Table 1. Key bioenergetic parameters of fluids associated with serpentinization.

Constituent or property	Experimental/theoretical[a]	LCHF[b] (30°N)	Rainbow[c] (36°14′N)	Sea water[d]
Temperature (°C)	25–300	40–93	365	7
pH	8–12	9–11	2.8	8
H_2 (mmol kg^{-1})	1–100	0.25–0.43[e]	16	0
CH_4 (mmol kg^{-1})	0.01–1	0.13–0.28[e]	2.5	0
$C_2H_4 + C_3H_6$ (nmol kg^{-1})	<1000	>100[e]	1145	0
H_2S (mmol kg^{-1})	0.1–1	0.064	1.2	0
SO_4 (mmol kg^{-1})	0	5.9–12.9[e]	0	28.6
NO_3 (μmol kg^{-1})	ND[f]	ND[g]	ND	20
CO_2 (mmol kg^{-1})	0	ND	16	2.30
Total Fe (μmol kg^{-1})	1.0	ND	24 050	< 0.001
$CH_4/(C_2H_4 + C_3H_6)$	1000–10 000	100	2183	–

a. Palandri and Reed (2004): simulations run at 25°C and 300°C in fresh water and seawater solutions respectively. Horita and Berndt (1999): experiments conducted at 200°C and 300°C in fresh water solutions.
b. Proskurowski *et al.* (2003; includes C_4C_8); Kelley *et al.* (2001).
c. Charlou *et al.* (2002).
d. D. Butterfield, personal communication (measured for 30°N in the Atlantic Ocean at 700 m depth).
e. H_2, CH_4 and H_2S values are minimum values because of artifacts associated with sample collection and storage. SO_4 values are maxima as a result of the partial oxidation of sulphide during storage and the lack of correction for zero Mg end-member hydrothermal fluids.
f. ND, not determined.
g. Although not measured, NO_3 values of end-member hydrothermal fluids at the LCHF are believed to be well below 20 μmol kg^{-1} because of the highly reducing nature of the system and by comparison with magmatically influenced sites.