

烷基芳基环聚硅烷[$\text{R}(\text{ArSi})_n, n=5,6$]的合成及其波谱性质

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摘要 研究了在六苯基二硅烷或三甲基三苯基二硅烷存在时,烷基芳基二氯硅烷与过量锂在四氢呋喃中的偶联反应.得到 $(\text{PhMeSi})_6$, $(p\text{-MeC}_6\text{H}_4\text{SiMe})_6$, $(o\text{-MeC}_6\text{H}_4\text{SiMe})_5$, $(\text{PhCH}_2\text{SiMe})_6$, $(\text{PhEtSi})_5$ 和 $(\text{PhSiCH}_2\text{CH}=\text{CH}_2)_6$. 均用NMR, IR, MS, UV和MS鉴定,其中后五个化合物为新化合物.

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Synthesis and spectral properties of alkylaryl cyclopolysilanes

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Abstract The coupling reaction of alkylaryldichlorosilane in THF with an excess of lithium in the presence of hexaphenyldisilane or trimethyltriphenyldisilane gave the major products, $(\text{PhMeSi})_6$, $(p\text{-MeC}_6\text{H}_4\text{SiMe})_6$, $(o\text{-MeC}_6\text{H}_4\text{SiMe})_5$, $(\text{PhCH}_2\text{SiMe})_6$, $(\text{PhEtSi})_5$ and $(\text{PhSiCH}_2\text{CH}:\text{CH}_2)_6$, which, were identified and characterized with NMR, IR, MS and UV spectroscopy. HPLC identification of the product mixtures of $(\text{PhMeSi})_n$ revealed that various products with different ring size and geometric isomerization of the substituents might also exist depending on the mole ratio of starting materials and presence or absence of the catalyst.

Key words [SPECTROGRAPHIC ANALYSIS](#) [CHLOROSILANE](#) [LITHIUM](#) [POLYSILANE](#) [COUPLING REACTION](#)

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