

International Conference on SPICE Prevention Issues

25-26 September 2012, Frankfurt am Main

Analytical and clinical experiences – from product monitoring to drug testing

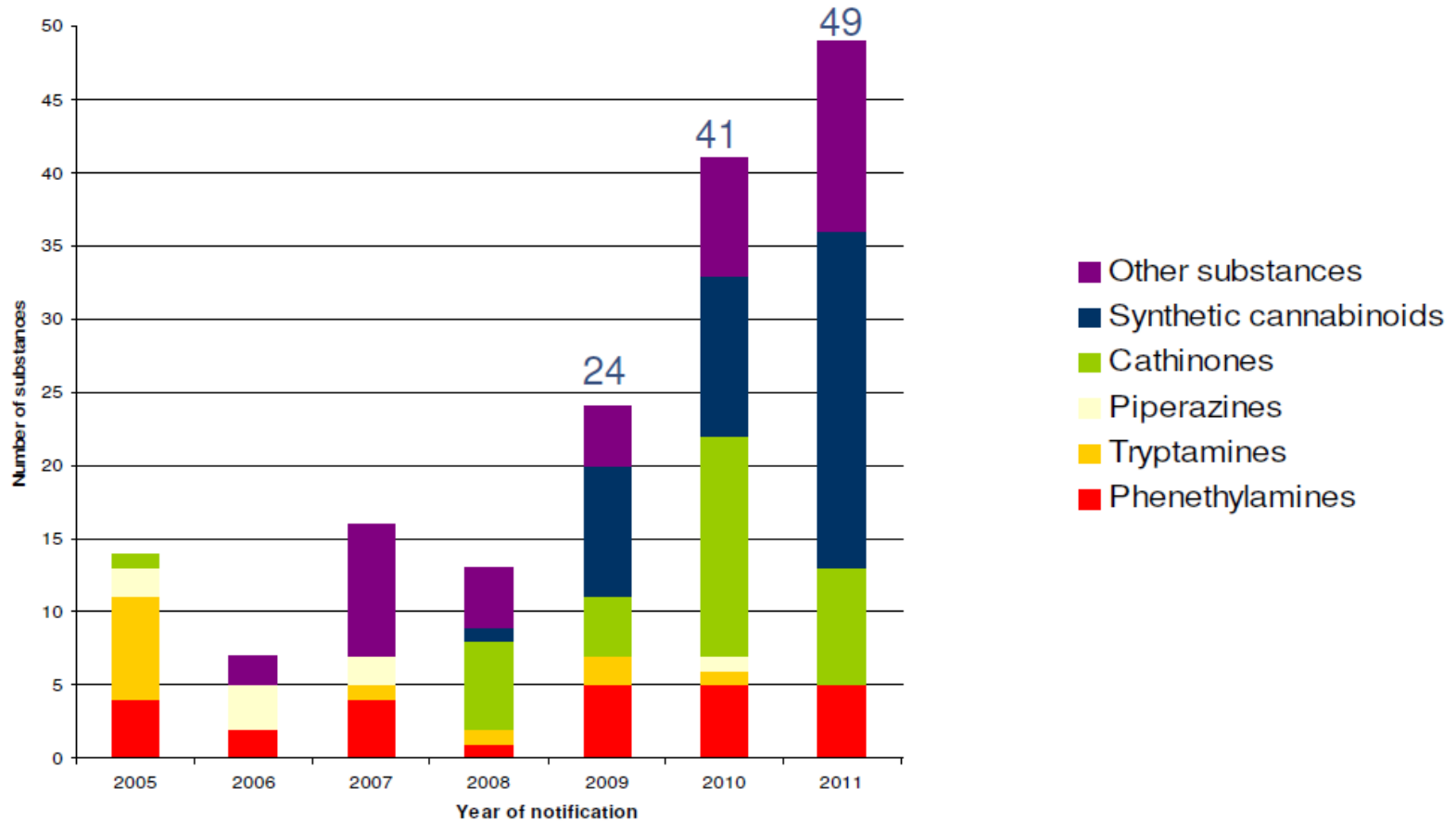
V. Auwärter, M. Hutter, S. Kneisel



Bundesministerium
für Gesundheit

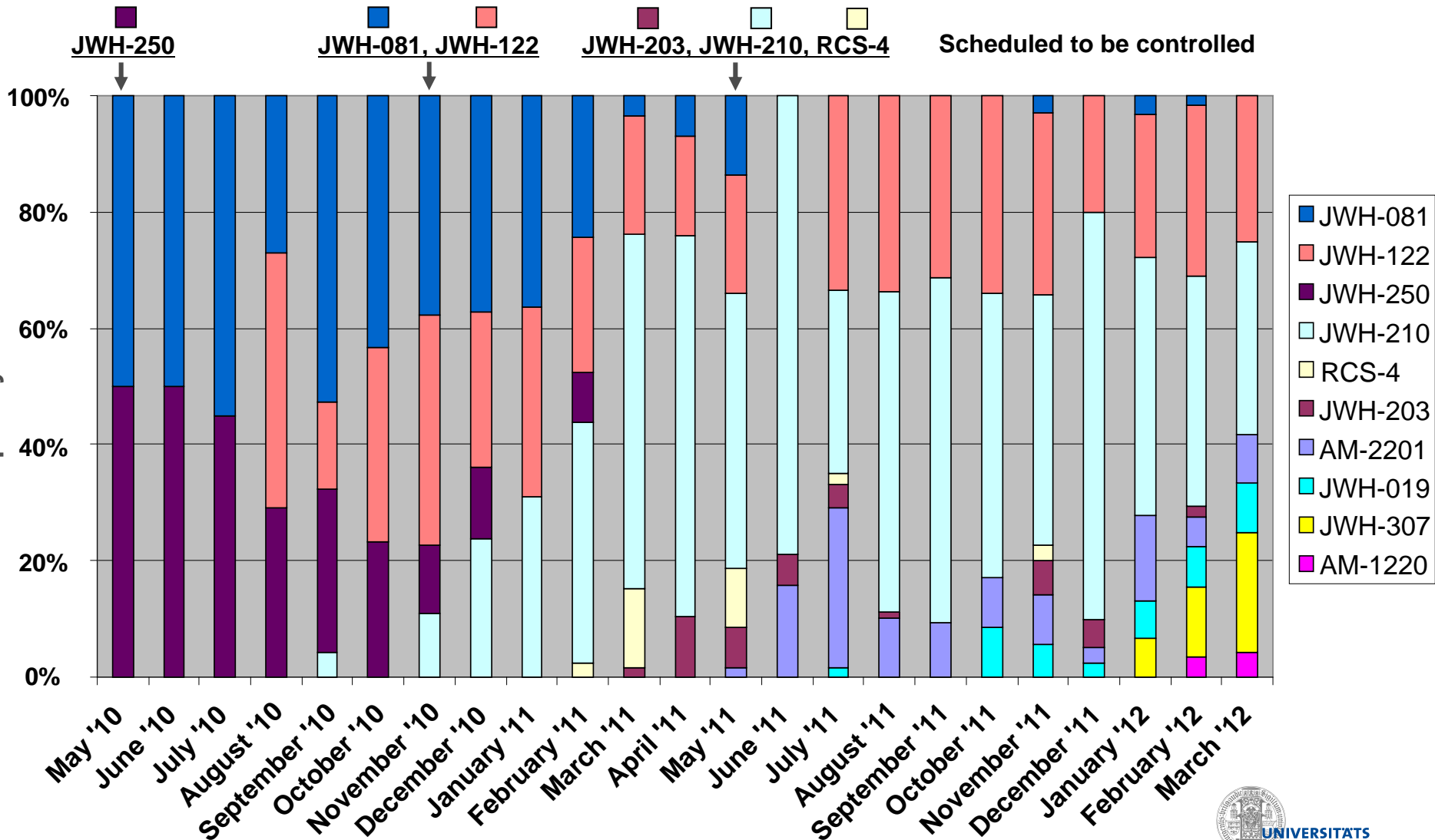


