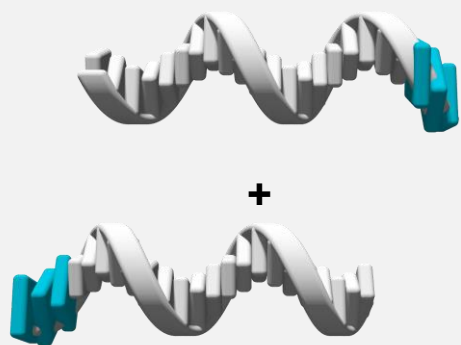
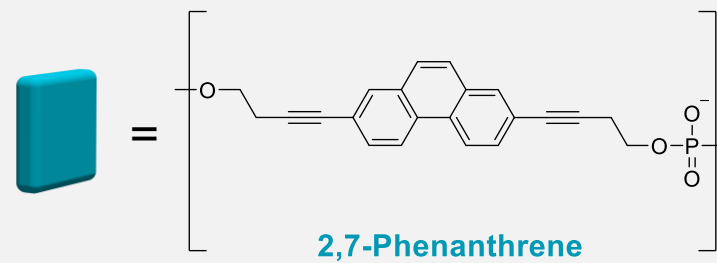


Supramolecular Assembly of Pyrene-DNA Conjugates into Vesicles

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Department of Chemistry, Biochemistry, and Pharmaceutical Sciences,
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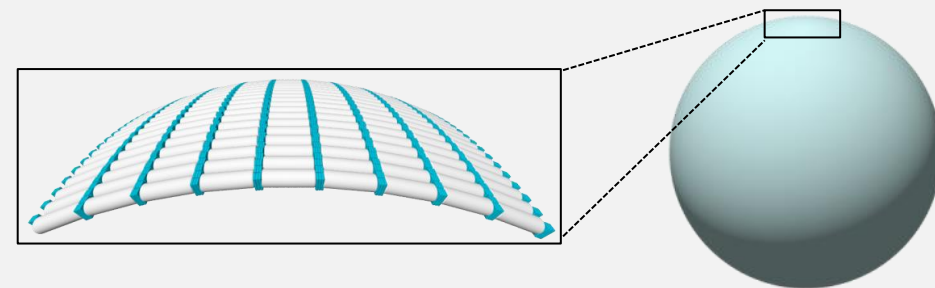
Introduction & Objectives



