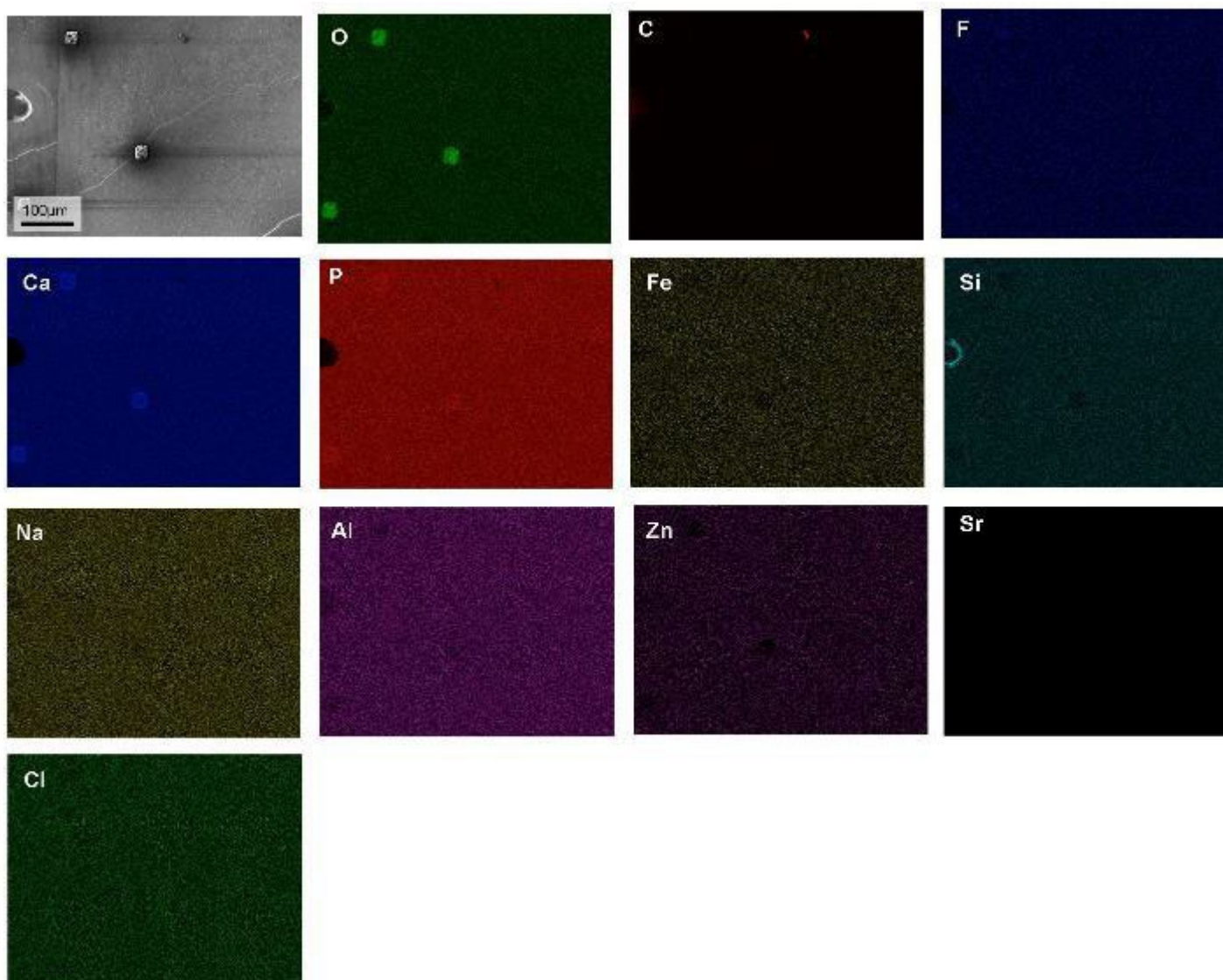
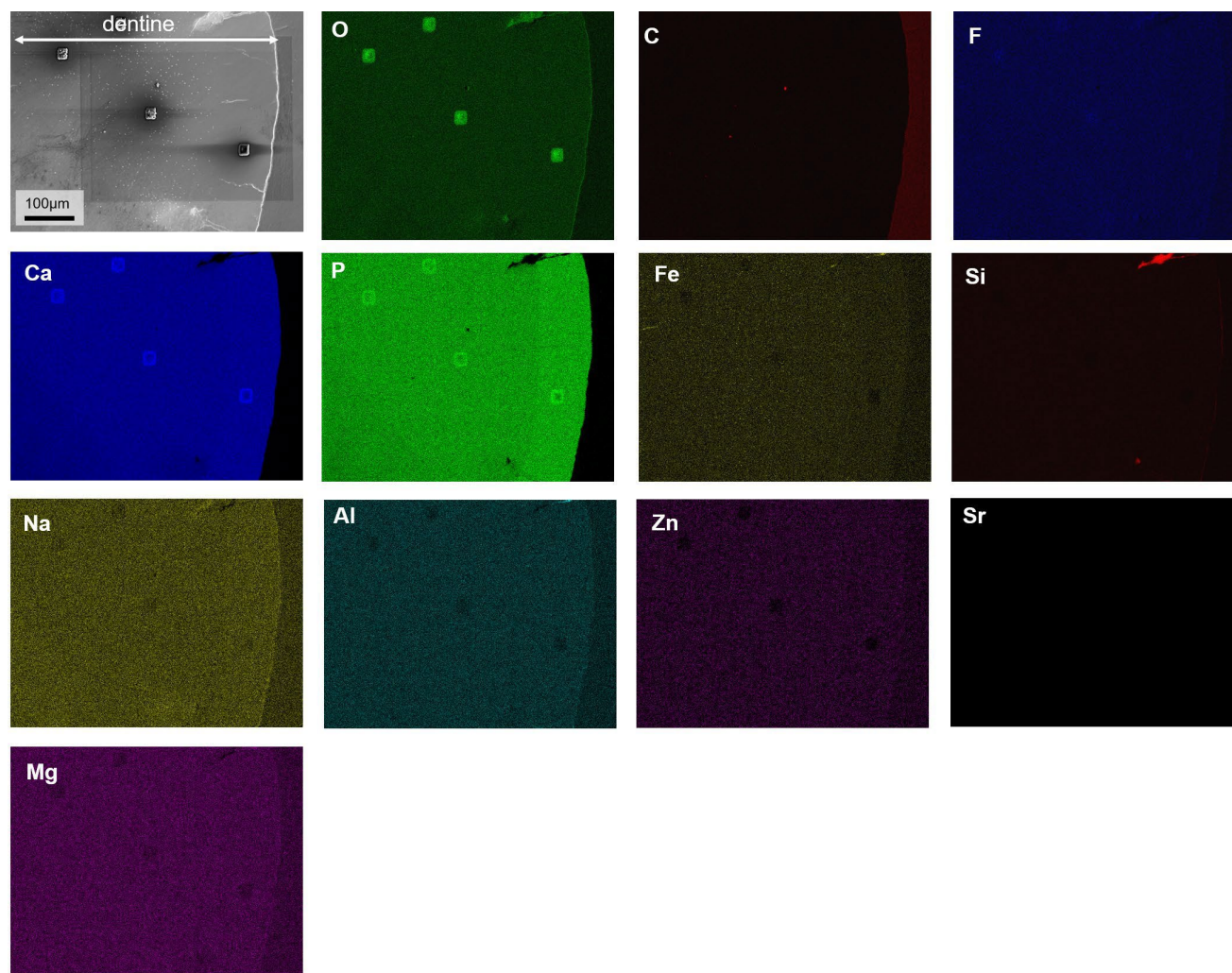


