



AVVISO DI SEMINARIO

Il giorno **08 ottobre 2026** alle
ore 15:00

in aula **Stella**

Prof.ssa Tatyana R. Usacheva

Ivanovo State University of Chemistry and Technology

terrà un seminario dal titolo

REACTIVITY OF CROWN ETHERS AND CYCLODEXTRINS IN WATER-ORGANIC SOLVENTS: THERMODYNAMIC ASPECTS AND PROSPECTS OF PRACTICAL APPLICATIONS

Proponente: Prof. Roberto Paolesse



**REACTIVITY
OF CROWN ETHERS AND CYCLODEXTRINS
IN WATER-ORGANIC SOLVENTS:
THERMODYNAMIC ASPECTS AND PROSPECTS OF PRACTICAL
APPLICATIONS**

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This lecture provides an overview of our recent results on the thermodynamics of complexation between *d*-metal ions and biologically active molecules with crown ethers and cyclodextrins in aqueous-organic solvents.

The synthesis of new substances and the study of their reactivity are among the main tasks of experimental chemistry. The development of new chemical technologies based on macrocycles is promising.

Crown ethers and cyclodextrins are well-known macrocyclic molecules capable of forming guest-host complexes with high selectivity. This property has led to the widespread use of crown ethers in selective ion extraction, transmembrane ion transfer, catalysis, and other applications.

Enhancing the solubility of hydrophobic biomolecules through hydrophobic binding with cyclodextrins improves their bioavailability and stability, enables controlled drug release, and reduces the irritant effects of drugs on mucous membranes.

Using aqueous-organic solvents can exert an additional influence on macrocycle-mediated complexation. From a solvation perspective, we have analyzed the contributions of reagent solvation's to changes in complex stability and enthalpy of complexation.