

A kinetic study of polyphenylcarbosilane from polymethylphenylsilane via supercritical cyclohexane

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The polyphenylcarbosilane (PPCS), which is the precursor of silicon carbide (SiC), derived from polymethylphenylsilane (PMPS) in supercritical cyclohexane was carried out under various reaction conditions. The structure, molecular weight and its distribution of the PPCS were characterized by the measurements of Si-NMR, FT-IR and GPC. Results showed that the supercritical process tends to moderate the reaction conditions such as reaction temperature and time. The kinetic behavior of conversion of PPCS from PMPS in supercritical cyclohexane had been investigated.