**Supplementary Figure 1:** EDX maps of element concentrated in the *Eumeralla plesiosaur* tooth (Eu-PL-1122A\_X outside part)



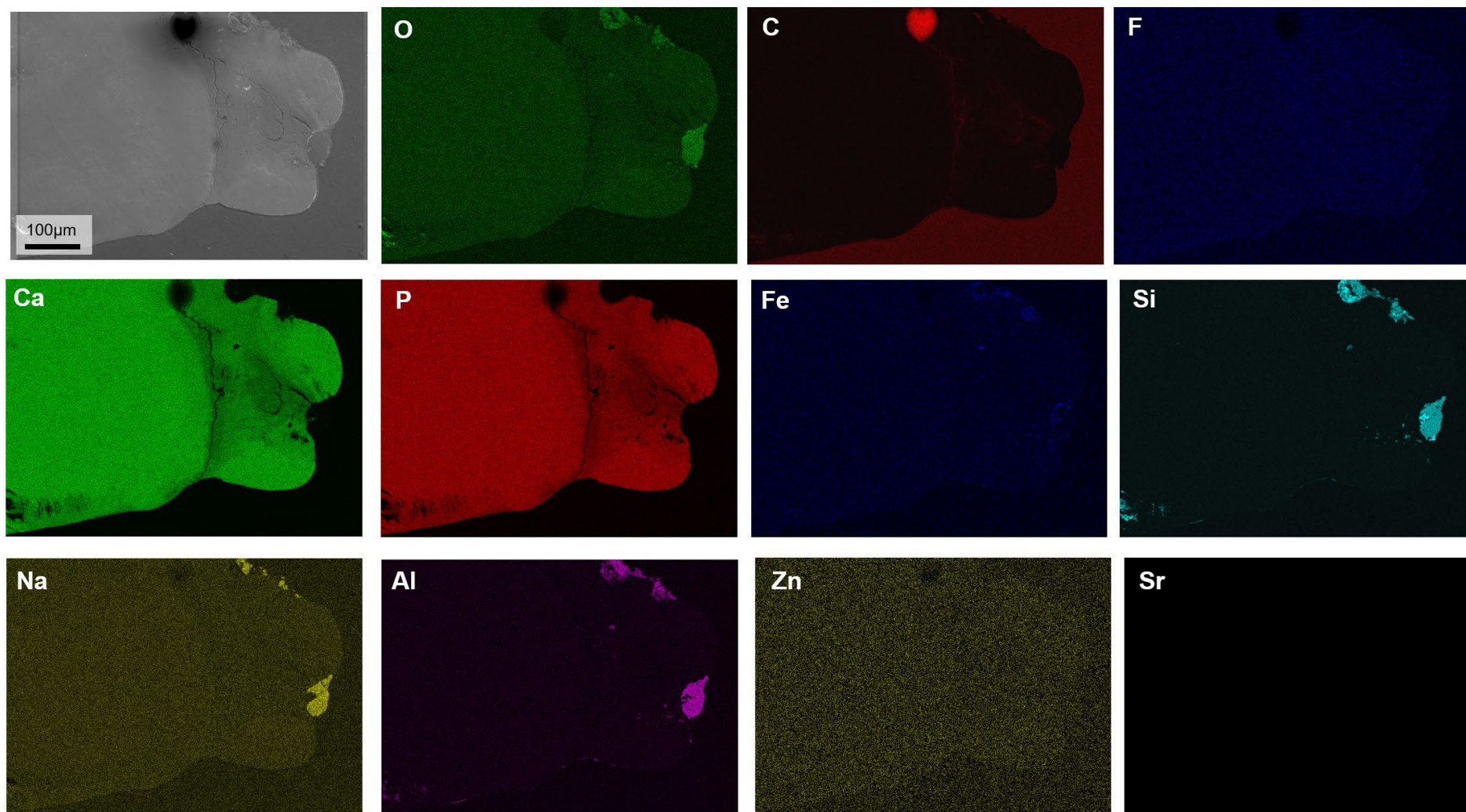
**Supplementary Figure 2:** EDX maps of element concentrated in the Eumeralla plesiosaur tooth (Eu-PL-1122A\_Y inside part: dentine part)