hybridization

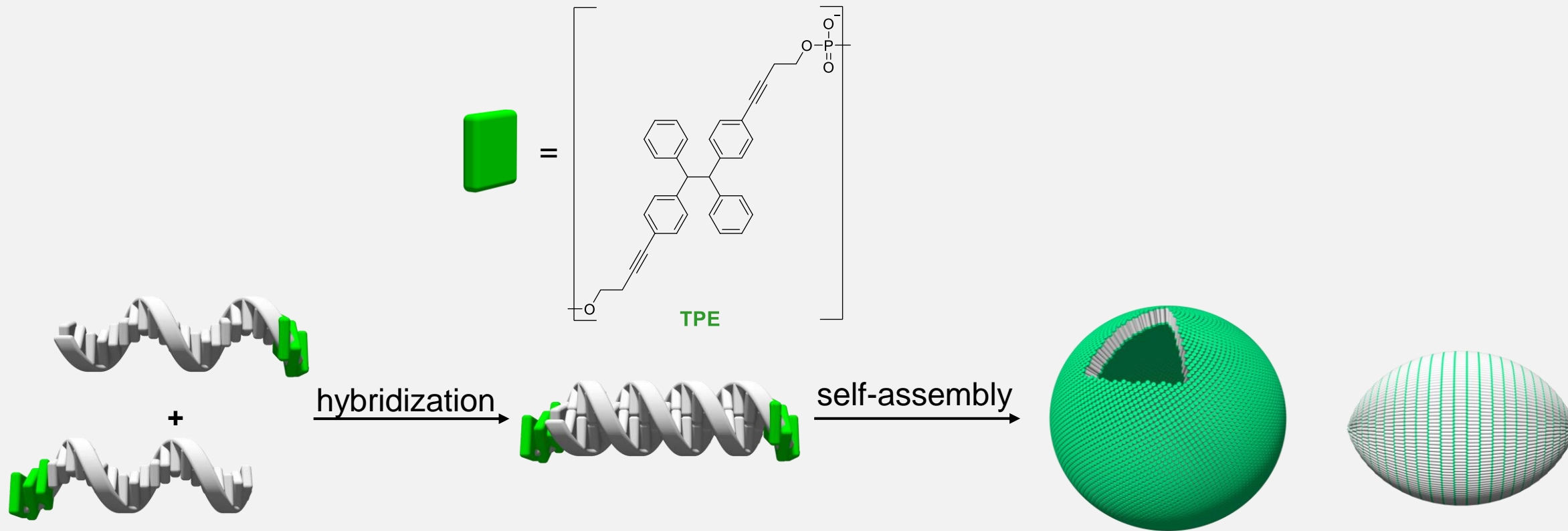


self-assembly



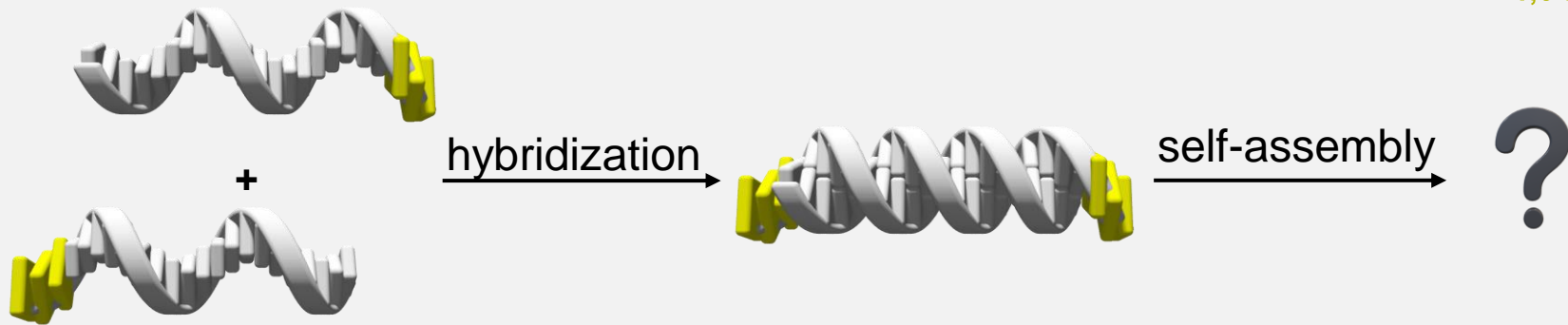
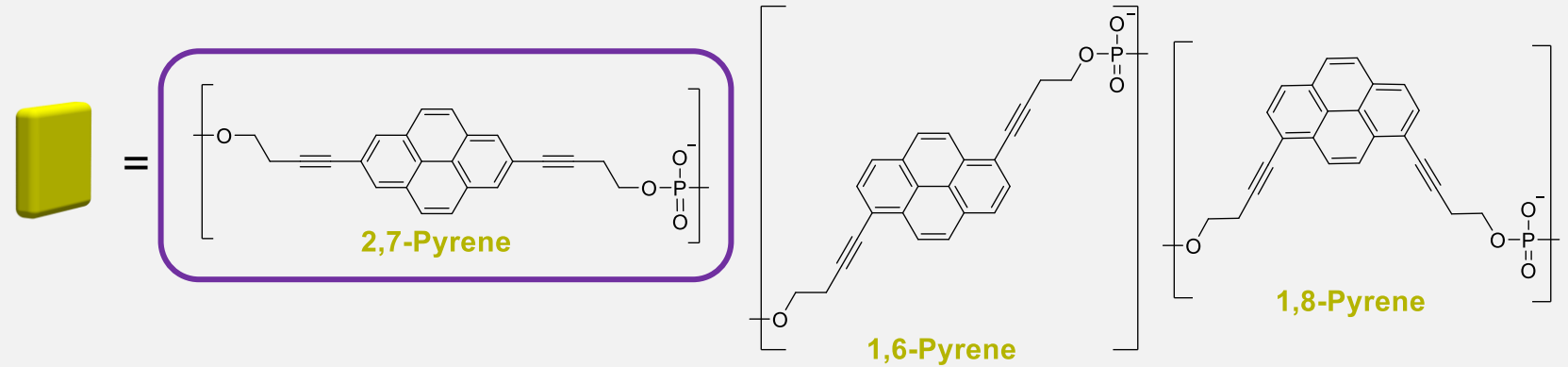
Bioconjugate Chem. 2018, 29, 5, 1505–1509.

