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Characterization of Photochemical and Pharmacokinetic Properties of Orally Administered Chemicals to Assess Phototoxic Risk

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Abstract

Phototoxicity, the adverse skin reaction induced by the combination of a chemical and ultraviolet (UV) or visible light, poses a signifcant challenge in drug development and safety assessment. In this study, we aimed to systematically characterize the photochemical and pharmacokinetic properties of orally administered chemicals to assess their phototoxic risk. To achieve this, we employed a comprehensive set of in vitro and in vivo experiments, utilizing state-of-the-art analytical techniques and predictive models. Our research involved the investigation of the potential of orally administered chemicals to undergo photochemical reactions upon exposure to UV or visible light. We evaluated their absorption, distribution, metabolism, and excretion (ADME) properties to gain insights into their fate within the human body and how these prop¾Z h : h : t p ɔ D φ T l M G rop Á A ' odp¾ w] ˘ for the evaluation of the phototoxic risk associated with orally administered chemicals, thereby improving the overall safety profle of pharmaceutical products.

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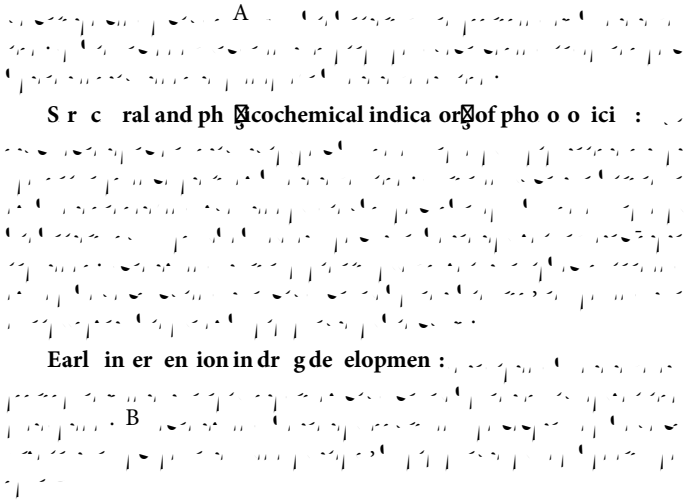
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