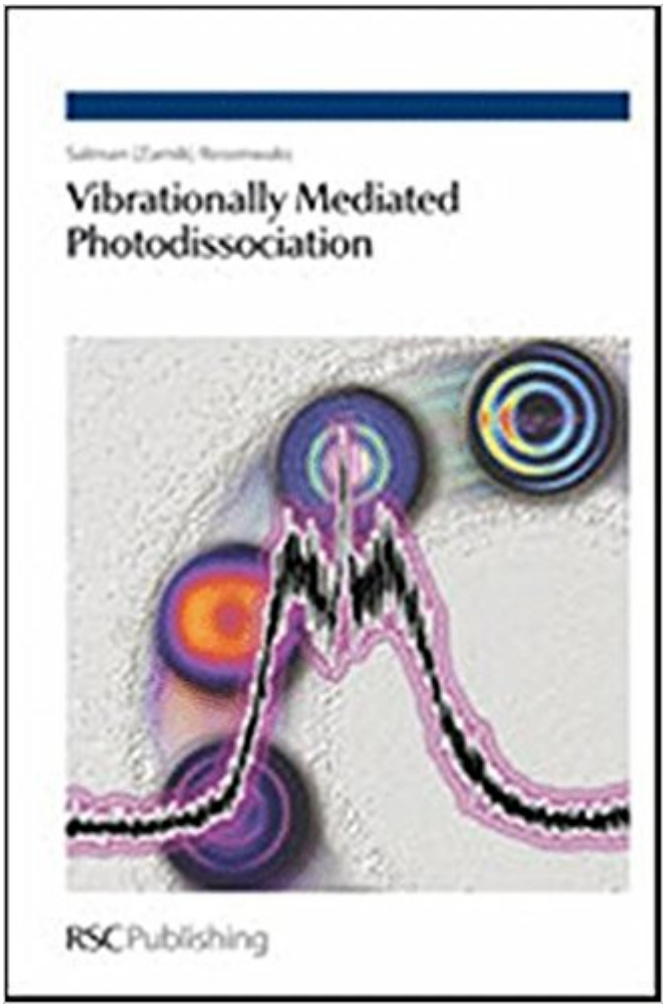
Vibrationally Mediated Photodissociation: RSC



Synopsis

Vibrationally Mediated Photodissociation (VMP) deals with the influence of vibrational excitation of the ground electronic state of a molecule on its dissociation following excitation of this state to a higher electronic state. Aimed at students and academics, this is the first book devoted to the effect of vibrational pre-excitation on molecular dynamics in the gas phase. In particular, it deals with the influence of this excitation on the dissociation of molecules (ie: on the branching ratio between the dissociation products and its dependence on the vibrational state being excited). The effect in the gas phase has been extensively studied, both theoretically and experimentally and encompasses diverse areas of chemical physics. This monograph presents the methodology of VMP, using state-of-the-art specific examples. Overviews of earlier works are included as well, to serve as a background for current research. Wherever appropriate, original works are quoted, including the original drawings. The contents include a brief review of theoretical and experimental methods relevant to VMP and specific examples. Also included are a bibliography, author and subject index. From the description of the motivation, the approach, the execution of the experiment and the analysis of the results of the specific examples, the reader will get a comprehensive understanding of the field. The book is aimed at senior undergraduate and graduate students of chemistry and physics. It serves as an introduction to VMP for beginners and as a literature guide to those acquainted with the subject but not necessarily working on VMP.

Book Information

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Customer Reviews

"This book provides a comprehensive review of vibrationally mediated photodissociation studies of neutral molecules in the gas phase.""This is an excellent reference for prectitioners in the field. It is also a good supplementary text for graduate or advanced undergraduate classes." (JACS, 2009, 131, 17720 - 17720)

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