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Jianzhong He, Youlboong Sung, Mike E. Dollhopf, Babu Z. Fathepure, James M. Tiedje, and Frank E. Löffler*: Acetate versus Hydrogen as Direct Electron Donors To Stimulate the Microbial Reductive Dechlorination Process at Chloroethene-Contaminated Sites.

Page 3946. The $\Delta G'$ values presented in Table 1 are incorrect because the proton concentration was accounted for twice. The revised Table 1 below shows the correct $\Delta G'$ values.

TABLE 1. Catabolic H_2-Releasing Reactions of Substrates Relevant in Biostimulation of the Microbial Reductive Dechlorination Process and Relevant H_2-Consuming Reactions

		$\Delta G^{\circ\prime\, a}$ (kJ/rxn)	$\Delta G'^{\, b}$ (kJ/rxn)
	H_2-Releasing Reactions		
(1)	acetate$^-$ + $4H_2O \rightarrow 2HCO_3^- + 4H_2 + H^+$	+104.55	−9.70
(2)	propionate$^-$ + $3H_2O \rightarrow$ acetate$^-$ + $HCO_3^- + H^+ + 3H_2$	+76.48	−17.69
(3)	butyrate$^-$ + $2H_2O \rightarrow$ 2acetate$^-$ + $H^+ + 2H_2$	+48.30	−25.80
(4)	ethanol + $H_2O \rightarrow$ acetate$^-$ + $H^+ + 2H_2$	+9.65	−47.36
(5)	methanol + $2H_2O \rightarrow HCO_3^- + H^+ + 3H_2$	+23.03	−54.25
(6)	lactate$^-$ + $2H_2O \rightarrow$ acetate$^-$ + $HCO_3^- + H^+ + 2H_2$	−3.96	−69.65
	H_2-Consuming Reactions		
(7)	$2HCO_3^- + 4H_2 + H^+ \rightarrow$ acetate$^-$ + $4H_2O$	−104.55	+9.70
(8)	$HCO_3^- + 4H_2 + H^+ \rightarrow CH_4 + 3H_2O$	−135.56	−29.99
(9)	PCE + $H_2 \rightarrow$ TCE + $H^+ + Cl^-$	−163.57	−151.61
(10)	TCE + $H_2 \rightarrow$ *cis*-DCE + $H^+ + Cl^-$	−161.17	−149.04
(11)	*cis*-DCE + $H_2 \rightarrow$ VC + $H^+ + Cl^-$	−141.17	−135.56
(12)	VC + $H_2 \rightarrow$ ethene + $H^+ + Cl^-$	−154.87	−143.49

[a] Gibbs free energy changes under standard conditions (25 °C, concentrations of reactants at 1 M or 1 atm) at pH 7.0. [b] Calculations of free energy changes at 25 °C and pH 7.0 according to equation $\Delta G' = \Delta G^{\circ\prime} + RT\ln([\text{products}]/[\text{reactants}])$ and based on the following concentrations: organic substrates, 1 mM; HCO_3^-, 30 mM; CH_4, 1000 ppmv; H_2, 10 ppmv; chloroethenes, 5 ppm; ethene, 5 ppmv; chloride, 1 mM. CH_4, H_2, CO_2, VC, and ethene are in the gaseous state.

Page 3951. The $\Delta G'$ for acetate oxidation at a hydrogen concentration of 46 ppmv is −1.12 kJ/mol. The overall conclusions of the paper remain unchanged. Jackson and McInerney recently demonstrated that metabolism by syntrophic associations occurs at values close to the thermodynamic equilibrium (Jackson, B. E.; Mclnerney, M. J. Anaerobic microbial metabolism can proceed close to thermodynamic limits. *Nature* **2002**, *415*, 454−456).

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