

Supporting information

Formation of H_2^+ by Ultra Low energy Collisions of Protons with Water Ice Surfaces

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Supporting information 1

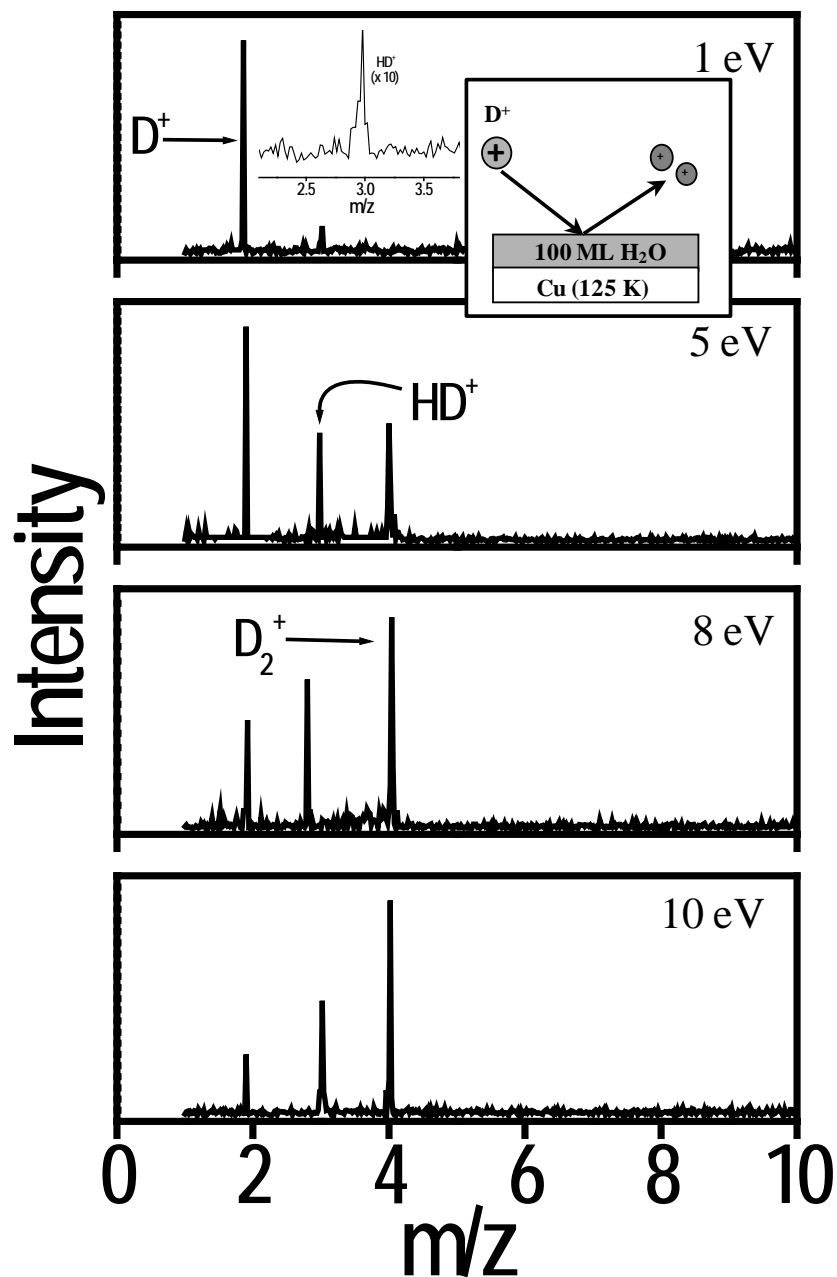


Figure S1. Mass spectra observed upon the collision with varying energy (1, 5, 8 and 10 eV) D^+ ion on cASW at 125 K, immediately upon ion impact. At the 1 eV energy, the HD^+ signal is expanded 10 times to show it properly.