Introduction & Objectives

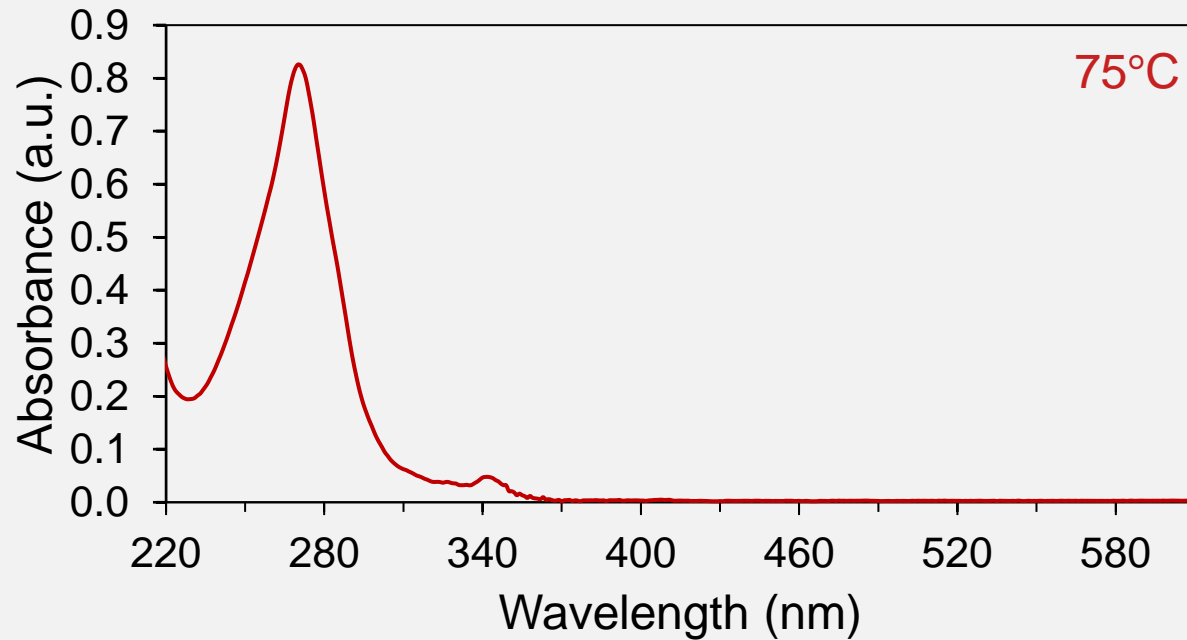
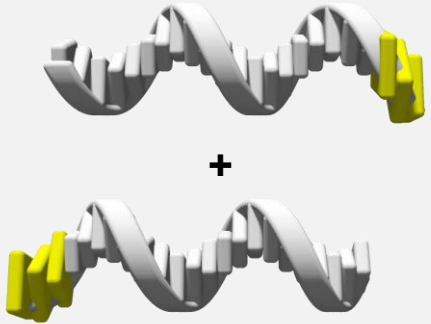


Nanoscale 2020, 12, 21118–21123.

