SUPPORTING INFORMATION

Development of separate-type Pt-free photofuel cells based on visible-light responsive TiO₂ photoanode

Kazushi Iyatani,^a Yu Horiuchi, ^{*a} Madoka Moriyasu,^a Shohei Fukumoto,^a So-Hye Cho,^b Masato Takeuchi,^a Masaya Matsuoka, ^{*a} and Masakazu Anpo^a

^aDepartment of Applied Chemistry, Graduate School of Engineering, Osaka Prefecture University,

1-1, Gakuen-cho, Naka-ku, Sakai-shi, Osaka 599-8531, Japan

^bNano-Materials Research Center, Korea Institute of Science and Technology,

Hwarangno 14-gil 5, Seongbuk-gu, Seoul 136-791, Korea

matsumac@chem.osakafu-u.ac.jp and horiuchi@chem.osakafu-u.ac.jp



Figure S1. *I*–*V* curves of the SPFCs using Vis-TiO₂ (filled circles) and UV-TiO₂ (filled diamonds) thin films as anodes under simulated solar-light irradiation at AM 1.5. The area irradiated was set at 8 mm \times 15 mm.



Figure S2. UV–vis transmission spectra of Vis-TiO₂ and UV-TiO₂ thin films.



Figure S3. Photocurrent densities observed for Vis-TiO₂ and UV-TiO₂ thin films in 0.1 M aqueous HClO₄ solutions containing 10 vol% methanol under visible-light irradiation ($\lambda > 420$ and 450 nm) at 0 V vs. SCE. Inset contains cyclic voltammograms of the Vis-TiO₂ thin film under visible-light irradiation ($\lambda > 420$ and 450 nm) and under dark conditions.