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Interstellar catalysts and the PAH universe

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Propositions accompanying the doctoral thesis

Interstellar Catalysts and the PAH Universe

1. Superhydrogenation of linear PAHs might provide the first step for nanotube formation in space (Chapter 2).
2. Structural defects might play an important role in interstellar catalysis (Chapters 3 and 5).
3. A high level of theory does not always provide the most accurate result (Chapter 4).
4. Forsterite can catalyze the fragmentation of PAHs, which is a necessary step to link them to the emergence of life (Chapter 5).
5. Just as experimentalists use the best setup to run the best experiment, those who make use of theory must use the best functional that provides the best accuracy.
6. Catalysts are important on Earth for life's basic functions. Hence, they might play an important role in the formation of molecular species in interstellar space as well.
7. Quantum chemistry is an essential part of astrochemistry. Hence, quantum chemistry should be part of astronomy curricula and astrochemistry should be part of chemistry curricula.
8. Quantum computers and machine learning are the future, but a blank piece of paper and a pen are the cradle of good ideas.
9. We would live in a better world if researchers would earn more than soccer players.
10. Being yourself is tiring, being someone else is exhausting.
11. Like a song has its own rhythm, a scientific project has its own time.
12. Being vaccinated for COVID-19 is an act of love for yourself and for your loved ones.

Dario Campisi
Leiden, 14 September 2021