INFRARED SPECTROSCOPY OF SIZE-SELECTED PROTONATED MOLECULAR CLUSTERS

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Protonated molecular clusters such as $(H_2O)_nH^+$, $(CO_2)_nH^+$, and $(C_2H_2)_nH^+$ 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 valuble insight into the dynamics of the solvated proton.