Abstract Submitted
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Absolute cross sections for dissociative electron attachment to acidic molecules[1] MICHAEL ALLAN, DUSAN KUBALA, OLIVIER MAY, University of Fribourg — The molecules studied span the range from very strong to very weak acids, *i.e.*, HCl and HBr, HCOOH, CH_3OH, HCN and C_2H_2, including the deuterated isotopomers. The results are compared to available calculations where available – the nonlocal resonance model [1] for diatomics, the *ab initio* truly three dimensional calculation for HCN and C_2H_2 [2] and the pseudo-diatomic R-matrix calcualtion for HCOOH [3]. The step-like structures at openings of the X-H stretch vibrational excitation channels are characteristic for the stronger acids, but absent for the weak acids. Structure due to vibrational excitation of the CN^- fragment is observed for HCN.

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[3] G. A. Gallup, P. D. Burrow, I. I. Fabrikant, Phys. Rev. A **79**, 042701 (2009).

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