



University of Groningen

## Protein delivery from polymeric matrices

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# PROPOSITIONS

1. Addition of the polysaccharide pullulan to the gold standard in sugar glass technology, the disaccharide trehalose, substantially improves the performance at humid conditions. (this thesis)
2. Hot melt extrusion can be applied for the production of protein-containing formulations by using low temperature processable polymers and sugar glass technology. (this thesis)
3. Systemic delivery of PDGF $\beta$ -receptor directed proteins using subcutaneously administered microspheres composed of phase-separated multi-block copolymers does not compromise their targeting properties. (this thesis)
4. Efficient delivery of drugs to diseased tissue can be achieved by utilizing the selectivity of proteins in the design of the drug carrier.
5. The complexity of therapeutically active proteins does not allow the use of model proteins during formulation development.
6. The reason that the implementation of Paul Ehrlich's concept of the Magic Bullet will never reach perfection is enclosed in its name.
7. Shared first authorship is not a halving of the work, but a synergy resulting in interdisciplinary research at its best.
8. Even the most well-prepared are not prepared for the amount of backup plans necessary during a PhD project.
9. De essentie van de Indische keuken is te vatten in wat heet heet



Naomi Teekamp

# **PROTEIN DELIVERY** from **POLYMERIC MATRICES**

*From pre-formulation stabilization studies to site-specific delivery*