Electronic Supplementary Material for PCCP

Fructose/dioxygen biofuel cell based on direct electron transfer-type bioelectrocatalysis

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Supplement Information

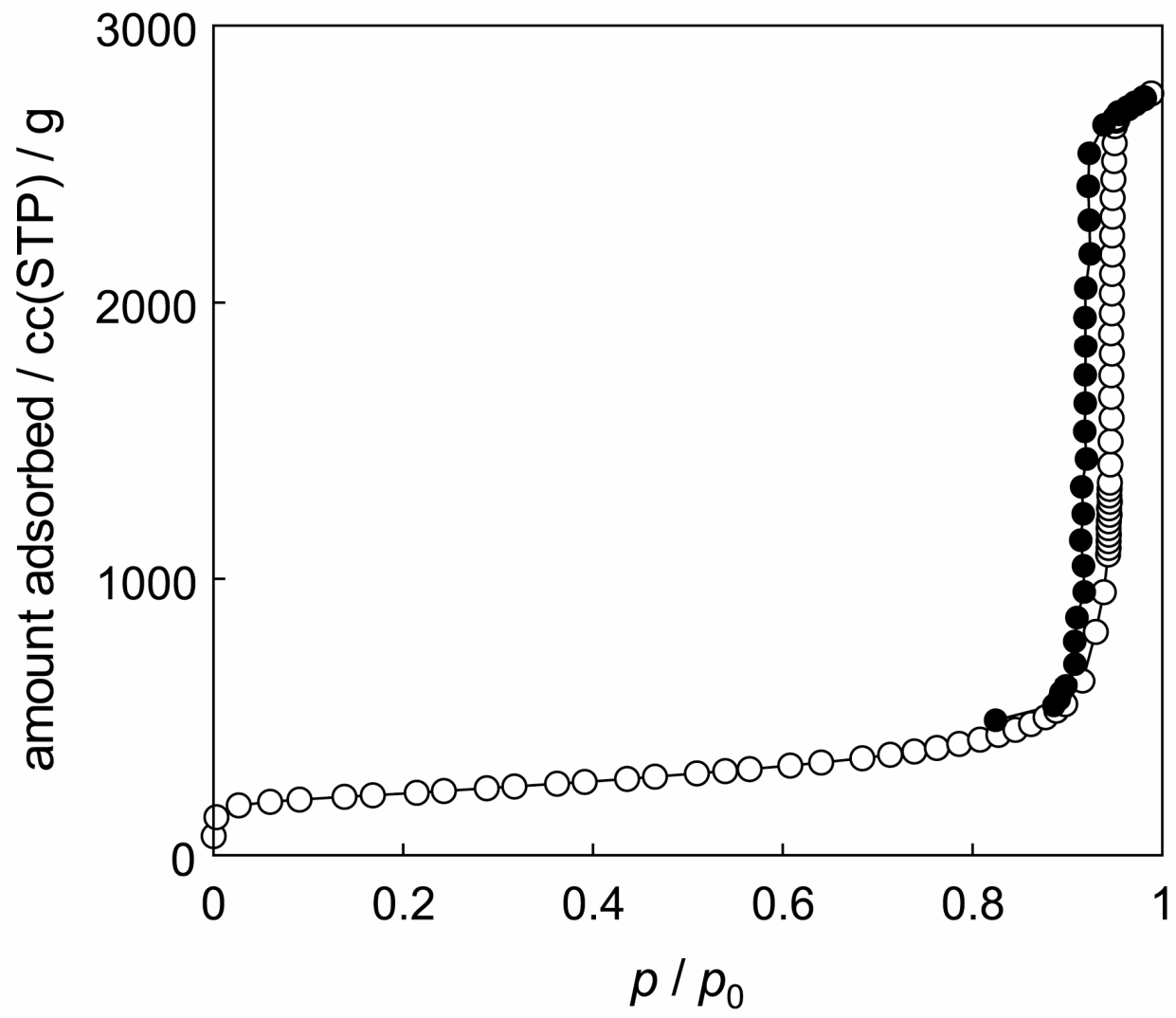

Fig. S1 Nitrogen adsorption (○) and desorption (●) isotherms at the carbon aerogel used. The data are taken at 77 K.

