BioMAX: The Flagship Macromolecular Crystallography Beamline at MAX IV

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BioMAX is the first operational Macromolecular Crystallography (MX) beamline at the MAX IV high-energy R3 (3 GeV) storage ring.[1] It is a highly versatile beamline that can be used for high-throughput data collection, anomalous phasing, room-temperature data collection experiments, and microfocus applications, including synchrotron serial crystallography (SSX). BioMAX hosts the fragment-based drug discovery platform FragMAX. We are open to Swedish and international users in academia and industry and support full remote access.

BioMAX boasts an energy range from 6 – 24 keV, a beam focus from 20 x 5 μm² to 100 x 100 μm², a photon flux of ~10¹³ ph/s, with capabilities for both cryo and room temperature crystallography. Our ISARA cryodewar and autosampler has room for 464 samples in 29 Unipucks. We have capabilities for doing both fixed-target and injector-based serial synchrotron crystallography (SSX).

We will discuss current and future upgrades to the beamline, including: flying energy scans, automated data processing and post-process phasing, and development of autoprocessing pipelines for serial synchrotron crystallography.