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Supporting information for article:

Enhanced X-ray diffraction of *in vivo*-grown μ NS crystals by viscous jets at XFELs

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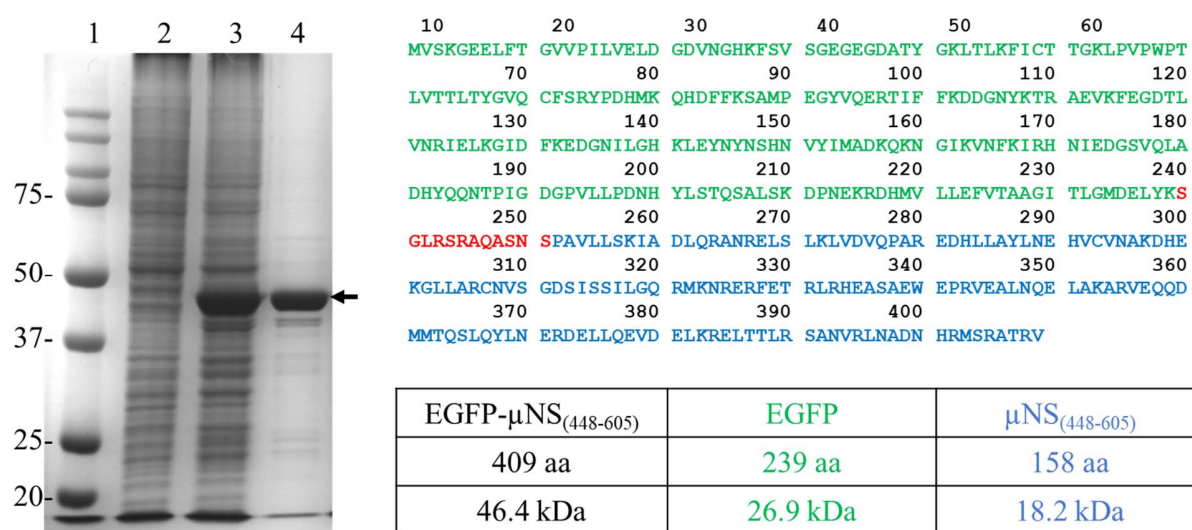


Figure S1 SDS-PAGE analysis of EGFP-μNS₍₄₄₈₋₆₀₅₎ crystals. 1. Molecular weight size standards (kDa). 2. Un-infected wild type Sf9 cells (negative control). 3. EGFP-μNS₍₄₄₈₋₆₀₅₎ infected Sf9 cells before crystal extraction. 4. Extracted and washed EGFP-μNS₍₄₄₈₋₆₀₅₎ crystals.