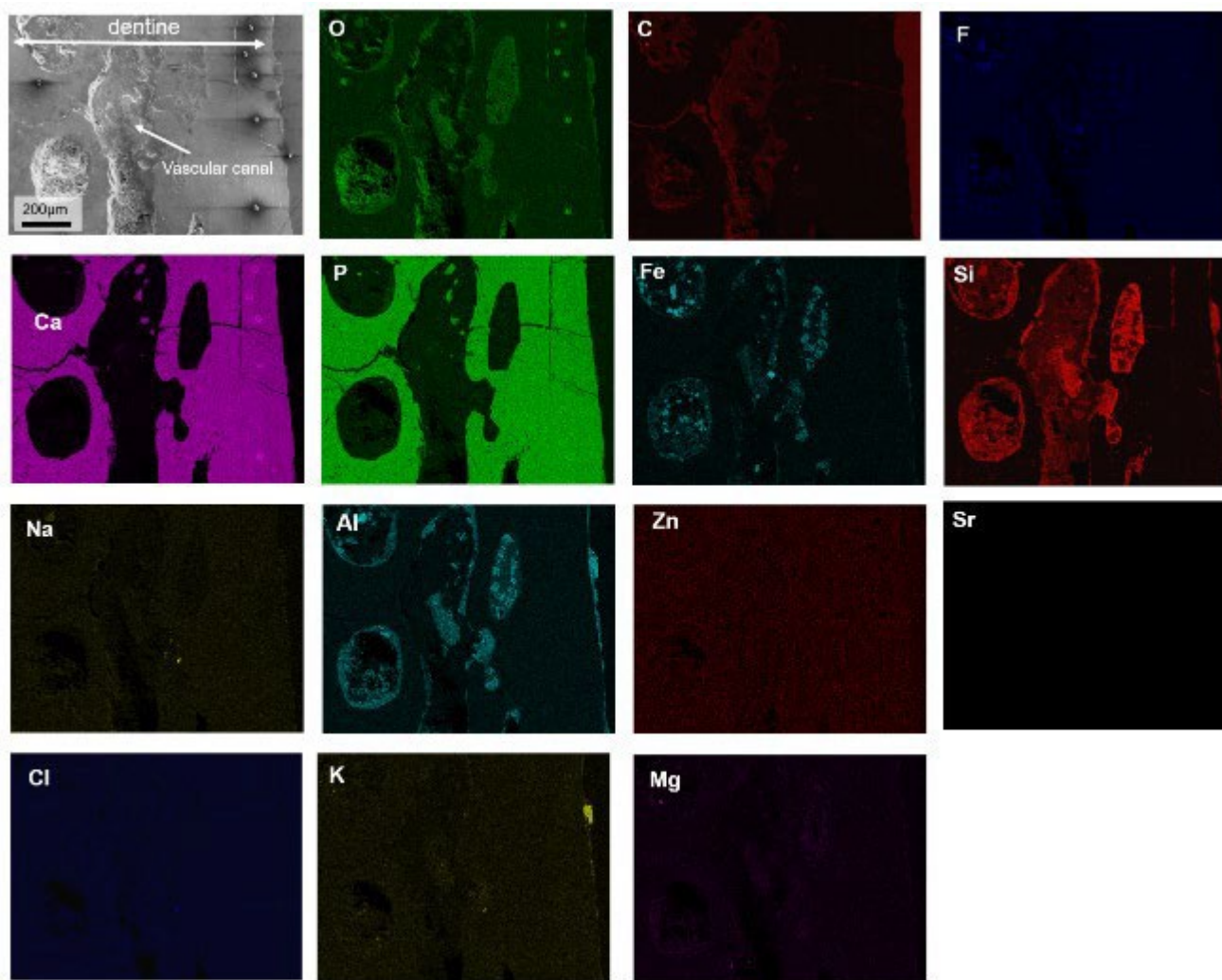
**Supplementary Figure 3:** EDX maps of element concentrated in the *Eumeralla plesiosaur* tooth (Eu-PL-1122B)