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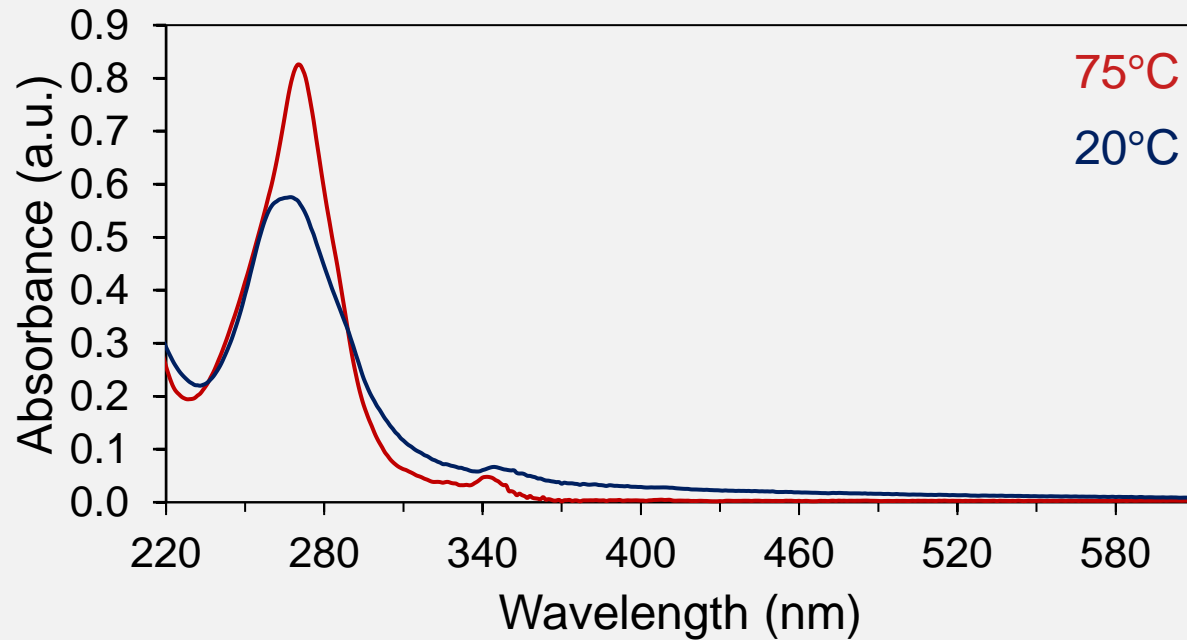
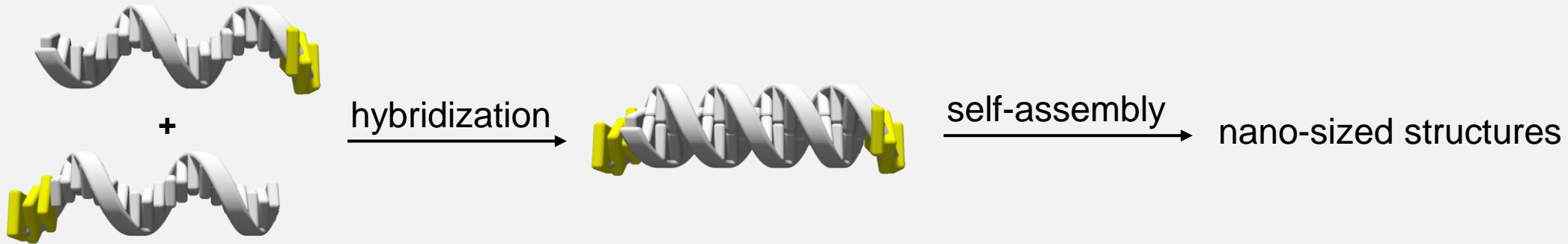