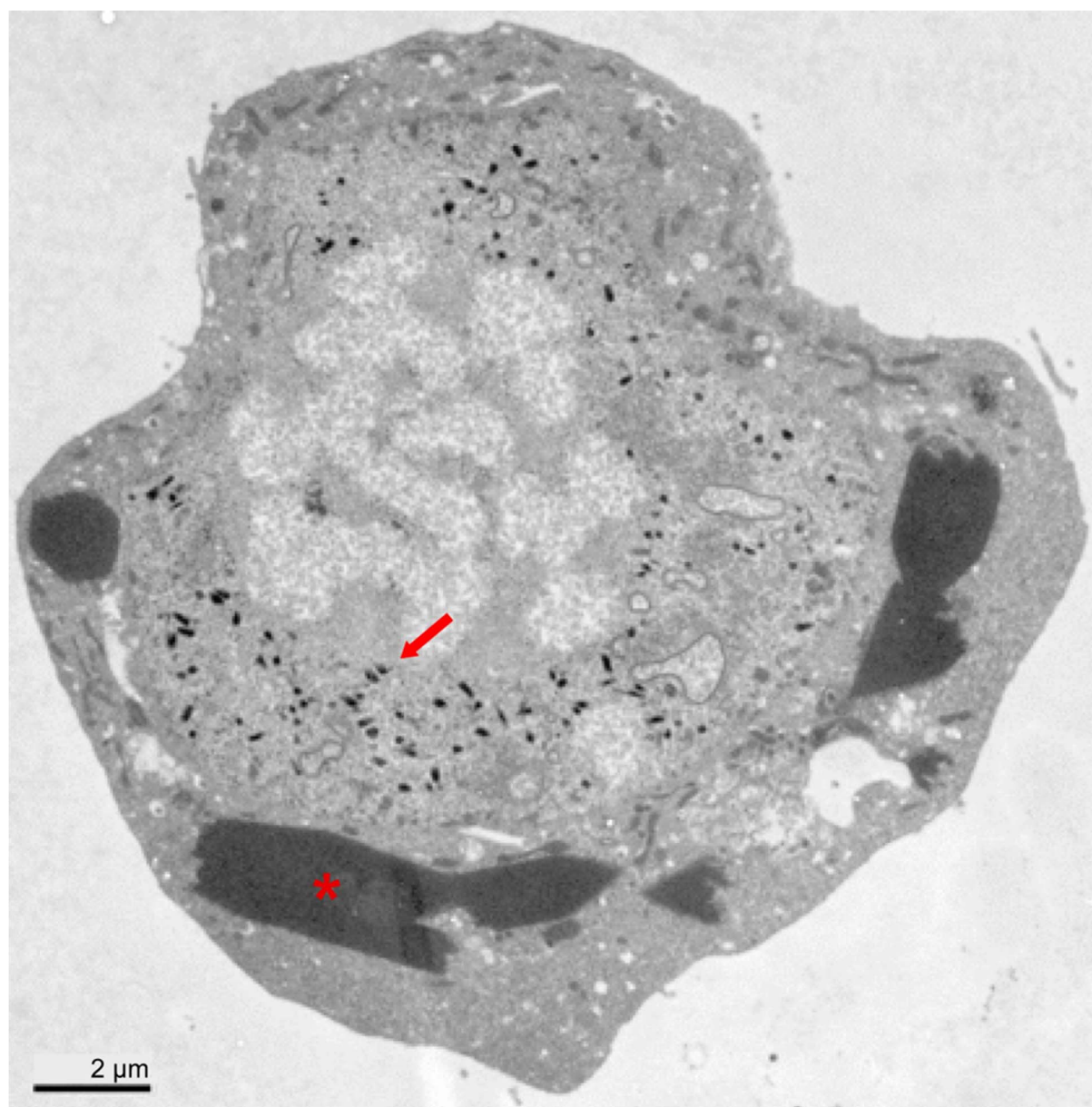


Figure S2 TEM micrograph of a single Sf9 cell harboring EGFP- μ NS_(Δ 1-447) crystals. Among the many crystal nuclei / nano crystals formed (indicated by red arrow), only few crystals (indicated by red asterisk) reach the final dimensions of 10-15 μ m in length and 1-3 μ m in width.