# EDS Map Data Supplement

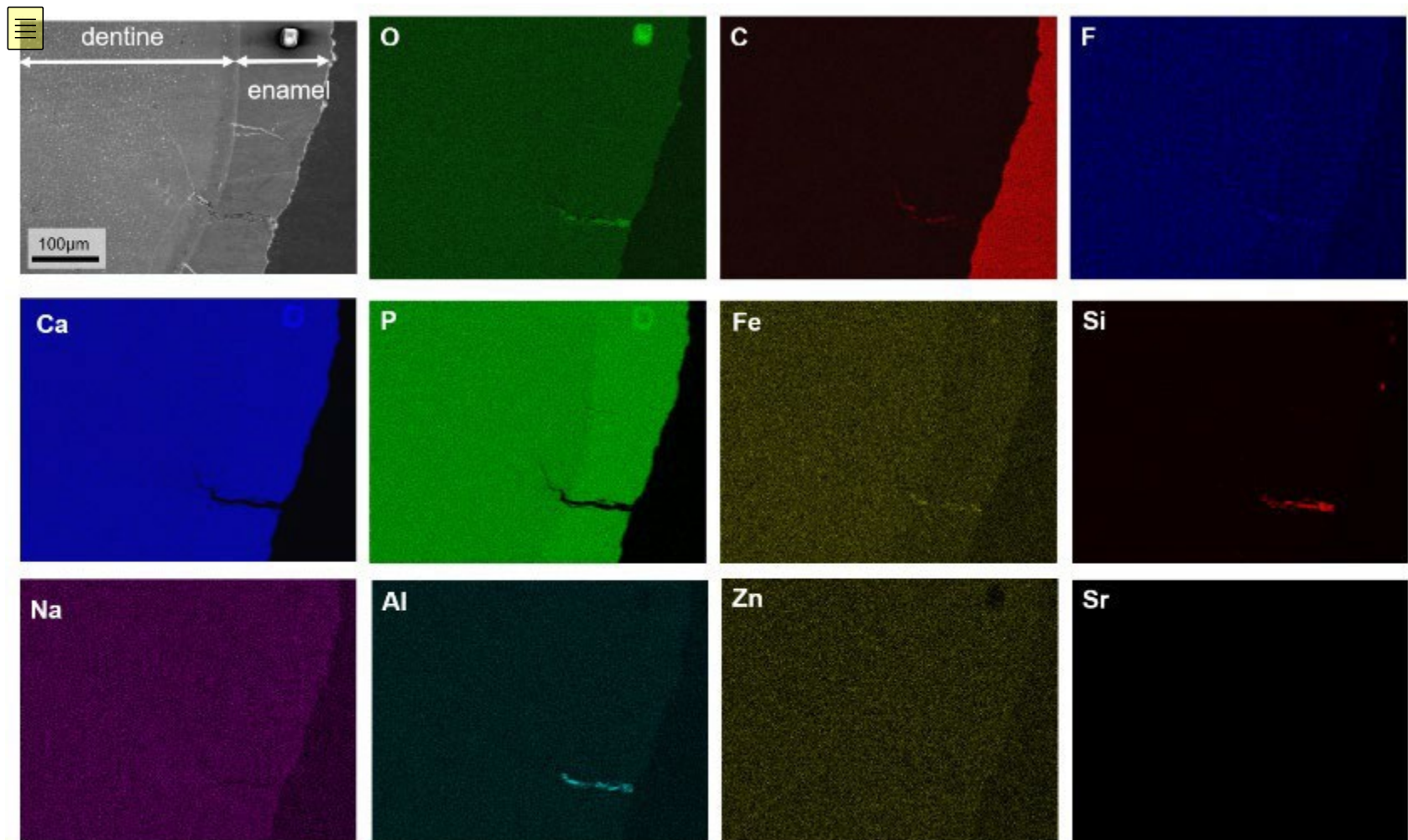


**Supplementary Figure 4:** EDX maps of element concentrated in the Eumeralla lungfish plate (Eu-PL-1122C)

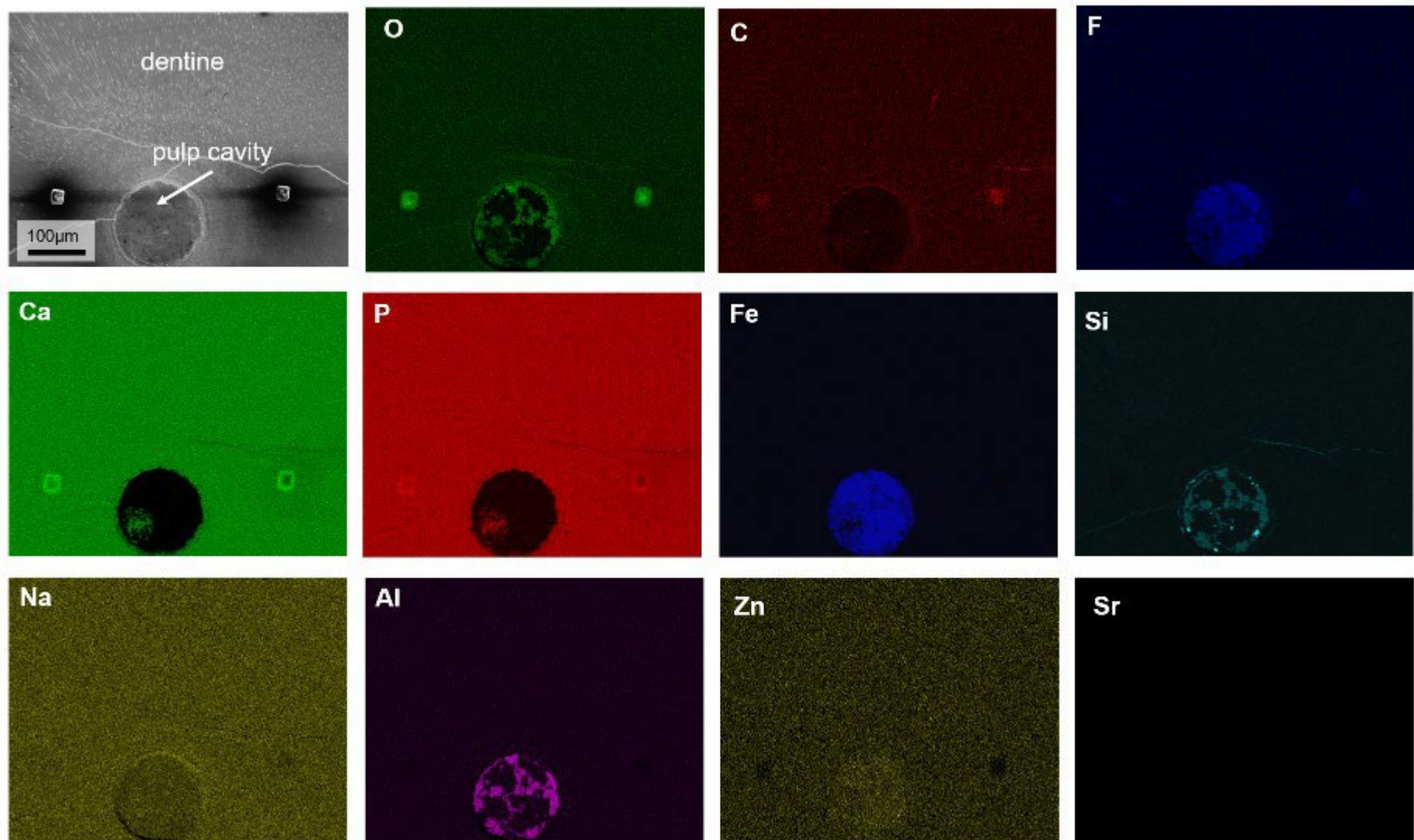


