

BENCHMARKING APPARATUS FOR PRODUCTION OF PROTONATED SPECIES

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Molecular ions and radicals are important in astrochemical processes, but difficult to study in the lab. This talk will present benchmarking experiments on the production of protonated species of astrochemical relevance in the interstellar medium. We will be presenting on two apparatus. The first of these is a hollow cathode based on the designs of Amano and coworkers. Here, the precursor species and hydrogen are flowed through a plasma discharge to produce protonated species. In the other, hydrogen is converted to H_3^+ and then combined with the precursor gas. In both of these experiments, we use a long path length to increase absorbance, increasing the signal-to-noise ratio of the spectra.