Synthesis of polyphenylcarbosilane from polymethylphenylsilane using Supercritical Cyclohexane

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The synthesis of polyphenylcarbosilane (PPCS) via Kumada rearrangement of polymethylphenylsilane (PMPS) in supercritical cyclohexane was performed at various reaction conditions. Product as a SiC-precursor was analyzed by FT-IR, H NMR and GPC. Results showed that the supercritical process tends to moderate the reaction conditions such as reaction temperature and time in comparison to conventional thermal process. Supercritical cyclohexane was proven to be promising a reaction medium for the polyphenylcarbosilane production.