Supporting Information

Application of Phase-Pure Nickel Phosphide Nanoparticles as Cathode Catalysts for Hydrogen Production in Microbial Electrolysis Cells

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Table S1. Metal and metal phosphide catalyst and carbon loadings for the Ni_2P/C, Ni/C, and Pt/C cathodes.

	Ni_2P/C	Ni/C	Pt/C
Catalyst loading	0.5 mg-Ni_2P/cm^2	6 mg-Ni/cm^2	0.5 mg-Pt/cm^2
Catalyst + carbon loading	2.5 mg-Ni_2P/C per cm^2 (20.1 wt% Ni_2P on carbon)	32.5 mg-Ni/C per cm^2 (18.5 wt% Ni on carbon)	5 mg-Pt/C per cm^2 (10 wt% Pt on carbon)
Carbon type	Carbon black (Vulcan XC-72R)	Activated carbon (Norit SX Plus)	Carbon black (Vulcan XC-72)

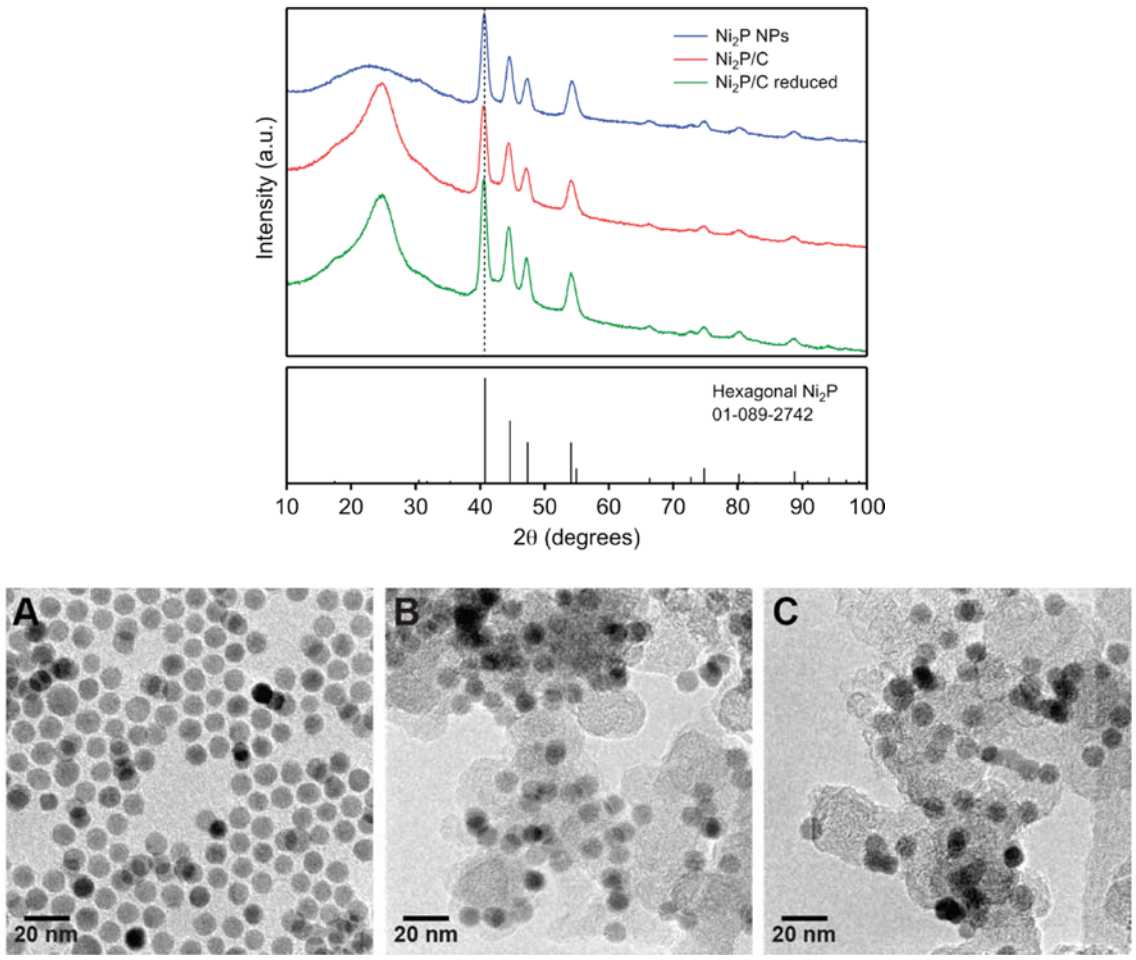

Figure S1. XRD patterns of Ni_2P NPs, Ni_2P/C, and Ni_2P/C following reduction at 450 °C, with corresponding reference pattern below (figure above), and TEM images of (A) Ni_2P NPs, (B) Ni_2P/C, and (C) Ni_2P/C following reduction at 450 °C.

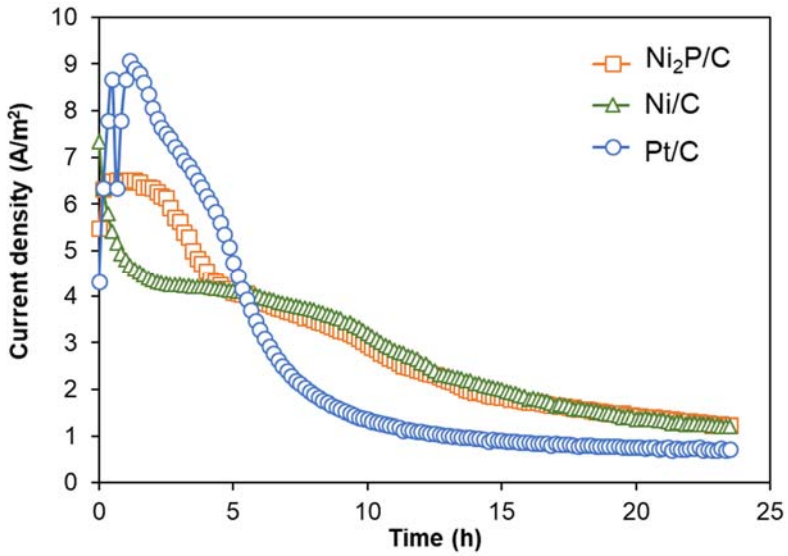

Figure S2. Current generation of MECs with Ni_2P/C, Ni/C, and Pt/C cathodes over a single cycle (24 h).

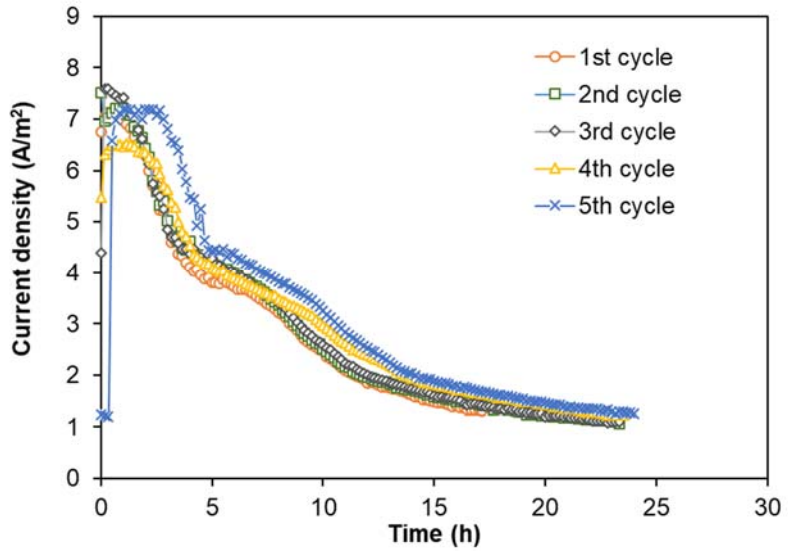

Figure S3. Current generations of the MEC with Ni_2P/C at each cycle (5 cycles), current generations were overlapped to see the changes in performance of Ni_2P/C over time.