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Research Article

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Tandem Architectures for Artificial Thylakoid Membranes

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In this concept paper, new layered materials, such as multilayer hybrid systems, are described. These materials can be implemented into novel biomimetic devices, which can act as artificial photosystems or as “artificial thylakoid membranes” e.g. for the splitting of water. The architecture can be based on active nanoparticles or small catalytic clusters which can be ...

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Case Report

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Nanozyme catalytic mimetic effect of iron oxide nanoparticles hybrids with cellulosic matrices and its synergism with microorganisms

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Iron Oxide Nanoparticles (IONPs) are generally assumed to be biologically inert, presenting chemical stability and low toxicity, and they can be hybridized with cellulosic matrixes aiming for biological applications (e.g. nanozymes). Two hydrothermal coprecipitation methods were applied, aiming to produce 2 different size Iron oxide nanoclusters, using ferric chloride ...

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Short Communication

Fullerene and nanotube models in Bolyai - Lobachevsky hyperbolic geometry H3 on the 200th anniversary of its discovery

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The Archimedean solid (5, 6, 6), where regular pentagon, hexagon and hexagon surround each vertex, so altogether 60 vertices (with carbon atoms for C60 fullerene). 12 pentagons and 20 hexagons bound this football polyhedron, as a regular (say white) icosahedron truncated by 12 (black) pentagons at its 12 vertices. ...

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