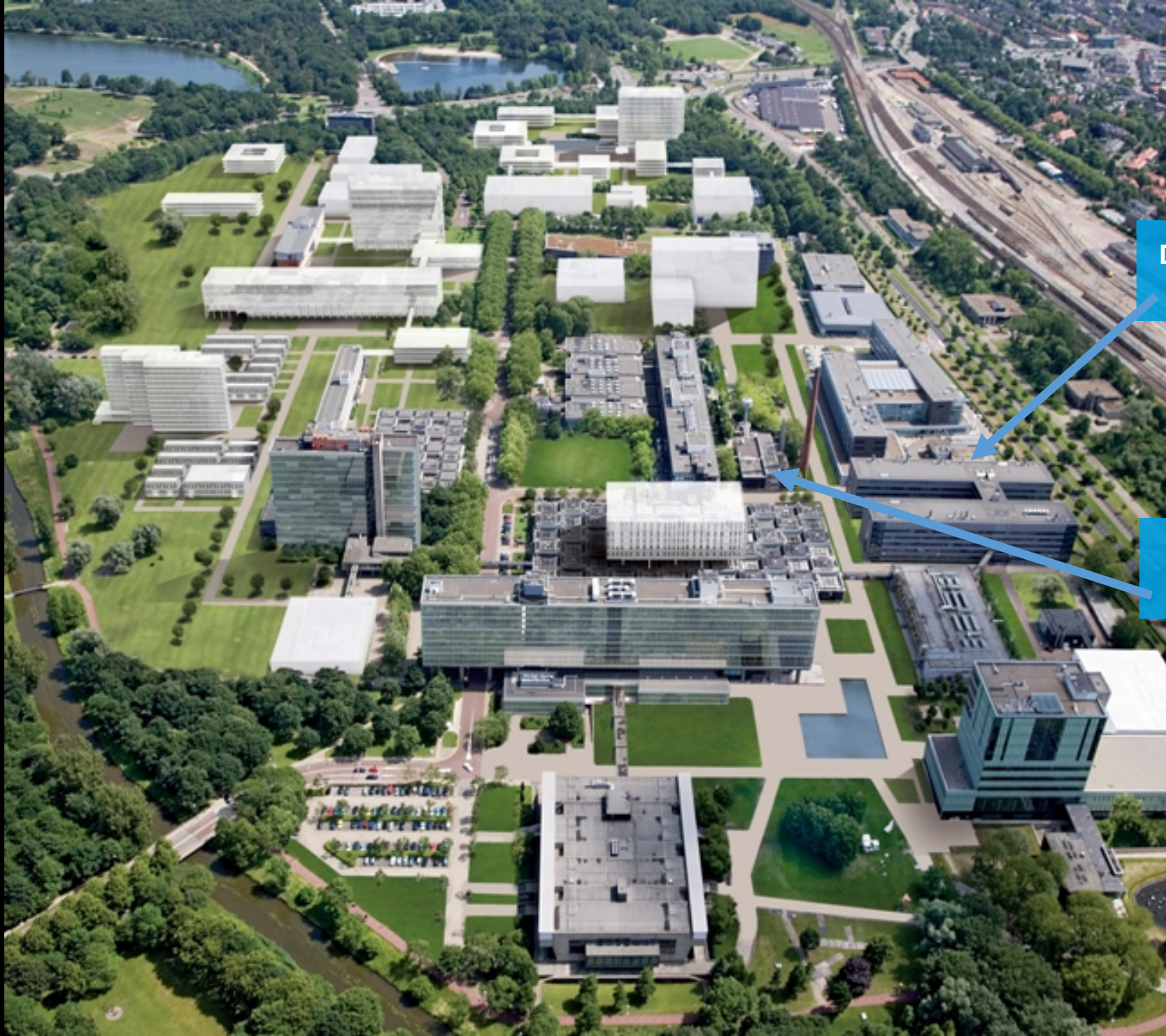


TU Eindhoven, The Netherlands

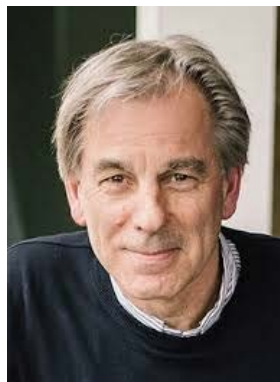




**Department of Chemical Engineering and Chemistry:
HELIX building**

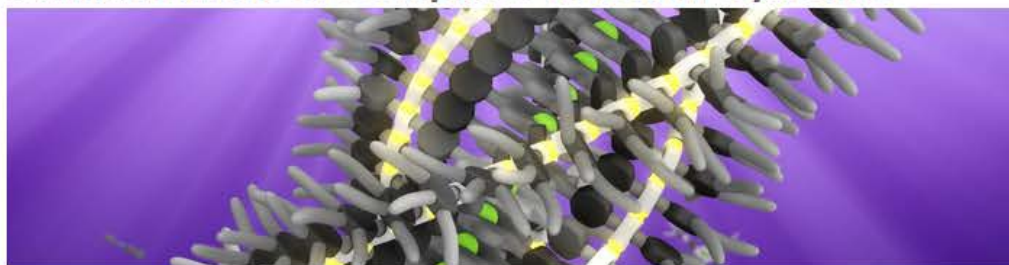
**Institute for Complex Molecular Systems:
Ceres building**