New psychoactive substances reported through the EWS

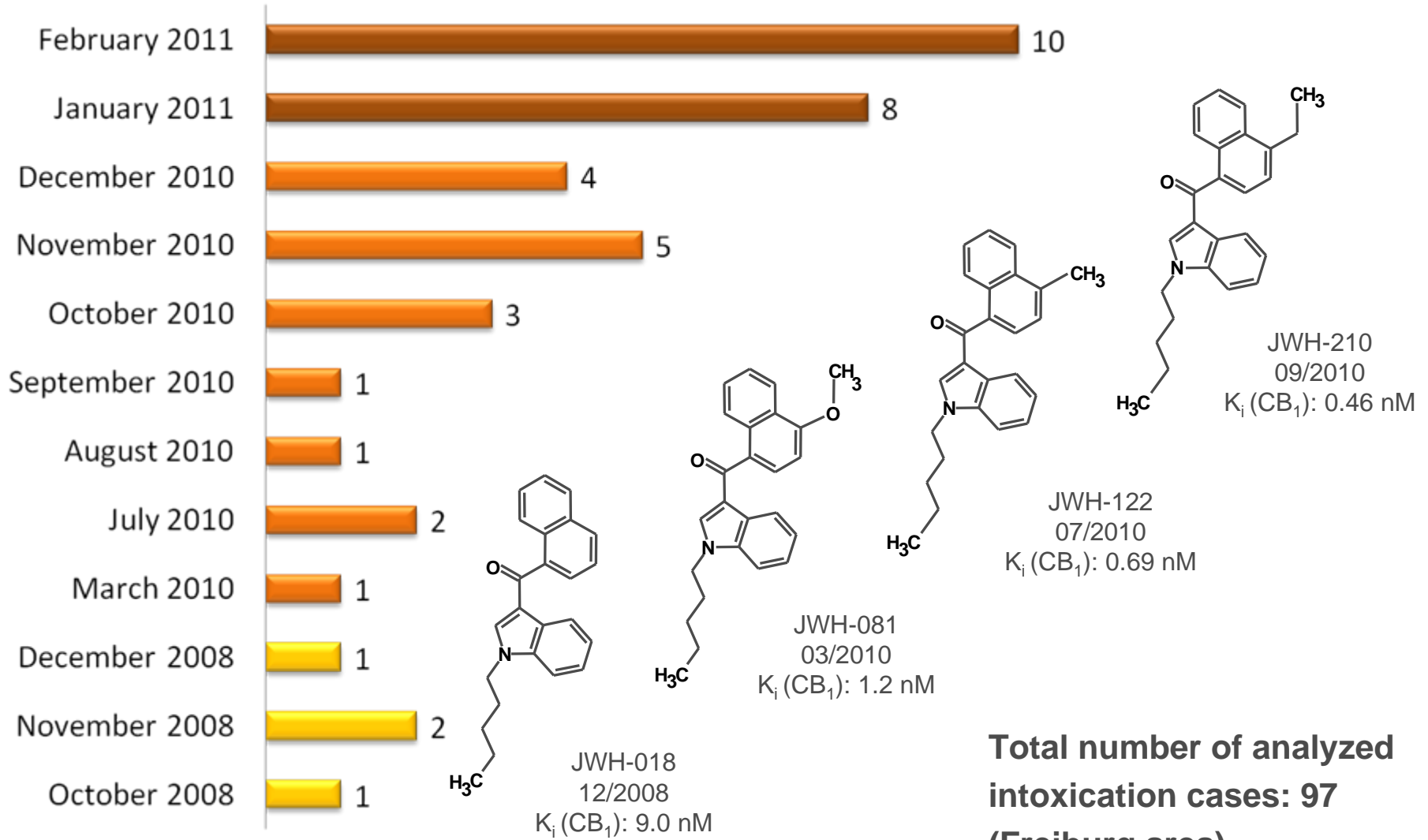


Results in positive serum samples (n = 734)

05/2010 – 03/2012 (selection of compounds)

