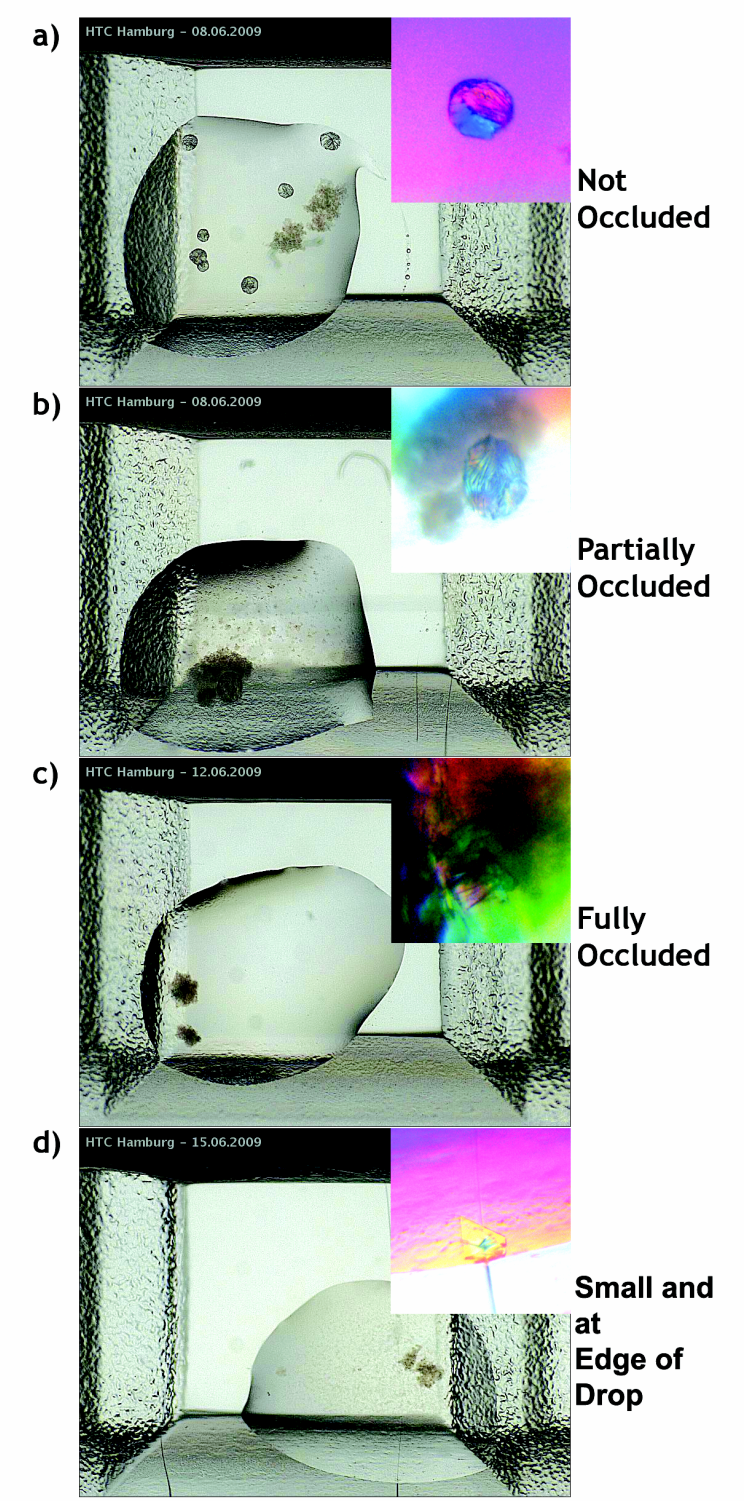