Supporting information 2

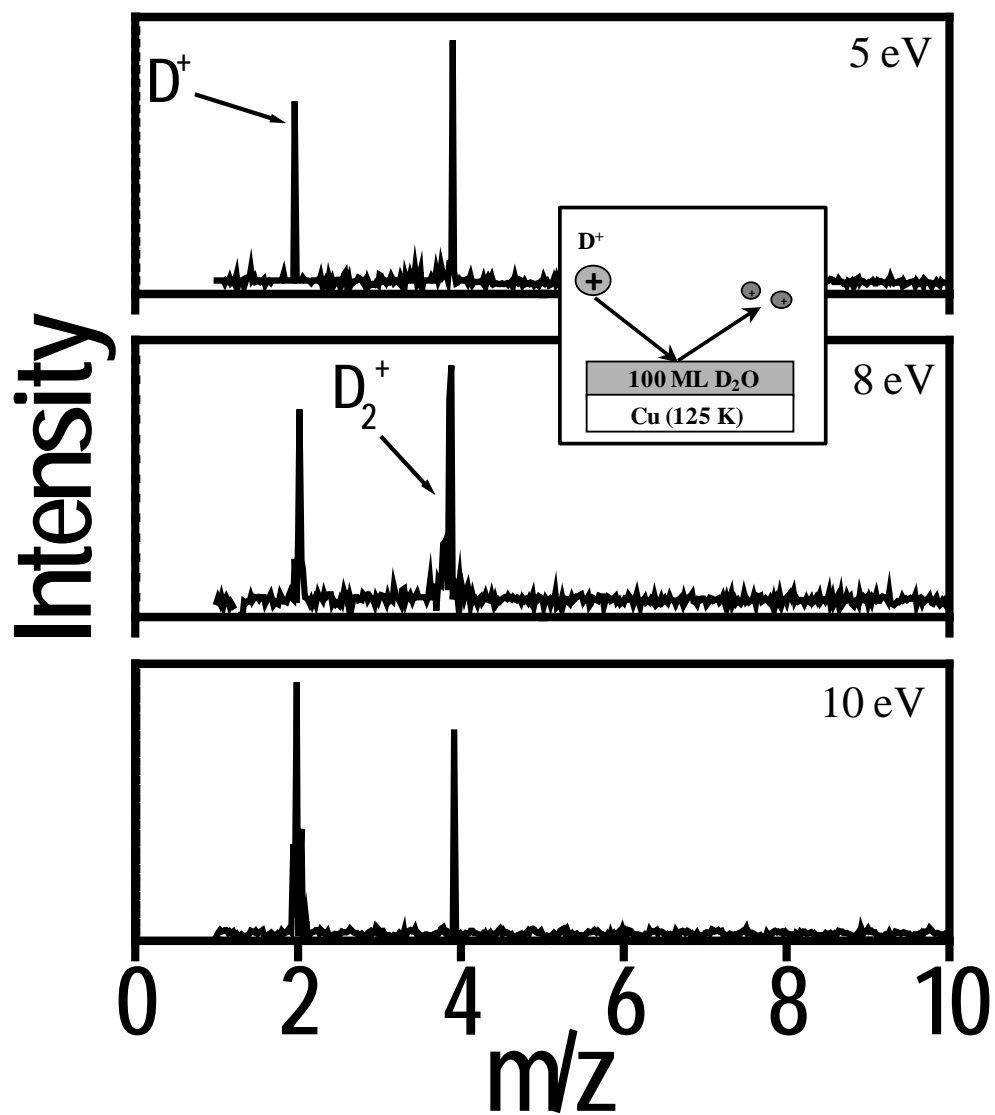


Figure S2. Mass spectra observed upon collision with varying energy (5, 8 and 10 eV) D⁺ ion on solid D₂O at 125 K. The data were collected immediately after ion exposure.

