

1 **Supplementary information for:**

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3 **Deltaproteobacterium strain KaireiS1, a mesophilic, hydrogen-oxidizing**
4 **and sulfate-reducing isolate from an inactive deep-sea hydrothermal**
5 **chimney**
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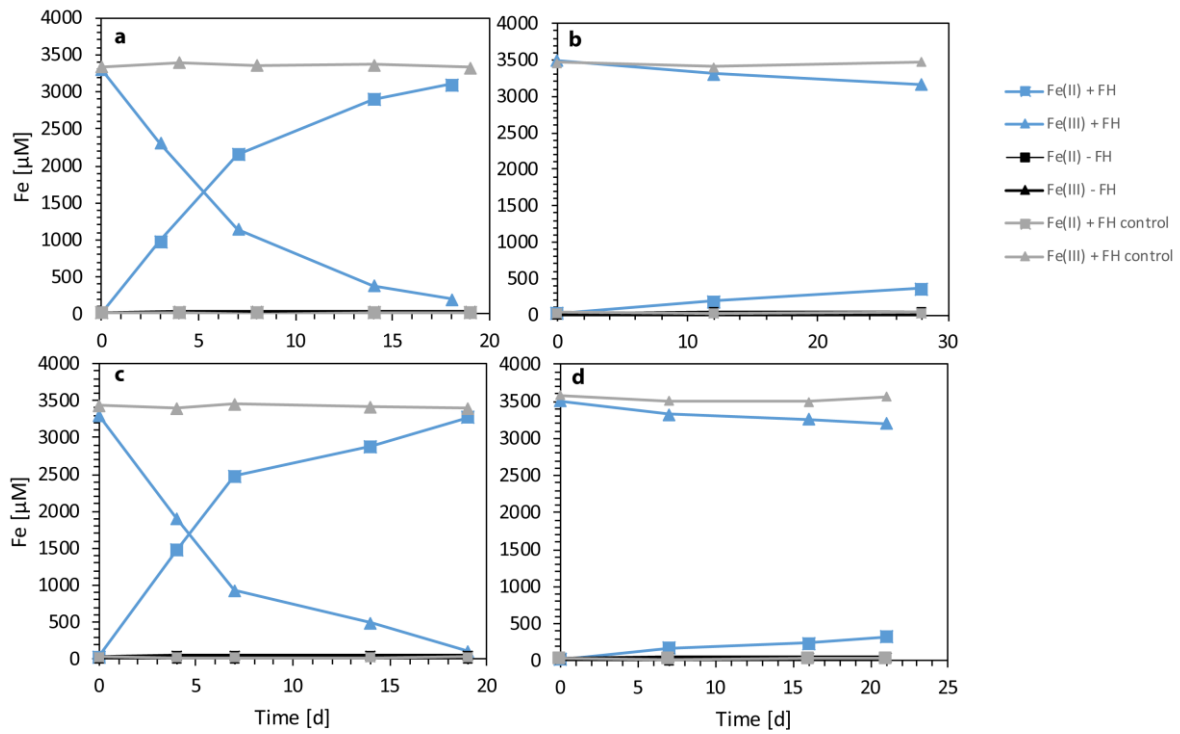
10 [‡] the authors contributed equally to this study and share first authorship

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22 This file contains:

23 Supplementary figures S1 and S2

24 **Supplementary figure S1:**



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26 **Fe(III) reduction tests.** Fe(II)-concentrations (squares) and Fe(III)-concentrations (triangles)
 27 of different incubations and controls are displayed. Incubations of KaireiS1 amended with
 28 Fe(III) (ferrihydrite (FH)) are shown in blue, those without the amendment of FH are shown in
 29 black. Uninoculated controls amended with FH are displayed in grey. Panel a) shows the initial
 30 inoculation from pre-cultures grown with sulfate as electron acceptor (after bubbling to remove
 31 H_2S), while b) shows the first transfer of cultures grown with Fe(III) as electron acceptor (after
 32 bubbling to remove H_2S). Panels c) and d) display the initial inoculation and the first transfer
 33 with acetate amendment (after bubbling to remove H_2S), respectively.

