

Supporting Information: Protein Crystallization from a Preordered Metastable Intermediate Phase Followed by Real-Time Small-Angle Neutron Scattering

Ralph Maier,[†] Benedikt Sohmen,[†] Stefano Da Vela,^{†,‡} Olga
Matsarskaia,^{†,¶} Christian Beck,[§] Ralf Schweins,[§] Tilo Seydel,[§] Fajun
Zhang,^{*,†} and Frank Schreiber[†]

[†]*Institut für Angewandte Physik, Universität Tübingen, Auf der Morgenstelle 10, 72076
Tübingen, Germany*

[‡]*present address: EMBL c/o DESY, Notkestr. 85, Geb. 25a, 22607 Hamburg, Germany*

[¶]*present address: Institut Laue - Langevin, 71 Avenue des Martyrs, CS 20 156, 38042 Grenoble
CEDEX 9, France*

[§]*Institut Laue - Langevin, 71 Avenue des Martyrs, CS 20 156, 38042 Grenoble CEDEX 9, France*

E-mail: fajun.zhang@uni-tuebingen.de

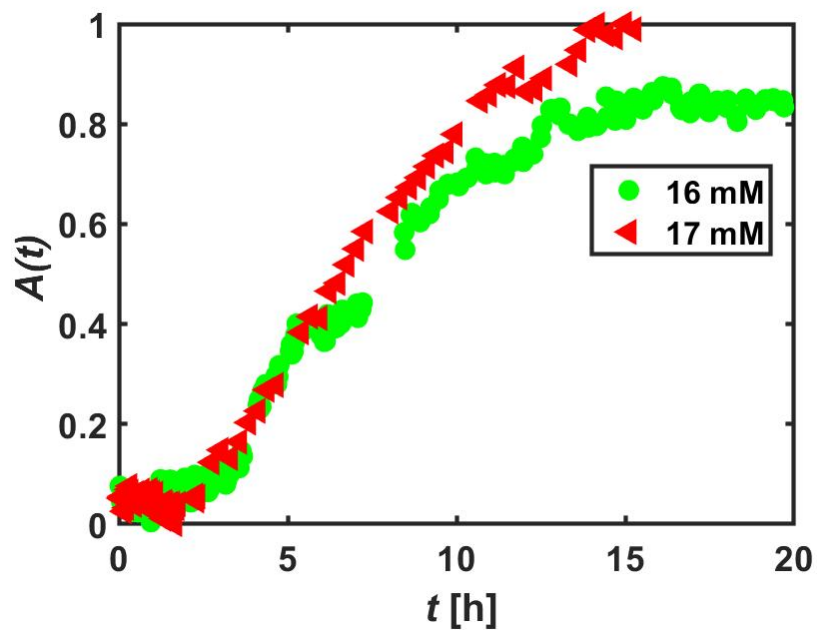


Figure S1 Summed intensities $A(t)$ of the Bragg peak feature at $q \approx 0.2 \text{ \AA}^{-1}$ as function of time. After subtracting a linear background between $q_1 = 0.176 \text{ \AA}^{-1}$ and $q_2 = 0.217 \text{ \AA}^{-1}$, the scattering intensities within this interval were summed up to obtain $A(t)$. This analysis was performed for samples containing 30 mg/ml BLG with 16 mM (green circles) and 17 mM (red triangles) CdCl_2 in D_2O .

