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Abstract

Synthesis of Novel 2-Phenylindole Analogues as Antifungal and Antibacterial Agents †

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Abstract: A series of novel indole derivatives containing ester groups, halogen, epoxy and short-chain aliphatic hydrocarbons were designed, synthesized and evaluated for their antibacterial activities. Most of the compounds showed relatively excellent inhibitory activities against different strains (including a multidrug-resistant clinical isolate). Compounds **3f**, **3o** and **3r** showed the strongest inhibitory activity (mic of 2–32 μg/mL). Compounds **3f**, **3h**, **3i**, **3o** and **3r** with antibacterial activity were not cytotoxic against RAW 264.7 mouse macrophages. The structure–activity relationship analysis and docking studies showed that the halogens as well as aliphatic hydrocarbons could enhance the antibacterial ability and reduce the toxicity of the indole compounds.

Keywords: synthesis; anti-bacterial; anti-fungal; 2-phenylindole

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Informed Consent Statement: Not applicable.

Data Availability Statement: The data presented in this study are available in the article.

Conflicts of Interest: The authors declare no conflict of interest.