

ABSTRACT

Title: The growth of larger hydrocarbons in the ionosphere of Titan: $C_9H_x^{2+} + CD_4$

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Abstract

Dications and multiply charged ions are studied mainly in terms of physical and chemical processes, especially in environments with extremely low temperatures and pressure. Under these conditions the production of higher hydrocarbons is not explained. The aim of this bachelor thesis was a comparison of reactivities of dications derived from three aromatic isomers (indene, methylphenylacetylene and phenylpropadiene) and determination of the dependence of the reactivities on the reaction conditions. The main experimental method was mass spectrometry. It was found that the reactivities of dications generated from indene, methylphenylacetylene and phenylpropadiene are different and depend on the reaction conditions.

Key words: dications, electron ionization, mass spectrometry, isomers