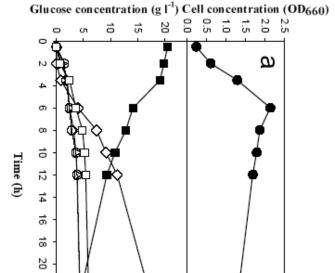


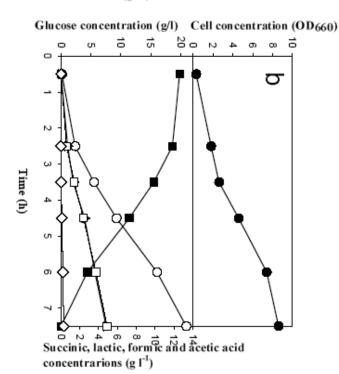
Succinic, lactic, formaic and acetic acid concentrarions (g Γ^1)



Succinic, lactic, formic and acetic acid concentrarions (g Γ^1)

б

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Korea) containing 1 l of MH2 medium plus 20 g l⁻¹ of glucose and 1 mg l⁻¹ of Na₂S·9H₂O. The MH2 medium contains per liter: 5 g yeast extract, 3 g K₂HPO₄, 2 g NaCl, 2 g (NH₄)₂SO₄, 0.2 g CaCl₂·2H₂O and 0.2 g MgCl₂·6H₂O. Gases, scrubbed free of oxygen by a gas purifier (P.J. Cobert Associates, Inc., St. Louis, Missouri, USA), were sparged at 0.25 l min⁻¹ during the cultivation. In cases of CO₂ and concentration (OD_{600} ,), glucose concentration (g Γ^1 , ') and the concentrations of succinic acid (g Γ^1 ,), acetic acid (g Γ^1 , ρ), lactic acid (g Γ^1 , ψ) and formic acid (g Γ^1 , ψ) during the cultivation under (a) N_2 atmosphere (ref. 2), (b) CO_2 atmosphere (ref. 2) and (c) CO_2 - H_2 medium used for all cultures was MH2 medium. In reference #2, the medium used for culture a and b was written as MH medium, atmosphere (molar ratio of 1:1; this study) at 39 °C and pH 6.5. Cells were cultivated in a jar fermentor (2.5 l, KoBioTech, Incheon, **Supplementary Figure 4** Time profiles of batch fermentation of *M. succiniciproducens* under various conditions. Time profiles of cell CO_2 -H₂ atmosphere cultures, 7 g of Na_2CO_3 was supplemented to avoid acidification of culture. It should be noted that the culture