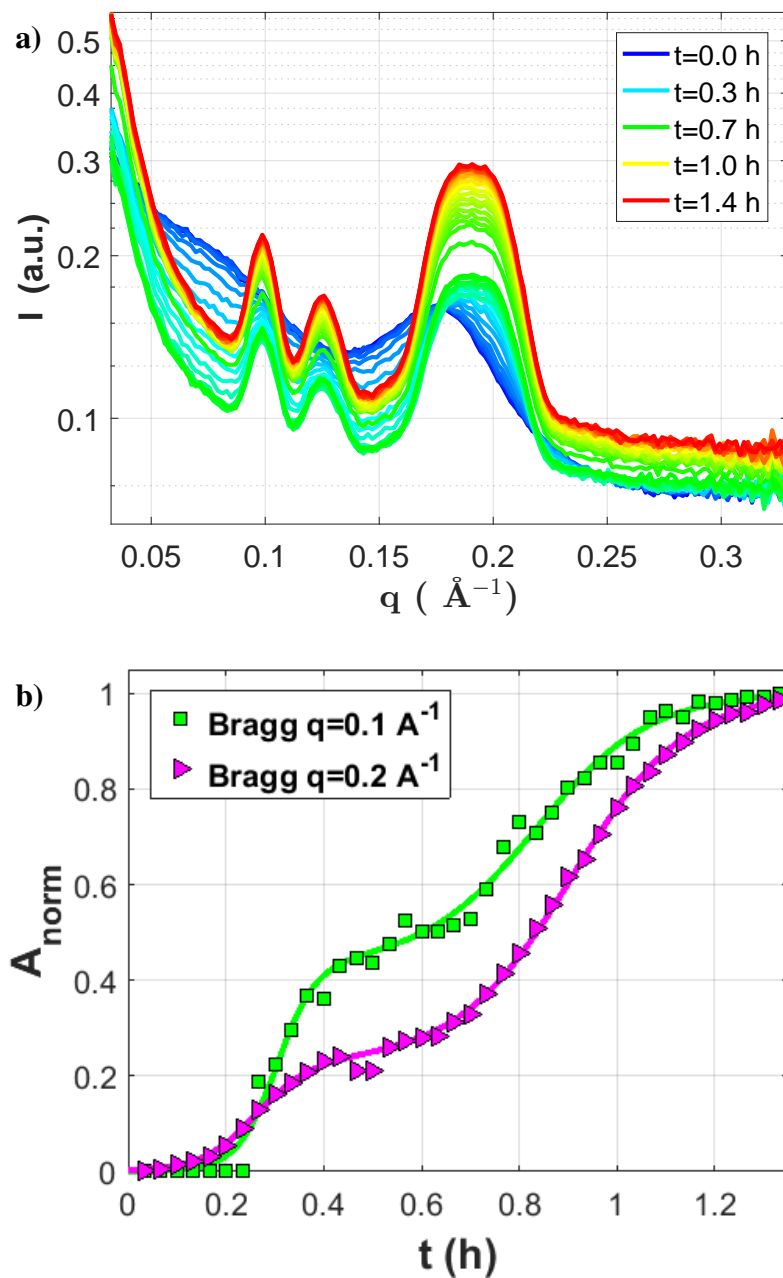


Figure S2 Real-time SANS follows the crystal growth of a sample containing 33 mg BLG with 17 mM CdCl₂. Crystallization is fast and completed within 2 h. Kinetics analysis shows a clear two-step growth.

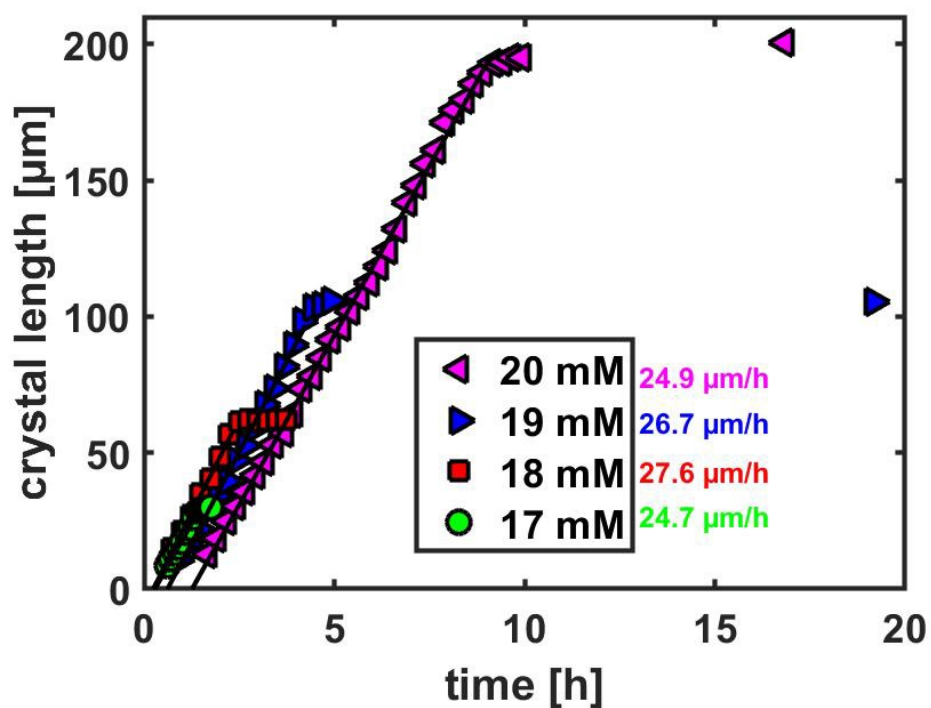


Figure S3 Crystal length as function of time of samples containing 33 mg/ml BLG with 17-20 mM CdCl_2 in H_2O . For the 19 and 20 mM samples it was ensured with the last image of the respective series that no second growth step occurred. The respective growth rates are implemented in the figure. The corresponding microscopy data were already published in Ref. 1.

References

- (1) Sauter, A.; Roosen-Runge, F.; Zhang, F.; Lotze, G.; Feoktystov, A.; Jacobs, R. M. J.; Schreiber, F. On the question of two-step nucleation in protein crystallization. *Faraday Discuss.* **2015**, *179*, 41–58.