**Supplementary Figure 5:** EDX maps of element concentrated in the Eumeralla lungfish plate (Eu-PL-1122D)



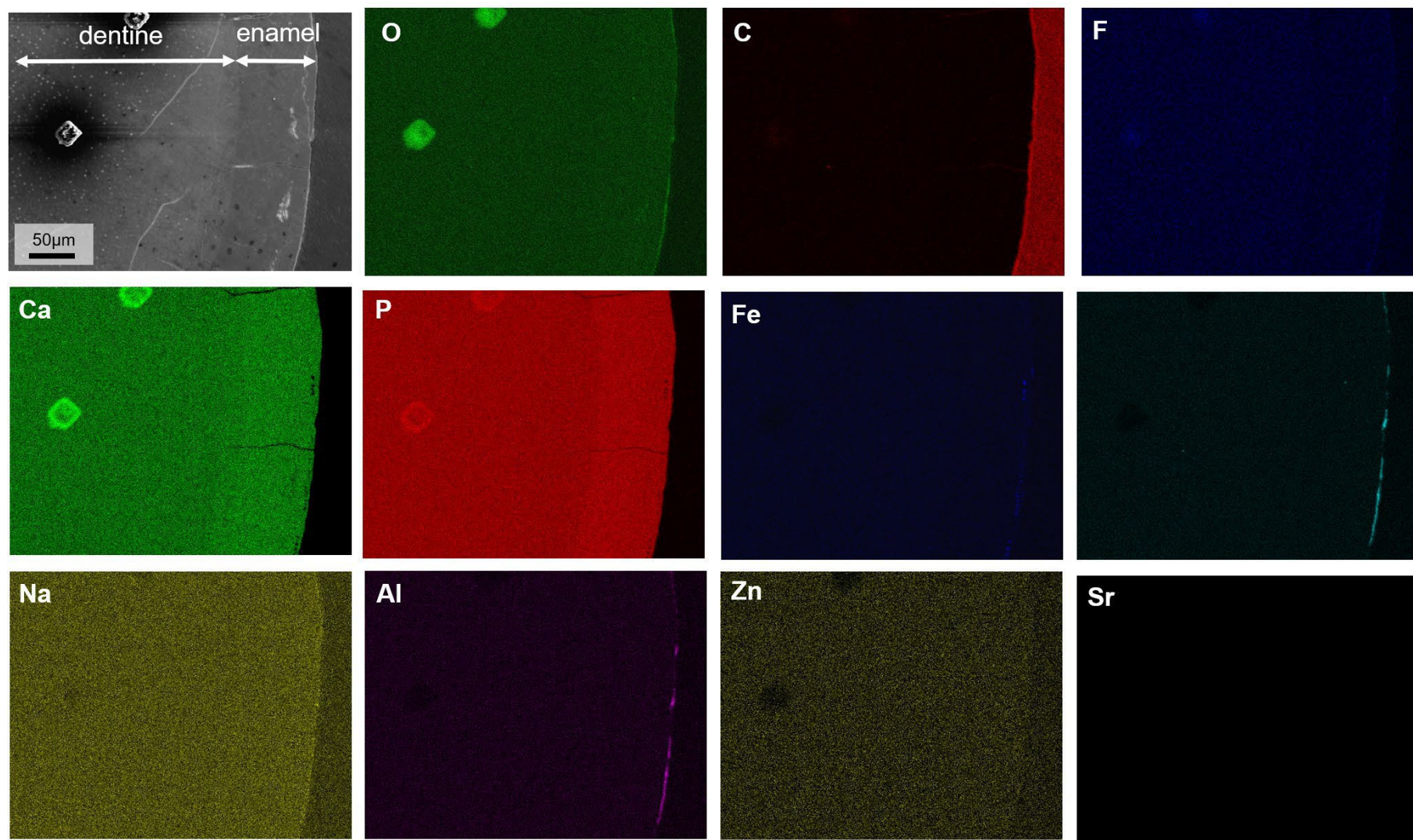


**Supplementary Figure 6:** EDX maps of element concentrated in the Wonthaggi