Laboratory of Macromolecular and Organic Chemistry



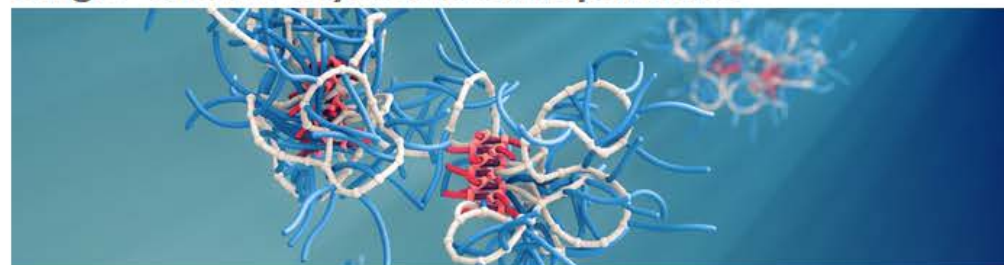
Bert Meijer

Fundamentals of Complex Molecular Systems

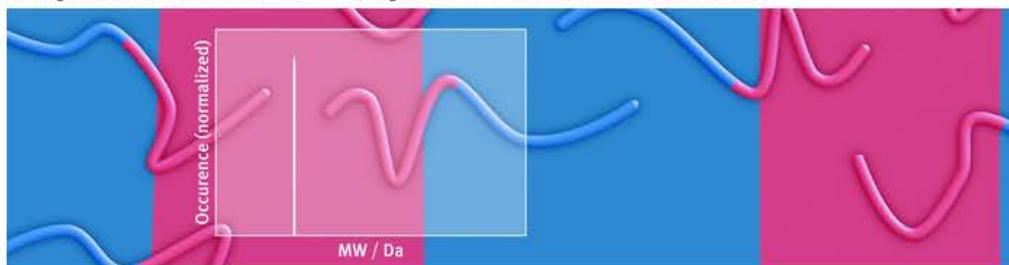


Anja Palmans

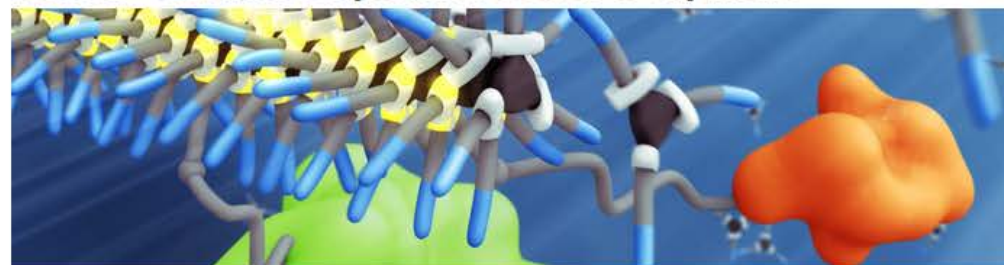
Single-Chain Polymeric Nanoparticles



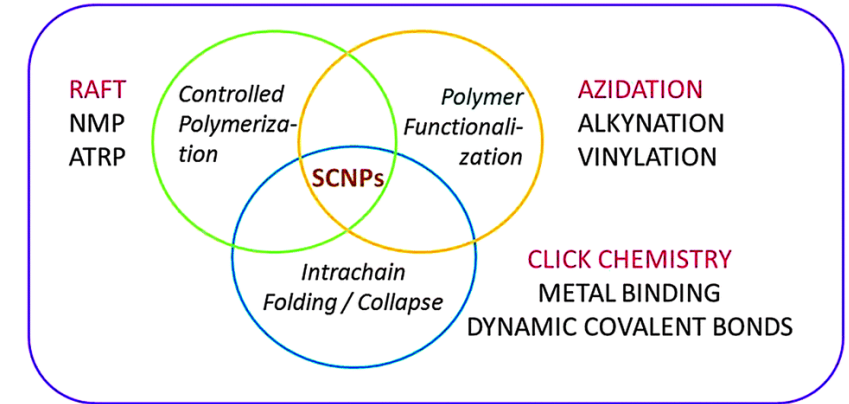
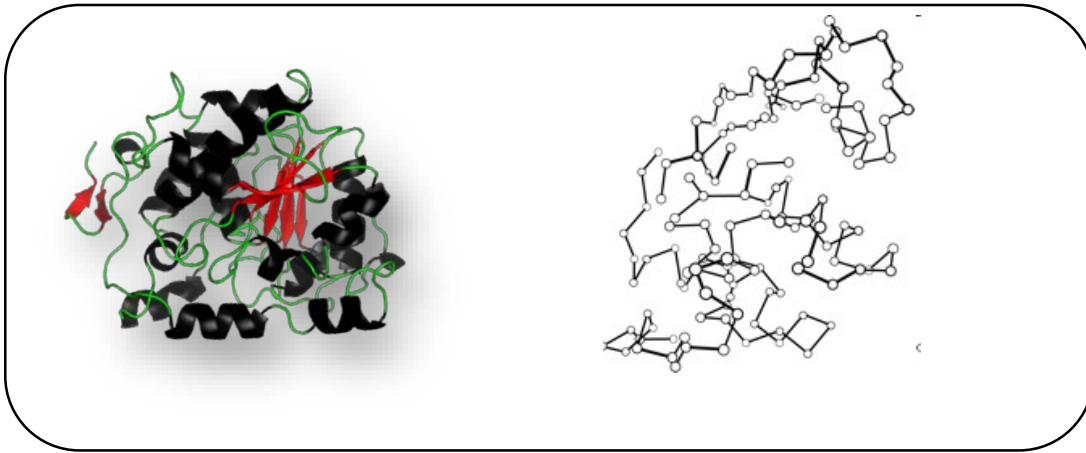
Supramolecular Polymers and Materials



