Supplementary Material (ESI) for Journal of Materials Chemistry

Hierarchical Porous Carbonaceous Materials via Ionothermal Carbonization of Carbohydrates

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Supplementary Materials

Table S1: Macropore information obtained from Hg intrusion measurement.

Samples	***Specific area*** $[m^2g^{-1}]$	***Total porosity*** *[%]*	$\rho_{density}$ $[g\ cm^{-3}]$
C-Glucose	76.1	92.4	0.11
C-Fructose	27.3	48.9	0.57
C-Xylose	76.6	83.2	0.30
C-Starch	52.3	60.6	0.44

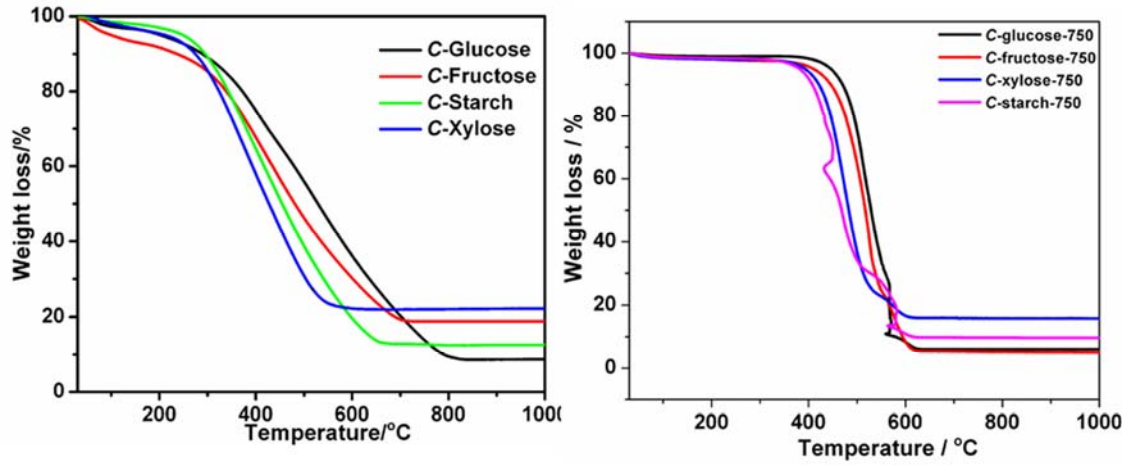

Fig S1. TGA curves of (A): all ionothermal carbons at N_2 atmosphere; (B) all post-carbonized materials at O_2 atmosphere.