plesiosaur tooth (Wtg-PL-1123A\_X outside part)



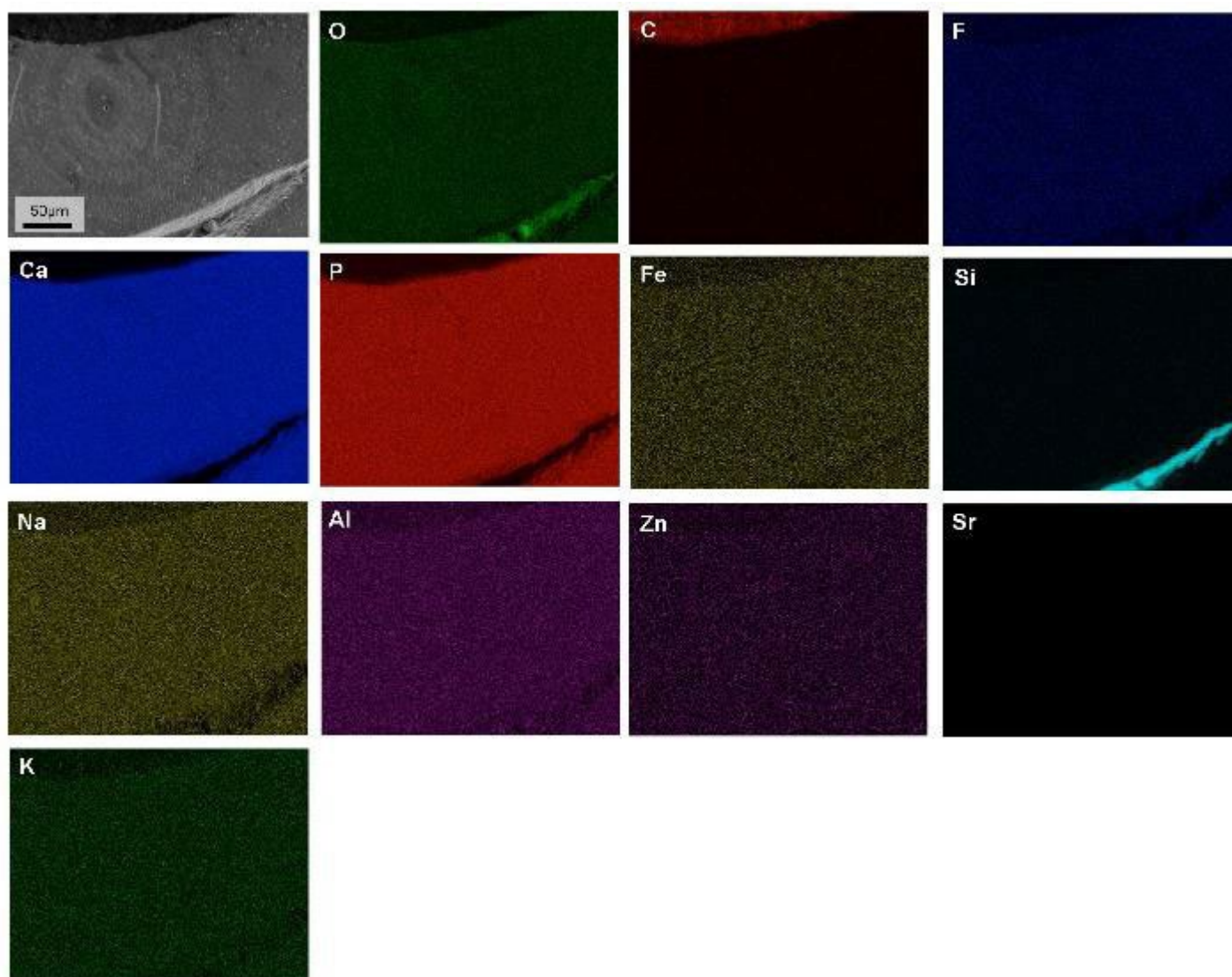
**Supplementary Figure 7:** EDX maps of element concentrated in the Wonthaggi plesiosaur tooth (Wtg-PL-1123A\_Y inside part dentine )



