

Abstract Submitted
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Multiphoton dissociation of Coronene CARMEN CISNEROS, FRANCISCO BETANCOURT, Instituto de Ciencias Físicas, UNAM, Mexico, JUAN CARLOS POVEDA, UIS, Colombia, IGNACIO ALVAREZ, ALFONSO GUERRERO, Instituto de Ciencias Físicas, UNAM, Mexico — The multiphoton ionization and multiphotodissociation of Coronene (C₂₄H₁₂) induced by laser interaction were analyzed with a Time of Flight Mass Spectrometer in reflectron mode. A beam of molecules was synchronized with laser radiation of 266 nm with intensities between 1.7×10^9 and $2.7 \times 10^{10} \text{ W/cm}^2$. The resolution reached allowed to identify more than 300 ions, produced by the photofragmentation. The analysis of relative currents, by ion groups and by specific ions, allowed the experimental verification of dissociation routes where prevail products C_nH_m with $n = 16 - 24$ for low intensities, and $n = 1, 2, 3, 4$ for high intensities. At low intensities, the presence of C₁₆H₄, C₁₆H₁₀, C₁₆H₁₂, C₁₇H₆, C₁₇H₈, C₂₂H₂, C₂₃H₄, C₂₃H₈, C₂₄H₆, C₂₄H₈, C₂₄H₁₀, C₂₄H₁₂ ions are remarkable. In addition, ions with mass greater than 300 accounts for the presence of Coronene clusters. The present work was supported by grant PAPIIT UNAM grants IN101215 and IN102516.

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