

Molecules in supernova ejecta

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The first molecules detected at infrared wavelengths in the ejecta of a Type II supernova, namely SN1987A, consisted of CO and SiO. Since then, confirmation of the formation of these two species in several other supernovae a few hundred days after explosion has been obtained. However, supernova environments appear to hamper the synthesis of large, complex species due to the lack of microscopically-mixed hydrogen deep in supernova cores. Because these environments also form carbon and silicate dust, it is of importance to understand the role played by molecules in the depletion of elements and how chemical species get incorporated into dust grains. In the present paper, we review our current knowledge of the molecular component of supernova ejecta, and present new trends and results on the synthesis of molecules in these harsh, explosive events.

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