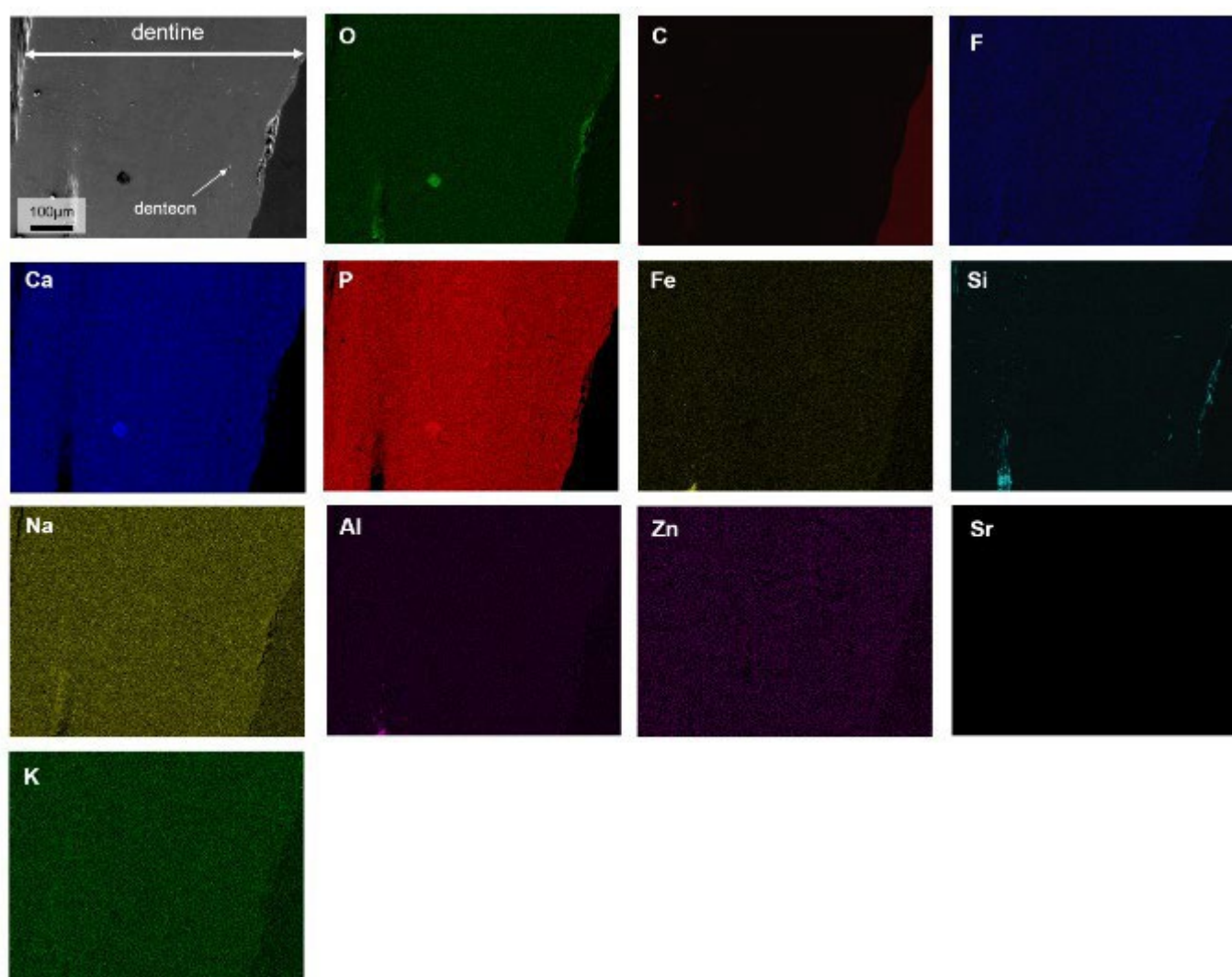


**Supplementary Figure 8:** EDX maps of element concentrated in the Wonthaggi plesiosaur tooth (Wtg-PL-1123B\_X outside part)



