

Neutron crystallography of antenna complexes:

Fenna–Matthews–Olson complexes (Blankenship Laboratory)

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C. tepidum FMO

- Crystals can be produced to a size suitable for neutron diffraction
 - Diffract X-rays to 2.2 Å
- Current progress:
 - Cell growth at Wash U.
 - Scale-up prep of crystallization grade FMO protein at ORNL
 - Optimize crystal growth
 - Sparse-matrix screening to find additional crystal forms.
- Future work:
 - Spring: X-ray Analysis – APS
 - Fall: Neutron Analysis - ORNL
 - Joint neutron/X-ray structure refinement

P. aestuarii 2K FMO

- Published crystals are suitable for neutron analysis
 - Diffract X-rays to 1.3 Å
- Current progress:
 - Cell growth at Wash U.
 - Scale-up prep of crystallization grade FMO protein at ORNL
 - Optimize crystal growth
- Future work:
 - Spring: X-ray Analysis – APS
 - Summer: Neutron Analysis - ORNL
 - Joint neutron/X-ray structure refinement