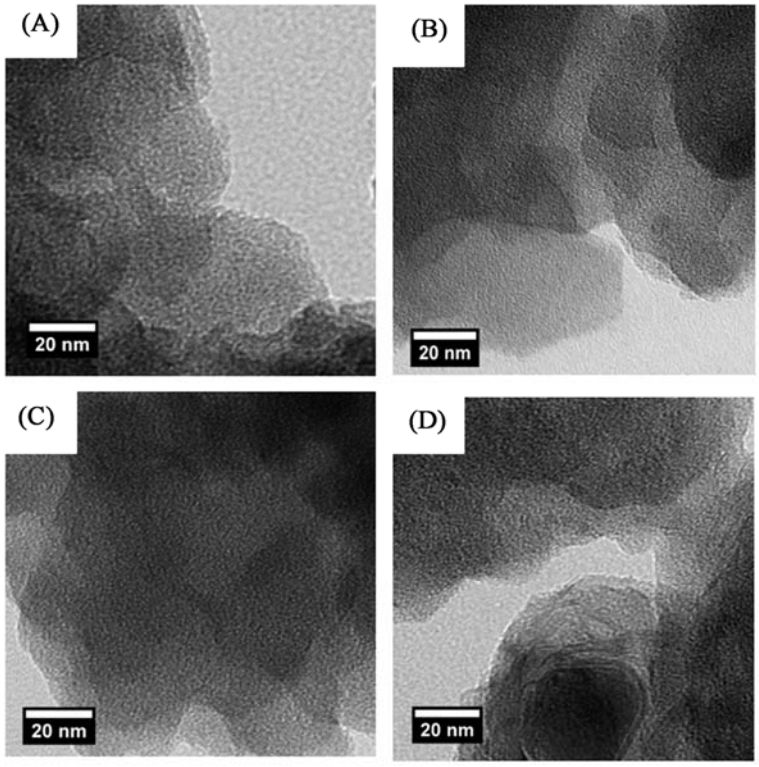

Figure S2: TEM micrographs of carbon materials after carbonization at 750 °C under N_2; (A) *C*-Glucose, (B) *C*-Fructose, (C) *C*-Xylose and (D) *C*-Starch.

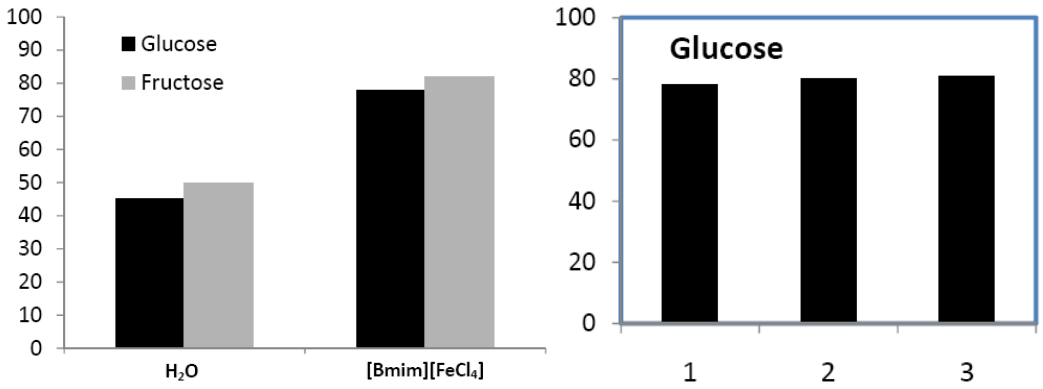

Figure S3. Yield of glucose and fructose to carbon in H_2O and [Bmim][$FeCl_4$] (Left) and the results of recycling of [Bmim][$FeCl_4$] for D-Glucose (right). A comparative experiment using the IL without Fe ([Bmim]Cl) was also tried for Glucose. The yield based on carbon is 50%.

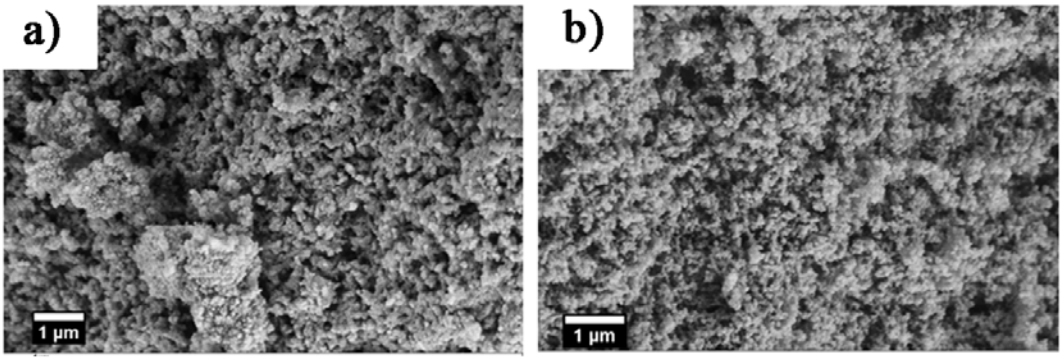

Figure S4. SEM micrographs of carbon materials from fructose. (a) 1st run, (b) 2 nd run.