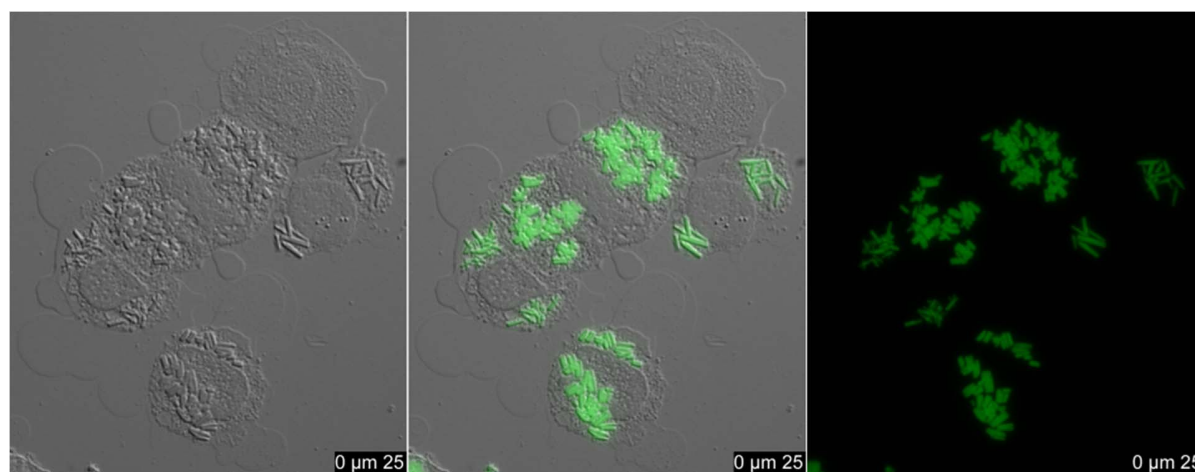


Figure S3 EGFP- μ NS_(Δ 1-447) crystals in deteriorating Sf9 cells. Crystals are still attached to cell remnants after 4 days p.i. observed by DIC (left), DIC-GFP-fluorescence (middle) and GFP-fluorescence (right) microscopy with the same field of view.

