Seminář odd. 26
Tenkých vrstev a nanostruktur

Fyzikální ústav AVČR, Cukrovarnická 10, Praha 6

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TÉMA

Bioorthogonal Chemistry – Organic Chemistry on Biomolecules

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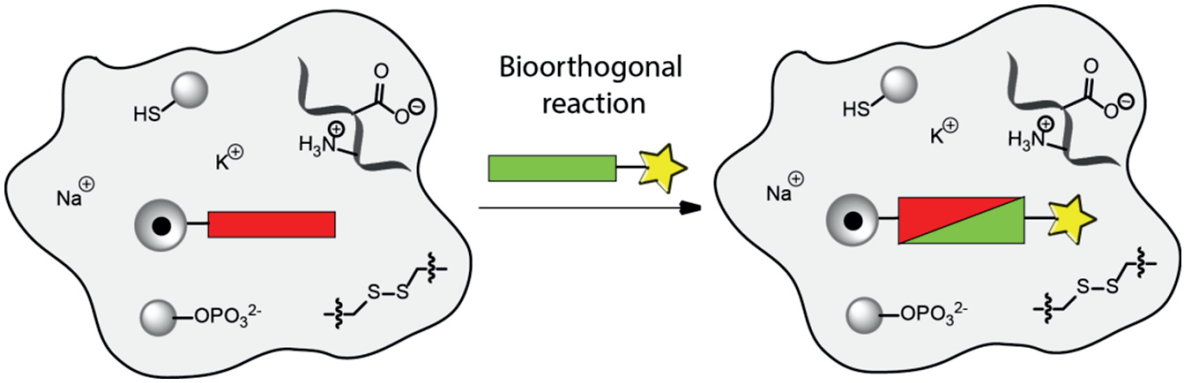
Bioorthogonal reactions are chemical reactions especially designed to proceed with high selectivity and efficiency under physiological conditions that include living cells or even whole organisms. Bioorthogonal chemistry as a new scientific discipline uses this kind of reactions in order to study biomolecules such as proteins, nucleic acids, glycans and lipids in their native environment.



The lecture will provide an overview on different types of bioorthogonal chemical reactions and highlight the recent achievements in the field. Examples of various applications will be presented and discussed.

References:

[1] McKay, C. S., Finn, M. G., Click Chemistry in Complex Mixtures: Bioorthogonal Bioconjugation, Chem. Biol., 2014, 1075 – 1101.

[2] Patterson, D. M., Prescher, J. A., Orthogonal Bioorthogonal Chemistries, Curr. Opin. Chem. Biol., 2015, 141-149.

[3] Boutureira, O., Bernardes, G. J. L., Advances in Chemical Protein Modification, Chem. Rev., 2015, 2174 – 2195.

[4] Cycloadditions in Bioorthogonal Chemistry, Topics in Current Chemistry, 2016, Springer, edited by T. Carell and M. Vrabel, eBook ISBN: 978-3-319-29686-9, Hardcover ISBN: 978-3-319-29684-5.

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