

Trace element solution protocol

This protocol has been deduced from the article: C.P. Goldbeck et al., Tuning promoter strengths for improved synthesis and function of electron conduits in *E. coli* *ACS Synth. Biol.* 2 (3), pp 150–159 (2013).

Materials

- Na ₂ EDTA.2H ₂ O	372.24 g/mol	2.517 gram
- MgSO ₄ .7H ₂ O	246.47 g/mol	24.89 gram
- MnSO ₄ .H ₂ O	223.08 g/mol	0.022 gram
- NaCl	58.44 g/mol	0.058 gram
- FeCl ₂ .4H ₂ O	198.81 g/mol	0.107 gram
- CoCl ₂ .6H ₂ O	237.93 g/mol	0.119 gram
- ZnSO ₄ .5H ₂ O	287.54 g/mol	0.029 gram
- CuSO ₄ .5H ₂ O	249.68 g/mol	0.005 gram
- H ₃ BO ₃	61.83 g/mol	0.350 gram
- Na ₂ MoO ₄ .2H ₂ O	241.95 g/mol	0.094 gram
- NiCl ₂ .6H ₂ O	237.7 g/mol	0.119 gram
- Na ₂ SeO ₄	188.9 g/mol	0.028 gram
- 22.5 ml HCl		
- 1 liter dH ₂ O		

Method

1. Flask 1: Dilute the FeCl₂.4H₂O in 22.5 mL HCl
2. Flask 2: Place the flask on a stirrer with a stirring rod in it
3. Chemicals are diluted in 1 liter dH₂O
4. Adding order according to the material list:
 - a. Na₂EDTA.2H₂O
 - b. MgSO₄.7H₂O
 - c. MnSO₄.H₂O
 - d. NaCl
 - e. CoCl₂.6H₂O
 - f. ZnSO₄.5H₂O
 - g. CuSO₄.5H₂O
 - h. H₃BO₃
 - i. Na₂MoO₄.2H₂O
 - j. NiCl₂.6H₂O
 - k. Na₂SeO₄
5. Before adding the next chemical wait 1-5 min in between until dissolved
6. At the end, add the in HCl diluted FeCl₂.4H₂O