

Supporting Information

Boosting C₂ Products in Electrochemical CO₂ Reduction over Highly Dense Copper Nanoplates

Saira Ajmal^a, Yang Yang^a, Muhammad Ali Tahir^a, Kejian Li^a, Aziz-Ur-Rahim Bacha^a, Iqra Nabi^a, Yangyang Liu^a, Tao Wang^a, and Liwu Zhang^{a,b,*}

^a *Shanghai Key Laboratory of Atmospheric Particle Pollution and Prevention, Department of Environmental Science & Engineering, Fudan University, Shanghai, 200433, Peoples' Republic of China*

^b *Shanghai Institute of Pollution Control and Ecological Security, Shanghai, 200092, Peoples' Republic of China*

Corresponding Author

*Liwu Zhang

Email: zhanglw@fudan.edu.cn

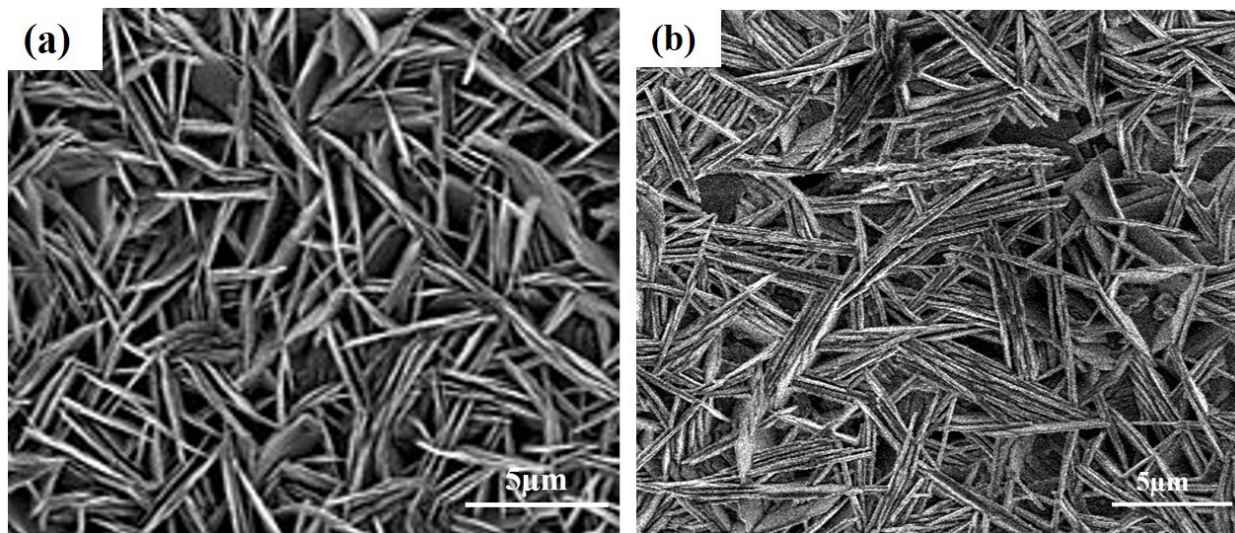


Fig. S1. Large Scale SEM images of (a) Cu-Nplate1, (b) Cu-Nplate2

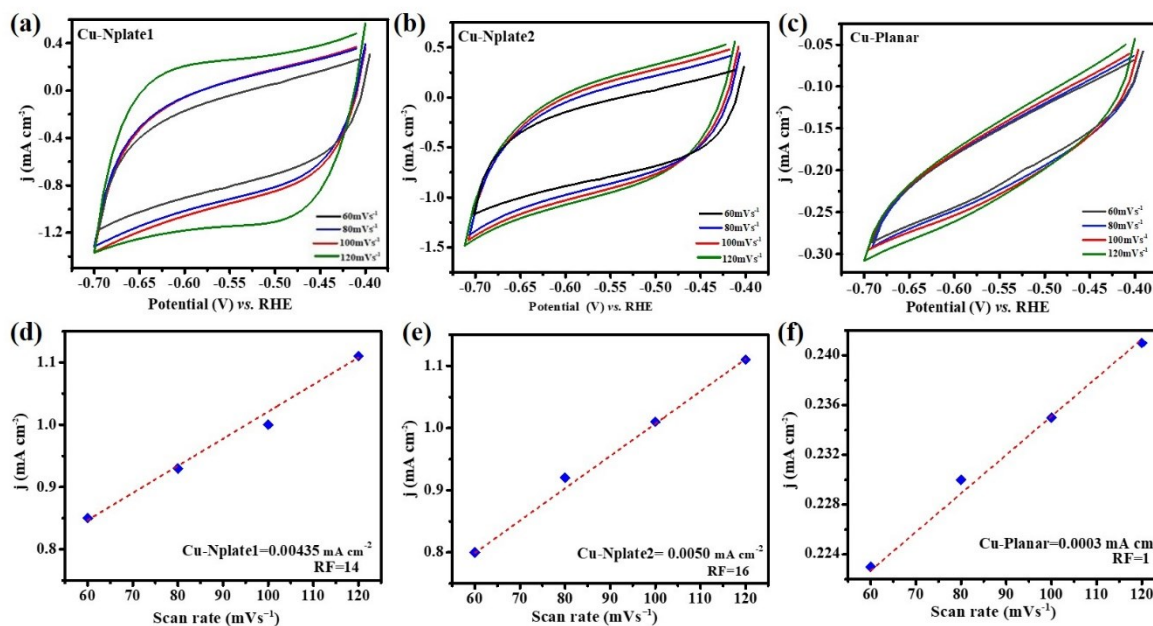


Fig. S2. Cyclic voltammetry curves of (a) Cu-Nplate1, (b) Cu-Nplate2 and (c) Cu-Planar. The double layer was obtained from the corresponded values of current verses scan rate of plot of (a) Cu-Nplate1, (b) Cu-Nplate2 and (c) Cu-Planar.

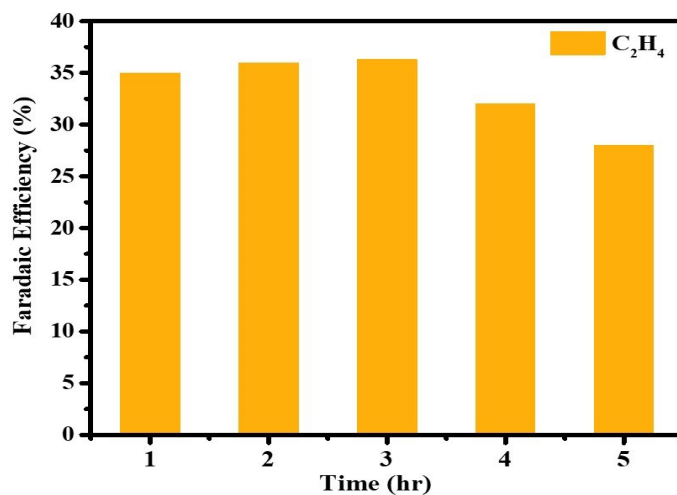


Fig. S3. The FE of C₂H₄ of Cu-Nplate2 at potential -1.9V for 5 cycles.

