Electronic supplementary information (ESI)

Effect of potassium promoter on Fischer-Tropsch synthesis to light olefins over iron carbide catalysts encapsulated in graphene-like carbon

Zhipeng Tian^{a,b,c}, Chenguang Wang^{a,*}, Jun Yue^b, Xinghua Zhang^a, Longlong Ma^a

^a CAS Key Laboratory of Renewable Energy, Guangdong Provincial Key Laboratory of New and Renewable Energy Research and Development, Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences, Guangzhou 510640, P. R. China.

^b Department of Chemical Engineering, Engineering and Technology Institute Groningen, University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands.

^c University of Chinese Academy of Sciences, Beijing 100049, P. R. China.

* Corresponding author. Tel.: +86 20 37029721. E-mail: wangcg@ms.giec.ac.cn



Figure S1. Raman spectra of xK-Fe₃C@C catalysts (x=0, 0.5, 1, 2, 3 and 5).



Figure S2. FT-IR spectra of xK-Fe₃C@C catalysts (x=0, 0.5, 1, 2, 3 and 5) and typical spectrum of D-glucose.



Figure S3. ASF plots of xK-Fe₃C@C catalysts (x=0, 0.5, 1, 2, 3 and 5).