Results – UV-Vis Spectra & UV-Melting Curve



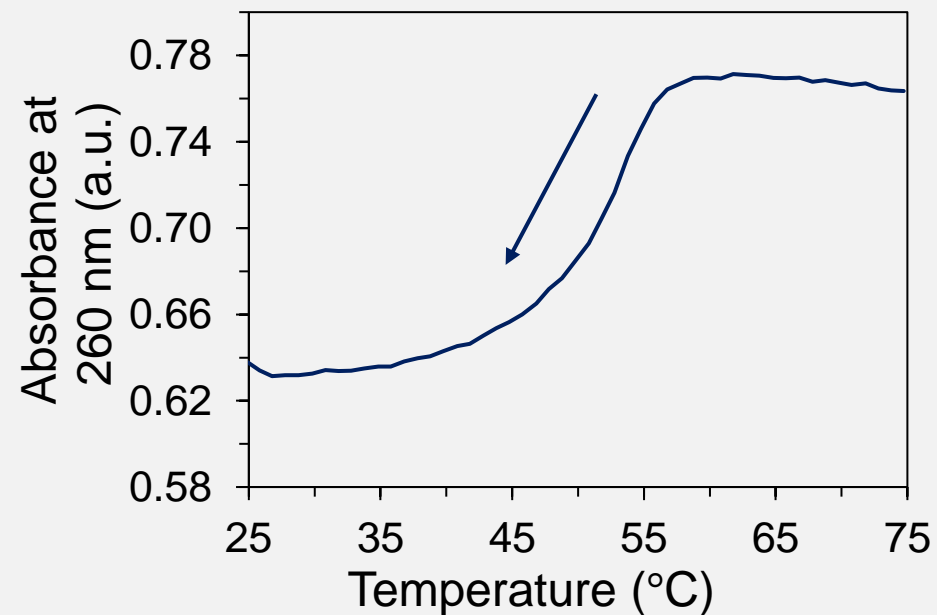
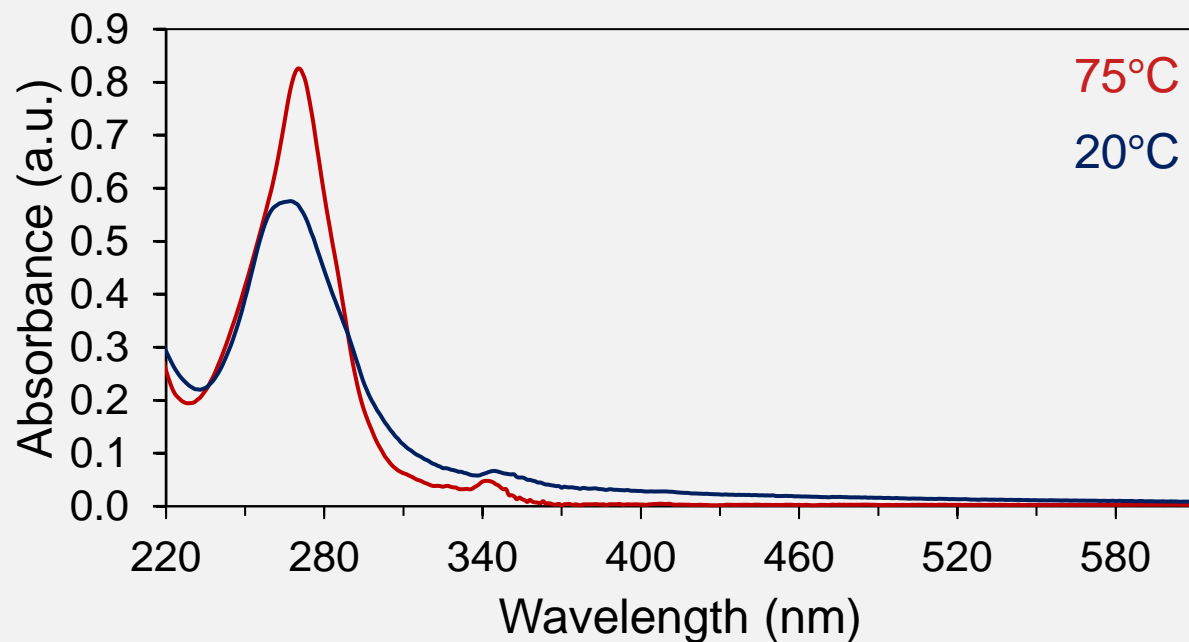
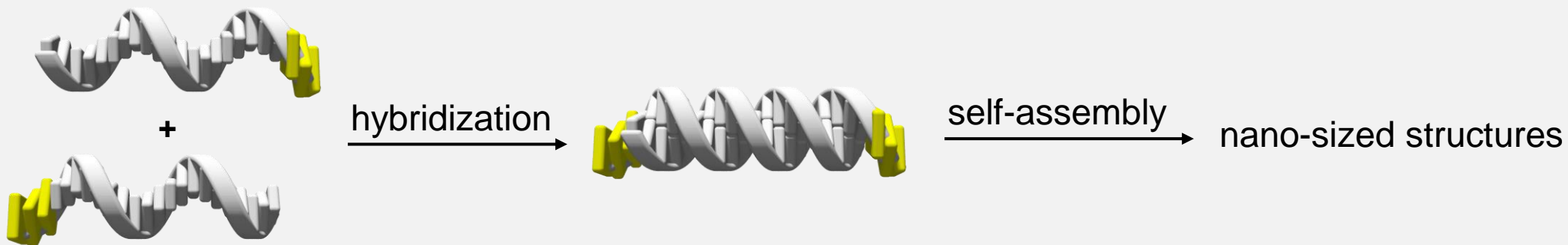
Conditions: 10mM phosphate buffer at pH 7.2, 20% EtOH, 0.03 mM spermine · 4 HCl.

