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## Mining and characterization of antimicrobials from plant growth-promoting rhizobacteria isolated from perennial ryegrass

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## PROPOSITIONS

### ASSOCIATED WITH THIS DISSERTATION

Mining and characterization of antimicrobials from plant growth-promoting rhizobacteria isolated from perennial ryegrass

By Zhibo Li

1. Perseverance does not necessarily pay off.
2. Bacteria bring many problems to eukaryotes, but they also provide solutions.
3. Plant growth-promoting rhizobacteria offer critical keys to sustainable agriculture (This thesis).
4. The biosynthetic potential of *Brevibacillus laterosporus* is comparable to that of the well-known biocontrol species *Bacillus velezensis* (This thesis).
5. *Brevibacillus* spp. are great producers of cationic lipopeptides (This thesis).
6. Unraveling the biosynthetic pathways and machinery of antimicrobials forms the basis for further engineering (This thesis).
7. Bacteria are very smart to adjust their lifestyle and metabolic strategy when encountering stress (This thesis).
8. All things are difficult at the start (万事开头难).