Propositions

accompanying the thesis

Reversible noncovalent assemblies for imaging applications

1. A change of a factor 20 in luminescence lifetime is enough to apply luminescence lifetime imaging in a clinical setting.

   Chapter 2 of this thesis

2. A hairpin structure is a great tool to keep two luminophores at close proximity, while leaving a peptide available for enzymes

   Chapter 3 of this thesis

3. Multivalent supramolecular chemistry using β-cyclodextrin and adamantane is a good methodology to add functional groups to a living cell

   Chapter 4 of this thesis

4. Layer-by-layer deposition of β-cyclodextrin- and adamantane-polymers has a negative effect on cell viability

   Chapter 5 of this thesis

5. Translating artificially fabricated assemblies comprised of surface-modified cells to a clinical application requires close collaboration between chemistry, physics, engineering, biology and medicine.

   Fakhrullin, R.F., Choi, I.S. and Lvov, Y.M., Cell Surface Engineering. RSC Smart Materials. 2014

6. It is not always necessary to turn up the light to improve optical imaging

   General notice regarding luminescence lifetime imaging

7. Controlled cell surface engineering is required to solve many problems in biomedicine and biomaterials science.

   Fakhrullin, R.F., Choi, I.S. and Lvov, Y.M., Cell Surface Engineering. RSC Smart Materials. 2014

8. Designing for selective imaging agents is significantly more complicated than designing for affinity

   Huggins, D.J., Sherman, W., and Tidor, B., J Med Chem. 2012 Feb 23; 55(4): 1424–1444

9. The p-value determines significance of an outcome, not the importance of the research