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## Amphiphilic DNA and its application in biomedicine

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At the very early stage of my PhD, I was informed a term named the Valley of PhD. This is the period when you lose perspective and therefore confidence and belief in yourself. At that deep and dark valley, nothing works, and no one knows why. Quit seems is the only way out. What I was not told is that still there is moment of climax, although fleeting and followed by endless valleys. You regain everything back and even believe you have power to change the world till you go quickly down to the next valley by a failure experiment. The magic cycle of valley and climax has been with me for the past years of my PhD, till closing moment of this thesis. While I could not possible have written this thesis without the invaluable help by many people.

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# List of Publications

1. Shuaidong Huo †, **Hongyan Li** †, Arnold J. Boersma and Andreas Herrmann: DNA Nanotechnology Enters Cell membranes, *Advanced Science*. 2019,1900043 († equal contribution).
2. **Hongyan Li**, Qing Liu, Bart J.Crielaard, Jan W. de Vries, Mark Loznik, Zhuojun Meng, Xintong Yang, Robert Göstl and Andreas Herrmann: Fast, Efficient, and Targeted Liposome Delivery Mediated by DNA Hybridization, *Advanced healthcare materials*. 2019,1900389.
3. **Hongyan Li**, Mark Loznik, Robert Göstl and Andreas Herrmann: DNA Hybridization as a general method to enhance nanoparticle cellular uptake, *Nanoscale*, in peer review.
4. **Hongyan Li**, Jun-O, Shuaidong Huo, Minseok Kwak and Andreas Herrmann: Core of immunostimulatory nanoparticles makes a difference, to be submitted.
5. Zhuojun Meng, Qing Liu, **Hongyan Li**, Jing Sun, Mark Loznik, Dong Chen, Robert Göstl, Kai Liu, Andreas Herrmann: Highly stiff, tough, and stretchable DNA liquid crystalline organogels with fast self-healing and magnetic response behaviors, *PNAS*, in peer review.
6. Qing Liu, Huahong Fang, Zhuojun Meng, **Hongyan Li**, Kai Liu and Andreas Herrmann: Fluorescence properties of lipid-DNA in liquid and liquid crystal states, to be submitted.
7. Chao Ma, Jing Sun, Yang Feng, Lingling Xiao, **Hongyan Li**, Hongpeng You, Lei Zhang, Robert Göstl, David Weitz, Hongjie Zhang, Kai Liu and Andreas Herrmann: Ultra-Strong Bio-Glue from Engineered Polypeptides, to be submitted.