

# N5 spectrometer demonstration

## Revealing lipid bilayer structure from small-angle neutron diffraction

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Lipid bilayer is the fundamental entity in cell biology that provides semi permeable barrier between the cell and cytoplasm.

Its structure is a major determinant for the cell function, life and death, where one of the crucial parameters is bilayer thickness and the depth of water penetration.



Properties inherent to neutron scattering are then particularly suitable for revealing these parameters.

In this demonstration you will learn:

- how to utilize the principles of small-angle neutron diffraction
- how to measure sample quality
- how to take advantage of neutron contrast variation
- how to transform scattering data into real space structure

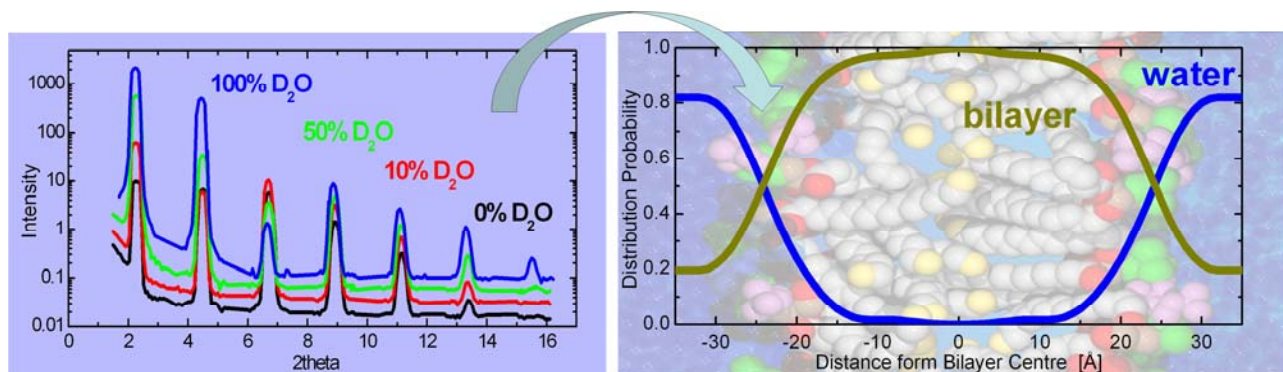


Figure 1: Observed SAND pattern along with a schematic representation of the bilayer structure determined from the data.