



**New Approaches in Coordination  
and Organo  
metallic  
Chemistry.  
Look from 21-th Century**

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## POSTERS

1. Stoikov I.I., Kleshnina S.R., Antipin I.S., Kononov A.I. 004c  
Organosilicon derivatives of *p*-*tert*-butyl thiocalix[4]arene.
2. Baziakina N.L., Suvorova O.N., Woehrle D., Makarov S.G., Vasilevskaja I.L., 006c  
Kuturva V.V., Schupak E.A.  
Catalytic and photocatalytic activities of phthalocyanines on inorganic carriers.
3. Lalov A.V., Bogdanov S.E., Faustov V.I., Egorov M.P., Nefedov O.M. 010c  
Complex  $N_2^*SiCl_2$ : direct IR spectroscopic observation in low-temperature Ar matrices and quantum-chemical calculations.
4. Kulik A.V., Bruck L.G., Temkin, O.N., Khabibulin V.R., Nosova V.M., 012c  
Ustynyuk Y.A., Belsky V.K., Zavodnik V.E.  
Synthesis and structure of new triphenylphosphine  $\pi$ -complexes of palladium(0) with *p*-benzoquinone and their role in the oxidative carbonylation of alkynes.
5. Budnikova Yu.H., Yakhvarov D.G., Tazeev D.I., Samieva E.G., 015c  
Sinyashin O.G.  
Phosphinidenes and phosphorus cycles as intermediates of electrocatalytic arylation of white phosphorus.
6. Bylikin S.Yu., Kramarova E. P., Negrebetsky V.V., Pogozhikh S.A., 016c  
Ovchinnikov Yu.E., Baukov Yu.I.  
Cation-anionic organogermanium complexes stabilized by intramolecular O $\rightarrow$ Ge coordination.
7. Chernyad'ev A.Yu., Aleksandrov G.G., Nosova V.M., Ustynyuk Yu.A., 018c  
Eremenko I.L.  
New dinuclear trimethylacetate complexes of transition metals with macrocyclic Schiff's bases.
8. Climov E.S., Semjenov V.V. 019c  
Complex ferric compounds as way of rendering harmless of galvanic sludges.
9. Denisova T.O., Talismanova M.O., Golovaneva I.F., Aleksandrov G.G., 023c  
Nefedov S.E., Eremenko I.L., Moiseev I.I.  
The simulation of nature urea hydrolysis on the binuclear Ni and Co thrimethylacetates.
10. Devyatova L.S., Druzhkov N.O., Cherkasov V.K. 024c  
Quinondiazabutadienes. Synthesis, structure and properties.
11. Dobrokhotova G.V., Pasynskii A.A., Saushev A.V., Semenova N.I., 025c  
Torubaev Yu.V.  
The thermodynamic aspect of thermodecay of iron carbonylchalcogenides.
12. Domrachev G.A., Shevelev Yu.A., Zakharov L.N., Domracheva L.G. 027c  
The symmetry and space shielding of metal with ligands in bio-activity of organometallics.
13. Dudorov V.V., Mishanov A.R. 030c  
To the interpretation of concept temperature of expansion of substance in a gas (steam) phase.
14. Fagin A.A., Khoroshenkov G.V., Bochkarev M.N. 035c  
Reaction of  $NdI_2$  and  $DyI_2$  with phenol. Unprecedented change of reaction pathway at low temperature.

## COMPLEX FERRIC COMPOUNDS AS WAY OF RENDERING HARMLESS OF GALVANIC SLUDGES

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The problem of utilisation of galvanic sludges containing heavy metals (Cu, Ni, Zn, Cr, Pb, Cd) is one of the main ecological problems.

Today the most effective way of this problem's decision is sludges' rendering harmless with its transformation into complex compounds dissolved in water and in weak-acid mediums.

We devised the method of stabilization for the specific galvanic sludges. It consists of complex ferric compounds' formation – ferrites with formula  $\text{Me}_n\text{Fe}_3\text{O}_4$ . The process takes its course in the alkaline medium with addition of Fe (II) ions at the temperature 70-80°C and it consists of two stages:

- mixed hydroxides' formations:



- ferrites' formations:



The experiments were held in installations of 0,5-10 litres' volume equipped with the system of air and steam's introduction. The level of sludge's rendering harmless was determined by the analysis of filtrate and acid extracts from the obtained products of combustion. These investigations made known the possibility of sludges' transformation into the IV dangerous group.