**Table S1.** Crystallization conditions for alginate gel bead.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | precipitant |  | buffer | pH | No. | precipitant |  | buffer | pH |
| 1 | 10%(v/v) iso-propanol | 0.2 M CaCl2 | 0.1M Acetate | 4.6  | 36 | 5%(v/v) Jeffamine M-600, 4M NaCl | 0.2 M CaCl2 | 0.1M Acetate | 4.6  |
| 2 | 10%(v/v) iso-propanol | 0.2 M CaCl2 | 0.1M MES | 5.8  | 37 | 5%(v/v) Jeffamine M-600, 4M NaCl | 0.2 M CaCl2 | 0.1M MES | 5.8  |
| 3 | 10%(v/v) iso-propanol | 0.2 M CaCl2 | 0.1M MES | 6.5  | 38 | 5%(v/v) Jeffamine M-600, 4M NaCl | 0.2 M CaCl2 | 0.1M MES | 6.5  |
| 4 | 10%(v/v) iso-propanol | 0.2 M CaCl2 | 0.1M HEPES | 7.5  | 39 | 5%(v/v) Jeffamine M-600, 4M NaCl | 0.2 M CaCl2 | 0.1M HEPES | 7.5  |
| 5 | 10%(v/v) iso-propanol | 0.2 M CaCl2 | 0.1M Bicine | 9.0  | 40 | 5%(v/v) Jeffamine M-600, 4M NaCl | 0.2 M CaCl2 | 0.1M Bicine | 9.0  |
| 6 | 40%(v/v) MPD§ | 0.2 M CaCl2 | 0.1M Acetate | 4.6  | 41 | 10%(v/v) PEG400, 3M NaCl | 0.2 M CaCl2 | 0.1M Acetate | 4.6  |
| 7 | 40%(v/v) MPD | 0.2 M CaCl2 | 0.1M MES | 5.8  | 42 | 10%(v/v) PEG400, 3M NaCl | 0.2 M CaCl2 | 0.1M MES | 5.8  |
| 8 | 40%(v/v) MPD | 0.2 M CaCl2 | 0.1M MES | 6.5  | 43 | 10%(v/v) PEG400, 3M NaCl | 0.2 M CaCl2 | 0.1M MES | 6.5  |
| 9 | 40%(v/v) MPD | 0.2 M CaCl2 | 0.1M HEPES | 7.5  | 44 | 10%(v/v) PEG400, 3M NaCl | 0.2 M CaCl2 | 0.1M HEPES | 7.5  |
| 10 | 40%(v/v) MPD | 0.2 M CaCl2 | 0.1M Bicine | 9.0  | 45 | 10%(v/v) PEG400, 3M NaCl | 0.2 M CaCl2 | 0.1M Bicine | 9.0  |
| 11 | 25%(v/v) Jeffamine M-600 | 0.2 M CaCl2 | 0.1M Acetate | 4.6  | 46 | 5%(v/v) PEG4000, 3M NaCl | 0.2 M CaCl2 | 0.1M Acetate | 4.6  |
| 12 | 25%(v/v) Jeffamine M-600 | 0.2 M CaCl2 | 0.1M MES | 5.8  | 47 | 5%(v/v) PEG4000, 3M NaCl | 0.2 M CaCl2 | 0.1M MES | 5.8  |
| 13 | 25%(v/v) Jeffamine M-600 | 0.2 M CaCl2 | 0.1M MES | 6.5  | 48 | 5%(v/v) PEG4000, 3M NaCl | 0.2 M CaCl2 | 0.1M MES | 6.5  |
| 14 | 25%(v/v) Jeffamine M-600 | 0.2 M CaCl2 | 0.1M HEPES | 7.5  | 49 | 5%(v/v) PEG4000, 3M NaCl | 0.2 M CaCl2 | 0.1M HEPES | 7.5  |
| 15 | 25%(v/v) Jeffamine M-600 | 0.2 M CaCl2 | 0.1M Bicine | 9.0  | 50 | 5%(v/v) PEG4000, 3M NaCl | 0.2 M CaCl2 | 0.1M Bicine | 9.0  |
| 16 | 15%(v/v) PEG400 | 0.2 M CaCl2 | 0.1M Acetate | 4.6  | 51 | 5%(v/v) PEG8000, 3M NaCl | 0.2 M CaCl2 | 0.1M Acetate | 4.6  |
