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Solvent tolerance mechanisms in *Pseudomonas putida*

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Stellingen

Propositions accompanying this thesis

Solvent tolerance mechanisms in *Pseudomonas putida*

1. While the evidence of mobile genetic elements carrying the efflux pump gene cluster in various solvent-tolerant *Pseudomonas* strains has not yet been found, it is possible that exchange occurred via such route. (Chapter 3)
2. Some genetic traits do not give a clear and measurable contribution to overall solvent tolerance, but when they are missing, optimal tolerance levels cannot be reached. (Chapter 4)
3. Solvent- and heat-stress generate similar responses, suggesting that the damage caused by these stresses are similar. (Chapter 5 and Chapter 7; Volkers, 2015)
4. Co-expression of efflux pumps shows a deleterious effect due to cellular toxicity, likely caused by energy and spatial competition between them (Chapter 6, Dunlop et al., 2011)
5. Obligate aerobicity of *Pseudomonas putida* is the Achilles' heel for this bacterium when considering its biotechnological application. (Mendonca et al., 2020; Weimer et al., 2020; Kampers et al., 2019)
6. In any type of stress response research, typically toxin-antitoxin modules find you, not the other way around. (Bobonis et al., 2020)
7. Support for female scientists should be extended to positive mentorship environment, availability of childcare service, and normalizing a parental leave gap-year. (Warner, 2020)
8. With minimal leadership training throughout their career, a scientist is expected to be natural at it once she/he becomes a PI.
9. The observed increase in the number of PhD graduations, published manuscripts and reviews during COVID-19 lockdown reflects the need for 'time-off' from the lab for scientists to stay productive.
10. The word 'surprisingly' should not be banned from scientific writing, because surprising and accidental findings lead to pivotal scientific discoveries, like antibiotics.