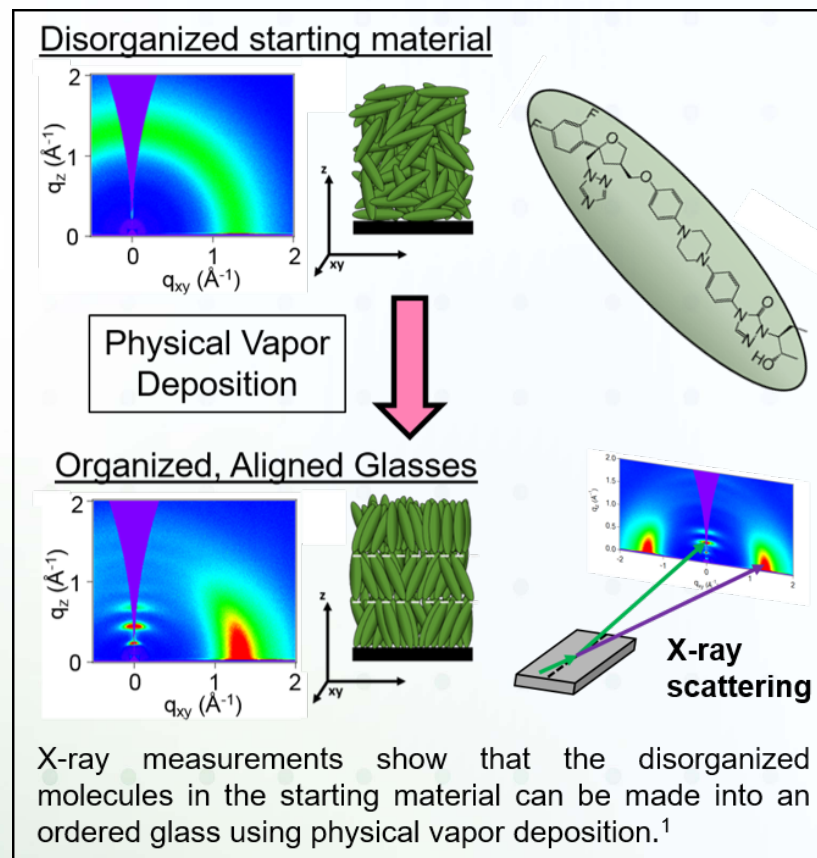


Order From Disorder: Molecular Packing in Glasses

C. Bishop, L. Yu, M.D. Ediger, University of Wisconsin-Madison

Unlike crystals, glasses can be processed into smooth, uniform films over large areas that are useful in organic electronics. While conventional glasses have a disordered structure that makes it hard to conduct electricity, Wisconsin MRSEC researchers have created highly organized glasses.¹

Using physical vapor deposition, researchers produced glassy film that are smooth and uniform, but which also have the molecules aligned with one another and organized in layers. This added structure could make the glass more efficient for conductors and expand the range of materials that can be used in future organic electronics. The colorful images in the figure show measurements using synchrotron x-rays that contrast the disordered starting material and the ordered glass.



[1] "Vapor deposition of a nonmesogen prepares highly structured organic glasses" Bishop, Thelen, Gann, Toney, Yu, DeLongchamp, Ediger; *Proc. Nat. Acad. Sci. USA* **2019**, 116 (43), p. 21421-21426. DOI: 10.1073/pnas.1908445116