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The genetic code is not an optimal code in a model taking into account both the biosynthetic relationships between amino acids and their physicochemical properties

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HIGHLIGHTS

- We have considered a model for the origin of the genetic code that takes into account both the biosynthetic relationships between amino acids and their physicochemical properties.
- The model evaluates the biosynthetic relationships between amino acids considering of constraints based on the biosynthetic families of amino acids.
- The physicochemical properties of amino acids have been described by polarity and molecular volume of amino acids.
- The results maintain that the genetic code organization is not optimal even in these subsets containing a very limited number of elements, that is to say, the genetic code is not a local or absolute minimum.

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