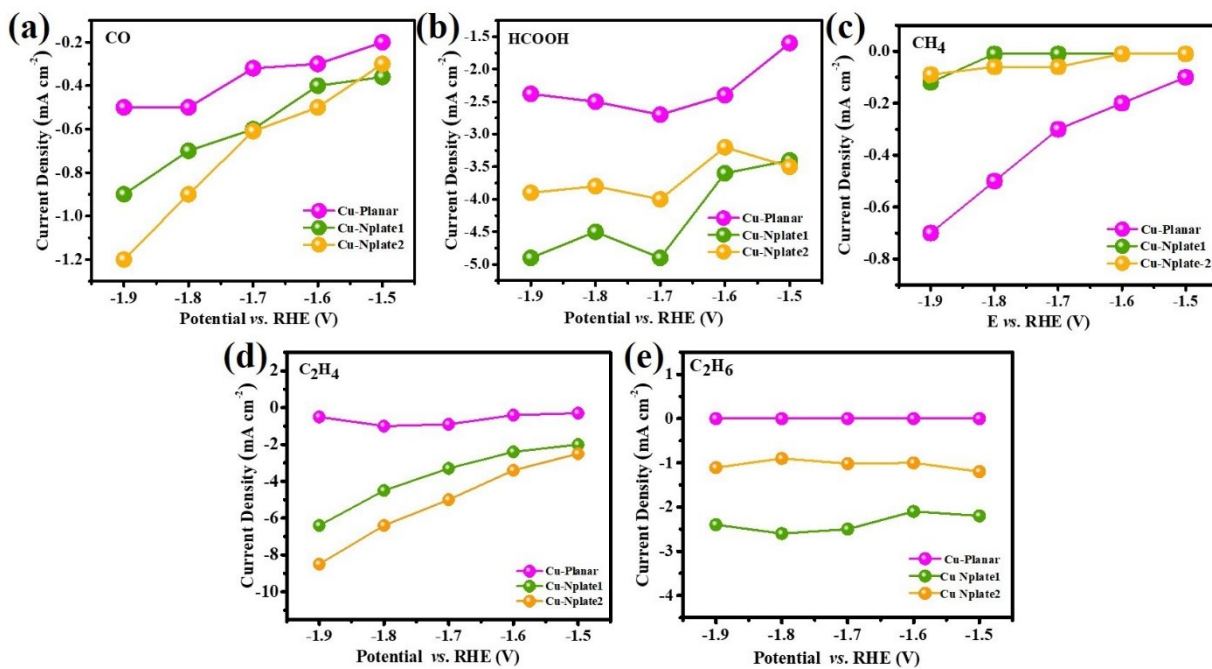


Fig. S4. Current density versus applied potential of CO₂ electrochemical reduction on Cu-Planar, Cu-Nplate1 and Cu-Nplate2 (a) CO (b) CH₄ (c) C₂H₄ (d) C₂H₆ and (e) (HCOOH).

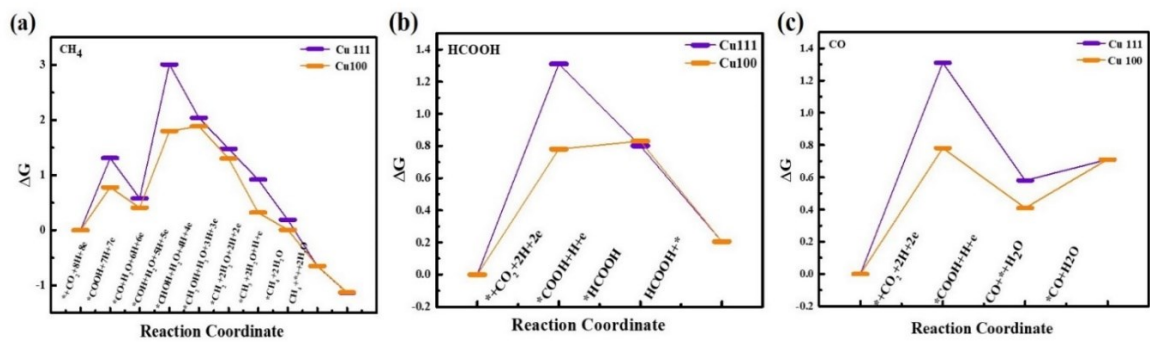


Fig. S5. Free energy diagram of C1 reaction pathway on Cu111 and Cu100 facets.