

List of unsolved problems in chemistry flashcard



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Unsolved problems in chemistry tend to be questions of the kind “ Can we make X chemical compound? ” , “ Can we analyse it? “ , “ Can we purify it? ” and are commonly solved rather quickly, but may just as well require considerable efforts to be solved. However, there are also some questions with deeper implications. This article tends to deal with the areas that are the center of new scientific research in chemistry. Problems in chemistry are considered unsolved when an expert in the field considers it unsolved or when several experts in the field disagree about a solution to a problem.

L] Organic chemistry problems[idle] Solvents of the normally canon: Why is the normally canon so stable? Is it symmetrical? If so, why? This problem has been largely settled for the unselected normally canon, but not for the substituted canon. See Non-classical Ion. On water reactions: why are some organic reactions accelerated at the water-organic interface? What is the origin of the bond rotation barrier in ethane, steric hindrance or hyperconjugation? What is the origin of the alpha effect?

Nucleotides with an electronegative atom and one or more lone pairs adjacent to the nucleophilic center are particularly reactive. What is the nature of strong bonds between organic- sulfur (and higher challenge) compounds and many mechanisms proposed for catalytic processes are poorly understood and often fail to explain all relevant phenomena. Biochemistry problems[edit] Better-than perfect enzymes: Why do some enzymes exhibit faster-than-diffusion limited catalysis? See Enzyme kinetics.

What is the origin of chirality in amino acids and Protein folding problem: Is it possible to predict the secondary, tertiary and quaternary structure of a

polypeptide sequence based solely on the sequence and environmental information? Inverse protein-folding problem: Is it possible to design a polypeptide sequence which will adopt a given structure under certain environmental conditions? [5][6] RNA folding problem: Is it possible to accurately predict the secondary, tertiary and quaternary structure of a polytechnics acid sequence based on its sequence and environment? What are the chemical origins of life?

How did non-living chemical compounds generate self-replicating, complex life forms? Protein design: Is it possible to design highly active enzymes De novo for any desired Biosynthesize: Can desired molecules, natural products or otherwise, be produced In high yield through biosynthesize pathway

Physical chemistry problems[idle] What Is the electronic structure of the high temperature superconductors at various points on the phase diagram? Can the translator temperature be brought up to room temperature? See Superconductivity. How can one make a room-temperature superconductor?

Effeminacy: What are the chemical consequences of having an element, with an atomic number above 137, whose Is electrons must travel faster than the speed of light? Is " Effeminacy" the last chemical element that can physically exist? The of nuclear-charge distribution. See the article on Extension of the periodic table beyond the seventh period and section Relativistic effects of Atomic orbital. How can electromagnetic energy (photons) be efficiently converted to chemical energy? (E. G.

Splitting of water to hydrogen and oxygen using solar energy.) [9][10] What is the structure of water?

According to Science Magazine in 2005, one of the 100 outstanding unsolved problems in science revolves around the question of how water forms hydrogen bonds with its neighbors in bulk water. [5] See: water cluster. What process creates the separate in Spenserian nodules? What is the explanation of the Mamba effect? "On Water": Unique Reactivity of Organic Compounds in Aqueous Suspensions Sahara Nary Dry.

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