



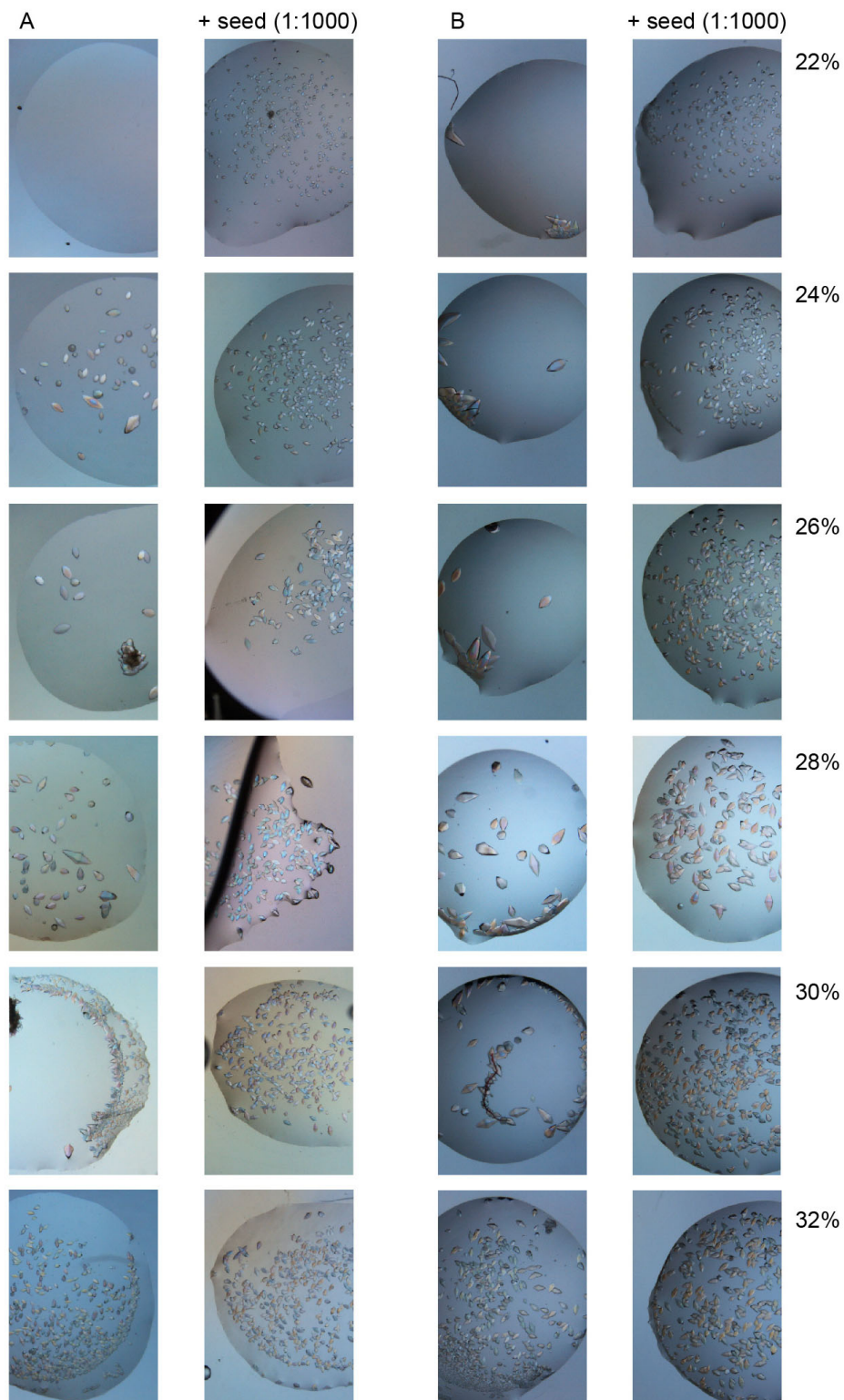
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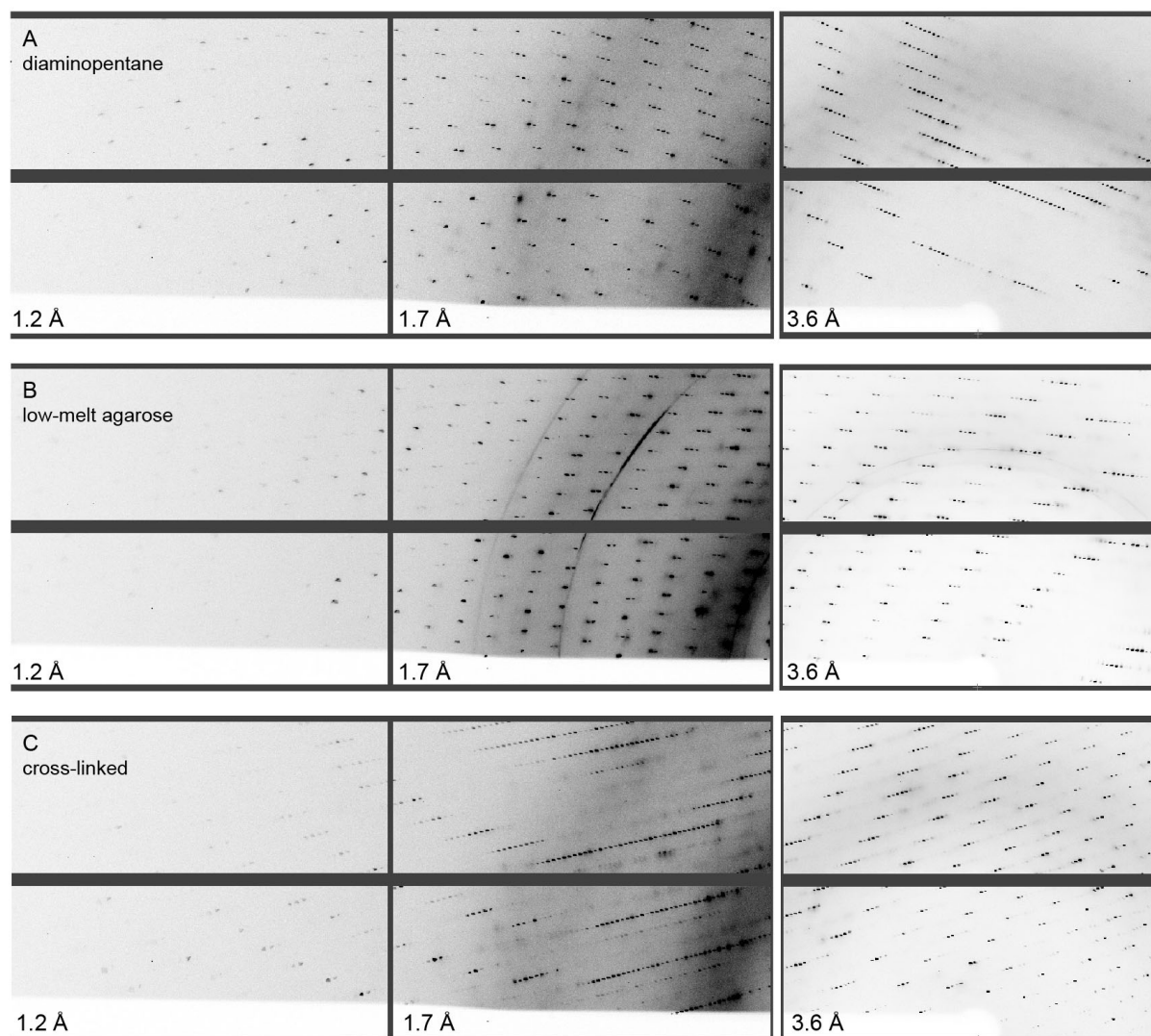
**Protein crystallization and initial neutron diffraction studies of the photosystem II subunit PsbO**

