Supporting Information

Stevenson et al. 10.1073/pnas.1400240111

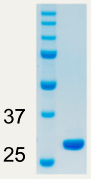
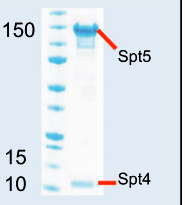
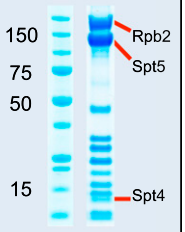
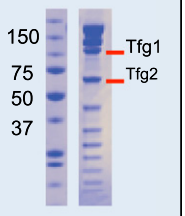
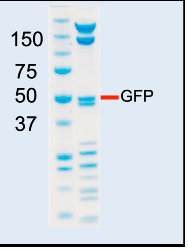
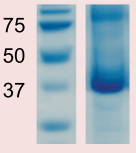
Soluble Protein Name, Expression system, Yield, Tray setup conc.	SDS-PAGE of Purified Protein	**Multi-Protein Complexes** Protein Name, Expression system, Yield, Tray setup conc.	SDS-PAGE of Purified Protein
The trans-acting acyl transferase from the disorazole synthase (DSZS AT) *E. coli* 50 mg/L 5 mg/mL		SPT4/5 *E. coli* 15 mg/20 g 8 mg/mL	
Membrane Protein Name, Expression system, Yield, Tray setup conc.	SDS-PAGE of Purified Protein	RNA Pol II+ SPT4/5 *S. Cerevisiae* & *E.coli* 25 mg/Kg & 15 mg/20 g 4-5 mg/mL	
H5N1 COBRA Influenza Virus Hemagglutinin protein (COBRA) *S. frugiperda* 8 mg/L 3.5 mg/ml		RNA Pol II + TFIIF *S. Cerevisiae* & *E. coli* 25 mg/Kg & 10 mg/Kg 8 mg/mL	
Parathyroid hormone receptor (PTHR1) *E. coli* 1.5 mg/L 1.5 mg/mL		RNA Pol II + GFP *S. cerevisiae &* *E.coli* 25 mg/Kg & 50 mg/L 5 mg/mL	
Thermostabilized PTHR1 (tPTHR) *E. coli* 1.5 mg/L 5 mg/mL			

Fig. S1. Proteins used in nanocrystallography screening. To the left of each SDS/PAGE gel showing the final purified protein is the full name of the protein and the expression system, along with the protein yield and protein concentration used for setting up trays. White space between gel lanes represents lanes that were removed for clarity, containing earlier fractions of the purifications. COBRA, computationally optimized broadly reactive antigen of H5N1; DSZS AT, acyl transferase from the disorazole synthase; *E. coli*, *Escherichia coli*; *S. frugiperda*, *Spodoptera frugiperda*; *S. cerevisiae*, *Saccharomyces cerevisiae*; tPTHR1, thermostabilized parathyroid hormone receptor; SPT4/5, suppressor of Ty (SPT)4/5; TFIIF, transcription factor II F.

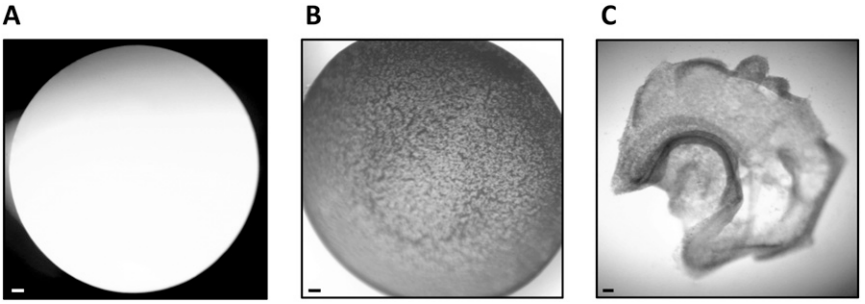
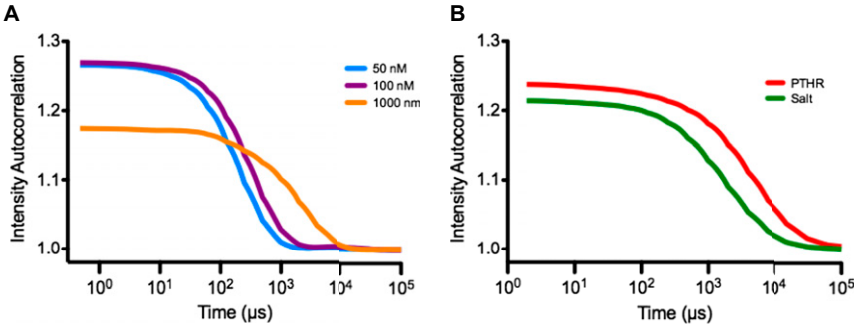


Fig. S2. Representative bright-field microscopy images of clear drops (*A*), granular aggregates (*B*), and denatured protein (*C*). (Scale bars: *A*, 300 μm; *B*, 300 μm; *C*, 160 μm.)



