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**Synthesis, characterization, and
application of nanoporous materials
based on silicon- or halogen-containing
spiroketal and spirothioketal polymers**

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Abstract: Organic microporous materials based on silicon-containing spiroketal and spirothioketal polymers were synthesized via a 1,3-dioxol-forming polymerization reaction between 1,1a,4,4a,5,5a,8, 8a-octahydro-2,3,6,7-tetra(trimethylsilyl)-9,10-anthraquinone and different types of polyol or polythiol. These silicon-containing polymers were subjected to bromination to yield bromine-containing polymers. The structures of the prepared polymers were confirmed by NMR spectroscopy and molecular mass measurements. Nitrogen adsorption/desorption isotherms of the prepared polymers showed that a large amount of nitrogen was adsorbed at low