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Universiteit Leiden



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**Title:** Lipid mediated colloidal interactions

**Date:** 2017-10-05

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# PROPOSITIONS

accompanying the thesis *Lipid mediated colloidal interactions*

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## I

Nanometer precision in particle tracking does not warrant nanometer accuracy.

*Chapter 2 of this thesis.*

## II

To measure a force profile experienced by a single random walker, displacements rather than positions should be sampled.

*Chapter 3 of this thesis.*

## III

Membrane-deforming proteins interact via membrane-mediated forces.

*Chapter 5 of this thesis.*

## IV

Lipid membranes promote microparticle aggregation.

*Chapter 6 of this thesis.*

## V

Microemulsion droplets of 3-(trimethoxysilyl)propyl methacrylate are not purely liquid.

*Chapter 8 of this thesis.*

## VI

The tension of a lipid vesicle, as described by Evans et al., should not be confused with surface tension.

*E. Evans and W. Rawicz, Physical Review Letters 64:2094 (1990).*

## VII

In light of the review by Cole et al., more research into the toxicity of micron-sized polymer particles is required to direct policy about their presence in consumer products.

*M. Cole, P. Lindeque, C. Halsband, and T. S. Galloway, Marine Pollution Bulletin 62:2588 (2011).*

## VIII

Contrary to what has been reported by Kügler et al., the homogeneous fluidity of polyelectrolyte supported lipid bilayers is not reproducible.

*R. Kügler and W. Knoll, Bioelectrochemistry 56:175 (2002).*

## IX

Contrary to what has been suggested in the below publications, only bulk syntheses are viable to generate amounts of anisotropic colloidal particles sufficient for practical use.

*Yin et al., JACS 123:8718 (2001); Pawar et al., Langmuir 24:355 (2008); Jiang et al., Langmuir 25:8915 (2009); Ni et al., Sci. Adv. 2:e1501779 (2016).*

## X

Timing is the fundament of music and musicality.

Leiden, October 5, 2017