



**Universiteit
Leiden**
The Netherlands

Next generation lipopeptide antibiotics

Al Ayed, U.K.

Citation

Al Ayed, U. K. (2024, January 23). *Next generation lipopeptide antibiotics*. Retrieved from <https://hdl.handle.net/1887/3714346>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/3714346>

Note: To cite this publication please use the final published version (if applicable).

Propositions

Accompanying the thesis

Next Generation Lipopeptide Antibiotics

1. Ester-to-amide substitution in lipodepsipeptides can be an effective strategy to increase serum stability. (*Chapter 2*)
2. Increasing the lipid length of a lipopeptide antibiotic can lead to non-selective membrane disruption and hemolysis. (*Chapter 3*)
3. Linear analogues of cyclic cationic lipopeptide antibiotics can exhibit activity comparable to the parent compounds, provided they are prepared as the C-terminal amides. (*Chapter 4*)
4. Genome mining coupled with total synthesis has the potential to speed up the research and development of novel non-ribosomal peptides. (*Chapter 5*)
5. The growing threat of antimicrobial resistance can be seen as a silent pandemic. (*Laxminarayan, The Lancet, 2022, 399(10325), 606-607*)
6. Most areas of modern medicine could not exist without access to effective antimicrobial treatment. (*Blaskovich, ACS Infect. Dis., 2020, 6, 1286-1288*)
7. It is prudent to use natural products as a starting point for a synthetic chemistry program to produce antibiotics with attractive properties. (*Lewis, Cell, 2020, 181, 29-45*)
8. Predictive AI models have the potential to speed up drug discovery but are not alternatives to experimental data. (*Mock et al., Nature, 2023, 621, 467-470*)
9. Publishing on an open access preprint server such as ChemRxiv before peer-review should be normalized.
10. The historical transition from alchemy to modern chemistry symbolizes the human quest for transformation and mastery over the material world.