



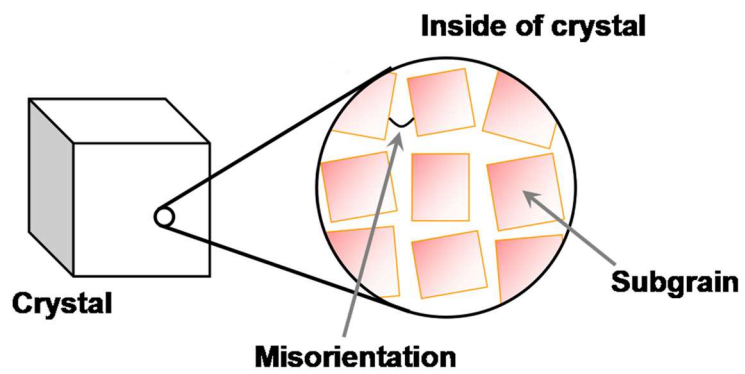
STRUCTURAL
BIOLOGY

Volume 77 (2021)

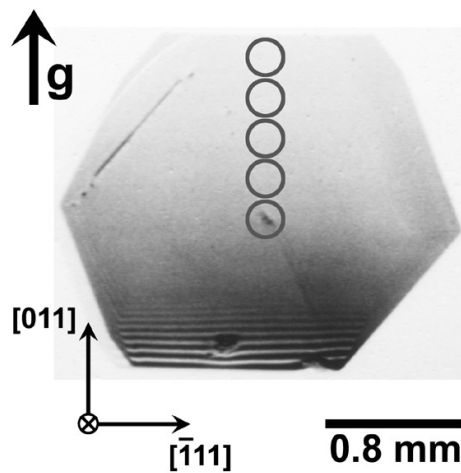
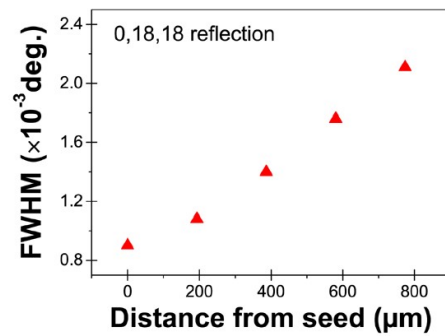
Supporting information for article:

