THE UNIVERSITY of York

Tackling the Problem of Emerging Environmental Contaminants: Lessons Learnt from Pharmaceuticals

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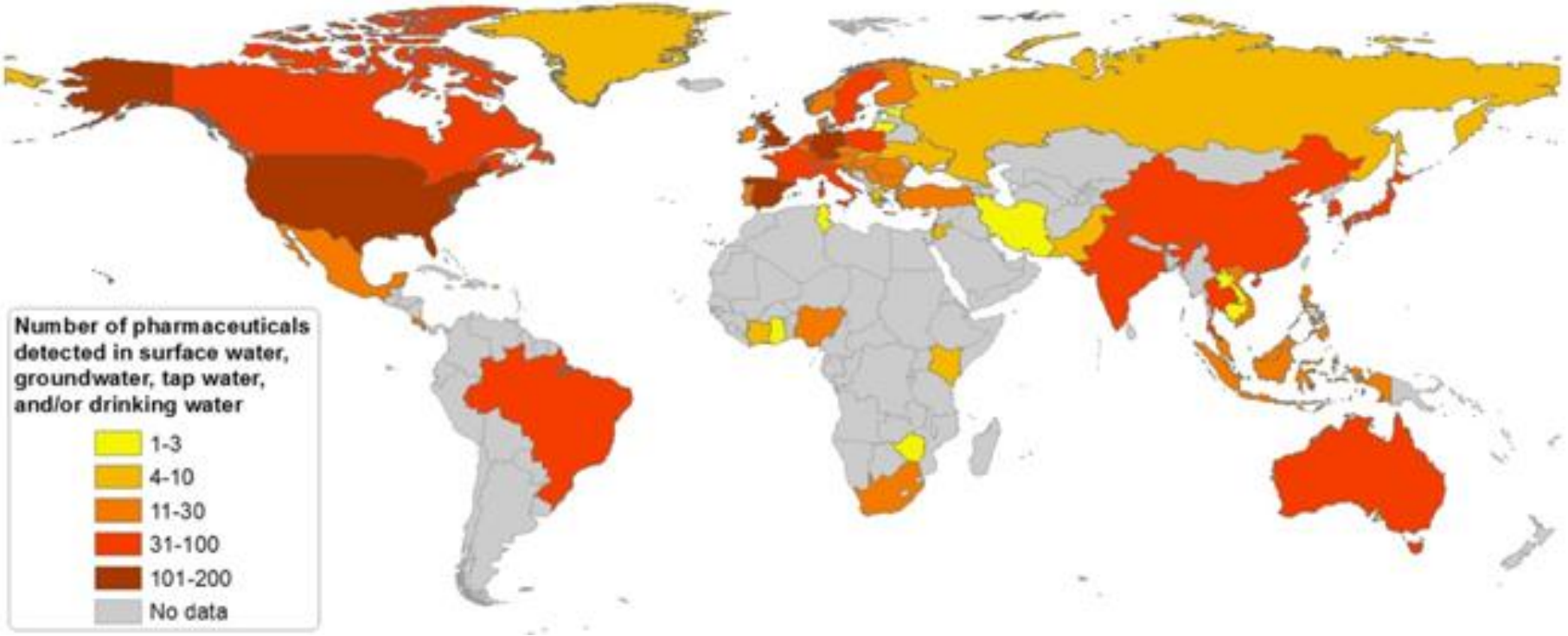
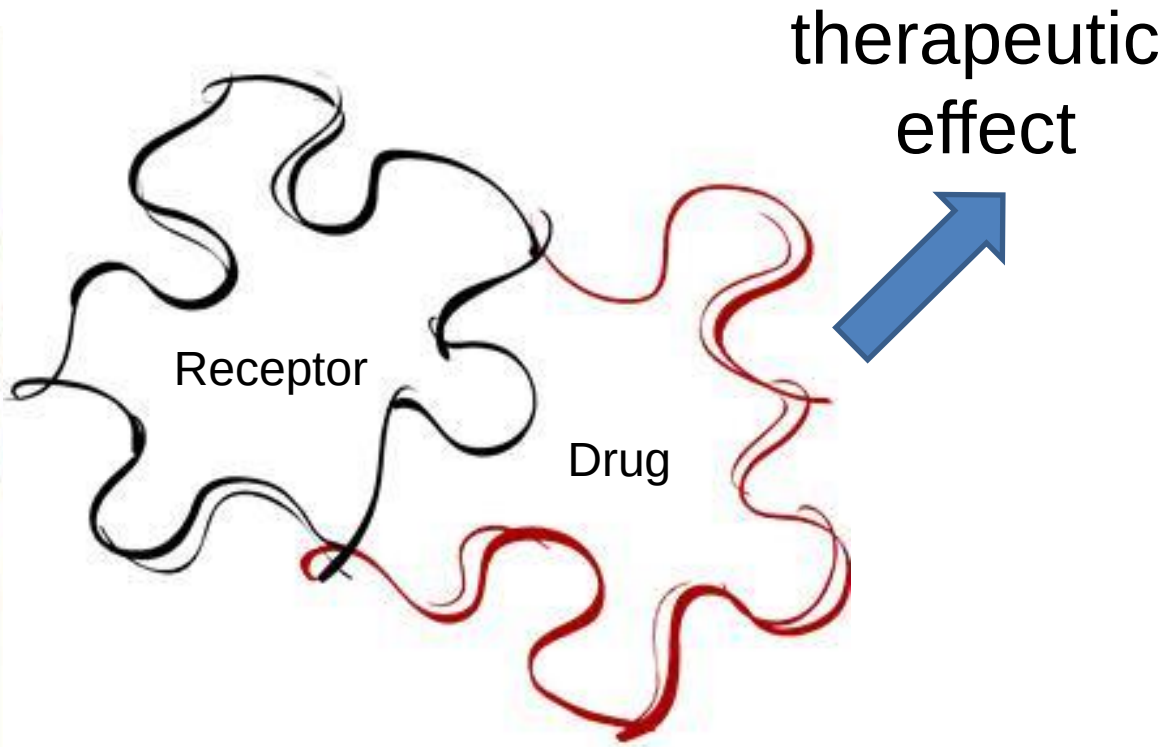
Global occurrence of pharmaceuticals

