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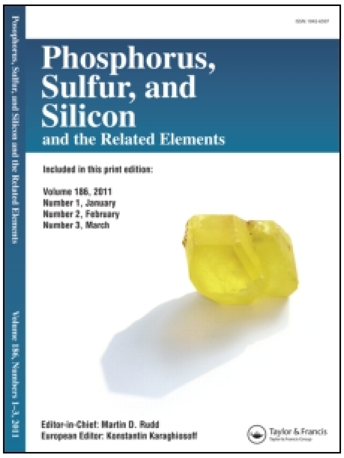

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SYNTHESIS AND REACTIVITY OF 1,1-DI(ALKYLTHIO) ALKANES

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SYNTHESIS AND REACTIVITY OF 1,1-DI(ALKYLTHIO)ALKANES

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By interaction of mono- and dicarbonil compounds with alkyl and arilmercaptanes symmetric and unsymmetric 1,1-di (alkylthio) alkanes were synthesized. Reactions of these compounds with linear and cyclic acetals in the presence of mineral acids and cation-exchanged resins were studied. The main products are corresponding 1,1-alkylthioalkoxialkanes and 1,1-dialkoxialkanes. Kinetic investigations showed that the stage determining the process velocity is splitting of acetal group.

Homolytic liquid-phase conversions of 1,1-di(alkylthio) alkanes were investigated. Their relative activity in reactions with hydrogen- and oxygen-centred radicals was determined. It was found that preferred place of attack was either methylene or methin group adjacent with two heteroatoms. The influence of attacking radical nature and substrate structure on the velocity of homolitic break of C-H bond was traced. The ways of applications of 1,1-di(alkylthio)alkyl radicals in organic synthesis were offered.