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【612】 Dissociative fragmentations in the 2-deoxy-2-fluoro-D-glucose molecule induced by low-energy electrons

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2-deoxy-2-fluoro-D-glucose (FDG) is a glucose analog with the hydroxyl group at C2-position replaced by a fluorine atom and has been proposed as a potential radiosensitizer. Herein we present our findings on electron-induced dissociations in FDG upon low-energy electron attachment in the gas phase using a crossed electron/molecular beam setup. The experiment was carried out within the energy range of 0–12 eV. We observe the formation of negative ions from several fragmentation pathways, which are mostly associated with multiple bond cleavages within the FDG molecule. The most abundant anion was found to be $C_3H_3O_2^-$. The experimental results are supported by quantum chemical calculations.

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