

Fig. 1. Cryptochrome cryoEM analysis. **a)** Electron density for dark state tetramer (2.69 Å res, grey) and light state tetramer (2.55 Å res, yellow) shown with FSC curves at right. Middle panel shows subunit superposition and orientation differences between dark state (white) and light state (colored). **b)** Dark-state CRY dimer with 2D classes, FSC curve and preliminary 3D reconstruction. Dataset: 735 micrographs 1.31 Å/pix, 27 K particles. **c)** Dark state CRY monomer with 2D classes, FSC curves and preliminary 3D reconstructions. Dataset: 702 micrographs, 1.31 Å/pix, 138 K particles.

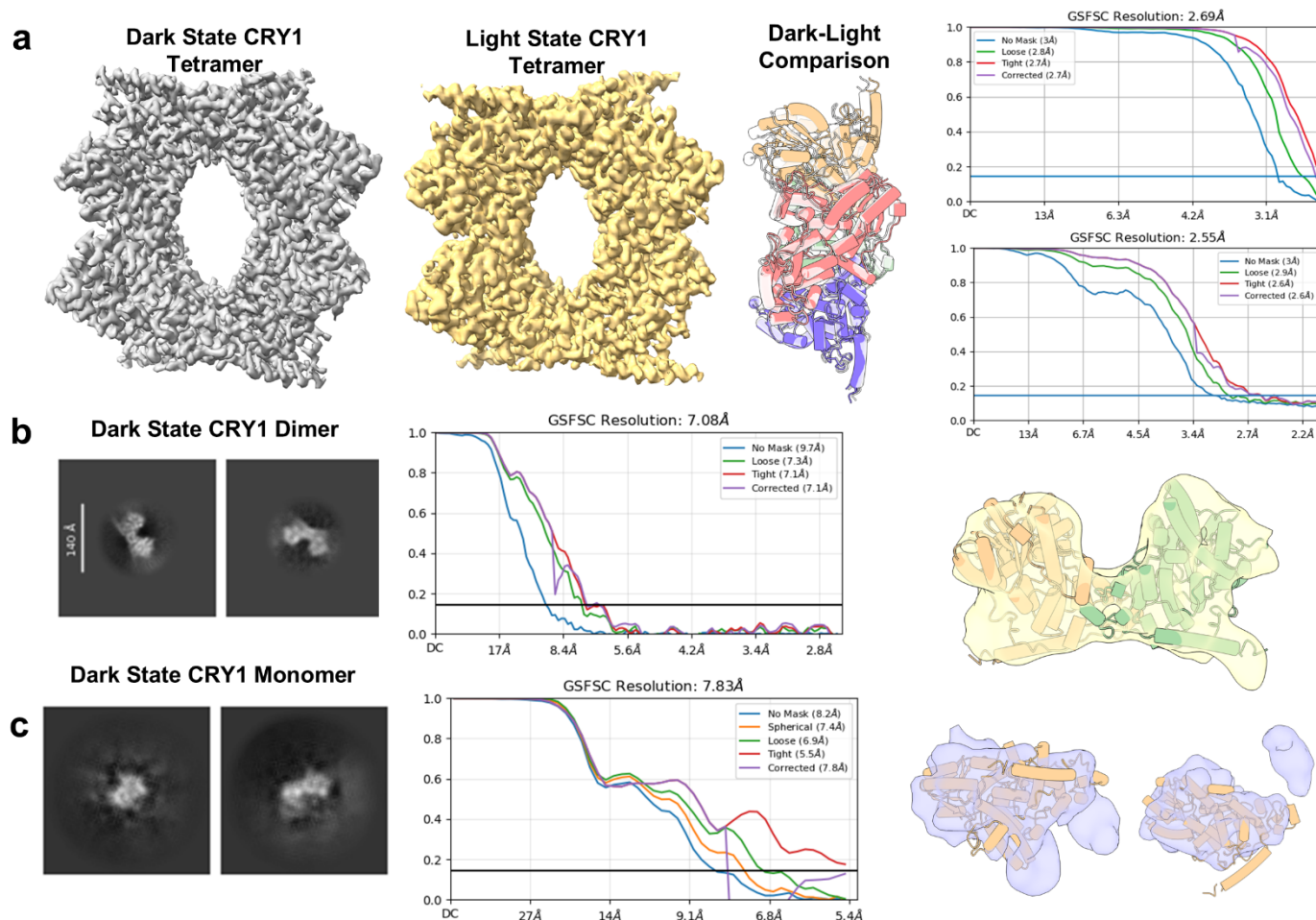
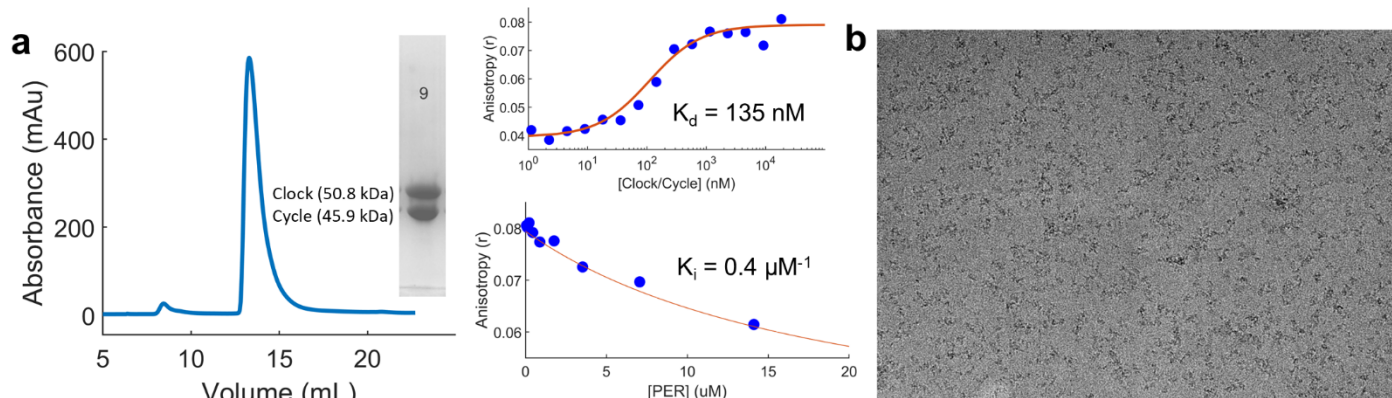


