

SUPPORTING INFORMATION FOR

Automated Microfluidic Screening Assay Platform Based on DropLab

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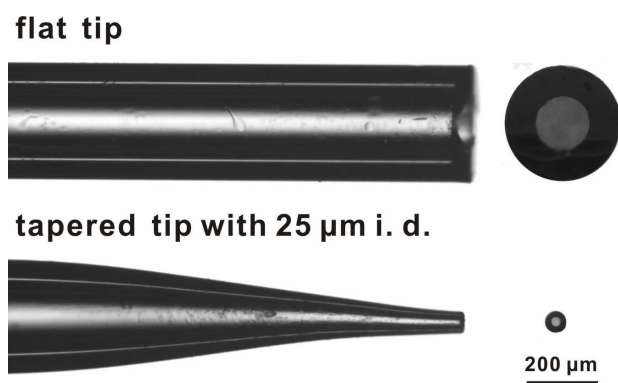


Figure S1. Images of a flat tip capillary (150 μm i.d) and a tapered fused silica capillary (inner diameter of tip end, 25 μm). Left: viewing from side; Right: viewing from the cross section of the tip end.

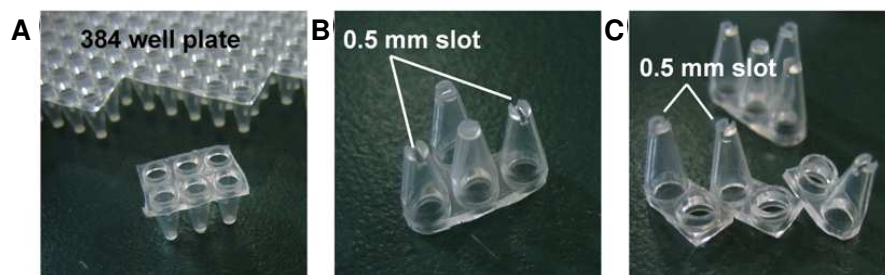


Figure S2. Fabrication of slotted vial arrays. (A) 30 μ L vials cut from 384-well plate. (B) and (C) Slotted vials with 0.5-mm-wide slots fabricated on the bottom of each vial.



Figure S3. Image of eight 10-cm-long capillaries in parallel experiments for lysozyme crystallization screening. Each capillary stored 50 droplets for screening of 50 precipitants as listed in Table S1.

Table S1. Compositions of the screened protein precipitants.

	Salt	Buffer	Precipitants
1	1.0 M Sodium chloride	0.1 M Sodium acetate trihydrate pH 4.6	25% w/v Polyethylene glycol 6,000
2	0.02 M Calcium chloride dihydrate	0.1 M Sodium acetate trihydrate pH 4.6	30% v/v (+/-)-2-Methyl-2,4-penta nediol
3	None	None	0.4 M Potassium sodium tartrate tetrahydrate
4	None	None	0.4 M Ammonium phosphate monobasic
5	None	0.1 M TRIS hydrochloride pH 8.5	2.0 M Ammonium sulfate
6	0.2 M Sodium citrate tribasic dihydrate	0.1 M HEPES sodium pH 7.5	30% v/v (+/-)-2-Methyl-2,4-penta nediol
7	0.2 M Magnesium chloride hexahydrate	0.1 M TRIS hydrochloride pH 8.5	30% w/v Polyethylene glycol 4,000
8	None	0.1 M Sodium cacodylate trihydrate pH 6.5	1.4 M Sodium acetate trihydrate
9	0.2 M Sodium citrate tribasic dihydrate	0.1 M Sodium cacodylate trihydrate pH 6.5	30% v/v 2-Propanol
10	0.2 M Ammonium acetate	0.1 M Sodium citrate tribasic dihydrate pH 5.6	30% w/v Polyethylene glycol 4,000
11	0.2 M Ammonium acetate	0.1 M Sodium acetate trihydrate pH 4.6	30% w/v Polyethylene glycol 4,000
12	None	0.1 M Sodium citrate tribasic dihydrate pH 5.6	1.0 M Ammonium phosphate monobasic
13	0.2 M Magnesium chloride hexahydrate	0.1 M HEPES sodium pH 7.5	30% v/v 2-Propanol
14	0.2 M Sodium citrate tribasic dihydrate	0.1 M TRIS hydrochloride pH 8.5	30% v/v Polyethylene glycol 400
15	0.2 M Calcium chloride dihydrate	0.1 M HEPES sodium pH 7.5	28% v/v Polyethylene glycol 400
16	0.2 M Ammonium sulfate	0.1 M Sodium cacodylate trihydrate pH 6.5	30% w/v Polyethylene glycol 8,000
17	None	0.1 M HEPES sodium pH 7.5	1.5 M Lithium sulfate monohydrate
18	0.2 M Lithium sulfate monohydrate	0.1 M TRIS hydrochloride pH 8.5	30% w/v Polyethylene glycol 4,000
19	0.2 M Magnesium acetate tetrahydrate	0.1 M Sodium cacodylate trihydrate pH 6.5	20% w/v Polyethylene glycol 8,000
20	0.2 M Ammonium acetate	0.1 M TRIS hydrochloride pH 8.5	30% v/v 2-Propanol