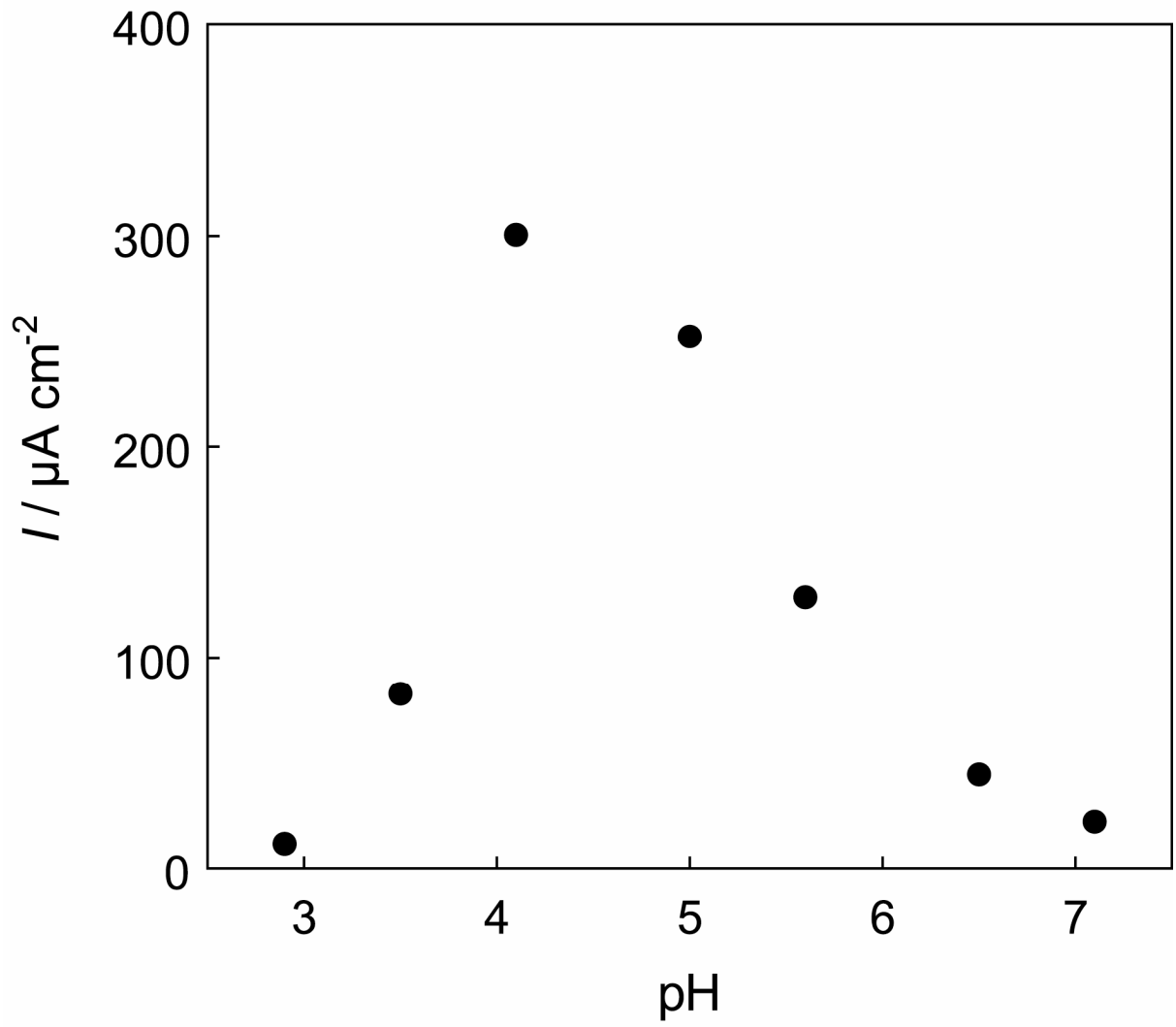

Fig. S2 pH dependence of the current density (*I*) of the D-fructose oxidation catalyzed by FDH adsorbed on HOPG electrodes (edge plane). Adsorption (for 1 h under stirring) and electrochemical measurements were carried out in McIlvaine buffers (for pH 3–6.5) and a phosphate buffer (pH 7) containing 200 mM D-fructose at room temperature (25 ± 2 °C) and at 500 mV.