Water-Soluble Supramolecular Polymers

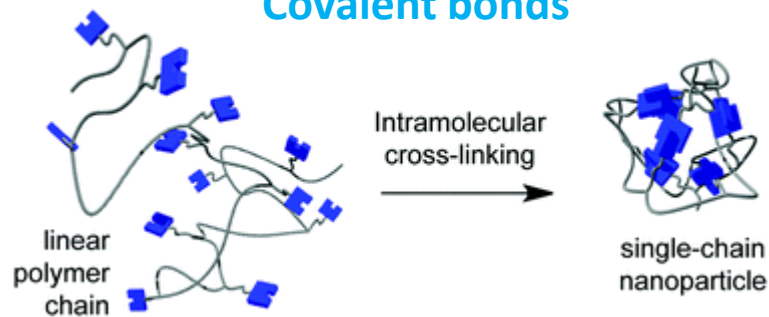


The art of single chain folding



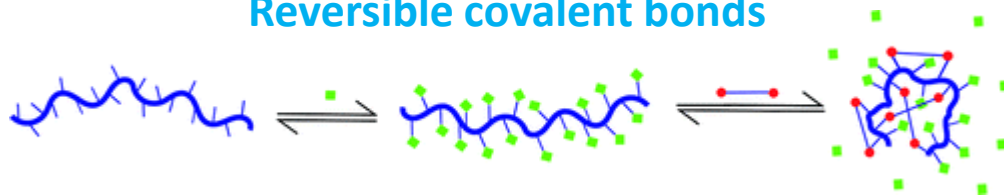
Chem. Soc. Rev. 2015, 44, 6122

Covalent bonds