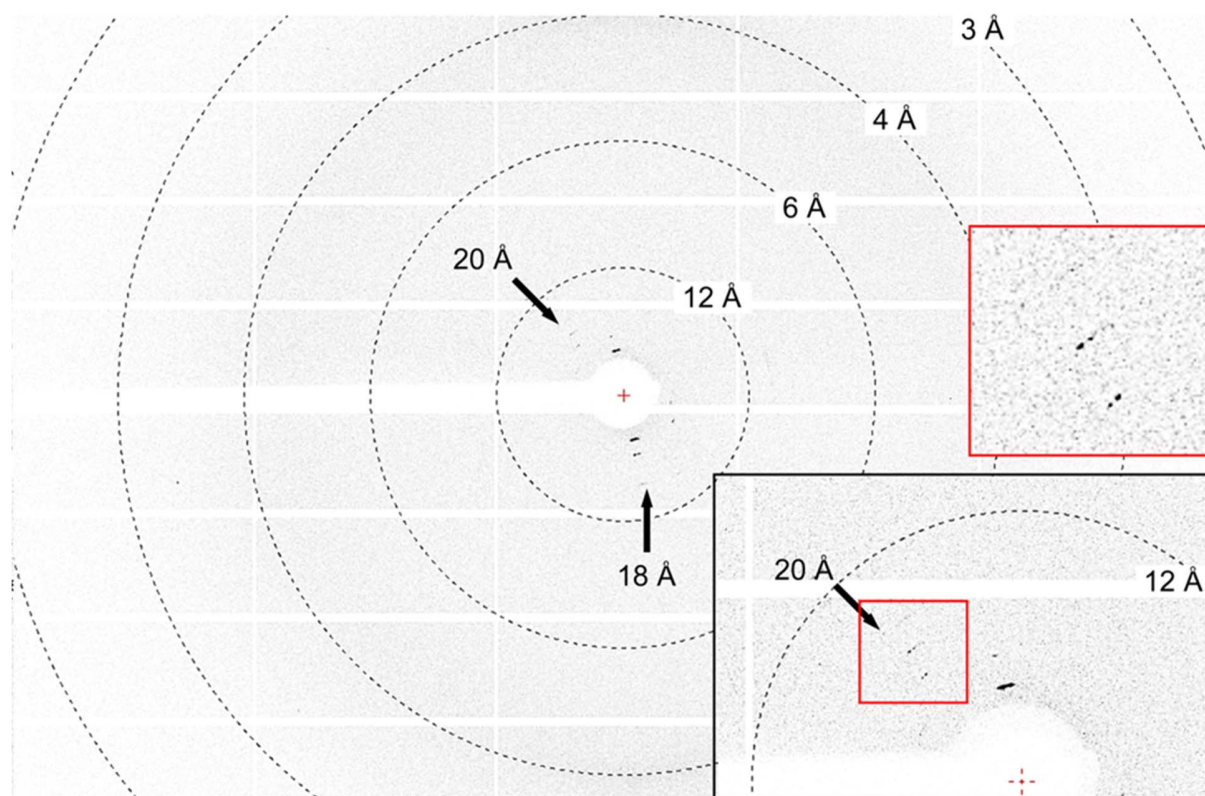


Figure S4 X-ray diffraction pattern collected from a cryo-cooled EGFP- μ NS_(Δ 1-447) crystal. Bragg spots are seen to very low resolution as indicated by the arrows. Black boxed inset panel show a closer view of the diffracted spots. Red boxed inset panel shows the Bragg spots are well-spaced. Data were collected at GMCA 23-ID-D beamline at the Advanced Photon Source (APS).