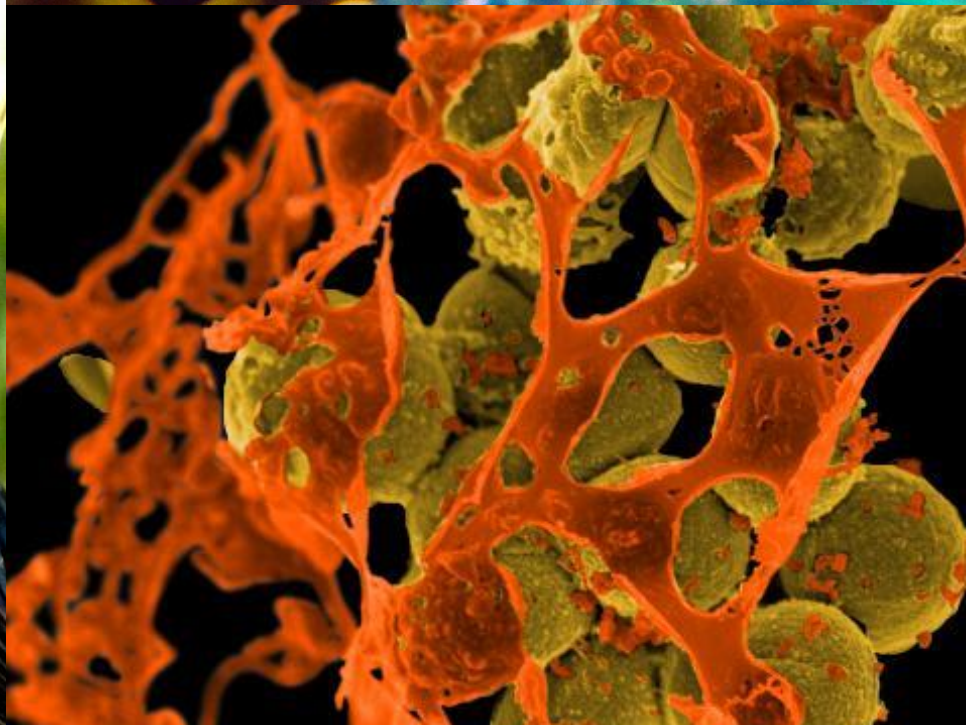


Aus der Beek et al., 2016

Drug receptors



Many receptors conserved in organisms in the natural environment



The bigger picture

Around 1500 active ingredients in use yet publically available chronic data only available for≈100 of these