Fig. 2. Clock:Cycle cryoEM analysis. **a)** Purification (SEC and SDS-PAGE) from Sf9 insect cells, CLK:CYC E-box DNA binding and inhibition with PER(1-1224) **b)** Micrograph of DNA bound CLK:CYC, representative 2D classes, FSC curve, orientation distribution and real-space projections **c)** 3D density with a docked Alpha Fold model. Dataset: 3,787 micrographs, 1.31 Å/pix, 2768K particles. Particle size matches expected structural dimensions.



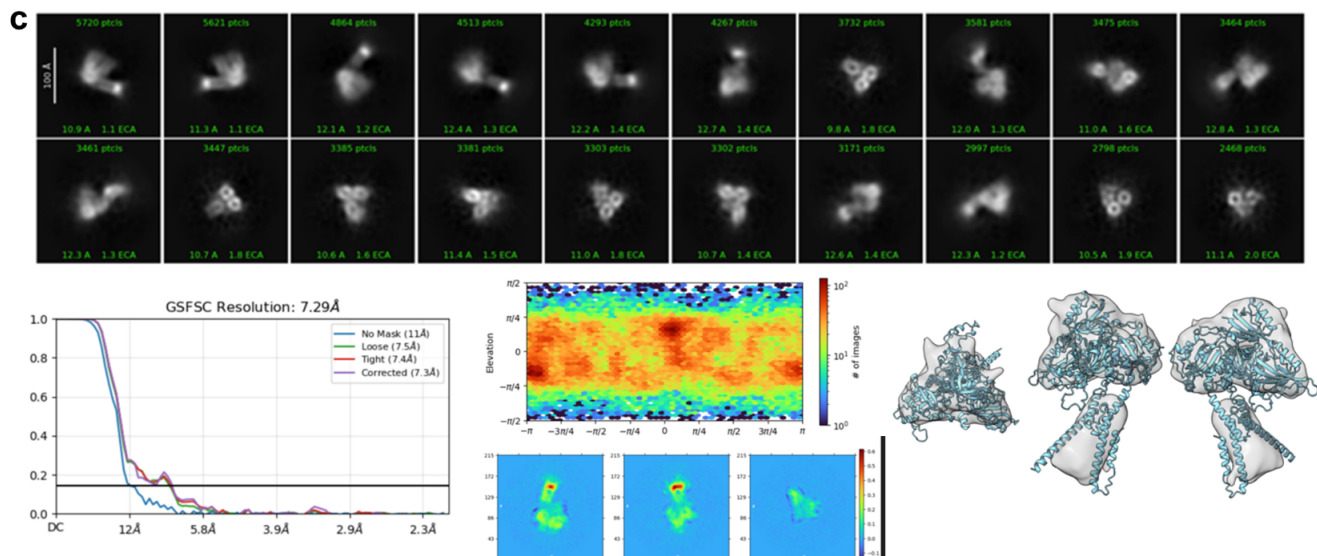
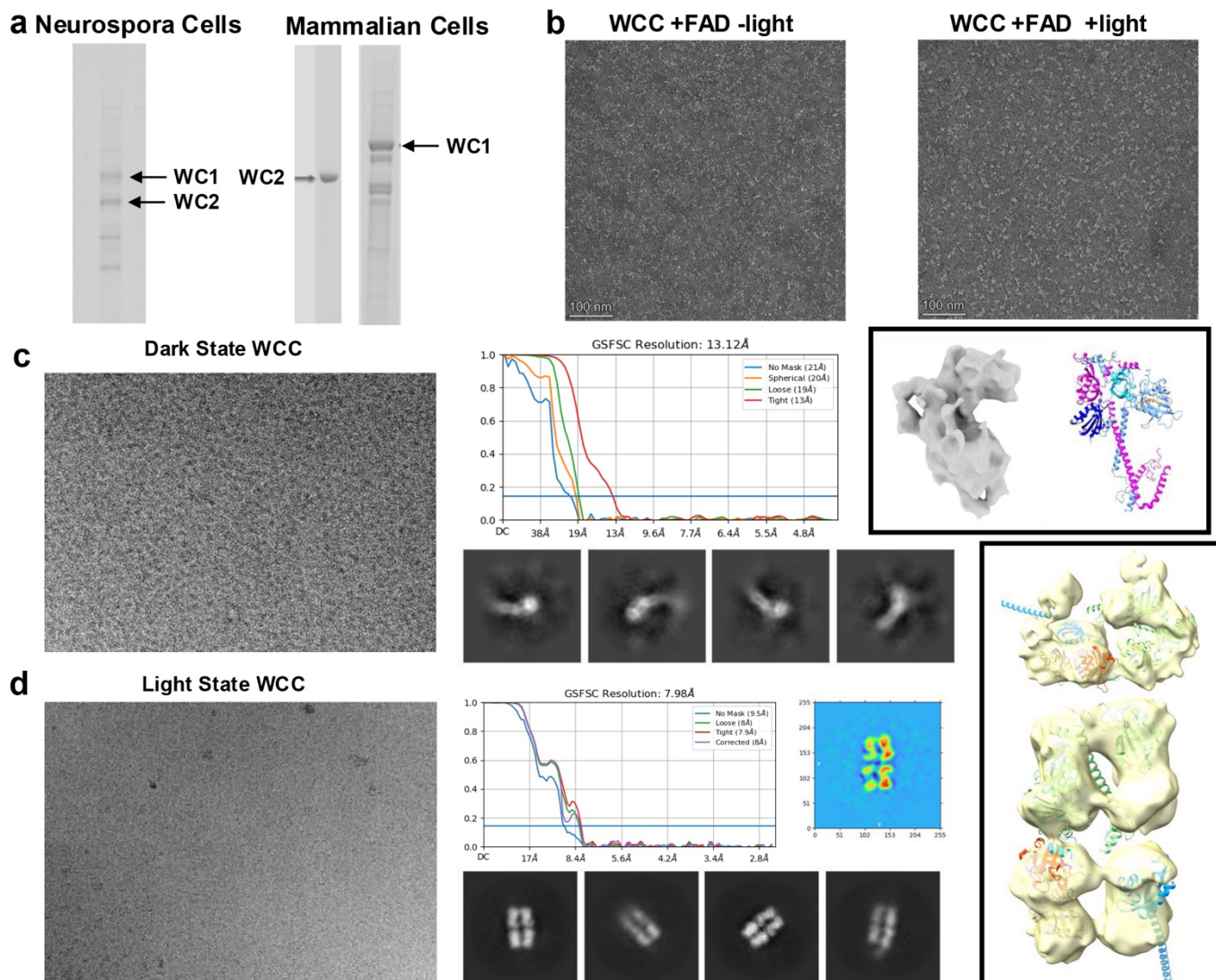


Fig. 3. WCC cryoEM analysis. a) Purification of the WCC from *Neurospora crassa* and recombinantly expressed from mammalian cells. b) Negative stain images of the WCC before and after light treatment. Light increases particle size, as expected from DNA binding data. c) Dark-state WCC on graphene oxide grids. Micrograph shown on right, FSC curves, 2D-classified particles and initial 3D reconstruction (grey density) shown beside an AlphaFold model of the WCC PAS domains (blue and magenta subunits). Dataset: 853 micrographs, 63kx, 1.31 Å/pix. d) Light-state WCC on quantifoil Cu grids. Micrograph with FSC curves, 2D classes, real-space projection and 3D reconstruction (yellow density) shown with model. Dataset: 2,611 micrographs, 1.31 Å/pix, 56K particles.



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