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IMAGE ANALYSIS FOR THE DETECTION OF FALSIFIED MEDICINAL PRODUCTS

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INTRODUCTION

The European Union defines the falsification of medicinal products as: "Any medicinal product with a false representation of its identity, including its packaging and labelling, its name or its composition as regards any of the ingredients including excipients and the strength of those ingredients…" (Directive 2011/62/EU).

The methodology to detect counterfeiting involves various analytical techniques, and always starts with the study of the appearance of the sample and the comparison with the authentic sample. Image Analysis allows the analyst to go further than the visual observation.
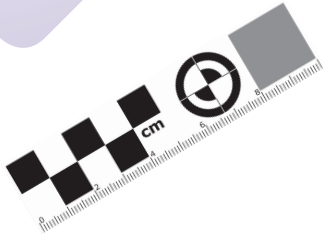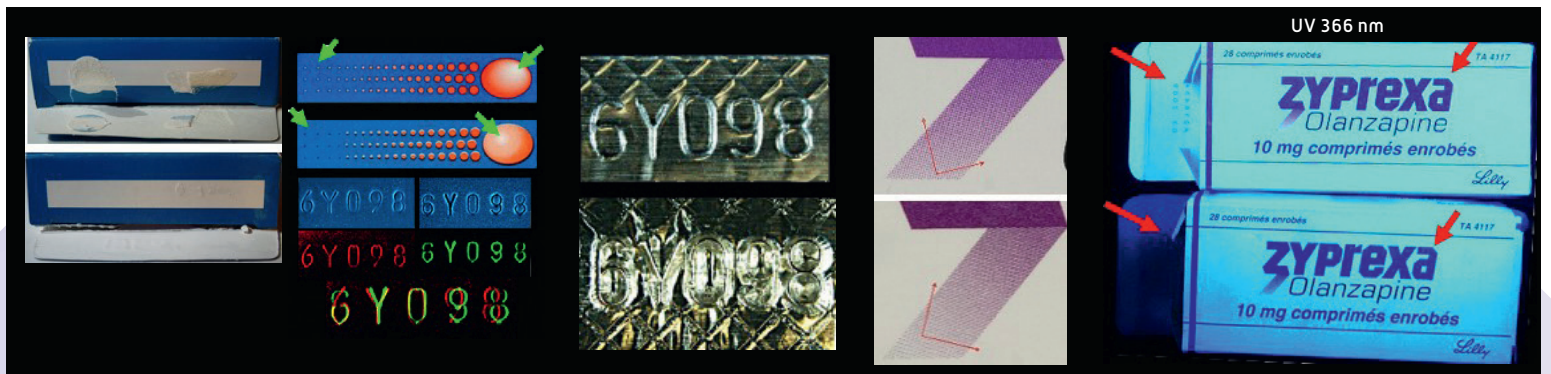

Equipment

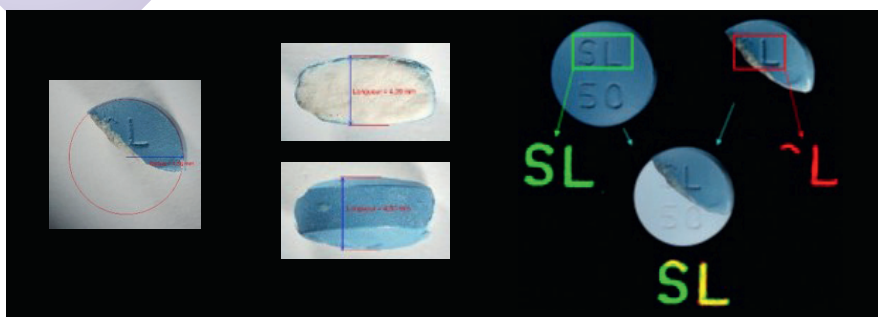|	Make and model
Camera	Nikon DS-5Mc
Microscope	Nikon SMZ 1500
Software	Nikon NIS element D 3.0
White source	Schott KL1500 LCD
UV source	Vilber Lourmat VL-6LC (254/366 nm)
Image editor	GIMP 2.6.1

Study on solid forms

Study on packaging

UV 366 nm

Identification of tablet

CONCLUSION

Image analysis of suspected samples is a preliminary non-destructive method used to highlight subtle parts of samples not visible to naked eyes. The study is usually performed comparatively to an authentic sample. Each part of the sample is investigated under visible and UV sources: tablet, embossment, printing, box, glue, blister, leaflet…

REFERENCES

Jung *et al. A new methodology for detection of counterfeit Viagra and Cialis tablets by image processing and statistical analysis,* Forensic Sc. Int. 216 (2012) 92-96

Rodomonte *et al. Counterfeit drugs detection by measurement of tablets and secondary packaging colour,* J. Pharm. Biomed. Anal 53 (2010) 215-220