MULTIPLE PATHWAYS IN THE VIBRATIONAL AUTOIONIZATION OF THE BENDING OVERTONES OF FORMYL RADICAL.

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Selected individual rotational levels in vibrational bands of the Renner-Teller split (020) and (030) systems in the $3p\pi\ ^2\Pi$ Rydberg state of HCO have served as originating levels for vertical second-photon transitions to vibrationally autoionizing Rydberg series. Spectra of individual rotational levels associated with the $(02^00)$ and $(02^20)$ as well as the $(03^10)$ and $(03^30)$ states of $HCO^+$ were obtained. Linewidths of assigned series convey information on autoionization dynamics. Series extrapolations determine anharmonic terms in the $HCO^+$ bending potential.