

INFRARED SPECTROSCOPY OF SIZE-SELECTED PROTONATED MOLECULAR CLUSTERS

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Protonated molecular clusters such as $(\text{H}_2\text{O})_n\text{H}^+$, $(\text{CO}_2)_n\text{H}^+$, and $(\text{C}_2\text{H}_2)_n\text{H}^+$ are formed in a pulsed electric discharge of a supersonic expansion. The ions are mass selected and fragmented upon resonant vibrational excitation with the output of a tunable infrared OPO. The infrared spectra of these species provide valuable insight into the dynamics of the solvated proton.