Supplementary information

Macroscopic electrostatic effects in ATR-FTIR spectra of modern and archeological bones

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Figure 1 Modelled diamond (n=2.4) ATR spectra of apatite for: a. varying volume fractions of apatite in a composite apatite/host matrix where the dielectric constant of the host matrix is ε_h= 1, b. varying volume fractions of apatite in a composite apatite/host matrix where the dielectric constant of the host matrix is ε_h= 2.5, c. varying dielectric constant of the host matrix at a constant volume fraction of apatite f = 0.4.

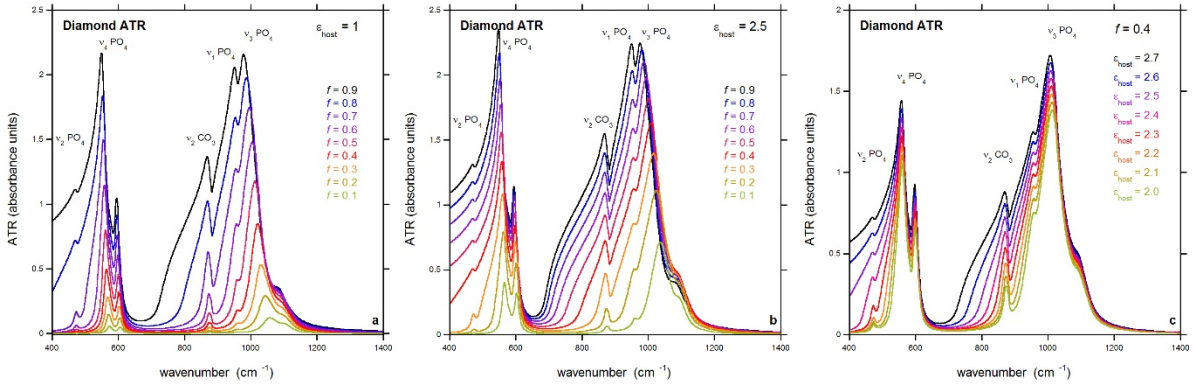

Figure 2 Modelled Ge (n=4) ATR spectra of apatite for: a. varying volume fractions of apatite in a composite apatite/host matrix where the dielectric constant of the host matrix is ε_h = 1, b. varying volume fractions of apatite in a composite apatite/host matrix where the dielectric constant of the host matrix is ε_h = 2.5, c. varying dielectric constant of the host matrix at a constant volume fraction of apatite f = 0.4.

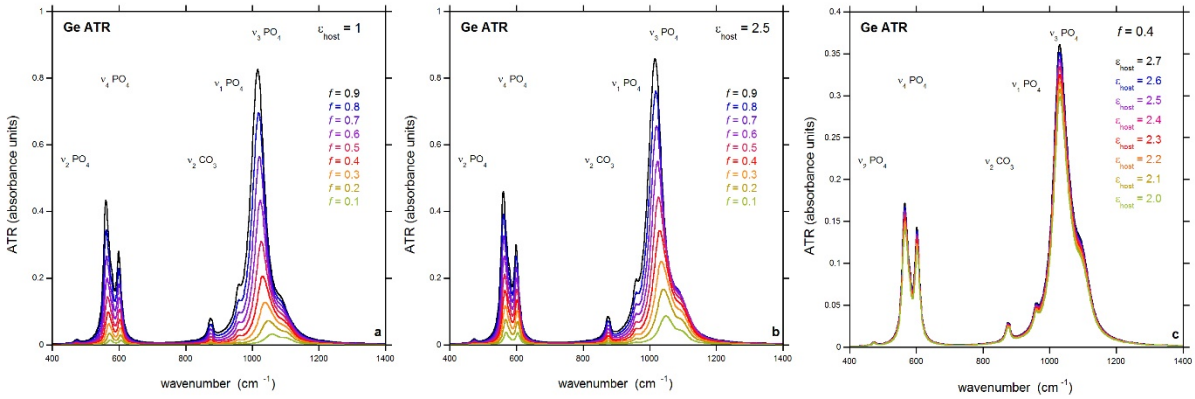

Figure 3 Diamond ATR-FTIR spectrum of pure bone extracted collagen