

IdeasJanuary 3, 2016

EG

Home (edit)

Self (edit)

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1 General

- Compartmentalization (edit) **no file** Is compartmentalization necessary or not?
- Prebiotic Soup (edit): life originated from prebiotic soup.
- Autocatalysis (edit): Autocatalysis and autocatalytic sets played important role in the origin of life
- Metabolism first approach (edit)
- Bootstrapping problem (edit)

2 Prebiotic polymerization

2.1 From literature

- RNA-world idea (edit)
- Peptides could form prebiotically (edit) **no file**
- Amino acids could be formed prebiotically (edit) **no file**
- Nucleotides could be synthesized prebiotically (edit)

2.2 Home-grown

- HP-world idea (edit): Catalysis based on hydrophobic interaction can give a rise to an efficient autocatalytic loop.
- Short sequences can have stable structure (edit) **no file**: HP-world (edit) hypothesis heavily relies on assumption that relatively short sequences can have stable structure and perform function. Supporting literature is here.

3 Replicator origination, complexity growth, evolvability

- Two polymers idea (edit) In order to start life one need two distinct types of polymers: informational and functional
- Bootstrapping problem (edit)
- Fragility problem. For example von Neumann's CA replicator is very fragile and isn't an actual solution for complexity growth problem, just conceptual. Any solution can have the same problem.
- World Modeling
- Movement First