

SUPPORTING INFORMATION FOR

A Plug-Based Microfluidic System for Dispensing Lipidic Cubic Phase (LCP) Material Validated by Crystallizing Membrane Proteins in Lipidic Mesophases

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| Condition | HEPES/NaOH pH 7.5 (mM) | O-(2-aminopropyl)-O-(2-methoxyethyl)polypropylene glycol 500 (% v/v) | (NH ₄) ₂ SO ₄ (mM) |
|-----------|------------------------|--|--|
| A1 | 1000 | 7 | 700 |
| A2 | 1000 | 8 | 700 |
| A3 | 1000 | 9 | 700 |
| 4A | 1000 | 10 | 700 |
| A5 | 1000 | 11 | 700 |
| A6 | 1000 | 12 | 700 |
| A7 | 1000 | 13 | 700 |
| A8 | 1000 | 14 | 700 |
| A9 | 1000 | 15 | 700 |
| A10 | 1000 | 16 | 700 |
| A11 | 1000 | 17 | 700 |
| A12 | 1000 | 18 | 700 |
| B1 | 1000 | 7 | 850 |
| B2 | 1000 | 8 | 850 |
| B3 | 1000 | 9 | 850 |
| B4 | 1000 | 10 | 850 |
| B5 | 1000 | 11 | 850 |
| B6 | 1000 | 12 | 850 |
| B7 | 1000 | 13 | 850 |
| B8 | 1000 | 14 | 850 |
| B9 | 1000 | 15 | 850 |
| B10 | 1000 | 16 | 850 |
| B11 | 1000 | 17 | 850 |
| B12 | 1000 | 18 | 850 |
| C1 | 1000 | 7 | 1000 |
| C2 | 1000 | 8 | 1000 |
| C3 | 1000 | 9 | 1000 |
| C4 | 1000 | 10 | 1000 |
| C5 | 1000 | 11 | 1000 |
| C6 | 1000 | 12 | 1000 |
| C7 | 1000 | 13 | 1000 |
| C8 | 1000 | 14 | 1000 |
| C9 | 1000 | 15 | 1000 |
| C10 | 1000 | 16 | 1000 |
| C11 | 1000 | 17 | 1000 |
| C12 | 1000 | 18 | 1000 |
| D1 | 1000 | 7 | 1150 |
| D2 | 1000 | 8 | 1150 |
| D3 | 1000 | 9 | 1150 |
| D4 | 1000 | 10 | 1150 |
| D5 | 1000 | 11 | 1150 |
| D6 | 1000 | 12 | 1150 |
| D7 | 1000 | 13 | 1150 |
| D8 | 1000 | 14 | 1150 |
| D9 | 1000 | 15 | 1150 |
| D10 | 1000 | 16 | 1150 |
| D11 | 1000 | 17 | 1150 |
| D12 | 1000 | 18 | 1150 |

Table S1: The screening conditions for the photosynthetic reaction centers. Crystals of carotenoidless RC were obtained from A2, A9, B1, B2, B3, B4, B5, B6, C3, C5, C6, C7, D2, D7, D9, D11. Crystals of RC from *B. viridis* were obtained from A5, A7, A8, A10, B10, C9; Crystals of carotenoid-containing RC were obtained from C11, D3, D4.

| Crystallization Condition | Buffer | Salt | Precipitant |
|---------------------------|--------------------------------|---|---|
| 1 | 0.1 M sodium acetate, pH 4.6 | 0.02 M CaCl ₂ | 30% (v/v) 2-methyl-2,4-pentanediol |
| 8 | 0.1 M sodium cacodylate pH 6.5 | 0.2 M sodium citrate | 30% (v/v) 2-propanol |
| 9 | 0.1 M sodium citrate pH 5.6 | 0.2 M ammonium acetate | 30% (w/v) PEG-4000 |
| 12 | 0.1 M HEPES pH 7.5 | 0.2 M MgCl ₂ | 30% (v/v) 2-propanol |
| 16 | 0.1 M HEPES pH 7.5 | | 1.5 M Li ₂ SO ₄ |
| 19 | 0.1 M TRIS pH 8.5 | 0.2 M ammonium acetate | 30% (v/v) 2-propanol |
| 20 | 0.1 M sodium acetate, pH 4.6 | 0.2 M (NH ₄) ₂ SO ₄ | 25% (w/v) PEG-4000 |
| 24 | 0.1 M sodium acetate, pH 4.6 | 0.2 M CaCl ₂ | 20% (v/v) 2-propanol |
| 28 | 0.1 M sodium cacodylate pH 6.5 | 0.2 M sodium acetate | 30% (w/v) PEG-8000 |
| 31 | | 0.2 M (NH ₄) ₂ SO ₄ | 30% (w/v) PEG-4000 |
| 32 | | | 2 M (NH ₄) ₂ SO ₄ |
| 43 | | | 30% (w/v) PEG-1500 |
| 44 | | 0.2 M MgCl ₂ | |
| 45 | 0.1 M sodium cacodylate pH 6.5 | 0.2 M zinc acetate | 18% (w/v) PEG-8000 |
| 46 | 0.1 M sodium cacodylate pH 6.5 | 0.2 M calcium acetate | 18% (w/v) PEG-8000 |
| 49 | | 1.0 M Li ₂ SO ₄ | 2% (w/v) PEG-8000 |

Table S2: A list of conditions yielding BR crystals.