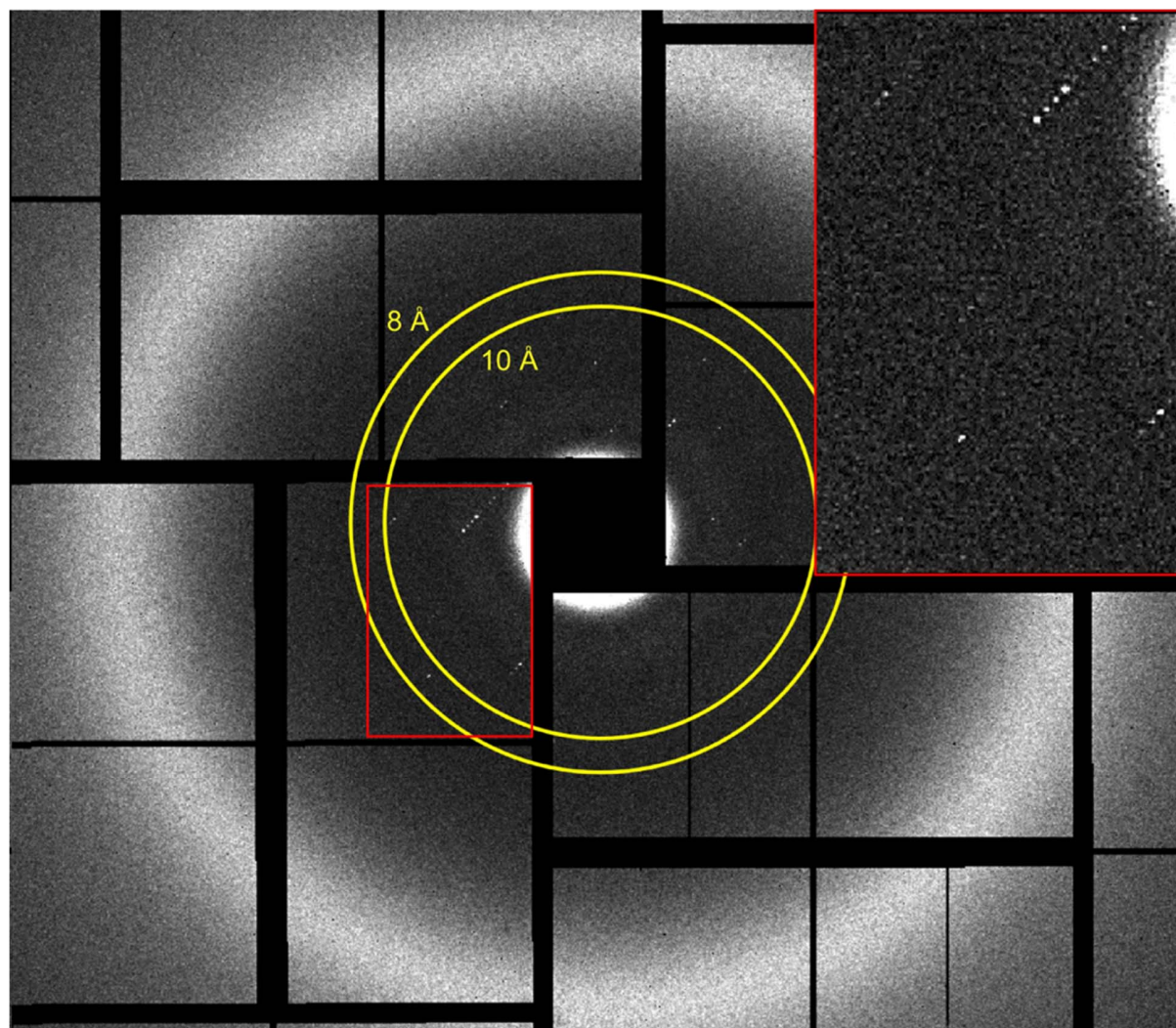


Figure S5 SFX diffraction pattern of a single EGFP- μ NS_(Δ 1-447) crystal embedded in LCP. The inset panel shows diffraction to $\sim 10\text{\AA}$. Small separation between spots suggests a big unit cell. The typical LCP ring appears as a white aureole to about 4.5\AA .

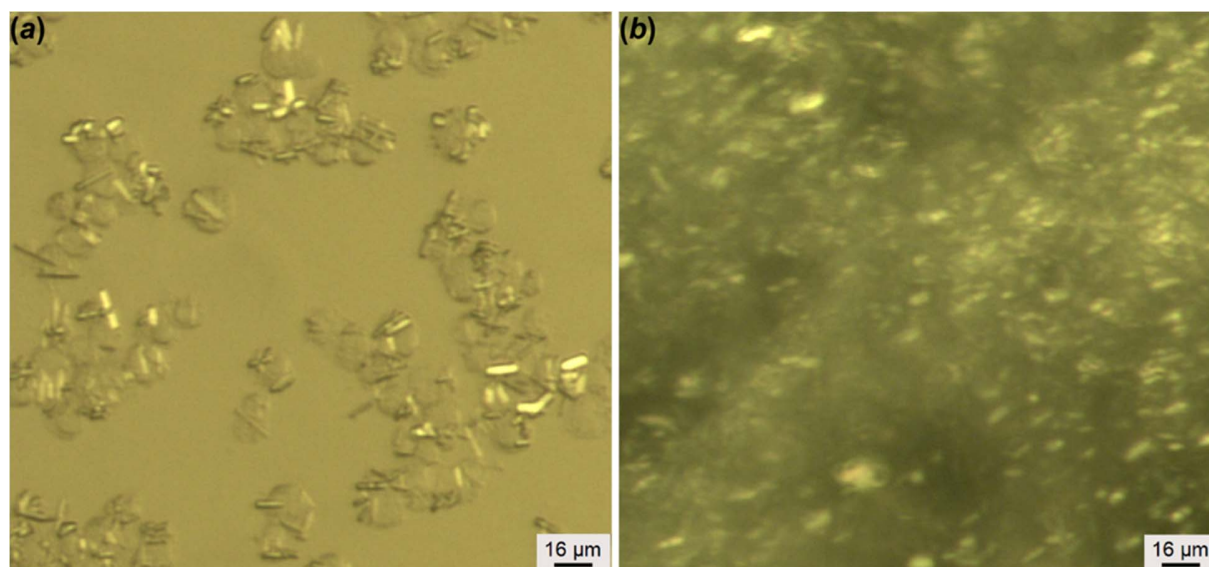


Figure S6 EGFP- μ NS(Δ 1-447) crystals embedded in agarose. Sf9 insect cells harboring EGFP- μ NS(Δ 1-447) crystals were harvested and stored in PBS for 5 - 7 days at 4°C until X-ray diffraction. Cross-polarized light images before (*a*) and after (*b*) mixing with agarose.