Supplementary information

Towards selective electrochemical conversion of glycerol to 1,3-Propanediol

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| Cathode | Mass (g) before electrolysis | Mass (g) after electrolysis | % Mass difference |
|---------|-----------------------------|----------------------------|------------------|
| Pb      | 9.04190                     | 9.0557                     | + 0.15 %         |
| Zn      | 3.60605                     | 3.3248                     | - 7.8 %          |

Table S1a: Masses of Zn and Pb as working electrode before and after electrolysis 0.25M Glycerol in an undivided cell with Ti-RuO₂ counter electrode in 0.5M HCl solution (potential -1.8V Sat’d AgCl/Cl, temperature 25 °C)

| Cathode | Conc (mg/L) before electrolysis | Conc (mg/L) after electrolysis |
|---------|----------------------------------|---------------------------------|
| Pb      | 0.029                            | 406                             |
| Zn      | 0.045                            | 6630                            |

Table S1b: ICP-OES analysis of the cell content before and after electrolysis reaction
Figure S2: Conversion and selectivity of oxidation of 0.25M Glycerol in a undivided cell using Pb working electrode and Ti-RuO$_2$ counter electrode in using 0.5M chloride solutions acidified with HCl to pH 1 (potential - 1.8V Saturated AgCl/Cl, temperature 25 °C)

Figure S3: Conversion and selectivity of oxidation of 0.25M Glycerol in a undivided cell using Zn working electrode and Ti-RuO$_2$ counter electrode in using 0.5M chloride solutions acidified with HCl to pH 1 (potential - 1.8V Saturated AgCl/Cl, temperature 25 °C)
Figure S4: Conversion and selectivity of oxidation of 0.25M Glycerol in a divided cell using Pt working electrode and Pt counter electrode in using 0.5M chloride solutions (potential 2.5V Saturated AgCl/Cl, temperature 25 °C)
Figure S5: Conversion and selectivity of oxidation of 0.25M Glycerol in a undivided cell using Pb working electrode and Pt counter electrode in using 0.5M chloride solutions (potential -1.8V Saturated AgCl/Cl, temperature 25 °C)
Figure S6: Conversion and selectivity of oxidation of 0.25M Glycerol in a undivided cell using Zn working electrode and Pt counter electrode in using 0.5M chloride solutions (potential -1.8V Saturated AgCl/Cl, temperature 25 °C)