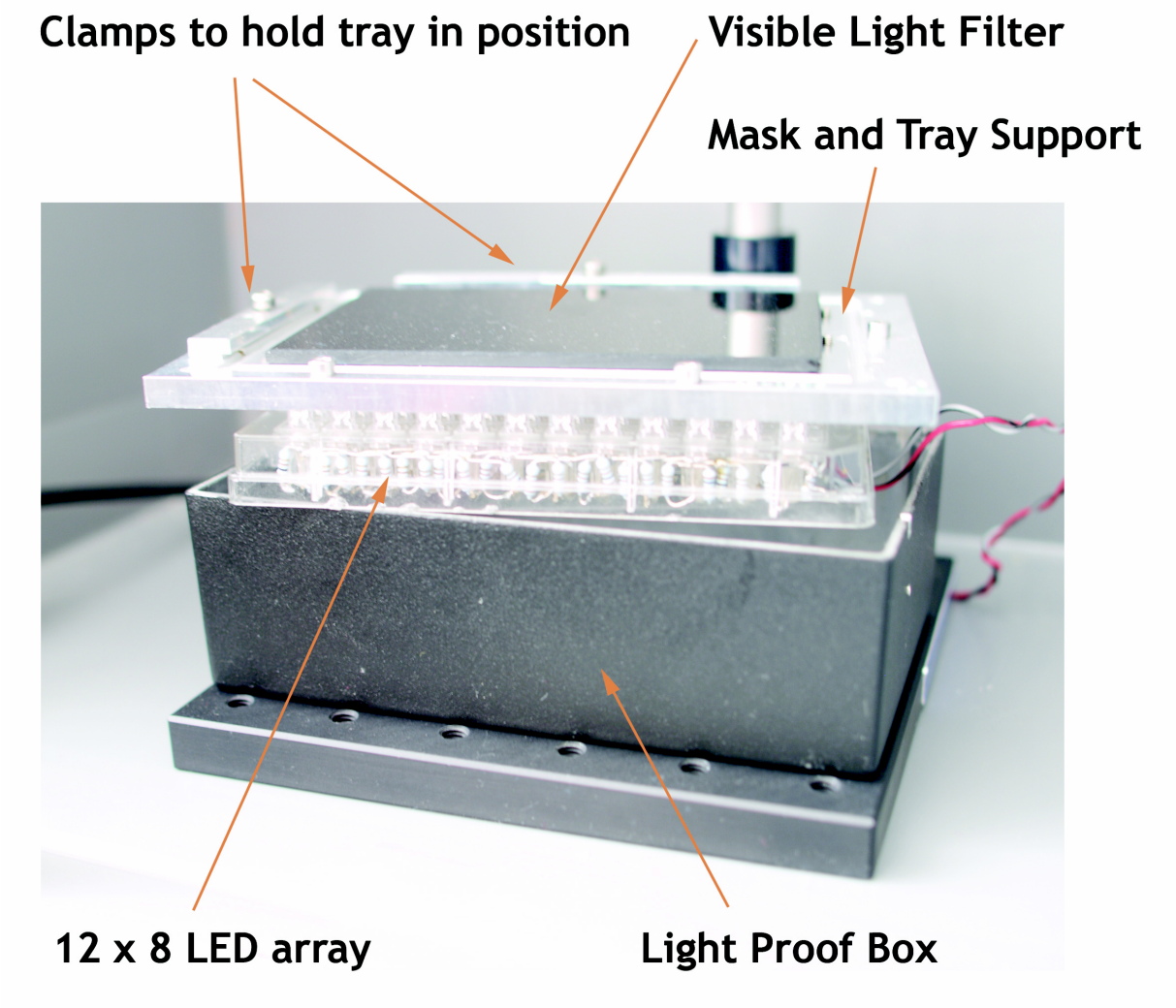
Supplementary Figure 1