Supporting information 3

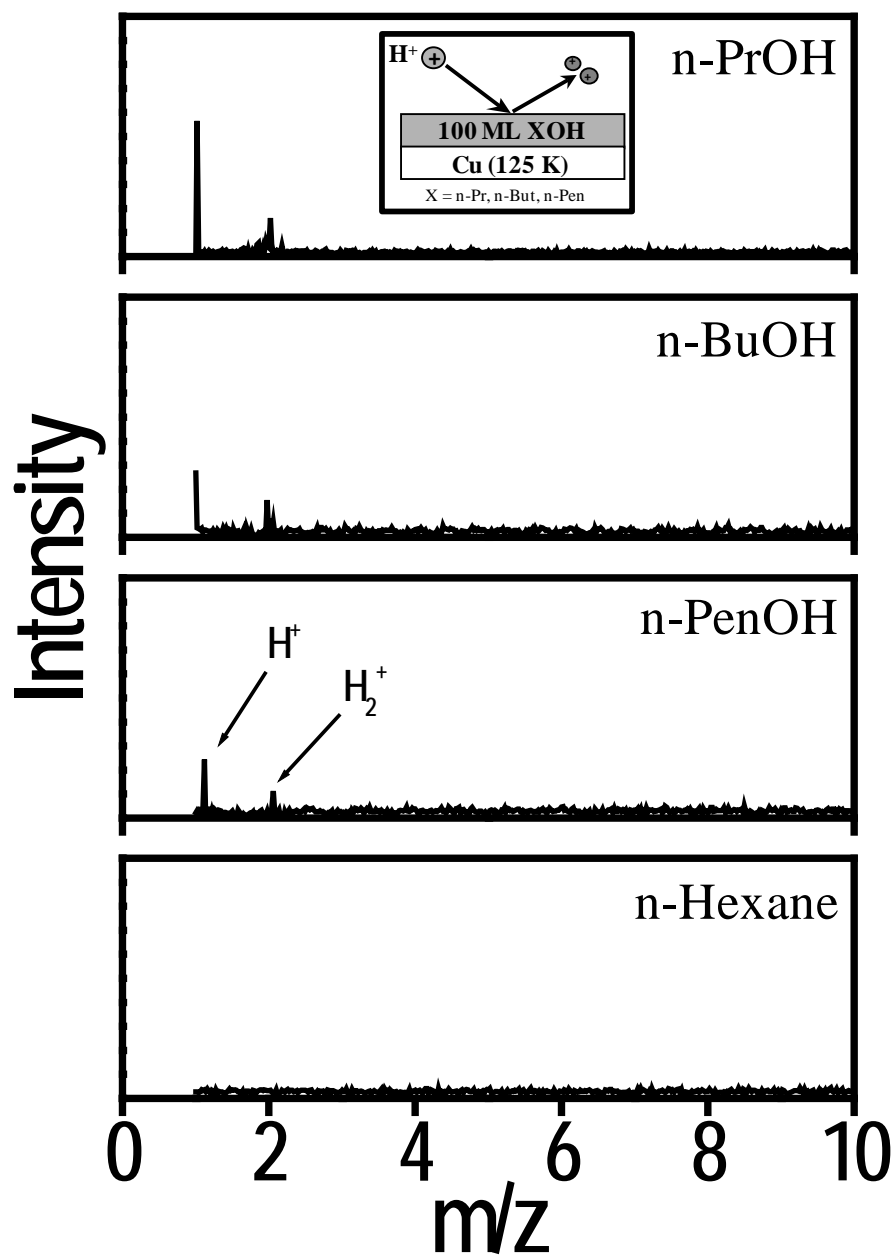


Figure S3. Mass spectra observed immediately upon collision using 2 eV H⁺ ion on solid alcohols and n-hexane at 125 K. Inset shows the simplified representation of the process.