Results – UV-Vis Spectra & UV-Melting Curve



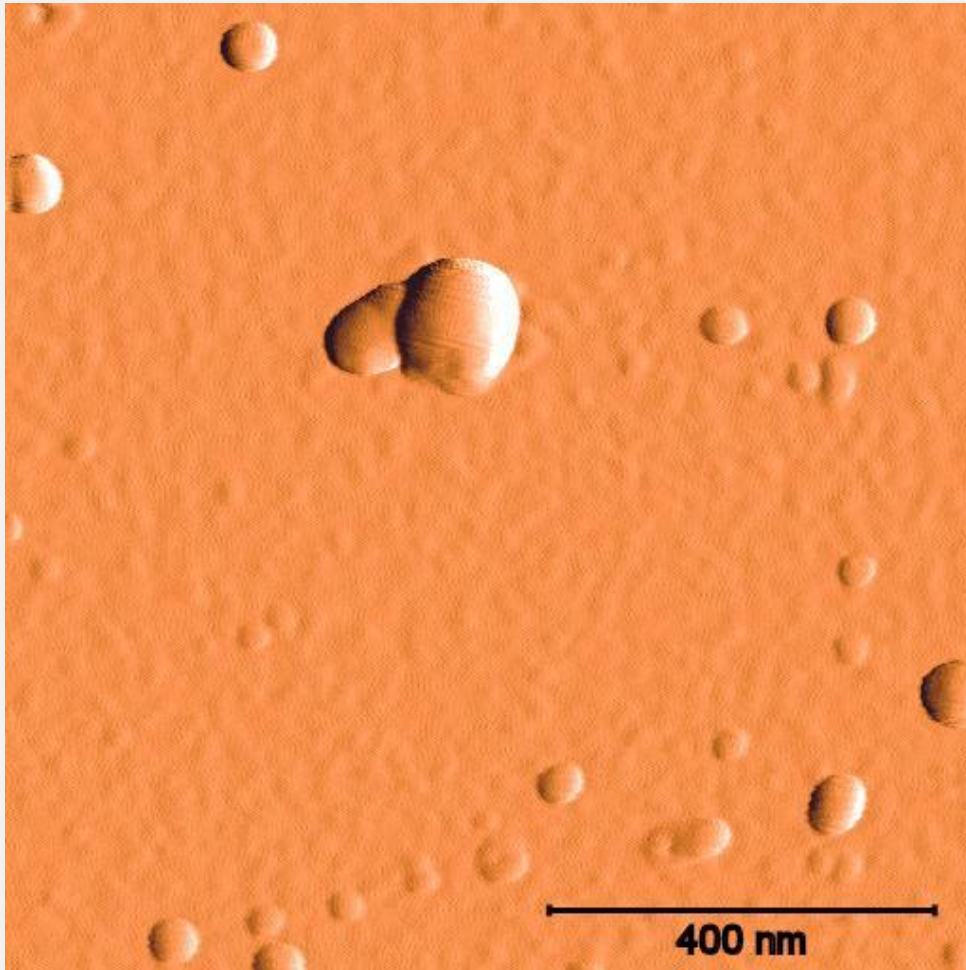
Conditions: 10mM phosphate buffer at pH 7.2, 20% EtOH, 0.03 mM spermine · 4 HCl.

