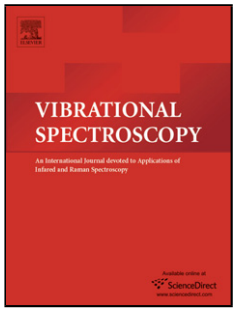

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Authors: A.C. Power, J. Chapman, S. Chandra, J.J. Roberts, D. Cozzolino

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Illuminating the flesh of bone identification – an application of near infrared spectroscopy

Power, A.C. [1]; Chapman, J. [2]; Chandra, S. [1]; Roberts, J.J. [1]; Cozzolino, D[1*].

[1] Agri-Chemistry Group, School of Medical and Applied Sciences, Central Queensland University (CQU), Bruce Highway, North Rockhampton, Queensland, 4701, Australia

[2] School of Science, RMIT University, GPO Box 2476, Melbourne, Victoria 3001, Australia

[*]Corresponding author: d.cozzolino@cqu.edu.au

Abstract

Near infrared (NIR) reflectance spectroscopy coupled with chemometric analysis was evaluated as a non-destructive tool to discriminate skull bone samples from different animal species. In total 70 skull bones from animals of three classes (mammalians, avian and reptiles) were scanned in the wavelength range between 950 to 1650 nm. Principal component analysis (PCA) and partial least squares discriminant analysis (PLS-DA) were used to analyse the NIR spectra of the skull samples. Correct classification rates of 96% and 81% were obtained for the classification of skull bone samples according to avian and mammalian classes,