Supporting information 4

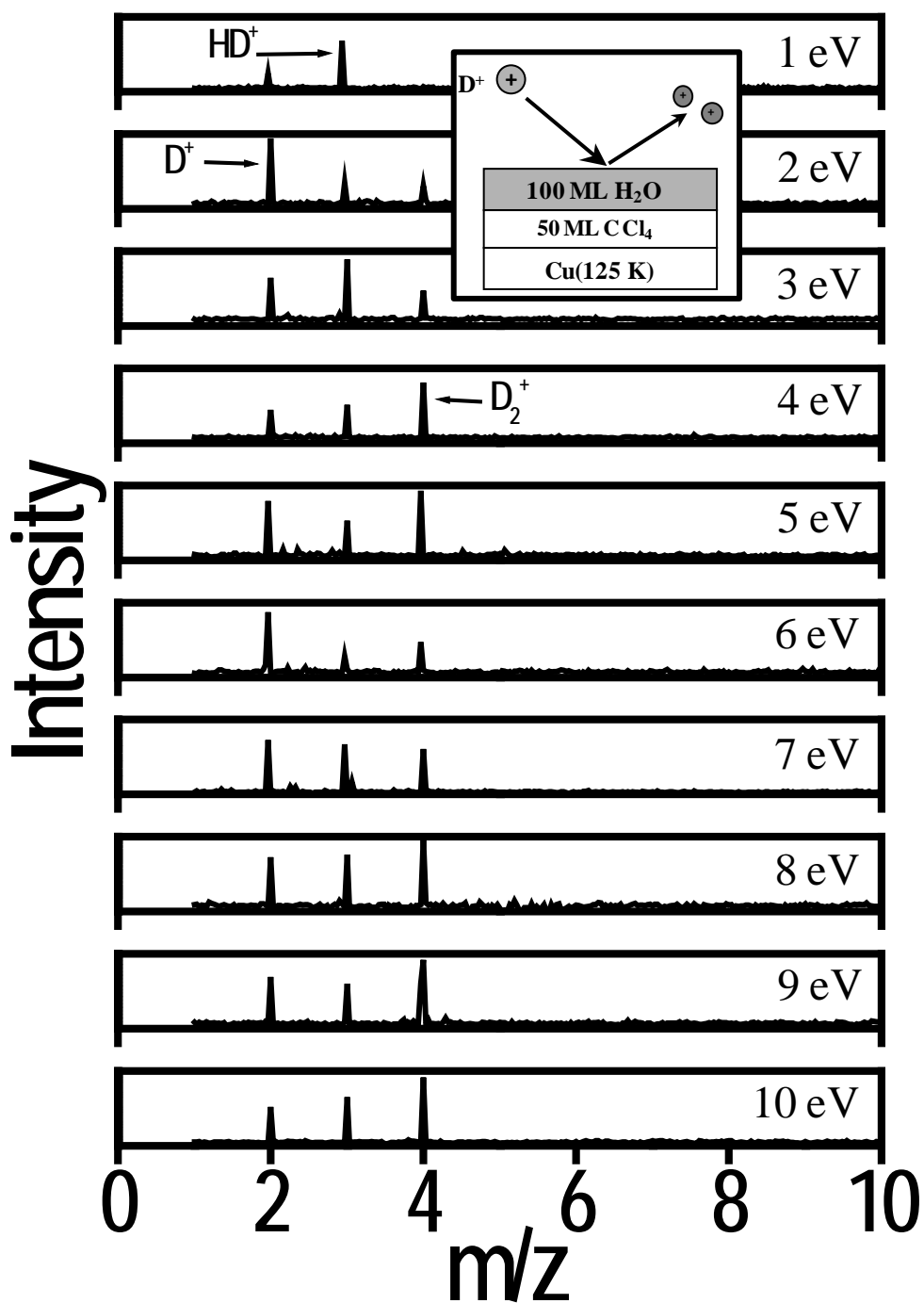


Figure S4. Mass spectra observed upon collision with varying energy D⁺ ion on 100 ML of cASW generated on 50 ML of CCl₄ at 125 K.

