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TITLE: Formation of Polycyclic Organic Molecules on Crystalline Silicate Grains

ABSTRACT BODY:

Abstract Body: The pathways through which complex organic molecules are manufactured from simple chemical species are of key importance to the understanding of the evolution of organic material in the cosmos, and consequently the formation of prebiotic molecules. This work presents laboratory studies on the formation of polycyclic aromatic hydrocarbons (PAHs) over heated crystalline silicates from an acetylene feedstock. A rich variety of molecular species are formed and detected using time-of-flight mass spectrometry. Implications are discussed into formation and evolution of complex organic material in circumstellar environments.

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