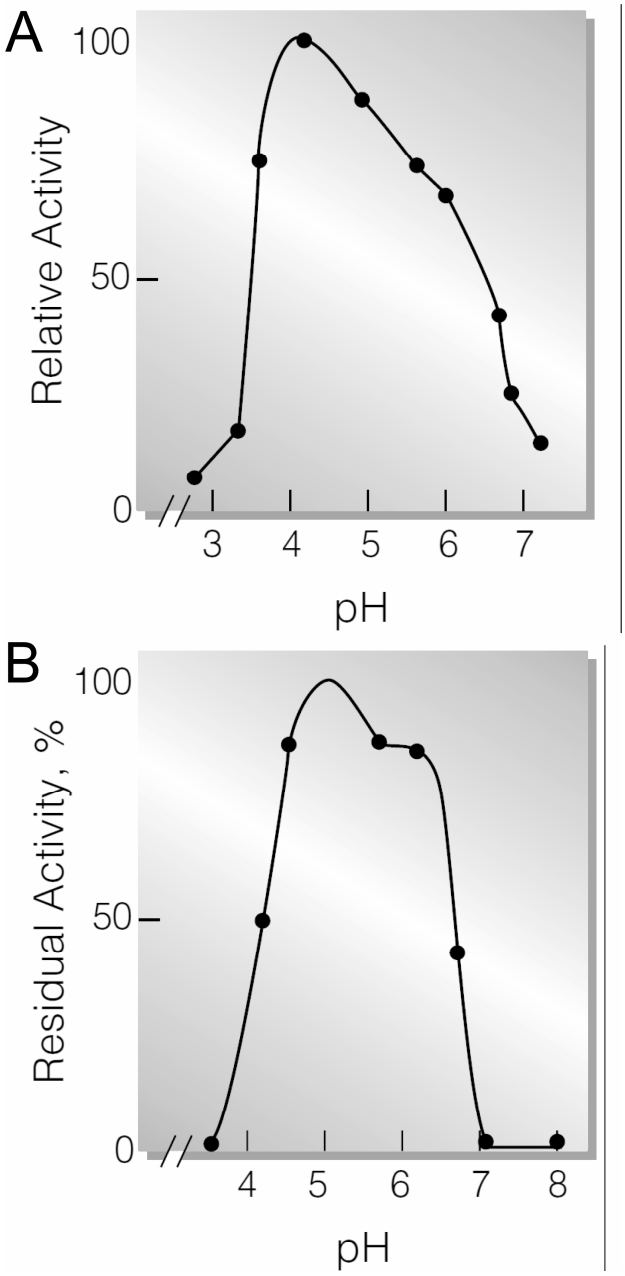

Fig. S3 (A) pH dependence of the relative activity of FDH (5-min reaction at 37 ºC in McIlvaine buffer) and (B) pH dependence of stability of FDH (16-h treatment at 25 ºC in McIlvaine buffer). The data are taken from Technical Brochure of Toyobo Enzymes Co. (http://www.toyobo.co.jp/e/seihin/xr/enzyme/pdf_files/089_092FCD-302.pdf)