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Author: Hubert Latappy Joël Lemaire Michel Heninger

Essyllt Louarn Elsa Bauchard Hélène Mestdagh

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ACCEPTED MANUSCRIPT

Protonated 1,4-difluorobenzene C₆H₅F₂⁺:

A promising precursor for proton-transfer chemical ionization.

Hubert Latappy^{a,b}, Joël Lemaire^a, Michel Heninger^{a,b}, Essyllt Louarn^a, Elsa Bauchard^b, Hélène Mestdagh^{a*}.

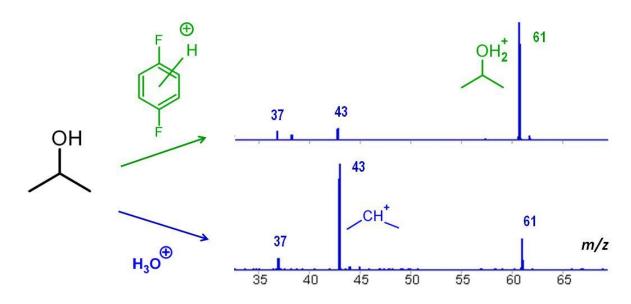
^a Laboratoire de Chimie Physique, Université Paris-Sud / CNRS (UMR 8000), Bât.350, Université Paris-Sud, F-91405 Orsay, France.

E-mail address: helene.mestdagh@ u-psud.fr

HIGHLIGHTS:

- Protonated 1,4-difluorobenzene C₆H₅F₂⁺ is a soft PTR reagent for oxygenated VOCs.
- Protonated 1,4-difluorobenzene induces less fragmentation than H₃O⁺.
- Trace analysis in air using $C_6H_5F_2^+$ has been performed on standard VOC mixture.

GRAPHICAL ABSTRACT



^b AlyXan, 3 Avenue Condorcet, 91260 Juvisy-sur-Orge, France.

^{*} Corresponding author. Tel: +33 (0) 1 69 15 56 08; fax: +33 (0) 1 69 15 61 88

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