



## KONWERSATORIUM INSTYTUTU FIZYKI UMCS

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### *“Boronic ester and homodimer of glycoluril clips as cross-linking agents in the polymer materials”*

Reversible character of cross-links facilitate the formation of stimuli-responsive dynamic networks, which properties can be modulated with a particular factor such as temperature, pH or chemical agents, etc.

Thanks to dynamics of boronic ester cross-links, within the hydrogel systems, composed of cross-linked hyperbranched polyglycidol with acrylamide copolymer bearing boronic acid groups, differing the cross-linking density, the efficiency of biomineralization triggered *in situ* was investigated.

The introduction of glycoluril clip, the supramolecular block which structure resemble the shape of letter C, into polymer structure resulted in the formation linear highly ordered aggregates or supramolecular three-dimensional network in organic solvent due to self-assembling process of glycoluril clips in the form of homodimers.

The supramolecular network based on clips homodimers exhibit unique chemoresponsive properties toward narrow class of organic compound, i.e., dihydroxyaromatics. It results from the fact that glycoluril clip is able to simultaneously form several complementary and directional interactions with dihydroxyaromatics, which are competitive to homodimerization process responsible for the network cross-linking.

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Uprzejmie zapraszam wszystkich pracowników, doktorantów i studentów Instytutu Fizyki.

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