

Supporting Information for:

Advanced electron microscopy characterization for pore structure of mesoporous materials; a study of FDU-16 and FDU-18

Miia Klingstedt,^a Keiichi Miyasaka,^{*b} Kosuke Kimura,^c Dong Gu,^d Ying Wan,^e Dongyuan Zhao^d and Osamu Terasaki^{*a,b}

^{*} Correspondences: Keiichi Miyasaka, e-mail: miyasakak@gmail.com, Osamu Terasaki, e-mail: terasaki@kaist.ac.kr

^a Department of Materials and Environmental Chemistry, Stockholm University, S-106 91, Stockholm, Sweden.

^b Graduate School of EEWS (WCU), Korea Advanced Institute of Science and Technology, 335 Gwahangno, Yuseong-Gu, 305-701, Daejeon, Republic of Korea.

^c Department of Applied Quantum Physics and Nuclear Engineering, Kyushu University, Nishi-ku, 819-0395, Fukuoka, Japan.

^d Department of Chemistry, Fudan University, 200433, Shanghai, China.

^e Department of Chemistry, Shanghai Normal University, 200433, Shanghai, China.

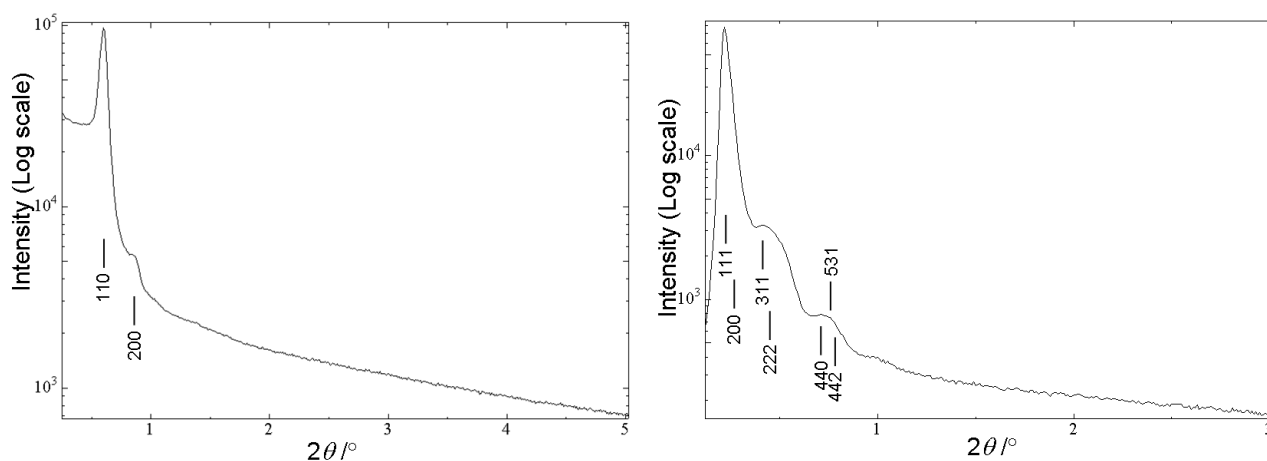


Figure S1. Powder X-ray diffraction (XRD) patterns of ordered mesoporous carbons FDU-16 (left) and FDU-18 (right). The observed reflections are indexed based on $Im\bar{3}m$ for FDU-16 and $Fm\bar{3}m$ for FDU-18, respectively. The cell parameters calculated from the highest peak positions are 13.5 nm for FDU-16 and 45.5 nm for FDU-18.

The XRD measurements were performed at BL02B2 in a synchrotron radiation facility SPring-8 (Japan) using a wavelength = 0.100 nm. The powder specimen was mounted in Lindemann glass capillary (diameter = 0.4 mm). The XRD profiles were recorded using an imaging plate set into a Debye-Scherrer type detector.

