Microstructural changes of carbonaceous monoliths synthesized via hydrothermal method.

ABSTRACT

Carbonaceous monoliths were successfully synthesized via a facile hydrothermal processing route using phenol as a carbon precursor. The x-ray diffraction (XRD) patterns revealed distinguishable (002) and (100) planes of graphite at approximately $2\theta = 23°$ and 44°, respectively. The fourier transform infrared (FTIR) spectroscopy corresponded to the chemical bonds of graphite, which were C=C and C-H. The carbonaceous monoliths exhibited interesting morphological changes as a result of varying the type of polymer which acted as a structure directing agent, mass of polymer, mass of phenol and hydrothermal temperature before and after calcination.

Article

Keyword: Carbon; Ggraphite; Hydrothermal; Scanning electron microscope.