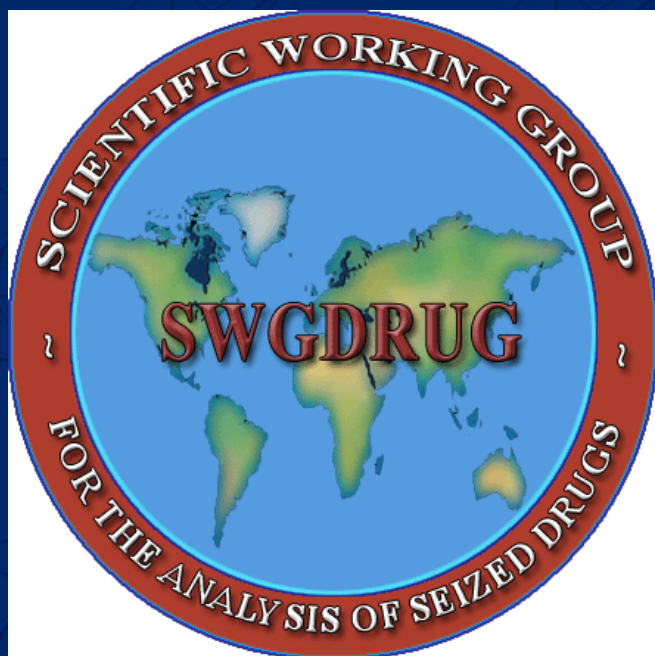


SWGDRUG Draft Recommendations on Analogues and Structural Class Determinations



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Problem

- Chemists are asked to determine whether chemicals encountered in evidence are analogues
- Chemists requested SWGDRUG to help with these determinations

Initial Discussions – July 2012

- Should SWGDRUG have a formal statement on analogues?
- Should SWGDRUG define what an analogue is or should the document only provide guidance on approach?
- Considerations:
 - Varied jurisdictional requirements
 - Ultimately the court decides as to whether a compound meets the legal definition

Initial Discussions

- Agreed that generally drug analysts can only discuss structural similarities
 - Physiological/pharmacological effects are significant but cannot be addressed by SWGDRUG
- Can we provide guidance to the community as to how to define structural similarity?
 - Subjective in nature
- Concentrate on emphasizing what a drug analyst can report and testify to during these cases

Your Opinion???

Methiopropamine



Methamphetamine



Analogue Sub-Committee

- Formed Analogue Sub-Committee to continue discussions and draft recommendations
- Members: Christian Matchett (chair), Linda Jackson, Scott Oulton, Robert Powers, Catherine Quinn, Sandra Rodriquez-Cruz and Udo Zerell

Discussions - January 2013

- Subjective nature of analogue determination
- Structural similarity is not indicative of pharmacological activity (or vice versa)
- What constitutes structural similarity?

???????

Goals for the Recommendation

- To provide general guidance on:
 - Differentiation of structural class determinations vs. analogue determinations
 - Documentation of evaluations of structural similarity
 - Reporting conclusions and opinions
 - Reporting qualifications and limitations

Introduction

- SWGDRUG considers it fundamental for analysts to fully understand how analogues and structural classes are legally defined in a particular jurisdiction prior to developing or reporting opinions.
- Such opinions should only be rendered by those with proper training and experience.

Analogues

- Legal requirements are defined
- Generally involve a similarity evaluation of structural and/or pharmacological properties to a known controlled substance
- Similarity is assessed in a variety of ways
- The evaluation should be documented:
 - Compared to what compound?
 - How similar?
 - How different?

Analogues

2.5.1 Evaluation of similarity is a subjective matter and opinions may differ.

2.5.2 Structural comparisons in a forensic laboratory are likely to be limited to the structural class and functional group, ring or chain substitutions. As examples, isomers, homologues, salt forms, esters and ethers may be considered. The scope of the comparison conducted should be made clear in the report.

