

MS24-1-1 In situ Liquid Phase 3D ED/MicroED for Studying Polymorphism
#MS24-1-1

E. Broadhurst¹, **T. Maik**², **E.C.S. Jensen**², **M.N. Yesibolati**², **K.S. Mølhave**², **H. Xu**¹, **X. Zou**¹
¹Stockholm University - Stockholm (Sweden), ²Technical University of Denmark - Copenhagen (Denmark)

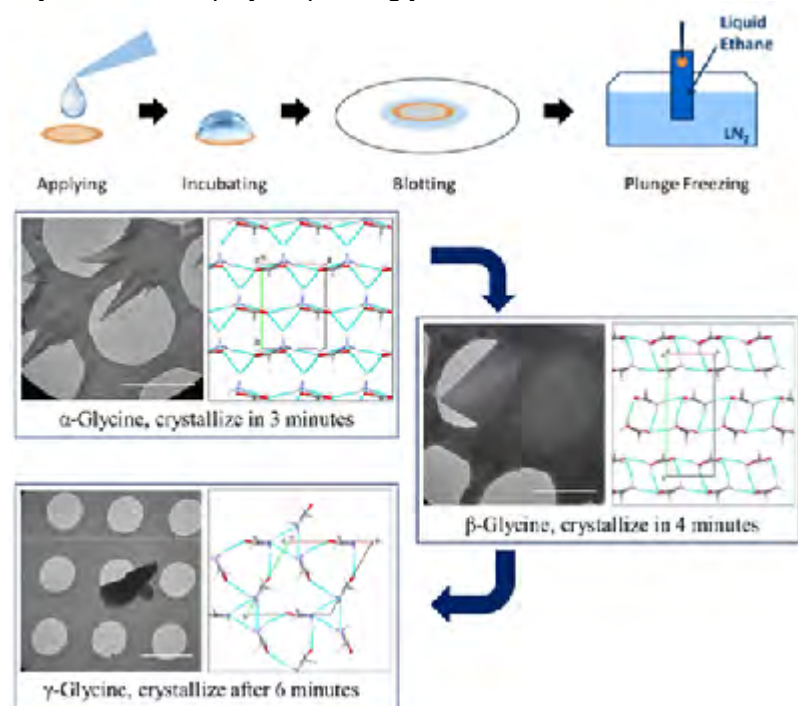
Abstract

In materials, chemistry, and medicine, small molecules can form different crystal structures of the same compound, called polymorphs.^[1] Determining the specific atomic structure of a complex molecule and the many polymorphs is challenging, often requiring X-ray synchrotron or neutron facilities.^[2] Understanding how these polymorphs behave in a variety of conditions is crucial to their potential applications. In this work, we aim to combine 3D electron diffraction methods^[3] with a novel nanofluidic microchip system^[4] and establish a foundational platform to solve new crystal structures of molecular organic crystals and their polymorphs in situ.

References

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Crystallization of polymorphs of glycine



Design of the nanochannel for liquid cell TEM