21	0.2 M Ammonium sulfate	0.1 M Sodium acetate trihydrate pH 4.6	25% w/v Polyethylene glycol 4,000
22	0.2 M Magnesium acetate tetrahydrate	0.1 M Sodium cacodylate trihydrate pH 6.5	30% v/v (+/-)-2-Methyl-2,4-pentanediol
23	0.2 M Sodium acetate trihydrate	0.1 M TRIS hydrochloride pH 8.5	30% w/v Polyethylene glycol 4,000
24	0.2 M Magnesium chloride hexahydrate	0.1 M HEPES sodium pH 7.5	30% v/v Polyethylene glycol 400
25	0.2 M Calcium chloride dihydrate	0.1 M Sodium acetate trihydrate pH 4.6	20% v/v 2-Propanol
26	None	0.1 M Imidazole pH 6.5	1.0 M Sodium acetate trihydrate
27	0.2 M Ammonium acetate	0.1 M Sodium citrate tribasic dihydrate pH 5.6	30% v/v (+/-)-2-Methyl-2,4-pentanediol
28	0.2 M Sodium citrate tribasic dihydrate	0.1 M HEPES sodium pH 7.5	20% v/v 2-Propanol
29	0.2 M Sodium acetate trihydrate	0.1 M Sodium cacodylate trihydrate pH 6.5	30% w/v Polyethylene glycol 8,000
30	None	0.1 M HEPES sodium pH 7.5	0.8 M Potassium sodium tartrate tetrahydrate
31	0.2 M Ammonium sulfate	None	30% w/v Polyethylene glycol 8,000
32	0.2 M Ammonium sulfate	None	30% w/v Polyethylene glycol 4,000
33	None	None	2.0 M Ammonium sulfate
34	None	None	4.0 M Sodium formate
35	None	0.1 M Sodium acetate trihydrate pH 4.6	2.0 M Sodium formate
36	None	0.1 M HEPES sodium pH 7.5	0.8 M Sodium phosphate monobasic monohydrate 0.8 M Potassium phosphate monobasic
37	None	0.1 M Sodium acetate trihydrate pH 4.6	8% w/v Polyethylene glycol 4,000
38	None	0.1 M HEPES sodium pH 7.5	1.4 M Sodium citrate tribasic dihydrate
39	None	0.1 M HEPES sodium pH 7.5	2% v/v Polyethylene glycol 400 2.0 M Ammonium sulfate
40	None	0.1 M Sodium citrate tribasic dihydrate pH 5.6	20% v/v 2-Propanol 20% w/v Polyethylene glycol 4,000
41	None	0.1 M HEPES sodium pH 7.5	10% v/v 2-Propanol

			20% w/v Polyethylene glycol 4,000
42	0.05 M Potassium phosphate monobasic	None	20% w/v Polyethylene glycol 8,000
43	None	None	30% w/v Polyethylene glycol 1,500
44	None	None	0.2 M Magnesium formate dihydrate
45	0.2 M Zinc acetate dihydrate	0.1 M Sodium cacodylate trihydrate pH 6.5	18% w/v Polyethylene glycol 8,000
46	0.2 M Calcium acetate hydrate	0.1 M Sodium cacodylate trihydrate pH 6.5	18% w/v Polyethylene glycol 8,000
47	None	0.1 M Sodium acetate trihydrate pH 4.6	2.0 M Ammonium sulfate
48	None	0.1 M TRIS hydrochloride pH 8.5	2.0 M Ammonium phosphate monobasic
49	1.0 M Lithium sulfate monohydrate	None	2% w/v Polyethylene glycol 8,000
50	0.5 M Lithium sulfate monohydrate	None	15% w/v Polyethylene glycol 8,000