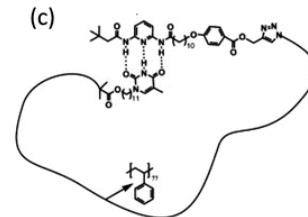
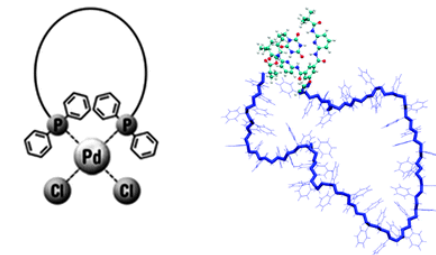
Hawker, Pomposo, Lutz and coworkers

Reversible covalent bonds



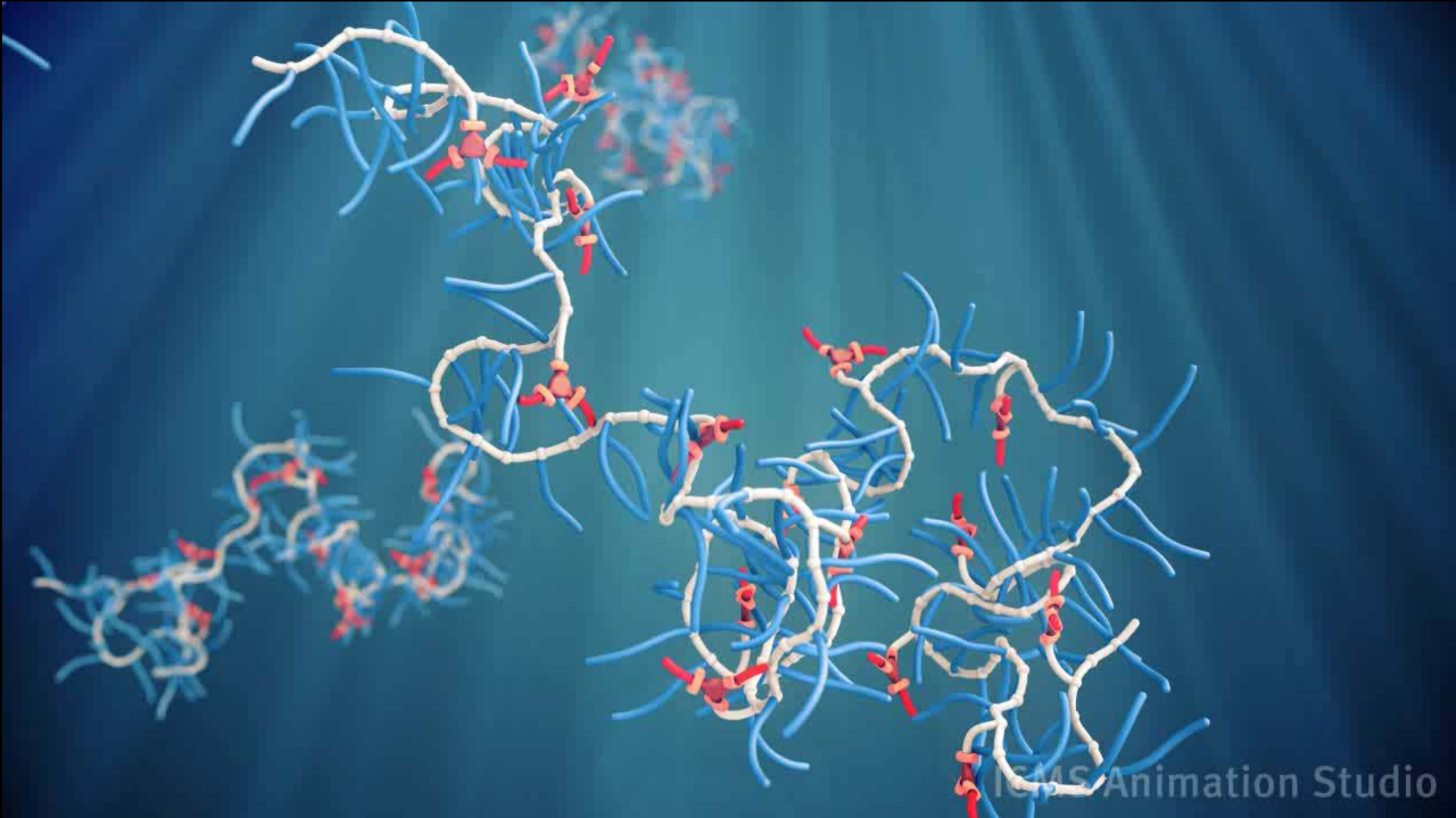
Fulton, Berda, Pomposo, Lehn and coworkers

