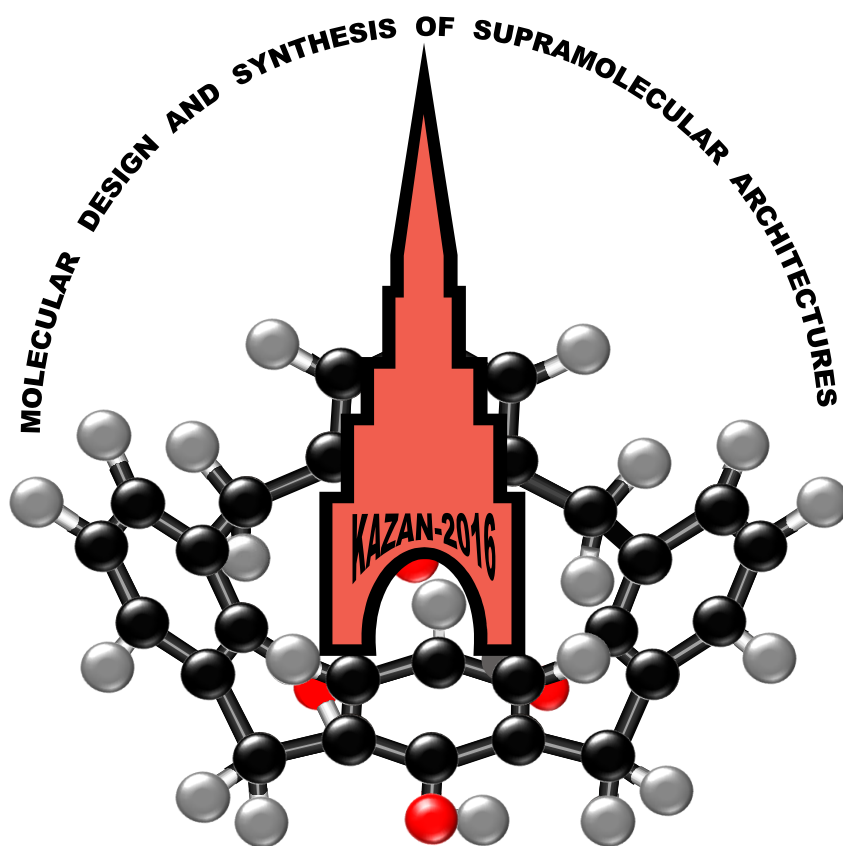


**KAZAN FEDERAL UNIVERSITY
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**VIIIth INTERNATIONAL SYMPOSIUM
«DESIGN AND SYNTHESIS OF SUPRAMOLECULAR
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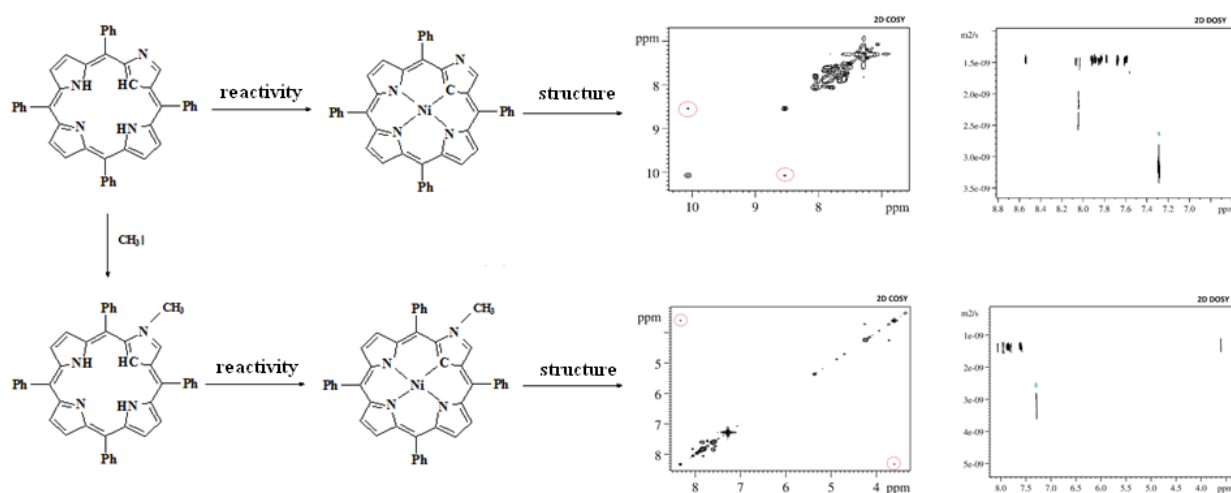
N-CONFUSED PORPHYRIN: CHEMICAL STRUCTURE AND REACTIVITY

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The ability of inverted porphyrins to form metal complexes was shown with the nickel complexes of 2-aza-21-carba-tetraphenylporphyrin and its methylated analogue (2-aza-2-methyl-5,10,15,20-tetraphenyl-21-carbaporphyrin).



The 1D ^1H NMR spectra of the paramagnetic nickel(II) complexes of the 2-aza-5,10,15,20-tetraphenyl-21-carbaporphyrin and 2-aza-2-methyl-5,10,15,20-tetraphenyl-21-carbaporphyrin have been examined. The present work offers conclusive evidence for the chemical structure of the paramagnetic organometallic nickel(II) complexes by 2D NMR technique. Characteristic groups (NH, CH₃) assignments have been made with using of two-dimensional COSY and DOSY experiments.

The complexation processes of 2-aza-21-carba-tetraphenylporphyrin and 2-aza-2-methyl-5,10,15,20-tetraphenyl-21-carbaporphyrin with nickel and zinc acetates in organic solvents was investigated by a spectrophotometric method. These data allow one to make a conclusion that the enhanced reactivity of these compounds mainly is determined by their ability to exist in different tautomeric forms.

Acknowledgements This work was supported by Russian Scientific Foundation, project № 14-13-00232.