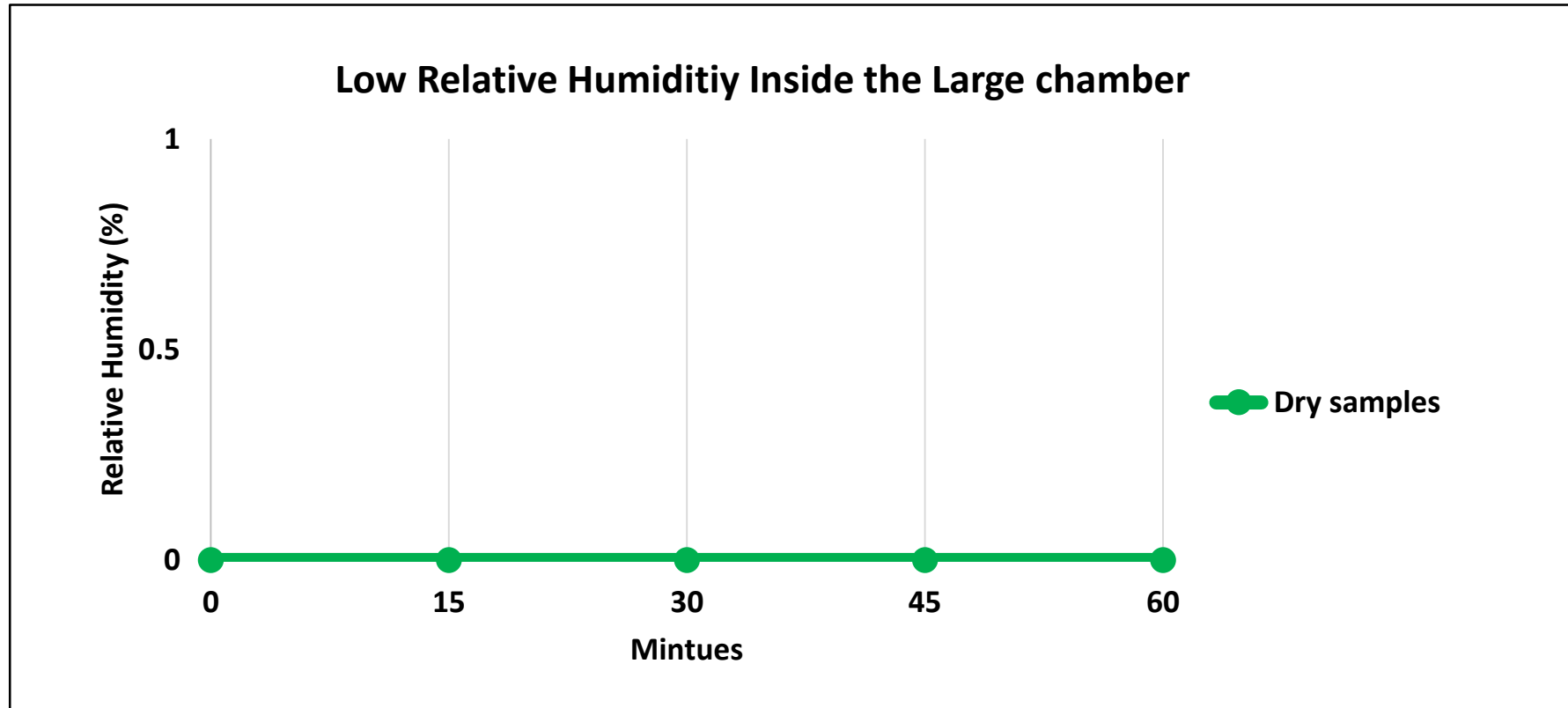


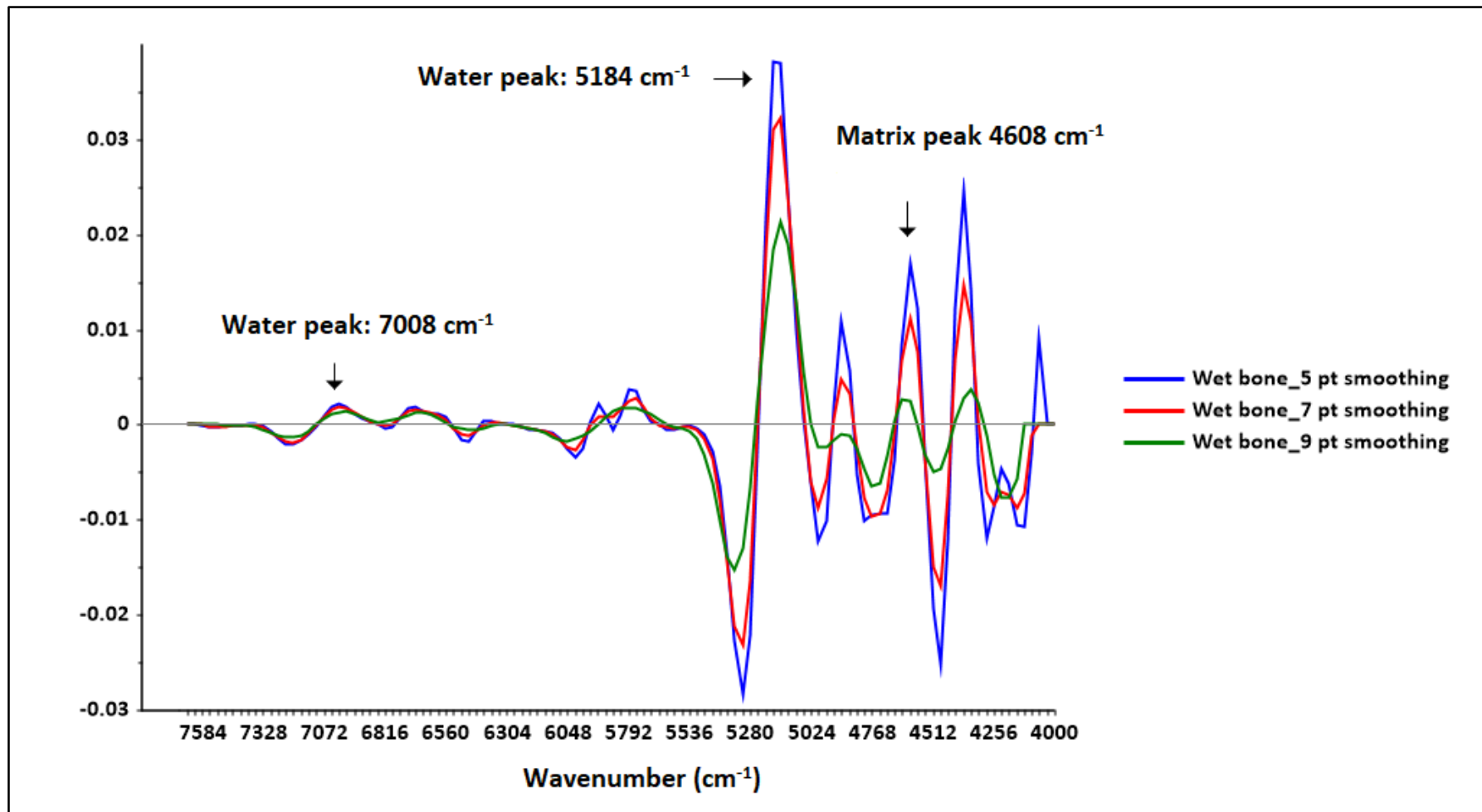
Environmentally-Controlled Near Infrared Spectroscopic Imaging of Bone Water

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Supplementary Figure S1: Relative humidity inside the large imaging chamber during one hour of spectral data collection of dry bone samples in low RH conditions.



Supplementary Figure S2: Inverted second derivative spectra of wet bone spectra with varying smoothing points.

Table 1: Univariate Analysis

Frequencies	Component	R-value	RMSE
5184 cm ⁻¹	Water	0.84, p<0.05	12.50%
7008 cm ⁻¹	Water	0.63, p<0.05	16.8%
5184/4608	Water/Matrix	0.96, p<0.05	9.90%
7008/6688	Water/Matrix	0.90, p<0.05	18.6%
5184 cm ⁻¹ + 4608 cm ⁻¹	Water +Matrix	0.95, p<0.05	8.90%
7008 cm ⁻¹ + 6688 cm ⁻¹	Water + Matrix	0.93, p<0.05	9.30%

Table 2: Multivariate Analysis: Results from the PLS best model

R-value	RMSECV
0.92, p<0.05	6.60%