Non-covalent bonds

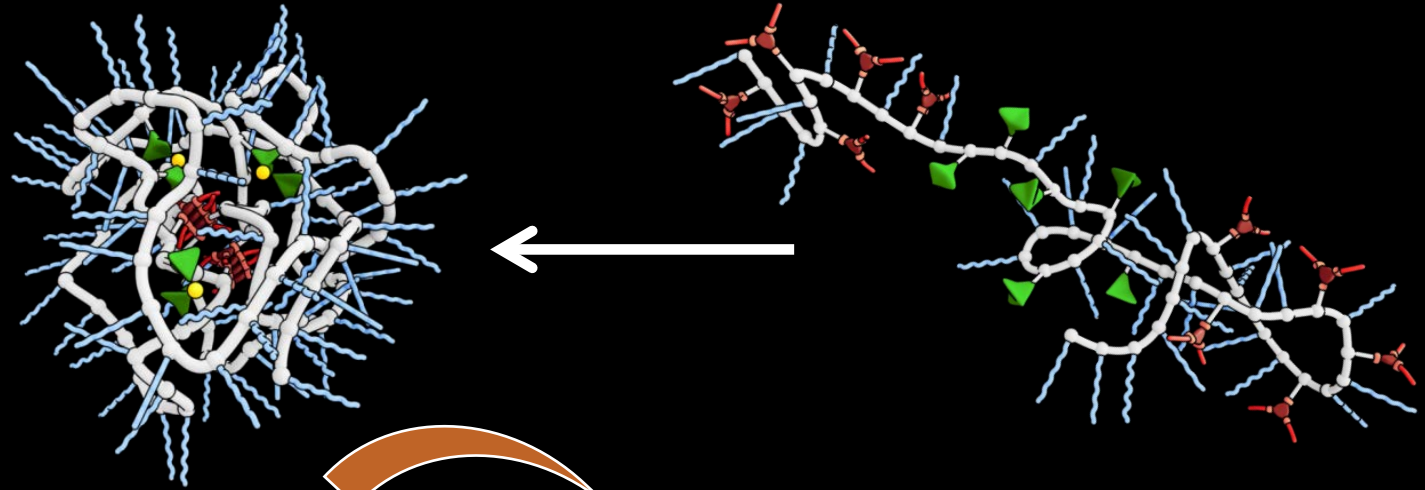


*Hawker, Barner-Kowollik,
Meijer/Palmans,
Terashima/Sawamoto
and coworkers*

Single chain folding visualised



Mimicking Enzymes by Single Chain Polymeric Nanoparticles

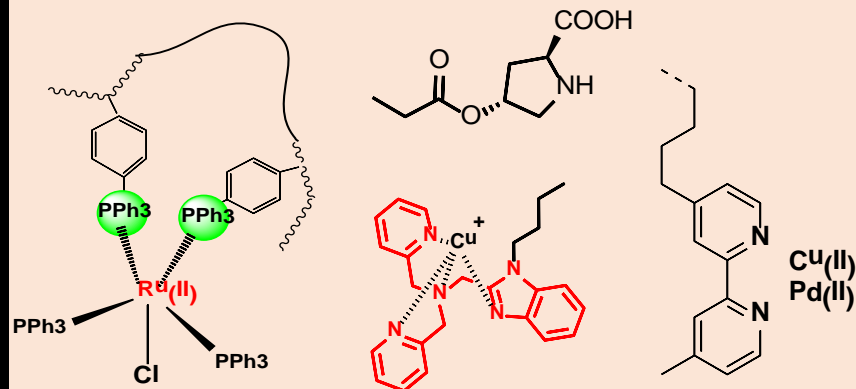


