

Title Prediction of roasting colour and other quality parameters of roasted coffee samples by near infrared spectroscopy. A feasibility study

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### **Abstract**

Today, the coffee industry has a growing need to have rapid reference methods at its disposal that can serve as a basis for developing robust and reliable calibration models, which can later be used in the determination of future samples. This study focuses on four of the most important constituents of espresso and roasted coffee that are essential from a quality assurance standpoint: total acidity, caffeine content, chlorogenic acids and roasted bean colour. Thanks to the conjunction of pre-processing methods and multivariate calibration with near infrared (NIR) spectroscopy, separate regression models have been developed which can be used as a rapid method for the prediction of these four quality parameters. Special attention could be given to the unexpected potential of NIR measurements to provide colour quality information relating to roasted coffee samples.