Full Paper	Thematic Section: Physical-Chemical Researches.
Registration Code of Publication: 10-22-10-10	Subsection: Inorganic Chemistry.
Publication is available for discussion in the framework of the on-line Internet conference "Butlerov readings".	
http://butlerov.com/readings/	
Contributed: October 4, 2010	

Thematic course: Hydrochemical synthesis of metal chalcogenides. Part 6.

Kinetic-thermodynamic research on conditions for formation of substitutional solid solution of PbS_ySe_{1-y} in citric-ammoniac system

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Keywords: PbS_ySe_{1-y} , substitutional solid solution, chemical bath deposition, ion balances, chemical kinetics.

Abstract

The boundary conditions for the PbS_ySe_{1-y} , $Pb(OH)_2$ formation in «lead(II) acetate – thiourea – selenourea – sodium citrate – ammonium hydroxide» systems have been identified by analyzing the ion balances using thermodynamic constants and taking into account crystallization factor. The integrated kinetic studies of PbS_ySe_{1-y} deposition with thio- and selenourea have been carried out; activation energy and particular orders of reaction on system components have been defined, the formal-kinetic equation for rate of salt lead transformation in PbS_ySe_{1-y} have been obtained.

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