Low-Temperature Growth of Ultrathin and Epitaxial Mo_2C nanosheets via the Vapor-Liquid-Solid Process

Bin Wang[a,b,*], Changbao Zhao[a], Chao Wang[a], Rongtan Li[a], Guohui Zhang[a], Rentao Mu[a], Qiang Fu[a]

[a] State Key Laboratory of Catalysis, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, 116023, China

[b] College of Chemistry and Materials Engineering, Bohai University, Jinzhou, 121013, China

*Corresponding author.

E-mail address: wangbinlhx@163.com (B. Wang).

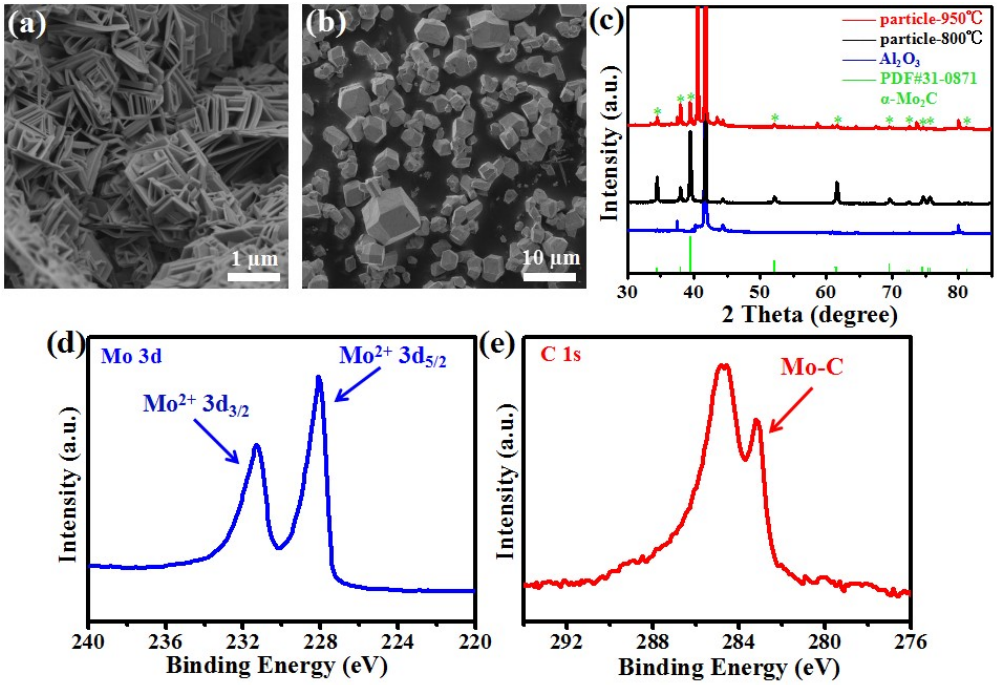

Figure S1 (a) and (b) SEM images of the MoC_x crystals grown at 800 and 950 ℃, respectively. (c) The corresponding XRD patterns of the MoC_x crystals. (d) and (e) XPS spectra acquired at the Mo 3d and C 1s regions.

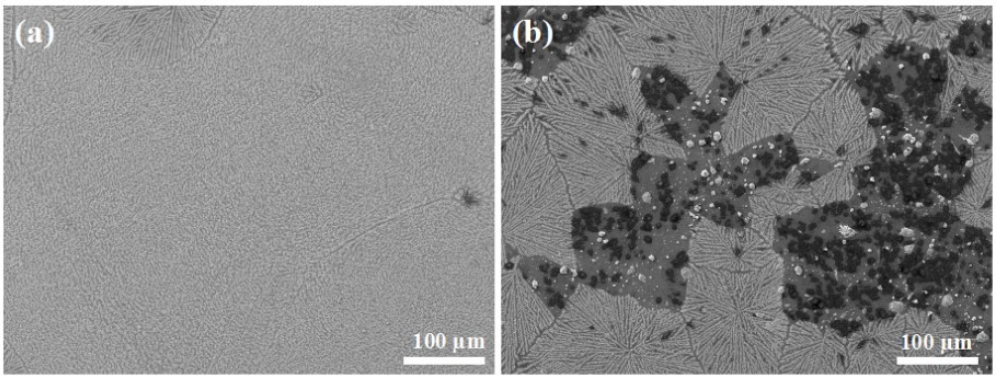

Figure S2 SEM images of the spin-coated Na_2MoO_4 aqueous solution on the $Al_2O_3(0001)$ with (a) or without (b) O_2 plasma.

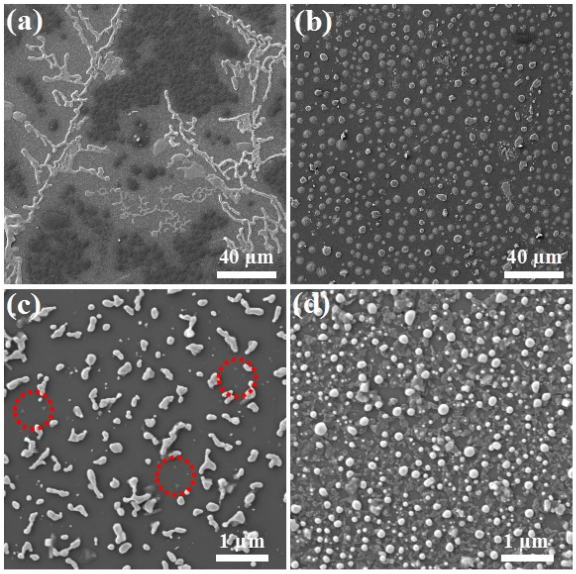

Figure S3 SEM images of the spin-coated Na_2MoO_4 aqueous solution at 800 ℃ (a) without annealing, (b) with an annealing process for 20 min. (c) and (d) SEM images of the Mo_2C crystals grown at 1000 and 1100 ℃, respectively.