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Coating technology in the pharmaceutical industry

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Coating is one of the numerous steps in pharmaceutical tablet manufacturing that has increased its value over the past decades. There are several strategies for achieving tablet coating, of which film coating is the most popular. The latter doesn't only aim to improve the aesthetics of the solid dosage form but is also considered an important way to protect the drug from direct contact with environmental conditions such as light, and many other benefits. Among the excipients widely used in coating formulations - i.e. opacifiers. TiO_2 represents the most commonly used one as it has a unique set of properties in pharmaceuticals. Although the use of TiO_2 has been regarded as safe for several years, recent *in vitro* and *in vivo* studies have raised some concerns. However, no alternative has been found that is completely similar to this excipient until now which puts formulators in big trouble.
This research aims to prepare film-coated tablets of nifedipine using pharmacoat® 606 and several types of opacifiers/dyes to reach the optimal formula that protects against light and compare it with the reference one (TiO_2). Furthermore, the photostability test was conducted to determination drug content by HPLC analysis.