# Supporting Information for

# Selective Production of Methanol by the Electrochemical Reduction of $CO_2$ on Boron-Doped Diamond Electrodes in Aqueous Ammonia Solution

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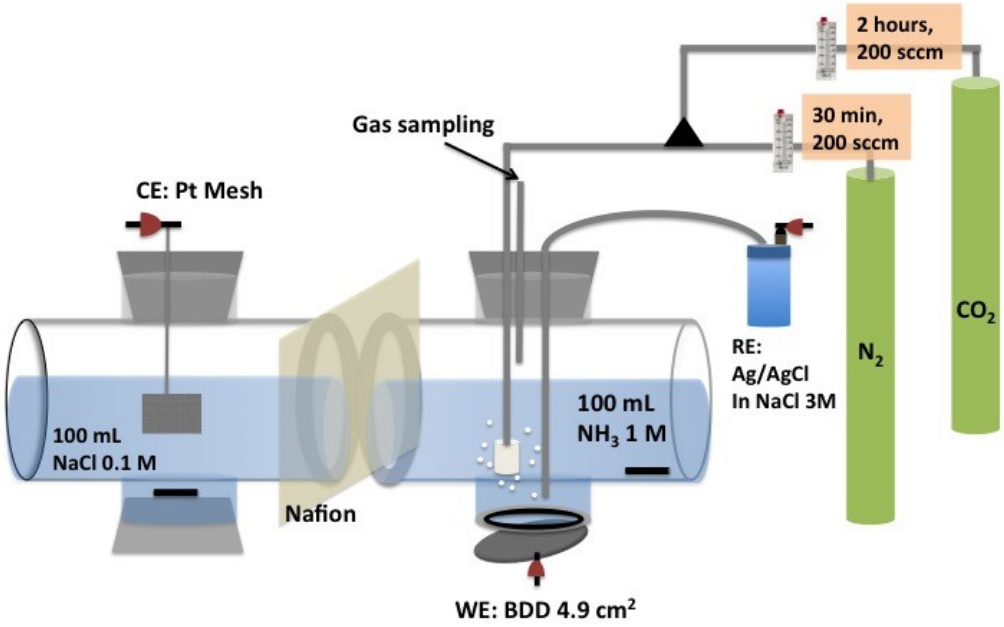


**Figure S1.** The apparatus for electrochemical reduction of $CO_2$.

**Table S1.** $CO_2$ concentration in the solution depending on the aqueous ammonia concentration (5 minutes $CO_2$ bubbling in 50-mL solutions).

| Concentration | |
|---|---|
| $NH_{3(aq)}$ (M) | $CO_2$ (mg/L) |
| 0.001 | 1520 |
| 0.01 | 2580 |
| 0.1 | 10380 |
| 1 | 67000 |

**Table S2.** $CO_2$ absorption in 0.1 M $NH_3$, 0.1 M KOH, and 0.1 M NaOH aqueous solutions (15 minutes $CO_2$ bubbling in 100-mL solutions).

| Electrolyte | Concentration of $CO_2$ (mg/L) |
|---|---|
| 0.1 M $NH_3$ | 18400 |
| 0.1 M KOH | 9960 |
| 0.1 M NaOH | 7100 |

**Table S3**. A repeatability study on Faradaic efficiencies of methanol production for 2 hours reduction of $CO_2$ on a BDD electrode in 1 M $NH_3$ aqueous solution at the potential of -1.3 V (vs. Ag/AgCl).

| Experiments | Faradaic Efficiency (%) |
|---|---|
| | $CH_3OH$ |
| 1 | 24.29 |
| 2 | 27.44 |
| 3 | 23.84 |
| 4 | 24.47 |
| Standard deviation | 1.97 |