Challenges:
Selectivity
High TOF
Catalysis in complex media



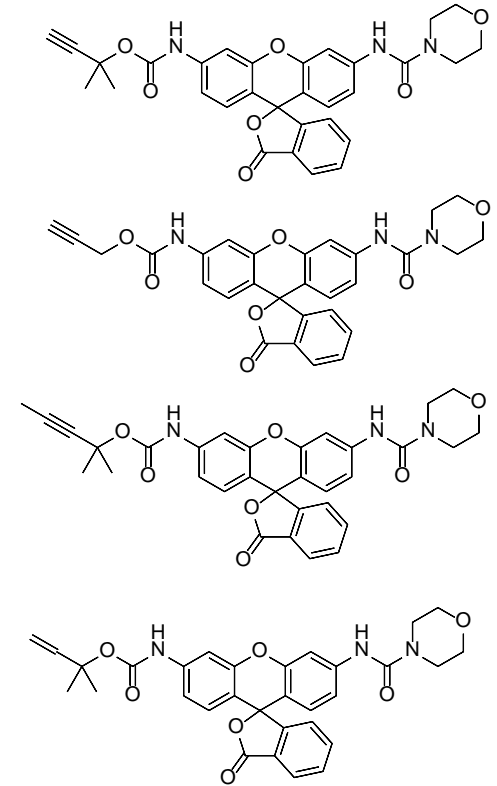
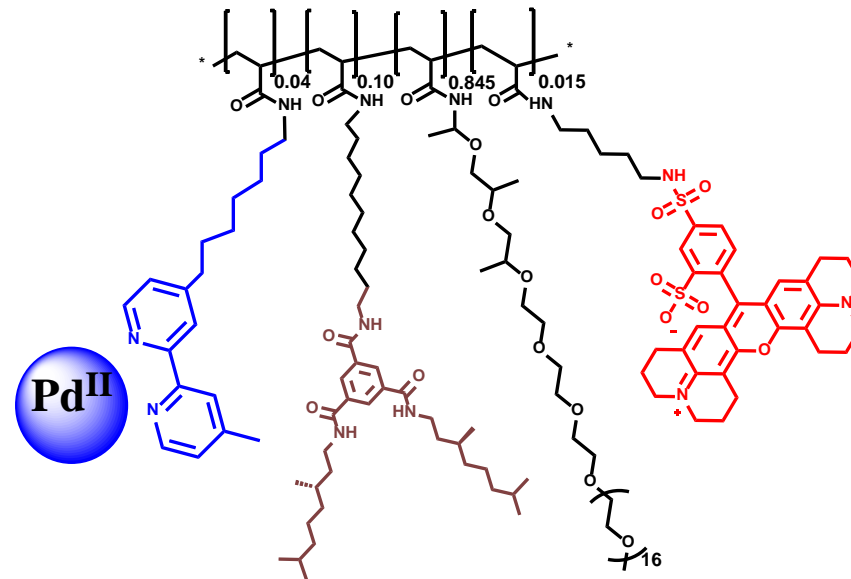
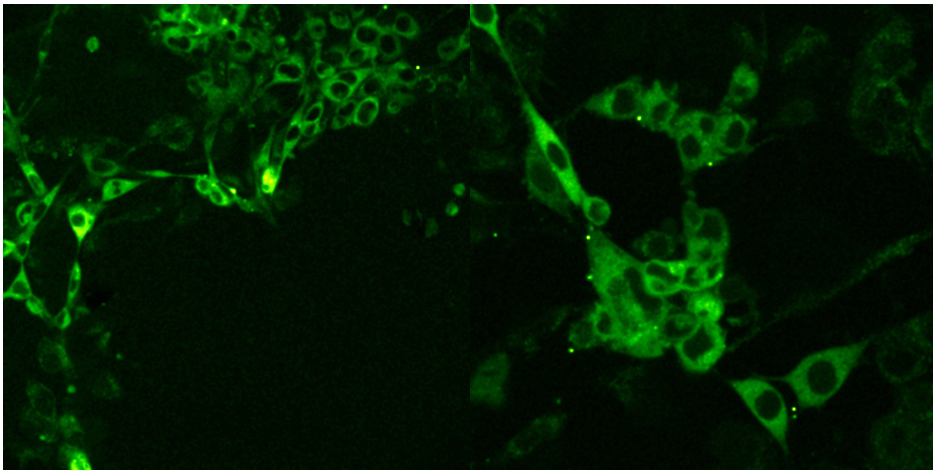
Towards robust catalysts that mimic in water the function and activity of natural enzymes

