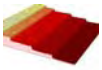



## Langmuir-Blodgett

Gallery

Two-Component Phase Patterns in Model Pulmonary Surfactant Systems

Organic steps (6nm)



Organic steps (6nm) in 3D

## Two-Component Phase Patterns in Model Pulmonary Surfactant Systems

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### Sarfus Benefits

- Direct visualisation of LB layers at nanoscale
- Optical thickness measurement
- Large field of view

### Required Material

- Standard surf
- Sarfus 3D
- Optical Microscope with DIC mode


### Comments

Two-component monolayers (XHel 13-5 = 0.1) of dipalmitoylphosphatidylcholine (DPPC) and Hel 13-5 (or a mimicking peptide of SP-B protein in pulmonary surfactants) were transferred onto the Surf by the Langmuir-Blodgett (LB) technique [H. Nakahara et al., Langmuir 22 (2006) 1182-1192]. The LB film preparation was made at 35 mN/m on a 0.02 M Tris buffer and 0.13 M NaCl (pH 7.4) at 298.2 K. Considering the molecular thickness and orientation, the higher particle is made of DPPC and the surrounding lower region consists of Hel 13-5. The determined optical height difference of ~0.7 and ~1.1nm provides a good agreement with the previous data obtained by AFM measurements [H. Nakahara et al., Langmuir 22 (2006) 1182-1192].

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