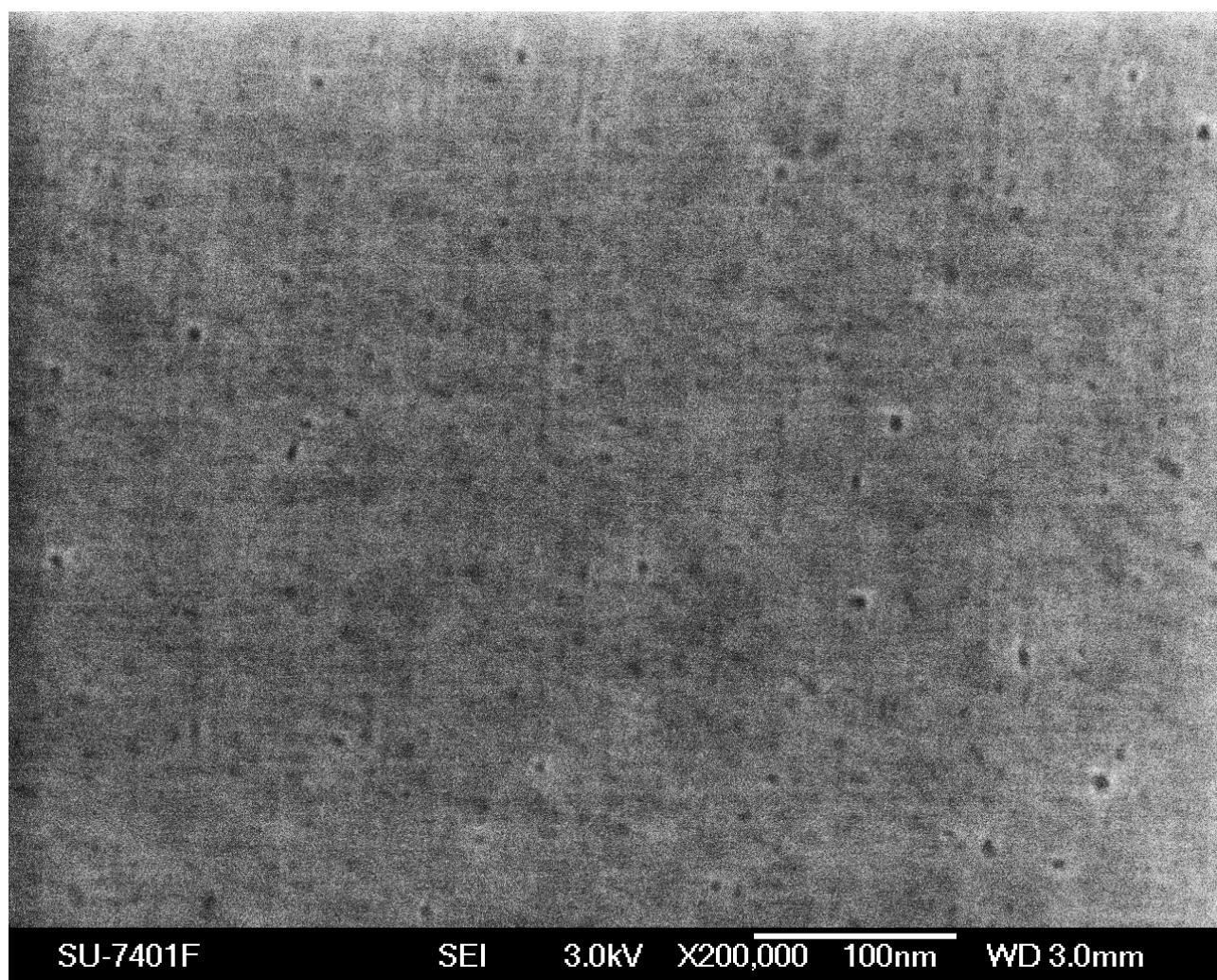


Figure S2. High resolution scanning electron microscopy (HRSEM) image of FDU-16 sample polished by a cross-section polisher (CP). This figure is an enlarged version of Fig. 5A.

A JEOL JSM-7401F was used for this HRSEM imaging. The sample powders were cross-sectioned by an Ar ion (JEOL SM-09010) with an accelerating voltage of 4 kV for 10 h and an emission of ~ 0.050 mA. Afterward, the powders were mounted on the bottom side of a silica wafer with the Ar-beam first irradiating the Si-wafer.