Title: DEVELOPMENT AND VALIDATION OF A HS/GC-MS METHOD FOR THE SIMULTANEOUS ANALYSIS OF DIACETYL AND ACETYLPROPIONYL IN ELECTRONIC CIGARETTE REFILLS

Authors: Sophia Barhdadi, Michaël Canfyn, Patricia Courselle, Vera Rogiers, Tamara Vanhaecke, Eric Deconinck

PII: S0731-7085(16)31467-4
DOI: http://dx.doi.org/doi:10.1016/j.jpba.2017.04.050
Reference: PBA 11248

To appear in: *Journal of Pharmaceutical and Biomedical Analysis*

Received date: 22-12-2016
Revised date: 27-4-2017
Accepted date: 29-4-2017

Please cite this article as: Sophia Barhdadi, Michaël Canfyn, Patricia Courselle, Vera Rogiers, Tamara Vanhaecke, Eric Deconinck, DEVELOPMENT AND VALIDATION OF A HS/GC-MS METHOD FOR THE SIMULTANEOUS ANALYSIS OF DIACETYL AND ACETYLPROPIONYL IN ELECTRONIC CIGARETTE REFILLS, Journal of Pharmaceutical and Biomedical Analysishttp://dx.doi.org/10.1016/j.jpba.2017.04.050

DEVELOPMENT AND VALIDATION OF A HS/GC-MS METHOD FOR THE SIMULTANEOUS ANALYSIS OF DIACETYL AND ACETYLPROPIONYL IN ELECTRONIC CIGARETTE REFILLS.

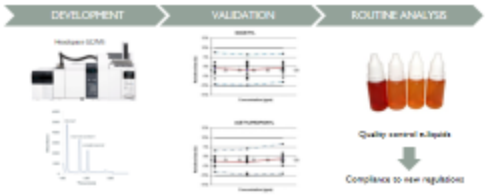
Sophia Barhdadi[a,b], Michaël Canfyn[a], Patricia Courselle[a], Vera Rogiers[b], Tamara Vanhaecke[b*], Eric Deconinck[a*]

[a] *Division of Food, Medicines and Consumer Safety, Section Medicines, Scientific Institute of Public Health (WIV-ISP), Juliette Wytsmanstraat 14, 1050 Brussels, Belgium;*

[b] *Department of In Vitro Toxicology and Dermato-Cosmetology (IVTD), Vrije Universiteit Brussel (VUB), Laarbeeklaan 103, B-1090 Brussels, Belgium*.

** Authors contributed equally to this work*

Graphical abstract



Highlights

- A HS/GC-MS method for diacetyl and acetylpropionyl in e-liquids was developed.
- The proposed method uses no prior derivatization.
- The method was successfully validated using accuracy profiles.
- Method is suitable for routine quality control analyses.

The use of e-cigarettes as alternative for tobacco cigarettes has become increasingly popular, even though their safety has not yet been scientifically established. One of the frequently raised concerns is the potential toxicity of certain flavours present in the e-liquids, such as diacetyl and acetylpropionyl. It is