

# Evaluation of polycyclic aromatic hydrocarbons in fermented dried sausages from the Serbian market

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4. međunarodni Kongres o sigurnosti i kvaliteti hrane

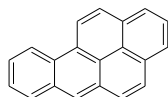
JEDNO ZDRAVLJE

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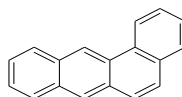
## Introduction

Polycyclic aromatic hydrocarbons (PAHs) are compounds that widely geographically distributed and remain in environment for a long time. Meat and meat products may be contaminated by PAHs through the process of food smoking.

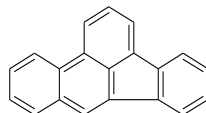
**Benzo(a)pyrene**  
BaP, Group 1  
Carcinogenic



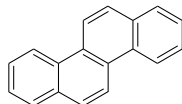
**Benzo(a)anthracene**  
BaA, Group 2A  
Possibly  
carcinogenic



**Benzo(b)fluoranthene**  
BbF, Group 2B  
Probably  
carcinogenic



**Chrysene, CHR**  
Group 3  
Not classifiable as to  
their carcinogenicity



## Results

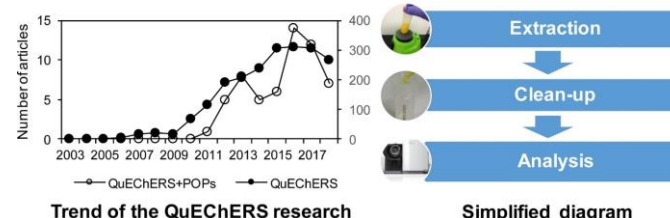
	Sausage			
Levels	n=56	n=103	n=37	n=32
(µg/kg)	Kulen	Cajna	Sremska	Budimska
BaP	< 0.1 – 0.5	< 0.1 – 1.0	< 0.1 – 0.4	< 0.1 – 0.3
PAH4	< 0.1 – 2.5	< 0.1 – 8.6	< 0.1 – 3.4	< 0.1 – 1.4



### EU / Serbian Regulation

Levels (µg/kg), max	Smoked meat products
BaP	2
PAH4	12

### QuEChERS (Quick, easy, cheap, effective, rugged, and safe)

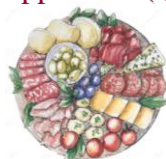


## Chemical structures, abbreviations and the IARC classification of PAHs (to humans)



## Materials and Methods

- ❖ Fermented dried sausages which are commonly consumed in Serbia (n=228, kulen, cajna, sremska and budimska sausage), collected from 2020 to 2021
- ❖ Samples were extract by acetonitrile
- ❖ Purification based on QuEChERS approach (Quick Easy Cheap Effective Rugged and Safe)
- ❖ Determination: GC MS/MS



## Conclusion

The maximum residue limits (MRL) for BaP and sum of PAH4 compounds, which were defined both by the legislation of Serbia and EU regulation were not exceed in analysed samples and hence pose no risk to consumers.

