

Dynamic Interactive Systems – toward natural selection of functions

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Dynamic interactive systems are defined by networks of exchanging and reversibly connected objects (supermolecules, polymers, biomolecules, biopolymers, pores, nanoplateforms, surfaces, liposomes, cells). They operate under natural selection to allow spatial/temporal and structural/functional adaptability in response to internal constitutional or to external stimulant factors. Herein we will discuss some selected examples of hybrid organic/inorganic systems materials (SYSMAT), covering (a) the sol–gel resolution of constitutional architectures from dynamic combinatorial libraries and (b) the generation of dynamic hybrid materials and systems membranes (SYSMEM) able to evolve inside pore functional architectures via ionic stimuli, so as to improve membrane transport functions.

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