

RETRACTION

View Article Online
View Journal | View Issue



Cite this: *Green Chem.*, 2022, **24**, 8156

Retraction: Design, synthesis, and evaluation of a highly effective and safe perfluoro-alternative with a "weak site": potassium 1,1,2,2,3,3,4,4-octafluoro-4-(perfluorobutoxy)butane-1-sulfonate

Rui Guo,^{a,b} Yangguang Gao^c and Guoxing Liu^d

DOI: 10.1039/d2gc90084j
rsc.li/greenchem

Retraction of 'Design, synthesis, and evaluation of a highly effective and safe perfluoro-alternative with a "weak site": potassium 1,1,2,2,3,3,4,4-octafluoro-4-(perfluorobutoxy)butane-1-sulfonate' by Rui Guo *et al.*, *Green Chem.*, 2022, **24**, 1114–1119, <https://doi.org/10.1039/D1GC04536A>.

We, the named authors, hereby wholly retract this *Green Chemistry* article due to concerns with the validity of the data presented.

In this article, the stability of F404K in the environment was investigated by measuring its degradation effected by H₂O₂. The degradation was measured by high resolution mass spectrometry data of the theoretical calculated value of C₄F₇O₄S²⁻ (*m/z* = 276.93915). However, the ionic fragment (C₄F₇O₄S²⁻) is also one of the mass fragments of the F404K standard; its relative abundance could be affected by values of collision voltage. We now doubt whether the ion peak detected following the degradation process of H₂O₂ is the degraded ion peak. Therefore, the degradation pathways in Fig. 5 should be further investigated and verified.

The conclusion "the ether bond in F404K can be destroyed by acid to give shorter-chain perfluoro compounds that are less toxic than PFOS and negatively affect the environment and human health to a lesser extent than PFOS" should be re-considered.

Signed: Rui Guo, Yangguang Gao and Guoxing Liu, 20th September 2022.

Retraction endorsed by Michael Rowan, Executive Editor, *Green Chemistry*.

^aHubei Key Laboratory of Environmental and Health Effects of Persistent Toxic Substances, Institute of Environment and Health, Jiangnan University, Wuhan 430056, China. E-mail: chyungrui@163.com

^bState Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China

^cInstitute for Interdisciplinary Research, Jiangnan University, Wuhan 430056, China

^dCollege of Science, Henan Agricultural University, Zhengzhou, Henan 450001, China