Synthesis of different catalytic systems:



Expertises at TU/e

- Organic synthesis of small molecules
- Complex polymer synthesis using controlled polymerization techniques
- Characterisation of macromolecular systems using spectroscopic, microscopic (Albertazzi) and scattering (Voets) methods
- Catalyst preparation and activity assessment

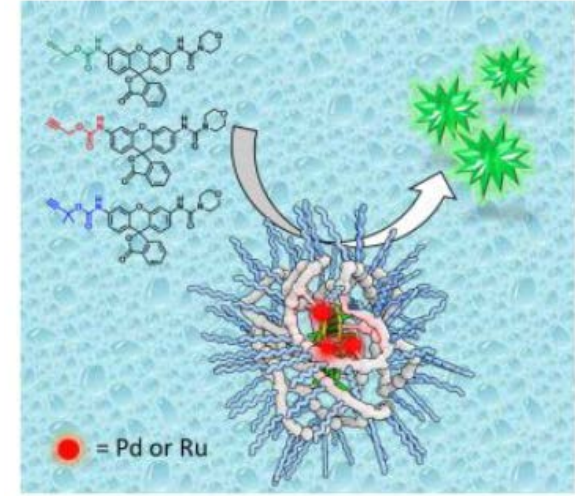


Role TU/e within ITN network

ESR 4:

WP1 Catalyst preparation

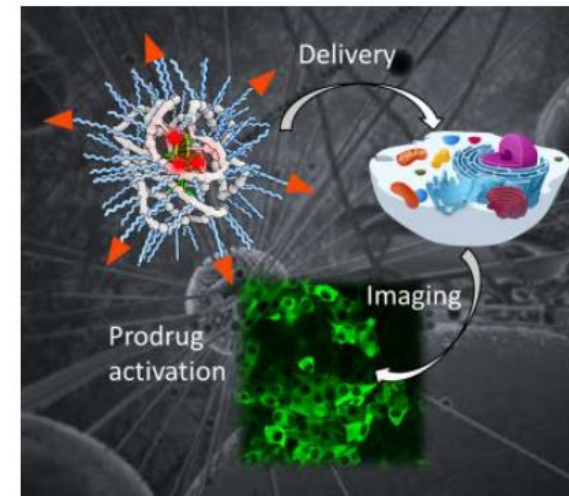
Secondments at Basel and TEVA



ESR 8:

WP 3 in vitro delivery and imaging

Secondments at IBEC and Biogelx



Thank you