Examples of protein crystals grown and imaged under visible visual light at the EMBL HTPX facility (Mueller-Dieckmann, 2006) exemplifying the difficulties in the

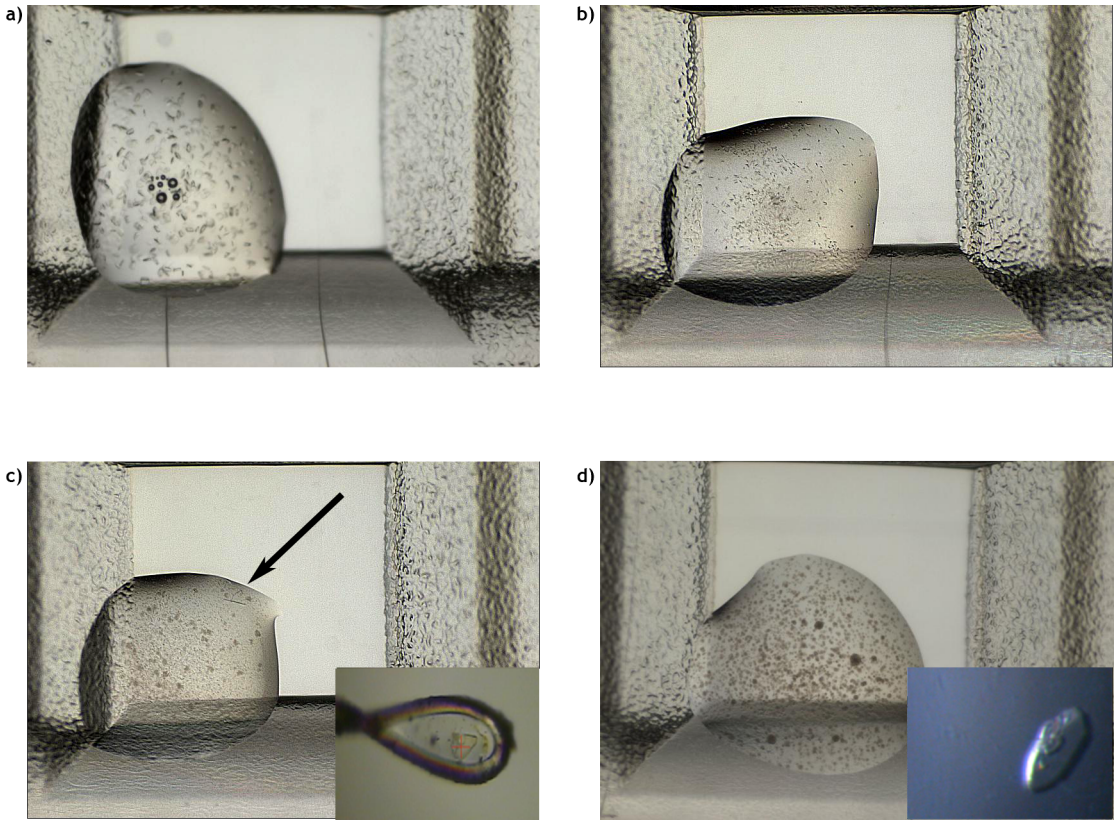
identification of successful crystallisation conditions. Isolated crystalline material appearing in solution, with no occluding material in the imaging path is clearly identifiable (a), whereas those that are partially (b) or fully (c) occluded are significantly harder to detect. Note that the polarisation signal from (b) and (c) is partially occluded by the surrounding precipitate. Crystals that are small (d) with respect to the pixel resolution of the camera could not be detected until manual inspection of the plate was performed. The inset images show the results of manual imaging using a polarizing microscope.

Supplementary Figure 2



The illumination stage for 1,8-ANS based fluorescence imaging of HTPX crystallisation plates. A light proof box containing a 12 x 8 array of LEDs, is arranged such that each LED is positioned directly below a narrow channel in a steel mask, which also serves as a support for the crystallisation tray. Guiding channels and clamps allow crystallisation plates to be reproducibly positioned for the imaging. A visible light filter removes residual light emitted from the LEDs, propagating only the appropriate excitation wavelength. Imaging is performed using a camera at a defined position with an additional filter to remove the excitation wavelength (not shown).

Supplementary Figure 3



The use of FREC-based examination of crystallization screens to identify successful crystallisation hits from three novel proteins of *P. falciparum*. FREC-based analysis of PF1 crystallisation experiments resulted in the successful identification of a crystallization hit (a). FREC–based analysis of PF2 resulted in the identification of two crystallization hits (b) & (c). While no well formed crystals could be identified in crystallisation experiments with PF3 the highest ranked condition (d) could be optimized into diffraction quality crystals. (Supplementary Figure 1c & d). The insets of (c) and (d; Jain *et al.,* 2010) indicate the quality of the optimized crystals used for data collection.