# Shewanella oneidensis literature rates & yields

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| **Publication** | **Yield  [Cmol /**  **e(-)]** | **e(-)-rate  [mol e(-) /(Cmol X \* h)]** | **mu [h-1]** | **mu [d-1]** | **growth?** | **Electron acceptor** | **Soluble/ solid** | **Electron donor** | **pH** | **Notes** |
| **1988, Arnold et al.** |  | 0.064 |  |  | No | Hematite | solid | Lactate | 7.0 | 1.86 mM NTA added.  Iron particles 0.1 – 1-5 µm diameter.  Aerobic pre-growth.  Cultivation at 31 ℃ |
| **1988, Myers et al.** | 0.2200 | 0.80 | 0.18 | 4.23 | Yes | Mn(IV) | soluble | Succinate | 7.4 | Growth on this combination of electron donor and acceptor is found to be impossible by Lovely, 1989.  Optimal Mn reduction at 35 ℃ |
| **1989, Lovley et al.** | 0.03890 |  |  |  | Yes | Mn(IV) | soluble | Lactate | 6.8 | Some of the measured yields are higher than theoretically possible  Fully anaerobic experiments  Cultivation at 30 ℃ |
| **1996, Kostka et al.** | 0.01415 [1] | 10.23 | 0.14 [2] | 3.47 [2] | ? | Smectite | solid | Lactate | 7.4 | Cultivation at 22 ℃  Fully anaerobic experiments  10% H2 atmosphere used, not intended as electron donor |
| **2001, Liu et al.** | 0.1060 | 3.02 [2] | 0.32 | 7.68 | Yes | Fe-citrate | soluble | Lactate | 7 | *Shewanella putrefaciens* CN32  Cultivation at 30 ℃  25 mM Fe3+ |
| **2002, Kostka et al.** | 0.01415 |  |  |  | Yes | FeOOH | solid | Lactate | 7 | Cultivation at 30 ℃  50 mM Fe3+ |
| **2002, Liu et al.** | 0.1060 [1] | 0.019 | 2.00\*10-3 [2] | 0.048 [2] | No | Fe-citrate | soluble | Lactate | 6.8 | No growth nutrients provided.  50 mM Fe3+ |
| **2005, Lies et al.** |  | 0.0014 |  |  |  | FeOOH & Fe2O3 | solid | Lactate | 7.2 | Used iron beads  Cultivation at 30 ℃  1 mM Fe3+ |
| **2011, Pinchuk et al.** |  |  | 0.098 | 2.35 | Yes | Fumarate | soluble | Lactate | 7.4 | Cultivation at 30 ℃  Steady-state chemostat |
|  |  |  | 0.23 | 5.52 | Yes | Fumarate | soluble | Lactate | 7.4 | Batch growth |
| **2016, Kane et al.** | 0.1594 | 3.24 [2] | 0.517 | 12.41 | Yes | Fumarate | soluble | Lactate | 7.2 | Cultivation at 30 ℃  Batch growth |

[1] Assumed from similar experiments by the same author. [2] Calculated from other data in the same row.