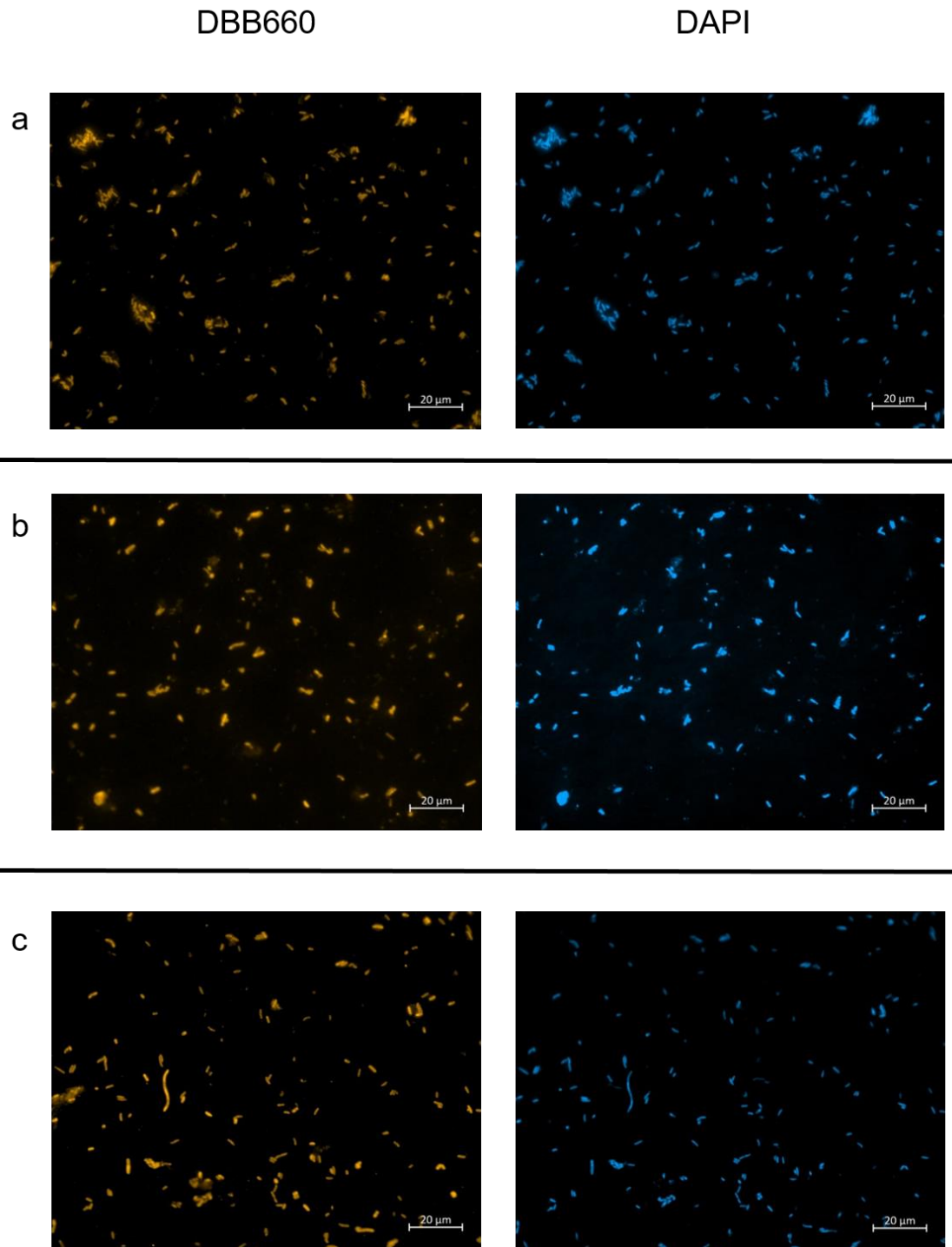
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38 **Supplementary figure S2:**



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40 **FISH microscopy of strain KaireiS1 at the end of substrate consumption experiments.**

41 Cells hybridized with the cy3-labeled probe DBB660 are marked in orange, DAPI-stained cells

42 are marked in blue. Exemplarily, filter sections from the CO₂-incorporation experiment (a),

43 sulfate consumption (b) and hydrogen consumption measurements (c) are shown.