# The smartphone as an economical and reliable tool for monitoring the browning process in sparkling wine

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A fast, reliable colorimetric method based on colour measurements obtained from digital images of sparkling wine to study wine browning is proposed. Digital images were obtained, using a smartphone camera and a diffuse light source as the measurement device and, in order to isolate external influences, a suitable blackbox. Images in Red Green and Blue (RGB) colour space were splitted into the three basic channels (R, G, and B) and their values were used to monitor the browning process. Four sparkling Cava wines were monitored during an accelerated browning process. Results showed that while the Red and Green channels remained almost constant, the browning process affected primarily the Blue channel, decay being time-dependent. The Blue channel decay (%Bt) percentage over time is proposed as a new quality marker. This value had a high correlation with absorbance at 420 nm and 5-hydroxymethyl-2-furfural contents. These latter are the most usual markers of wine browning and the results obtained show that %Bt is a good browning descriptor. The advantages of the proposed methodology are single-step multiple samples analysis, affordable instrumentation and the fact that sample preparation is not required. © 2017 Elsevier B.V.

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