| 17 | 15%(v/v) PEG400 | 0.2 M CaCl2 | 0.1M MES | 5.8  | 52 | 5%(v/v) PEG8000, 3M NaCl | 0.2 M CaCl2 | 0.1M MES | 5.8  |
| 18 | 15%(v/v) PEG400 | 0.2 M CaCl2 | 0.1M MES | 6.5  | 53 | 5%(v/v) PEG8000, 3M NaCl | 0.2 M CaCl2 | 0.1M MES | 6.5  |
| 19 | 15%(v/v) PEG400 | 0.2 M CaCl2 | 0.1M HEPES | 7.5  | 54 | 5%(v/v) PEG8000, 3M NaCl | 0.2 M CaCl2 | 0.1M HEPES | 7.5  |
| 20 | 15%(v/v) PEG400 | 0.2 M CaCl2 | 0.1M Bicine | 9.0  | 55 | 5%(v/v) PEG8000, 3M NaCl | 0.2 M CaCl2 | 0.1M Bicine | 9.0  |
| 21 | 10%(v/v) PEG4000 | 0.2 M CaCl2 | 0.1M Acetate | 4.6  | 56 | 3.0M NaCl | 0.2 M CaCl2 | 0.1M Acetate | 4.6  |
| 22 | 10%(v/v) PEG4000 | 0.2 M CaCl2 | 0.1M MES | 5.8  | 57 | 3.0M NaCl | 0.2 M CaCl2 | 0.1M MES | 5.8  |
| 23 | 10%(v/v) PEG4000 | 0.2 M CaCl2 | 0.1M MES | 6.5  | 58 | 3.0M NaCl | 0.2 M CaCl2 | 0.1M MES | 6.5  |
| 24 | 10%(v/v) PEG4000 | 0.2 M CaCl2 | 0.1M HEPES | 7.5  | 59 | 3.0M NaCl | 0.2 M CaCl2 | 0.1M HEPES | 7.5  |
| 25 | 10%(v/v) PEG4000 | 0.2 M CaCl2 | 0.1M Bicine | 9.0  | 60 | 3.0M NaCl | 0.2 M CaCl2 | 0.1M Bicine | 9.0  |
| 26 | 10%(v/v) PEG8000 | 0.2 M CaCl2 | 0.1M Acetate | 4.6  | 61 | 3.5M Sodium formate | 0.2 M CaCl2 | 0.1M Acetate | 4.6  |
| 27 | 10%(v/v) PEG8000 | 0.2 M CaCl2 | 0.1M MES | 5.8  | 62 | 3.5M Sodium formate | 0.2 M CaCl2 | 0.1M MES | 5.8  |
| 28 | 10%(v/v) PEG8000 | 0.2 M CaCl2 | 0.1M MES | 6.5  | 63 | 3.5M Sodium formate | 0.2 M CaCl2 | 0.1M MES | 6.5  |
| 29 | 10%(v/v) PEG8000 | 0.2 M CaCl2 | 0.1M HEPES | 7.5  | 64 | 3.5M Sodium formate | 0.2 M CaCl2 | 0.1M HEPES | 7.5  |
| 30 | 10%(v/v) PEG8000 | 0.2 M CaCl2 | 0.1M Bicine | 9.0  | 65 | 3.5M Sodium formate | 0.2 M CaCl2 | 0.1M Bicine | 9.0  |
| 31 | 10%(v/v) MPD, 1.5M NaCl | 0.2 M CaCl2 | 0.1M Acetate | 4.6  | 66 | 1.7M Ammonium chloride | 0.2 M CaCl2 | 0.1M Acetate | 4.6  |
| 32 | 10%(v/v) MPD, 1.5M NaCl | 0.2 M CaCl2 | 0.1M MES | 5.8  | 67 | 1.7M Ammonium chloride | 0.2 M CaCl2 | 0.1M MES | 5.8  |
| 33 | 10%(v/v) MPD, 1.5M NaCl | 0.2 M CaCl2 | 0.1M MES | 6.5  | 68 | 1.7M Ammonium chloride | 0.2 M CaCl2 | 0.1M MES | 6.5  |
| 34 | 10%(v/v) MPD, 1.5M NaCl | 0.2 M CaCl2 | 0.1M HEPES | 7.5  | 69 | 1.7M Ammonium chloride | 0.2 M CaCl2 | 0.1M HEPES | 7.5  |
| 35 | 10%(v/v) MPD, 1.5M NaCl | 0.2 M CaCl2 | 0.1M Bicine | 9.0  | 70 | 1.7M Ammonium chloride | 0.2 M CaCl2 | 0.1M Bicine | 9.0  |

§MPD: 2-methyl-2,4-pentanediol