

Organics in the Solar System

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Complex organics are now commonly found in meteorites, comets, asteroids, planetary satellites, and interplanetary dust particles. The chemical composition and possible origin of these organics are presented. Specifically we discuss the possible link between Solar System organics and the complex organics synthesized during the late stages of stellar evolution. Implications of extraterrestrial organics on the origin of life on Earth and the possibility of existence of primordial organics on Earth will also be discussed.

References

- Kwok, S. The Synthesis of Organic and Inorganic Compounds in Evolved Stars, *Nature*, 430, 985 (2004)
- Kwok, S. and Zhang, Y. Mixed aromatic/aliphatic organic nanoparticles as carriers of unidentified infrared emission features, *Nature*, 479, 80 (2011)
- Kwok, S. Complex organics in space: from Solar System to distant galaxies, *A&A Rev.*, 24, 1-27 (2016)
- Kwok, S. *Organic Matter in the Universe*, Wiley, 2011.

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