

Supporting Information

Promoting Protein Crystallization Using a Plate with Simple Geometry

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Table S1 Crystallization conditions found only by either the Cross-Diffusion Microbatch (CDM) or the conventional sitting-drop vapor diffusion (SDVD) method

(a) Initial protein concentration at 2.5 mg ml ⁻¹ after mixing		
Proteins (2.5 mg ml ⁻¹ after mixing)	Crystallization condition No. found only by the CDM method	Crystallization condition No. found only by the SDVD method
proteinase K	A11 B8 B11 C3 C6 C7 D5 D8 E9 E10 F5 F10 F11 G9 H8 H12	A2 A8 A9 A10 B1 B2 B3 C2 C11 D1 D2 F2
lysozyme	B1 B4 C7 D3 D4 D8 D10 E5 E10 E11 F1 F3 F12 G4 G8 H4 H5 H6 H7 H10 H12	A1 A2 A3 A8 B2 B3 D2 E6 F2 G2 H1
α -chymotrypsinogen A II	D1 D4 D5 E10 F5 F6 F7 F8 F9 F11 G3 G4 G5 H2 H3 H4 H5 H7 H10	A1 A3 A5 A6 A8 B5 B6 C2 C3 C5
concanavalin A VI	D5 E6 E8 F5 G2 G3 H2 H3	G11 G12 H8 H10
catalase	D5 F1 F2 F3 F4 G1 G2 G3 G6 H1 H2 H3	H11
thaumatin	C2 C7	A5
cellulase	C7	None
myoglobin	A8 D4 H11	None
ribonuclease A XII	F6 F7 H4	None
α -lactalbumin	C7 H11	None
hemoglobin	A2 H2 H3	None
HTA (1 mg ml ⁻¹)	D1 D5 D7 D8 D9 D10 F2 F4 F5 F11 F12 G1 G2 G6 G8 H2 H3 H5 H6 H7 H8	F7

(b) Initial protein concentration at 5 mg ml⁻¹ after mixing

Proteins (5 mg ml ⁻¹ after mixing)	Crystallization condition No. found only by the CDM method	Crystallization condition No. found only by the SDVD method
proteinase K	A12 B2 B11 B12 C3 E9 E10 F4 H9	A8 B9 C1 E6
lysozyme	C12 D3 D4 D10 E5 F10 F11 F12 G5 G8 H4 H5 H6 H8 H12	A1 A3 A11 F2 G3 G4
α -chymotrypsinogen A II	A1 A2 B8 B11 C4 C7 C8 C9 C11 C12 D1 D6 D7 D8 D10 D11 E4 E9 F1 F3 F4 F5 F8 F9 G1 G4 G5 G7 G8 G9 H2 H3 H5 H6 H7 H8 H10 H11 H12	C1 C2
concanavalin A VI	D1 D2 D5 D11 E7 E8 F2 F5 G1 G2 G3 H2 H3	A4 A6 G5
catalase	D3 F1 F2 F3 F5 G1 G6 G10 H1 H2 H3 H6	D11 H11 H12
ribonuclease A I	F6 F7 F8 H4	None
subtilisin A VIII	D12 H2	B6 B7
thaumatin	C7 H2	C2
cellulase	H2	None
myoglobin	A8 D4 H11	None
ribonuclease A XII	F6 F7	None
α -lactalbumin	C7 H2	A2 H11
papain	C11	C8
hemoglobin	A2 A3 A4 A5 A6 C6 F3 F6 F9 G3 G4 G5 G10 G11 G12 H1 H2 H3 H4	None

(c) Initial protein concentration at 7.5 mg ml⁻¹ after mixing

Proteins (7.5 mg ml ⁻¹ after mixing)	Crystallization condition No. found only by the CDM method	Crystallization condition No. found only by the SDVD method
proteinase K	B11 D3 E5 E9 E10 F4 H8 H9	B9 D2
lysozyme	B4 B11 C3 D3 D4 D5 D6 D7 D8 D9 D10 D11 E4 E5 E10 E11 F4 F5 F10 G6 G7 G9 G11 G12 H6 H8	A1 A2 A3 A7 A8 A10 A12 B2 B3 B5 B6 B12 C2 D2 F7 F8 G2 G3 G5
α -chymotrypsinogen A II	A1 A2 A3 A7 B8 B10 B11 C2 C3 C7 C8 C9 C10 C11 C12 D1 D3 D6 D7 D8 D9 D11 E4 E5 E9 E10 E11 F1 F2 F3 F4 F5 F8 F9 F10 F12 G1 G4 G5 G7 G8 G9 G10 H2 H3 H5 H6 H7 H8 H10 H11	A10 B12 C1
concanavalin A VI	D2 D5 E7 F1 F2 F3 F4 G1 G2 G3 G6	D11 F6 F7 H7 H11 H12

	G10 G12 H1 H2 H3														
catalase	D3 F1 F2 F3 G1 G2 G3 G4 G5 H1 H2	H3					D6 D8 D9 D10 D11 E6 E11 F6	F11 G10 G11 H11 H12							
ribonuclease A I	F6 F7 F8 H4						None								
subtilisin A VIII	H2						None								
thaumatin	C7						C2								
cellulase	C7 D12 H2						B5 C7 F9								
myoglobin	D1 D4 H11						None								
ribonuclease A XII	F6 F7 F8						None								
α -lactalbumin	C7 H2						A2								
papain	C12 F6 F7 F8 F9						None								
hemoglobin	A2 A4 A5 A6 C6 F5 F6 F9 G3 G4 G5						None								
	G10 G11 H2 H3 H4														

(d) Initial protein concentration at 10 mg ml⁻¹ after mixing

Proteins (10 mg ml ⁻¹ after mixing)	Crystallization condition No. found only by the CDM method	Crystallization condition No. found only by the SDVD method
proteinase K	B11 C1 C5 E9 E10	D2
lysozyme	B1 B4 B11 D1 D3 D4 D5 D6 D7 D8 D9 E3 E4 E5 E10 E11 F1 F4 F5 G6 G7 G10 H8	A1 A2 A3 A8 A9 A11 A12 B5 C1 C2 E1 F8 G2 G3
α -chymotrypsinogen A II	A1 A2 A3 A6 A7 B1 B7 B8 B10 B11C2 C3 C7 C8 C9 C10 C11 D1 D3 D6 D7 D8 D9 E2 E3 E4 E5 E7 E9 E10 E11 F1 F2 F3 F4 F5 F9 F12 G1 G5 G7 G8 G9 G10 G12 H2 H3 H5 H6 H7 H8 H9	D2
concanavalin A VI	D2 E7 F5 G2 G3 G10 H2 H3	A4 A6 B3
catalase	E7 F1 F2 F3 G1 G2 G3 G4 G5 G6 H2 H3	H11 H12
ribonuclease AI	D4 E3 F5 F6 H4	A1 D7 E1 G7
subtilisin A VIII	D12 H2	B6 B7
thaumatin	C2 H2	A5 B6 B7 C4
cellulase	A3 B7 D7 D8 D9 D11 D12 E10 H2	B2 D2 E1 G9 H1 H3
myoglobin	D1 H11	None
ribonuclease A XII	D4 F6 F7 F8 H4	None
α -lactalbumin	C7	B5
papain	C12 F6 F7 F8 F9	None

hemoglobin	A2 A4 A5 A6 C6 F5 F6 F7 F12 G2 G4 G11 G12 H3 H4	None
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