Results – UV-Vis Spectra & UV-Melting Curve

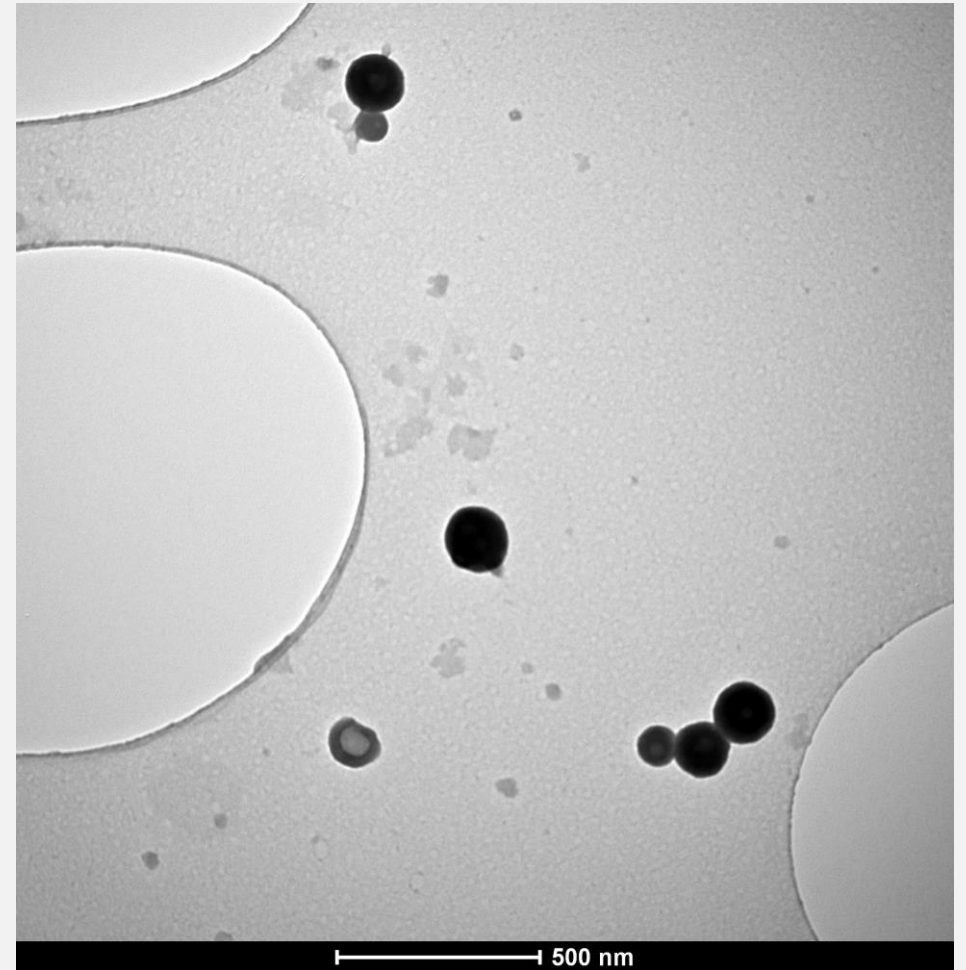


Conditions: 10mM phosphate buffer at pH 7.2, 20% EtOH, 0.03 mM spermine · 4 HCl.

Results – AFM & TEM



Conditions: APTES modified MICA.



Conditions: Holey carbon film 300 mesh Cu, stained with UA-zero.

Conclusion & Outlook

- > Pyrene overhangs in pyrene-DNA conjugates act as sticky ends, leading to a supramolecular assembly of the amphiphilic conjugates into vesicles.
- > Atomic force microscopy and transient emission spectroscopy confirmed the vesicular structure.

Conclusion & Outlook

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- > Atomic force microscopy and transient emission spectroscopy confirmed the vesicular structure.
- > Cryo-TEM measurements are underway to reveal further structural insights.

Acknowledgements

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