

What mean Prigogine attractors? Thank you for this question!

Hallo!

Prigogine attractors in lecture of Nobel Prize on 8. December 1977<sup>th</sup> published:

<http://aris.gusc.lv/ChemFiles/Attractor/prigogine-lecture.pdf>

"This equilibrium state is an "attractor" for non-equilibrium states. " on 3<sup>rd</sup> page.

Dissipative structures (Universe, Galaxy clusters, Galaxy, Stars and planet systems, organisms, Earth ecosystems, atoms as electrons and nucleus, molecules, etc) in isolate system trends reach free energy change minimum.

Le Chatelier demonstrate concentration, temperature and pressure changes do not energy.

Prigogine demonstration free energy change minimum  $\Delta G_{eq} = \Delta G_{min}$  establishing for isolate mixture of compounds and solve perfect order for Universe self organization property.

Free energy change minimum reaching as affinity to Prigogine attractor are common

self organizing properties of dissipative structures, which work undergo at non-equilibrium conditions for: Universe perfect order,

organic regulate organisms non-equilibrium homeostasis,

atoms and molecules formation order, quantum order, as compounds dissipative structures.

At absent energy minimum attractor electrons newer bond the nucleus of atoms and newer create the molecules, Could not composing lipids bilayer membranes and organelles of cell buildings.

Ilya Prigogine 1977 declared attractors create perfect order of universe in which just seems apparent chaos.

Its state, that universe is perfect, and demonstrate each process trends to

Prigogine attractor - energy change minimum in dissipative structures.

Prigogine attractors for Earth ecosystem are determined, because all processes of dissipative structures are non-equilibrium states. Prigogine attractors trends minimum in complex reaction clusters of compounds mixture:

<http://aris.gusc.lv/BioThermodynamics/BioThermodynamicAttractor7-36.pdf>

1<sup>st</sup> semester 4<sup>th</sup> practical work neutralisation and water protolysis inverse reactions equilibria .

Repeat answer in class work: LW\_Ther\_1\_2020answere.doc and

[http://aris.gusc.lv/BioThermodynamics/LW\\_Ther\\_1\\_2020answere.doc](http://aris.gusc.lv/BioThermodynamics/LW_Ther_1_2020answere.doc)

check solutions-conclusions: LW\_Ther\_1\_2020SolE.pdf

[http://aris.gusc.lv/BioThermodynamics/LW\\_Ther\\_1\\_2020SolE.pdf](http://aris.gusc.lv/BioThermodynamics/LW_Ther_1_2020SolE.pdf)

Tested solutions:

2<sup>nd</sup> page BioThermodynamics.pdf

<http://aris.gusc.lv/BioThermodynamics/BioThermodynamics.pdf>

15<sup>th</sup> page CO2O2Thermodynamic15A.pdf

<http://aris.gusc.lv/BioThermodynamics/CO2O2Thermodynamic15A.pdf>

2<sup>nd</sup> CATALASE protein polypeptide chain form 527 amino acids of total which are 169 amino acids with negative charged  $-COO^-$  and positive charged  $-NH_3^+$  functional groups with known pKa values. For 7 amino acids side chain residues designate as groups  $-aR$  and values  $pK_{aR}$

7<sup>th</sup> page: BufferSolution202015.pdf:

<http://aris.gusc.lv/BioThermodynamics/BufferSolution202015.pdf>

Life molecules functional activity have these groups negative charged  $-COO^-$  and positive charged  $-NH_3^+$  in molecules.

sciencerly,

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