Analogue Pharmacology

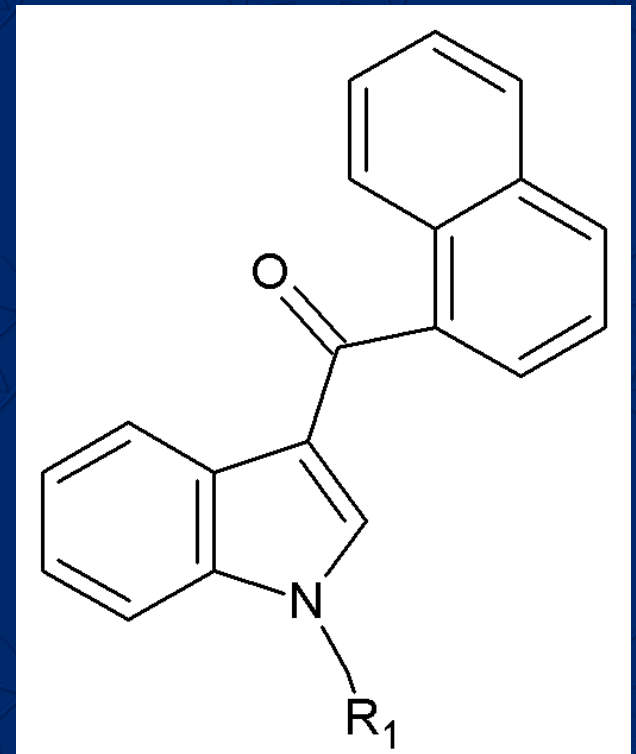
Structural Similarity \neq Pharmacological Activity

- Drug analysts should limit pharmacological activity testimony to the citation of peer-reviewed literature, or relevant sworn statements

Structural Class Determinations

- Chemical compounds are controlled based upon structural class definitions

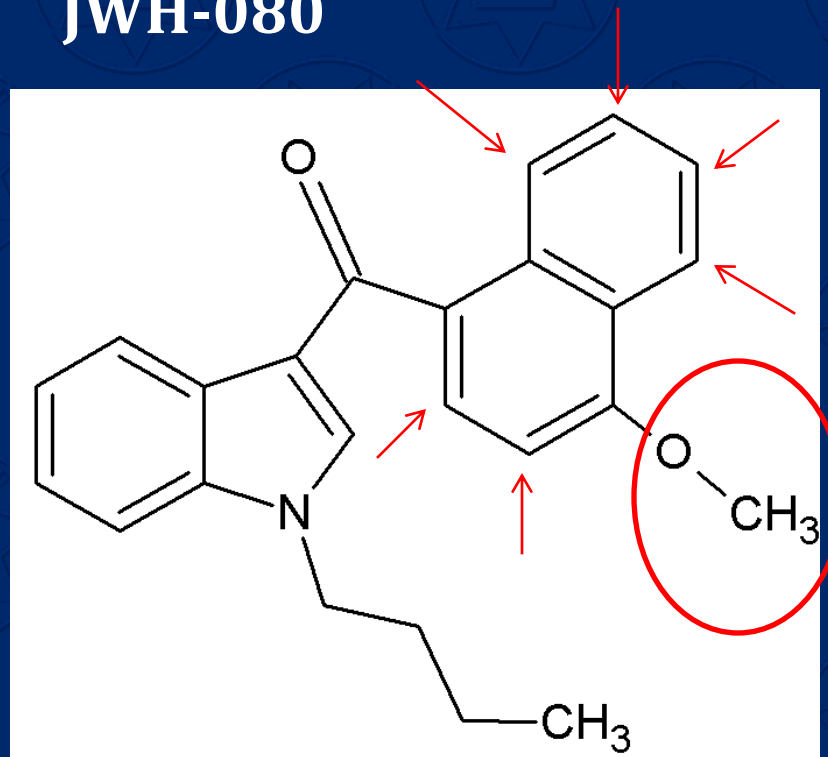
Example: “any substitution of **3-(1-naphthoyl)indole** at the indole ring or naphthoyl ring to any extent”



Structural Class Determinations

1. Identify a specific compound and assign the compound as a member of a legal structural class
2. Identify sufficient features of a compound to assign it as a member of a legal structural class without making a conclusive identification of that compound.

JWH-080



Any relevant limitations of the analytical scheme and resulting classification shall be clear in reporting.

Reporting

- All conclusions and opinions expressed in written or oral form shall be based on sufficient supporting evidence, data, or information.
- The basis of any conclusion should be completely documented in the case notes and summarized in the written report and subject to the laboratory's review policy.

Reporting

- Conclusions and opinions reported shall be accurate, clear, objective, and meet the jurisdictional requirements. The report must also include any assumptions or limitations (e.g. potentially exculpatory information), to allow the court to make the final decision.

Reporting

- The report should clearly indicate what elements of the legal requirements were evaluated and what elements were not evaluated.
- The scope of opinions and conclusions reported shall not go beyond the knowledge, training and experience of the analyst.

Please Comment!

- www.swgdrug.org/pending.htm
- Comment Period open until May 3, 2013

