

Q5. Taking CEM2 as an example, how long does it approximately take for a sample from cryo-grids preparation to experiment completion?

A5. The experiment time for a single sample can be discussed in two parts, cryo-grid preparation and data collection.

Cryo-grid preparation by Vitrobot: it takes about 2 hours to prepare up to 4 cryo-grids. If one grid represents one sample, then up to 4 samples can be prepared. Some users will decide to duplicate cryo-grids for each sample because the success can't be 100% sure, and that means that less than 4 samples will be prepared each time.

Data collection by cryo-EM: An example of CEM2 case, 3 hours is a session for collecting data, and up to 3 cryo-grids will be loaded each session. Over 3 cryo-grids will need to book an additional session of 3 hours for CEM2. Data can be obtained soon after a session is finished.

Cryo-grid preparation time (Vitrobot) needs to be separately arranged at least one day apart from data collection time (CEM2), so the residual ethane can evaporate from the cryo-grid before it can be loaded into CEM2 to avoid affecting image quality and the instrument function. In other words, the shortest experiment time period for Vitrobot and CEM2 is two days ideally, but it depends on the actual time booked for the two instruments (the dates will be different). On the basis of CEM2 reservation, the data can be obtained on the same day.