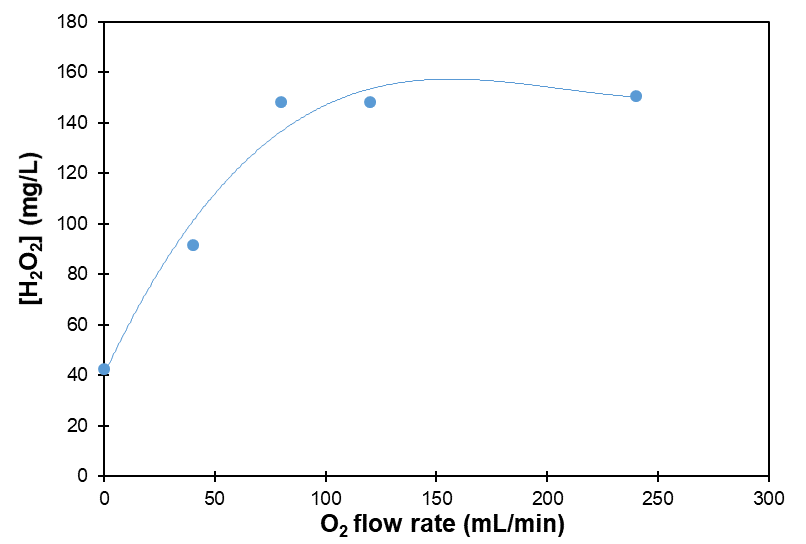
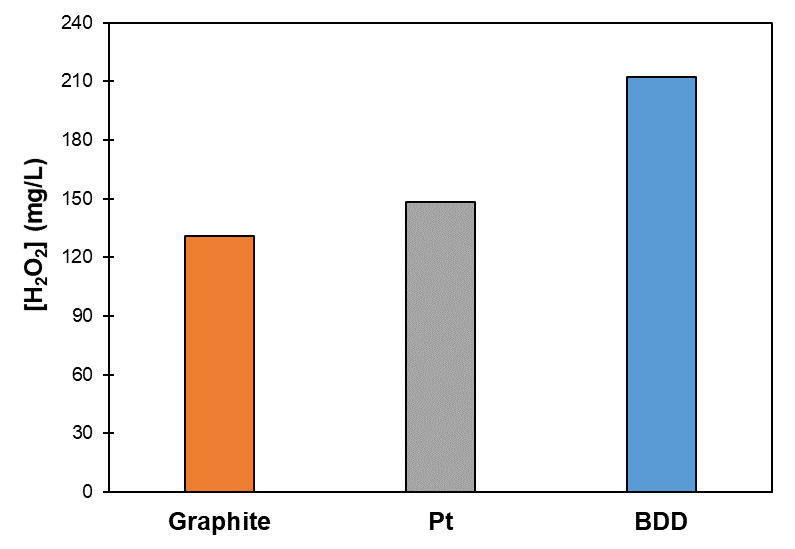


**(b)**

**(a)**



**(c)**



**(d)**

**Figure S1.** Changes of electrogenerated [H2O2] with **(a)** initial pH, **(b)** current density, **(c)** O2 flow rate, and **(d)** anode material after 240 min electrolysis of 0.05 M Na2SO4. Experimental conditions: **(a)** j = 60 mA/cm2, O2 flow rate = 80 mL/min, Anode: Pt (30 cm2), cathode: Carbon felt (30 cm2), T = 25 °C, stirring: 300 rpm; **(b)** pH = 3.0, O2 flow rate = 80 mL/min, Anode: Pt (30 cm2), cathode: Carbon felt (30 cm2), T = 25 °C, stirring: 300 rpm; **(c)** j = 60 mA/cm2, pH = 3.0, Anode: Pt (30 cm2), cathode: Carbon felt (30 cm2), T = 25 °C, stirring: 300 rpm **(d)** j = 60 mA/cm2, pH = 3.0, O2 flow rate = 80 mL/min, Anode: BDD/Pt/Graphite (30 cm2), cathode: Carbon felt (30 cm2), T = 25 °C, stirring: 300 rpm.