

BAG report_Soler_Gutsche (08/12/2021 – 10/12/2021)

ACAD9 – tilted

In addition to its role in Fatty Acid Oxidative (FAO) processes, ACAD9 is a core component of the Mitochondrial Complex I Assembly (MCIA) complex, involved in the assembly of respiratory Complex I. Our group has recently solved the structure of ACAD9 in complex with another protein (ECSIT) which forms an MCIA subcomplex. To identify structural differences caused upon binding ECSIT, a tilted dataset of ACAD9 alone was collected at CM01. ACAD9 suffers from the problem of preferential orientation and a tilted data collection was previously conducted at 0° and 35°. Though this showed much higher data quality than that seen in planar collections, we used this BAG time to collect at higher angles (37°-40°) to maximise the number of elusive views. This collection was challenging as for angles >35°, the software does not seem to recognise the foil holes automatically, leading to skipped images or doubly exposed areas. Although preliminary data processing shows that there are a number of useful particles that can be combined with the previous dataset in order to improve data quality (data processing ongoing).