**Supplementary file 4. Chemically defined medium.**

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| **CDM component a** | **Final concentration (g/L)** |
| **Buffers and salts** |  |
| MOPS (3-(N-morpholino)propanesulfonic acid) | 8.371 |
| K2HPO4 | 0.871 |
| NH4Cl | 1.070 |
| Na2SO4 | 1.420 |
| **Metals** |  |
| MgCl2 \* 6H2O | 0.203 |
| MnCl2 \* 4H2O | 0.001 |
| FeSO4 \* 7H2O | 0.014 |
| **Amino acids** |  |
| Casamino acids | 3.000 |
| Cysteine-HCl \* H2O | 0.145 |
| Tryptophan | 0.050 |
| **Wolfe’s Vitaminsb** |  |
| Pyridoxine HCl | 0.002 |
| Thiamine HCl | 0.001 |
| Riboflavin | 0.001 |
| Nicotinic acid | 0.001 |
| Calcium D-(+)-pantothenate | 0.001 |
| *p*-Aminobenzoic acid | 0.001 |
| Thioctic acid (α-Lipoic acid) | 0.001 |
| Biotin | 0.0004 |
| Folic acid | 0.0004 |
| Vitamin B12 | 0.00002 |
| **Wolfe’s Mineralsc** |  |
| Nitrilotriacetic acid (NTA) | 0.3 |
| MgSO4 \* 7H2O | 0.6 |
| MnSO4 \* H2O | 0.1 |
| NaCl | 0.2 |
| FeSO4 \* 7H2O | 0.02 |
| CoCl2 \* 6H2O | 0.02 |
| CaCl2 | 0.02 |
| ZnSO4 \* 7H2O | 0.02 |
| CuSO4 \* 5H2O | 0.002 |
| AlK(SO)4 \* 12H2O | 0.002 |
| H2BO3 | 0.002 |
| Na2MoO4 \* 2H2O | 0.002 |

**a** All solutions were prepared separately and sterile filtered through a 0.22 μm filter before combining. Glucose or mannitol was also supplemented at 22.520 g/L or 22.772 g/L, respectively.

**b** pH adjusted to 11 before sterile filtering.

**c** After NTA addition, pH adjusted to 8 before adding remaining components and sterile filtering.