Surface Chemistry and Pore Structure of CMK-3 Materials Oxidized with Various Concentrations of Nitric Acid

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The preparation of a new series of ordered mesporous carbon materials has been reported via nano-casting technique using mesoporous silicas as the templates. In this work, the pore structure and surface chemistry of ordered mesoporous carbons after modification with different concentrations of HNO_3 are studied. The pore structure of the ordered mesoporous carbons is evaluated by using X-ray diffraction results and the pore structural parameters obtained from nitrogen adsorption/desorption experiments. The surface chemistry of the ordered mesoporous carbons is investigated by using pH, Boehm titration, Temperature-Programmed Desorption (TPD), FT-IR, Elemental Analysis tests.