Supporting information 5

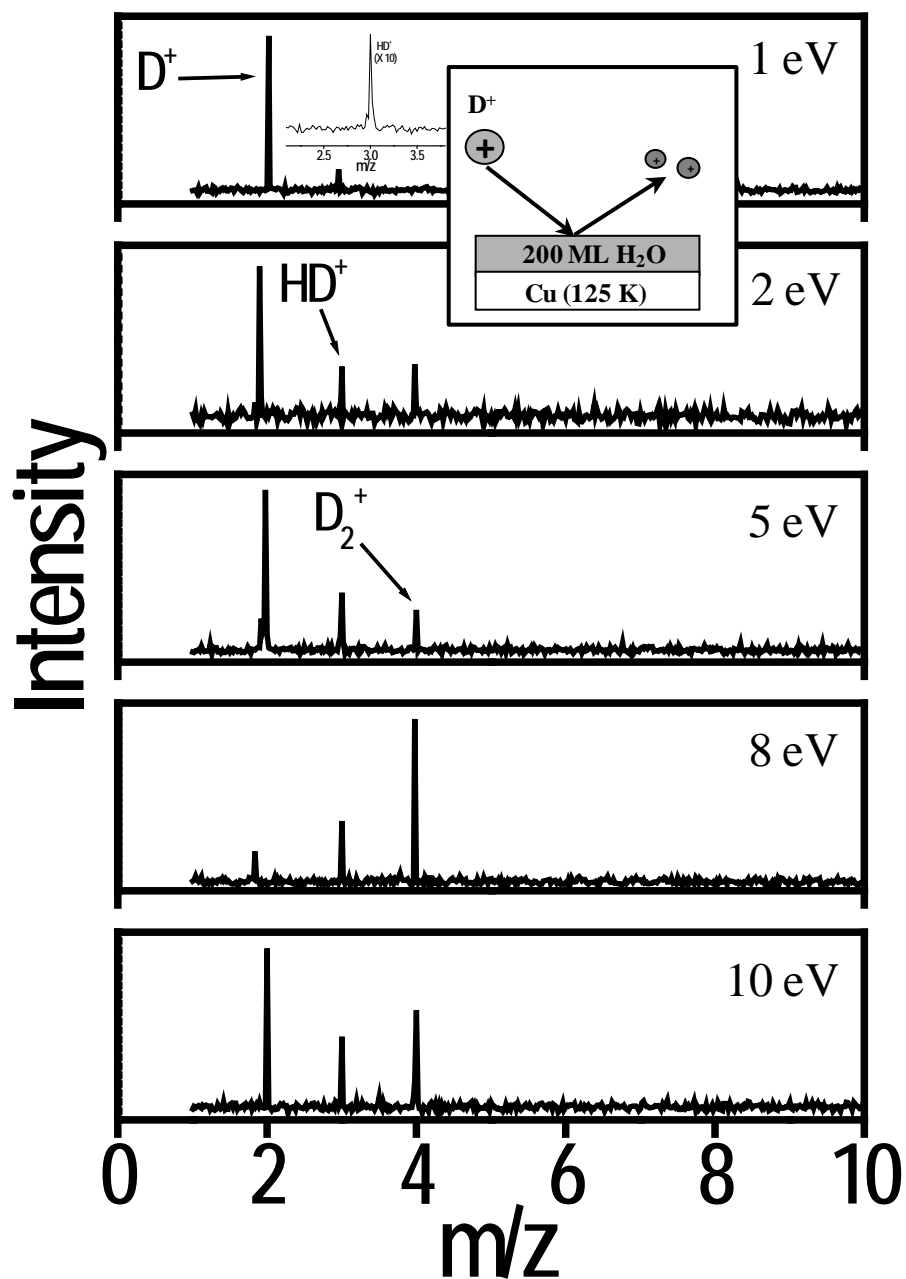


Figure S5. Mass spectra collected upon the collision of D^+ at various energies on 200 ML cASW at 125 K, immediately upon ion impact. The product, HD^+ upon the 1 eV D^+ collision on cASW is expanded to see the feature clearly.