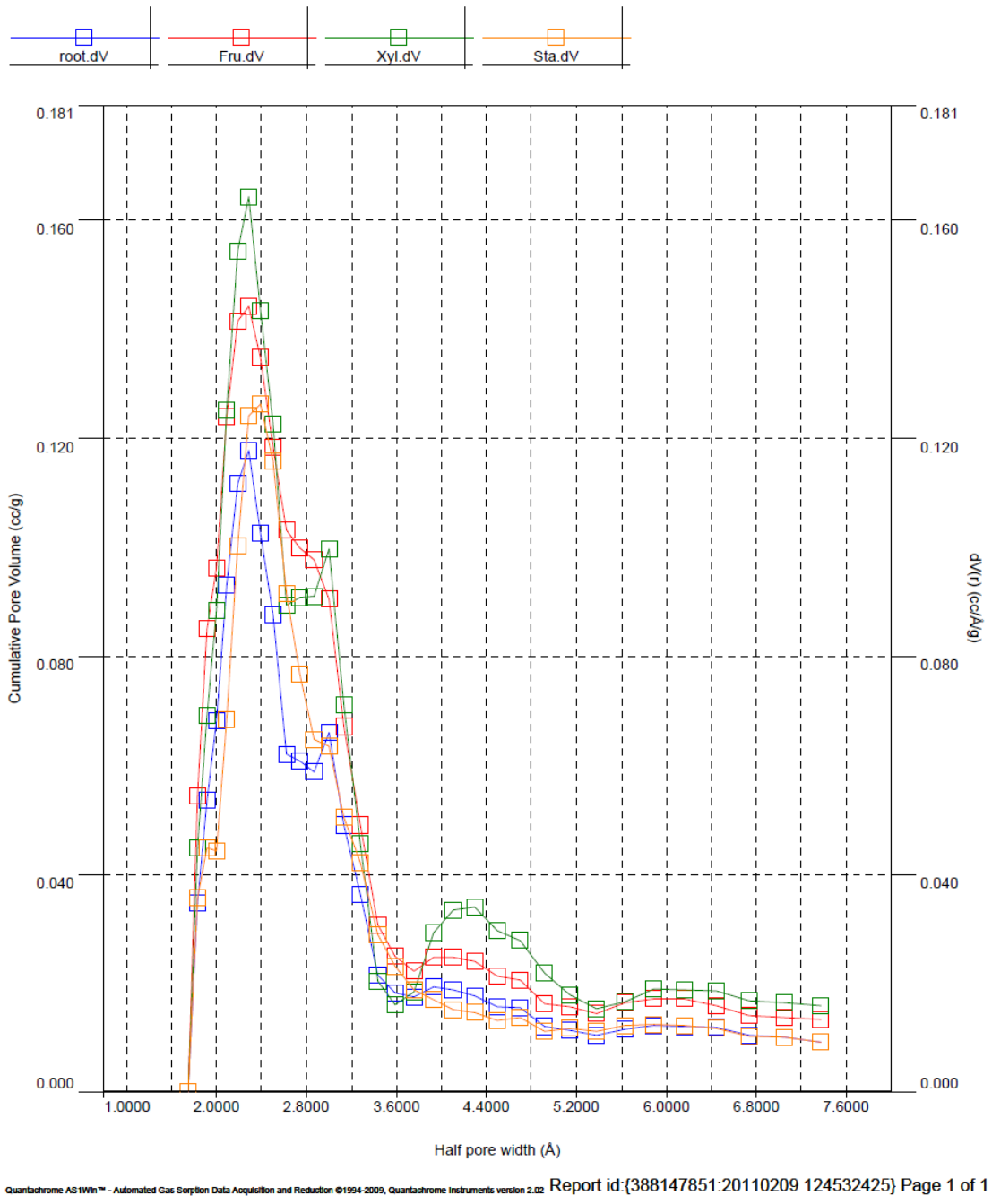

Figure S5. PSD of the post carbonized materials, extracted from CO_2 adsorption isotherms (@273K) by the GCMC model; blue: *C*-Glucose-750; red: *C*-Fructose-750; red: *C*-Xylose-750; orange: *C*-Starch-750;