**Control of strain in subgrains of protein crystals by the
introduction of grown-in dislocations**

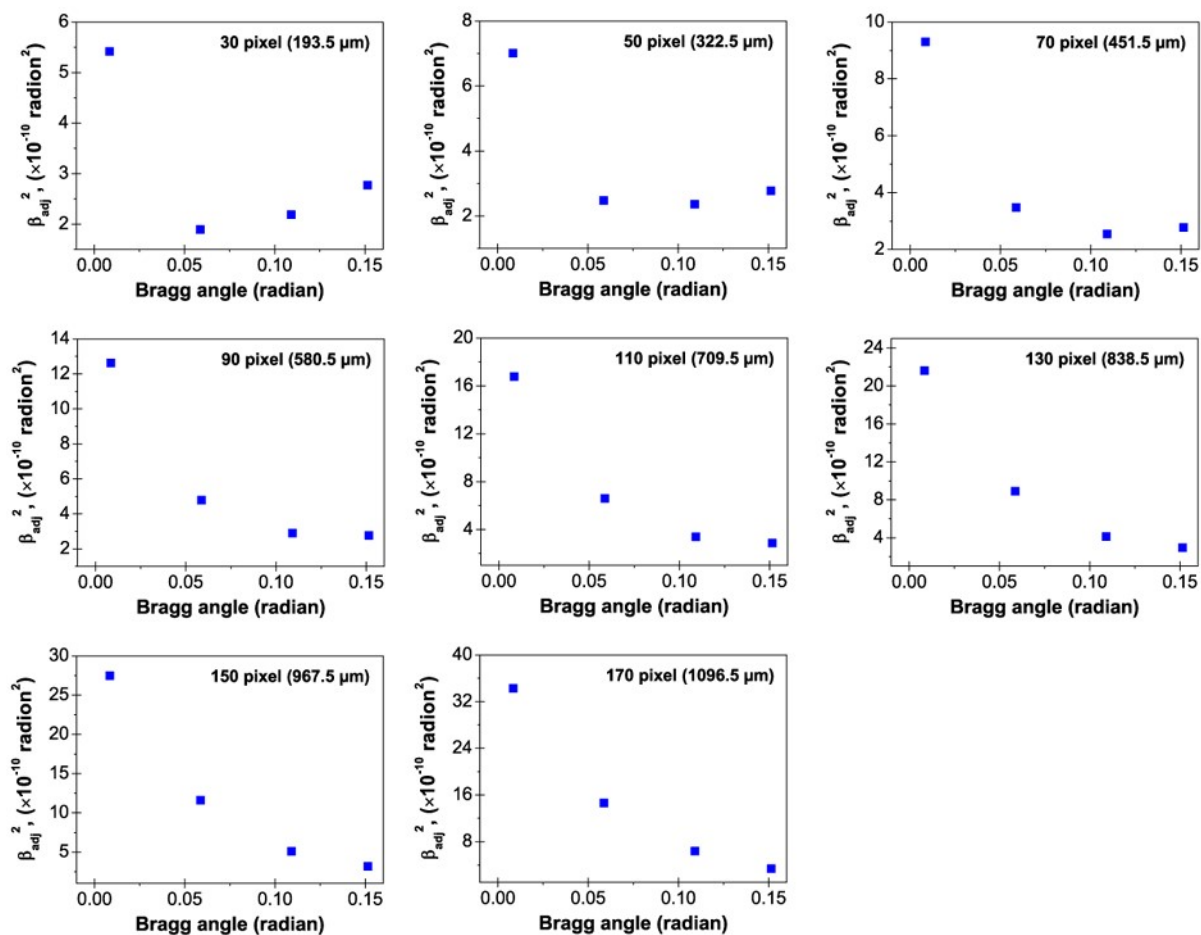
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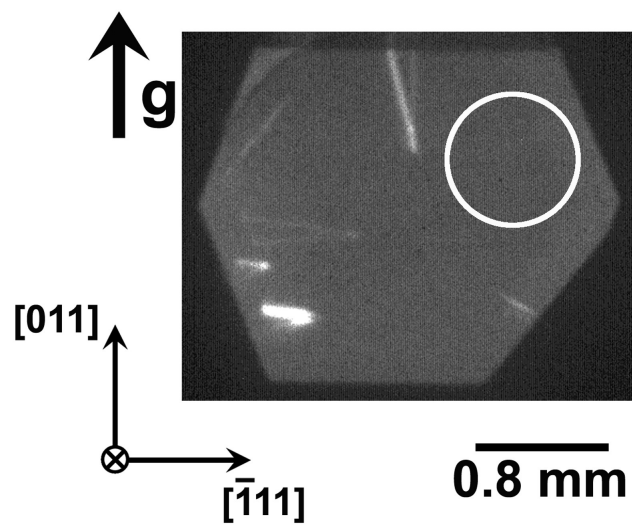
Supplementary Figure S1 Schematic figure of subgrains in the single crystal. Crystals in which the inside of the single crystal consists of tiny perfect crystals (subgrains) are known as mosaic crystals.



Supplementary Figure S2 Dependence of the measured FWHMs obtained from the 0 18 18 reflection of the glucose isomerase crystal with respect to the distance from the seed crystal. The FWHM values were analyzed using a beam spot size of $193.5 \mu\text{m}$ (30 pixel). As seen in the figure, clear equal-thickness fringes are observed in the topograph obtained from the 011 reflection of the glucose isomerase crystal. This means that this glucose isomerase crystal has near perfect quality: therefore, the local strain could not be detected in the crystal when viewed macroscopically. However, the increase in the FWHM values for the glucose isomerase crystal was observed as one goes outwards from the seed crystal. The seed crystal was not crosslinked using a glutaraldehyde solution.



Supplementary Figure S3 Dependence of the adjusted FWHMs on the Bragg angle in the case of a glucose isomerase crystal of Type A₂, obtained using various beam spot sizes.



Supplementary Figure S4 Digital X-ray topograph of the glucose isomerase crystal (Type B₂) taken using the 011 reflection. This glucose isomerase crystal was grown from the non-crosslinked seed crystal. It is clearly observed that a few dislocations are introduced in the crystal. The analyzed region enclosed by the white circle does not contain any dislocations.