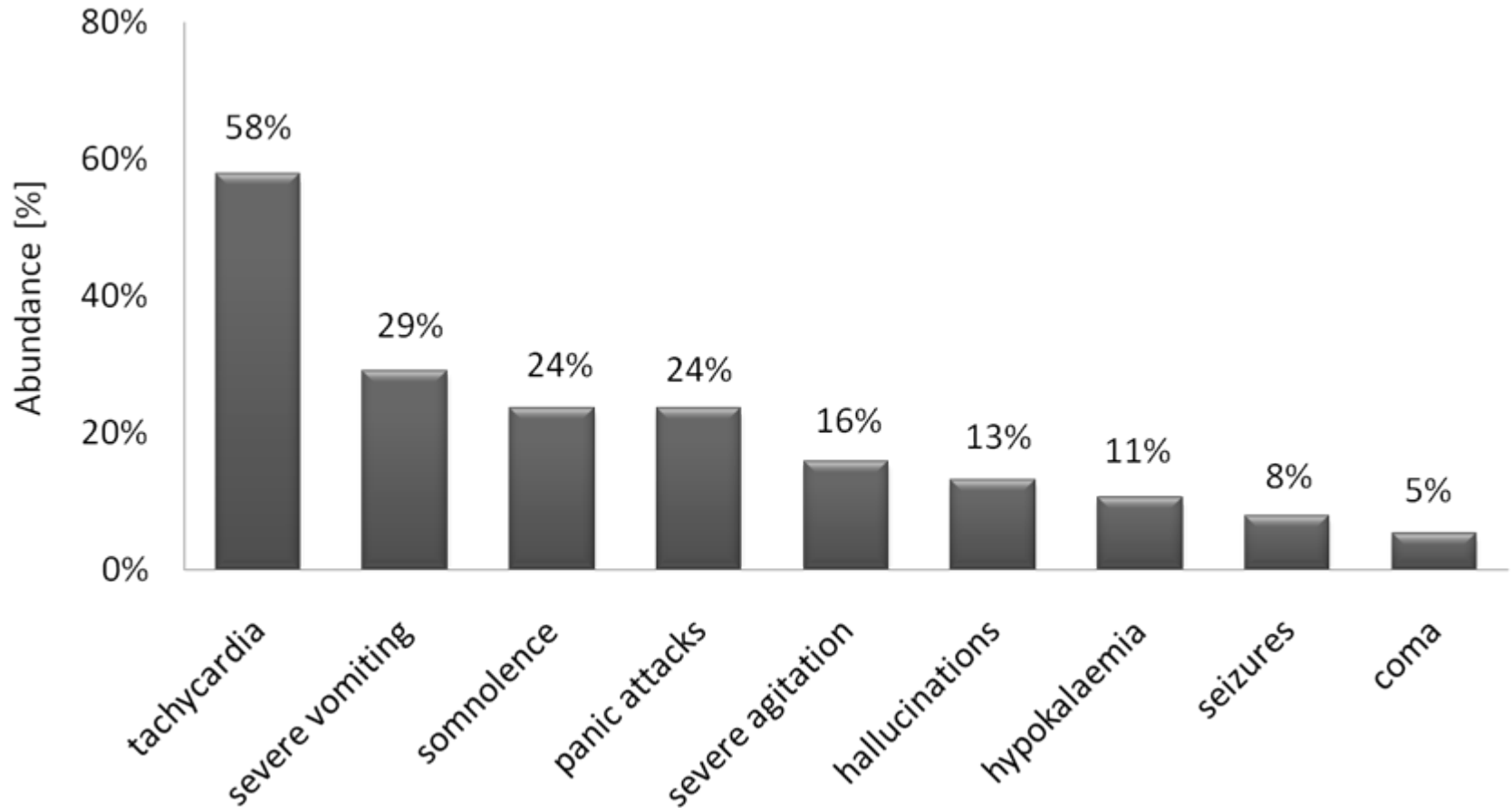


Intoxication cases (rescue centers)