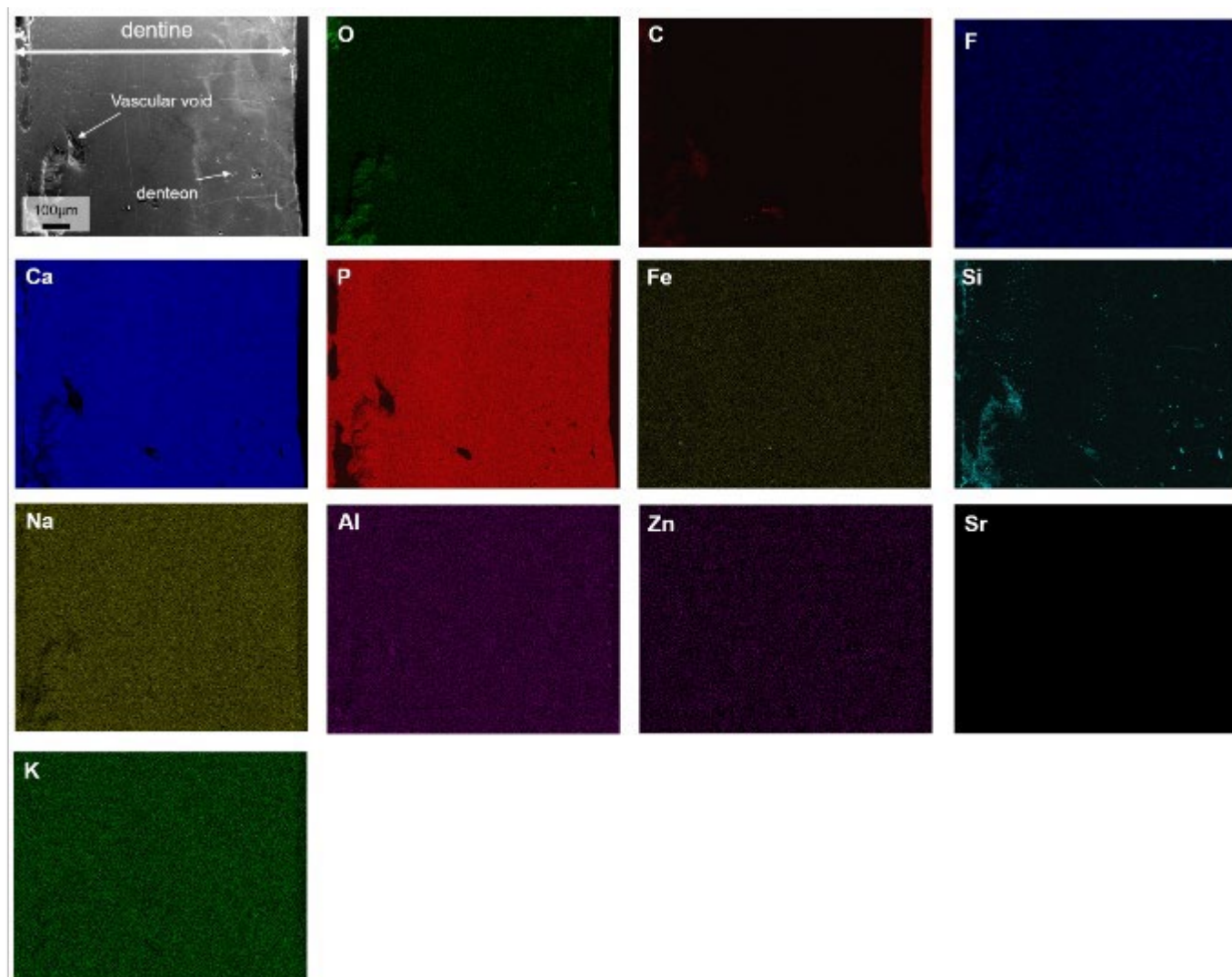


**Supplementary Figure 9:** EDX maps of element concentrated in the Wonthaggi plesiosaur tooth (Wtg-PL-1123B\_X inside part)



**Supplementary Figure 10:** EDX maps of element concentrated in the Wonthaggi lungfish plate (Wtg-PL-1123C)





**Supplementary Figure 11:** EDX maps of element concentrated in the Wonthaggi lungfish plate (Wtg-PL-1123D)