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### Supplementary Figure S1

Crystals obtained at  $40 \text{ mg ml}^{-1}$  protein concentration and varying concentrations of PEG 400. Drops were set up in MRC maxi plates as listed in table 2 (100 mM MES-NaOH, 200 mM calcium acetate, 10 mM TCEP, 22-32 % PEG 400). 0.19 mM Cymal-7 was added to A) and 10 mM trimethylamine-HCl to B). 0.2  $\mu\text{l}$  of a 1:1000 dilution of crystal seed stock was added to the columns indicated. The seed stock was prepared by vortexing several large crystals and a glass bead together in 100  $\mu\text{l}$  of the reservoir solution for 1 minute.



|   | Spots indexed | <i>a</i> (Å) | <i>b</i> (Å) | <i>c</i> (Å) | Mosaicity (°) | Resolution (Å) |
|---|---------------|--------------|--------------|--------------|---------------|----------------|
| MRC maxi                                    | 360           | 54.8         | 54.8         | 192.4        | 0.40          | 1.2            |
| MRC maxi, 10 mM diaminopentane              | 440           | 54.7         | 54.7         | 192.3        | 0.30          | 1.2            |
| MRC maxi, cross-linked                      | 331           | 55.1         | 55.1         | 192.9        | 0.15          | 1.1            |
| MRC maxi, cross-linked, 40% ethylene glycol | 460           | 55.1         | 55.1         | 193.5        | 0.20          | 1.2            |
| <b>A</b> Capillary, 10 mM diaminopentane    | 461           | 54.9         | 54.9         | 192.9        | 0.30          | 1.1            |
| <b>B</b> Capillary, 0.4% low melt agarose   | 468           | 55.2         | 55.2         | 193.2        | 0.30          | 1.1            |
| <b>C</b> Capillary, cross-linked            | 625           | 55.1         | 55.1         | 193.1        | 0.30          | 1.1            |

### Supplementary Figure S2

Images show slices along the beam stop of X-ray diffraction test images collected at 100 K. The right-side low-resolutions panels were reproduced at a lower intensity for visibility of individual spots. Crystals were grown in capillaries under the conditions listed in table 2. A) 10 mM 1,5-diaminopentane was added to the precipitant side. B) 0.4% low melting-point agarose was added to the protein side. C) A crystal flash-frozen after cross-linking with glutaraldehyde, taken from the same capillary as the one used for neutron diffraction. Two test images, 90° apart were indexed with *labelit.index*. Dimensions of the *P6<sub>1</sub>22* cell and 80% mosaicity values are shown in the table. Resolution values are approximate and refer to the outermost diffraction spots visible. A,B,C refer to the same diffraction images as above.