**Total number of analyzed
intoxication cases: 97
(Freiburg area)**

Intoxication cases: Main symptoms



Risk potential

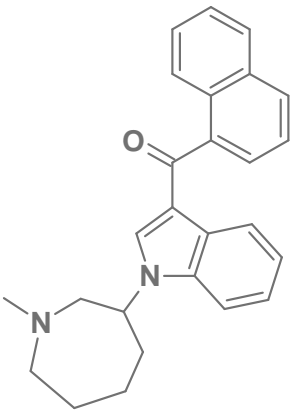
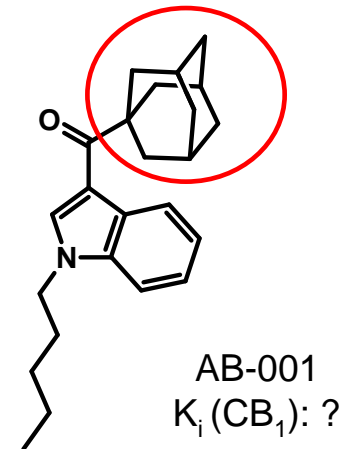
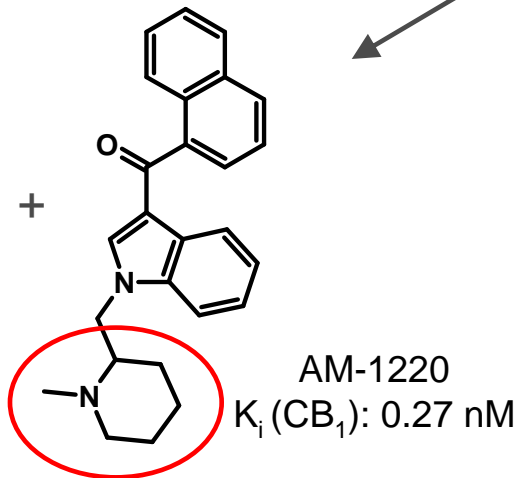
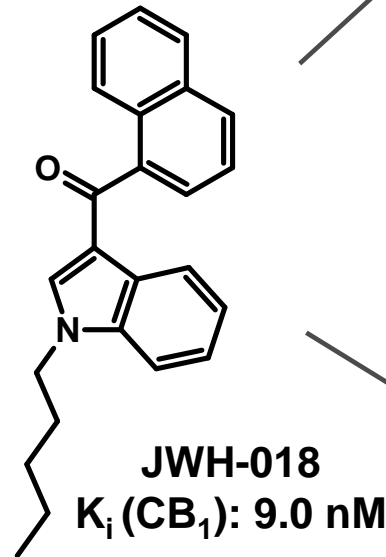
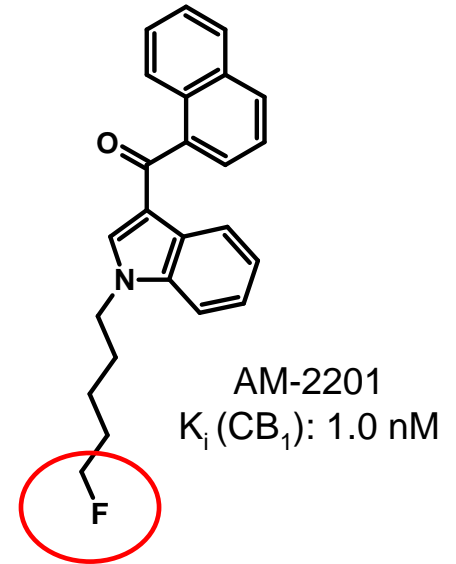
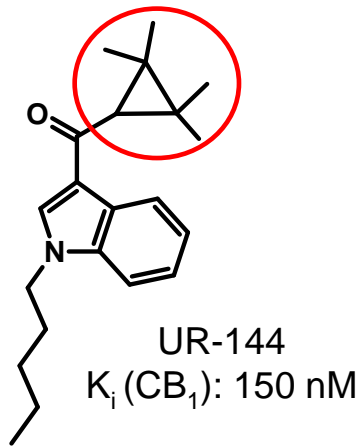
Acute effects:

- Seizures
- Vomiting & somnolence/coma => danger of aspiration!
- Tachycardia
- Psychosis
- Development of tolerance

Long term toxicity:

- ??? -> Redistribution, long terminal elimination half-lives

Examples for structural modifications




Analysis of synthetic cannabinoids in biomatrices


Blood (serum): 34 synthetic cannabinoids

 up to date, quantitative results -> clinical evaluation

 invasive

Urine: 15 synthetic cannabinoids (metabolites)

 non-invasive sampling, high sensitivity (long term detectability),

 'lag time' (metabolism), reference compounds, method development complex

Hair: Retrospective evaluation, contamination(?)

Oral fluid: Short term detectability (smoking), non-invasive

Why are analytical methods for blood/urine so important?

- One of the main motivations for SPICE consume is the 'non-detectability'
- Deterrent effects (e.g. forensic psychiatry, road traffic...)

Caution: Interpretation can be difficult due to redistribution effects (low concentrations...)

- Immunoassay based tests not satisfactory (so far)

Conclusions

- Use of synthetic cannabinoids is definitely more dangerous than cannabis use (potency, structural variety)
- First time consumers and high-dose users are most vulnerable
- Analytical methods are highly preventive but need to be updated regularly
- Systematic surveillance is absolutely necessary (quick changes on the market)

Acknowledgement

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volker.auwaerter@uniklinik-freiburg.de