Microspheres Size (nm)	DLS Acquired Diameter (nm)
50	62.36
100	103.06
1000	1093.8

Protein	1° Species Diameter (nm)
PTHR	873.16
Salt	459.06

Fig. S3. (*A*) Correlograms of commercially available nanospheres used to verify the ability of the Wyatt Dynapro dynamic light scattering (DLS) system to detect particles sizes ranging from 50 to 1,000 nm. (*B*) Examples of correlograms obtained from measurement of PTHR1 and salt nanocrystals.

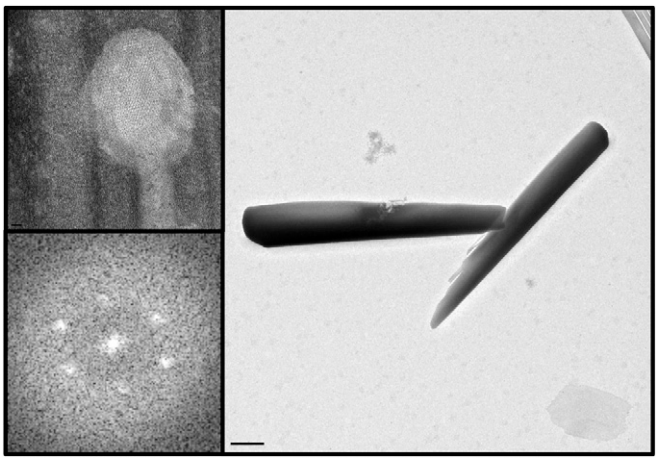


Fig. S4. TEM images of PTHR1 nanocrystals and accompanying lattices and a fast Fourier transform from the same crystallography conditions. (Scale bars: *Upper and Lower Left*, 20 nm; *Right*, 0.5 μm.)

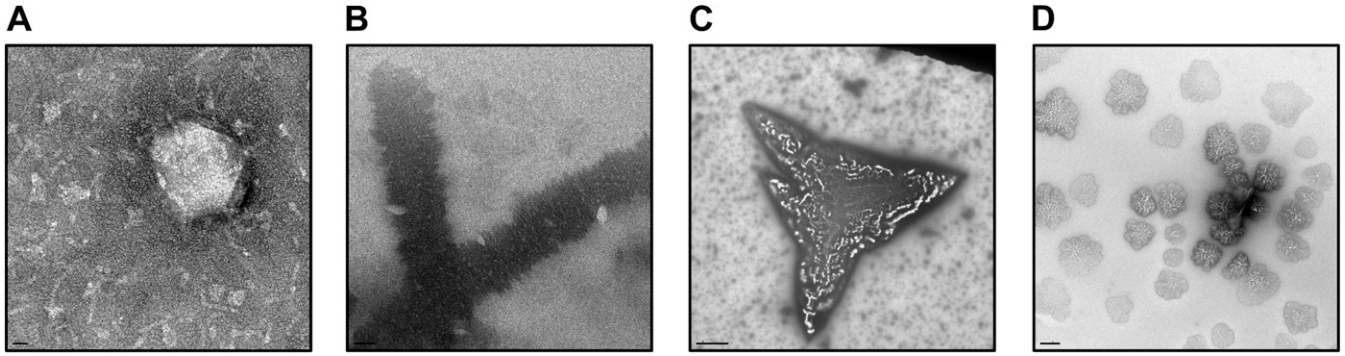


Fig. S5. Commonly observed salt nanocrystals (NCs). Calcium chloride NCs coated in protein filaments (*A*), Bis-Tris (pH 6.5) and PEG monomethyl ether (MME) 2000 (*B*), sodium chloride (*C*), and Tacsimate (pH 7.0) (*D*; Hampton Research). (Scale bars: *A*, 20 nm; *B*, 50 nm; *C*, 2 μm; *D*, 0.5 μm.)

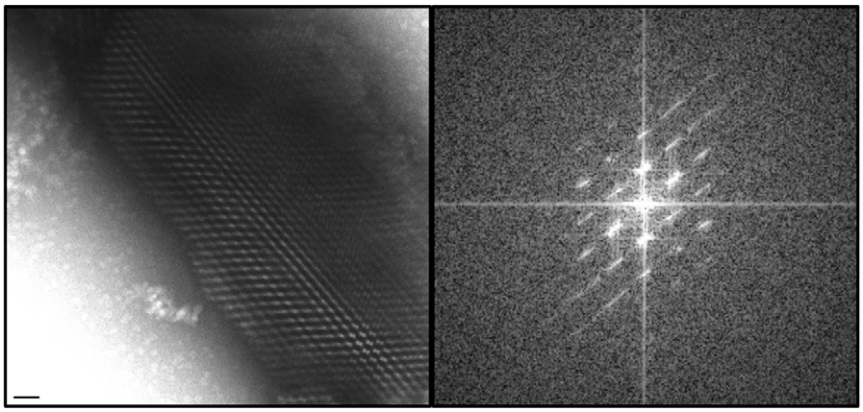


Fig. S6. Lattice visualization and corresponding FFT of a thick WT RNA polymerase (RPBII) NC after fragmentation using 0.5-mm glass beads. (Scale bar: 50 nm.)