Lonnie Hartley

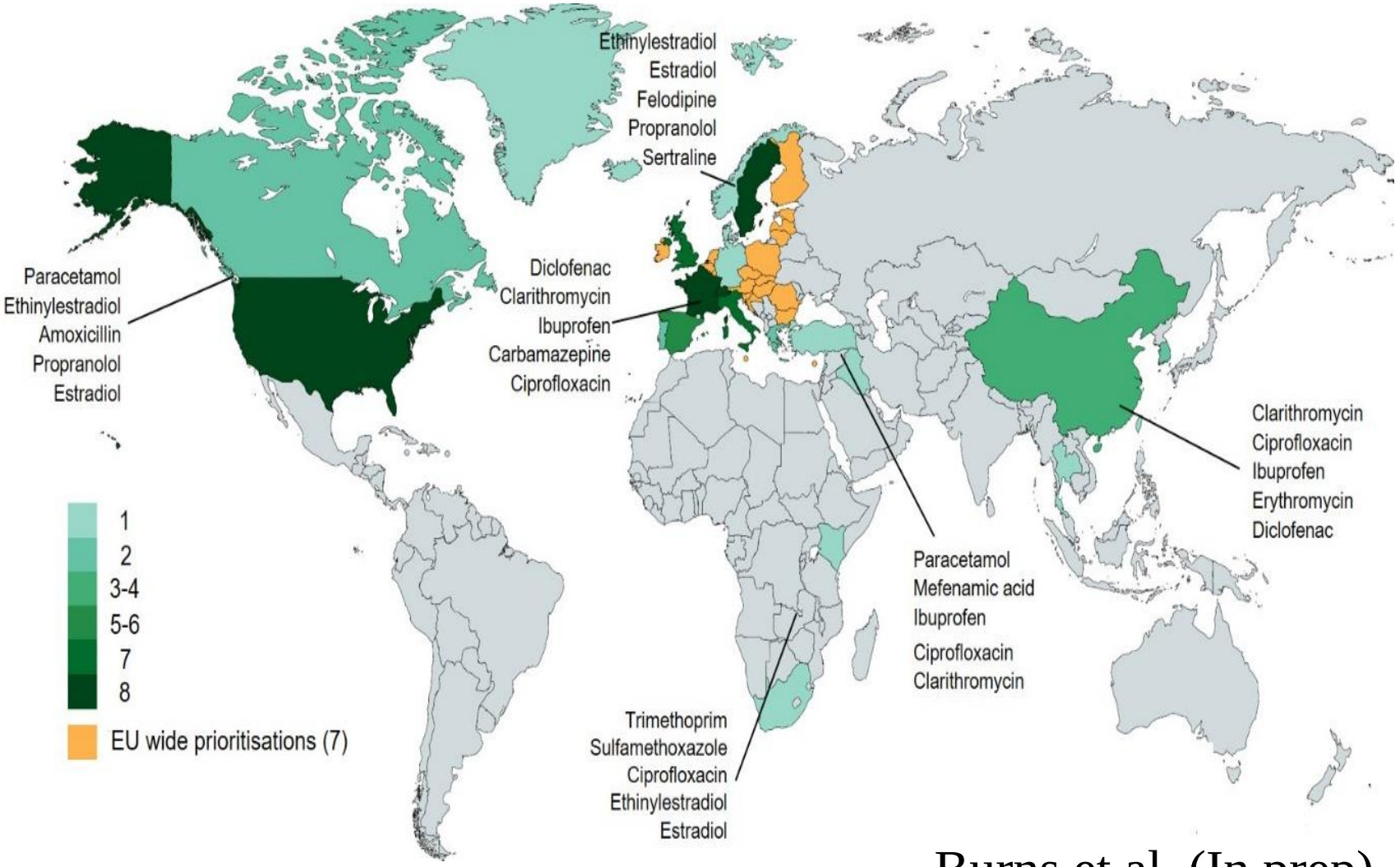
Dealing with the data gaps

>1500 Compounds

properties
usage
mode of action
side effects
models
therapeutic dose etc.

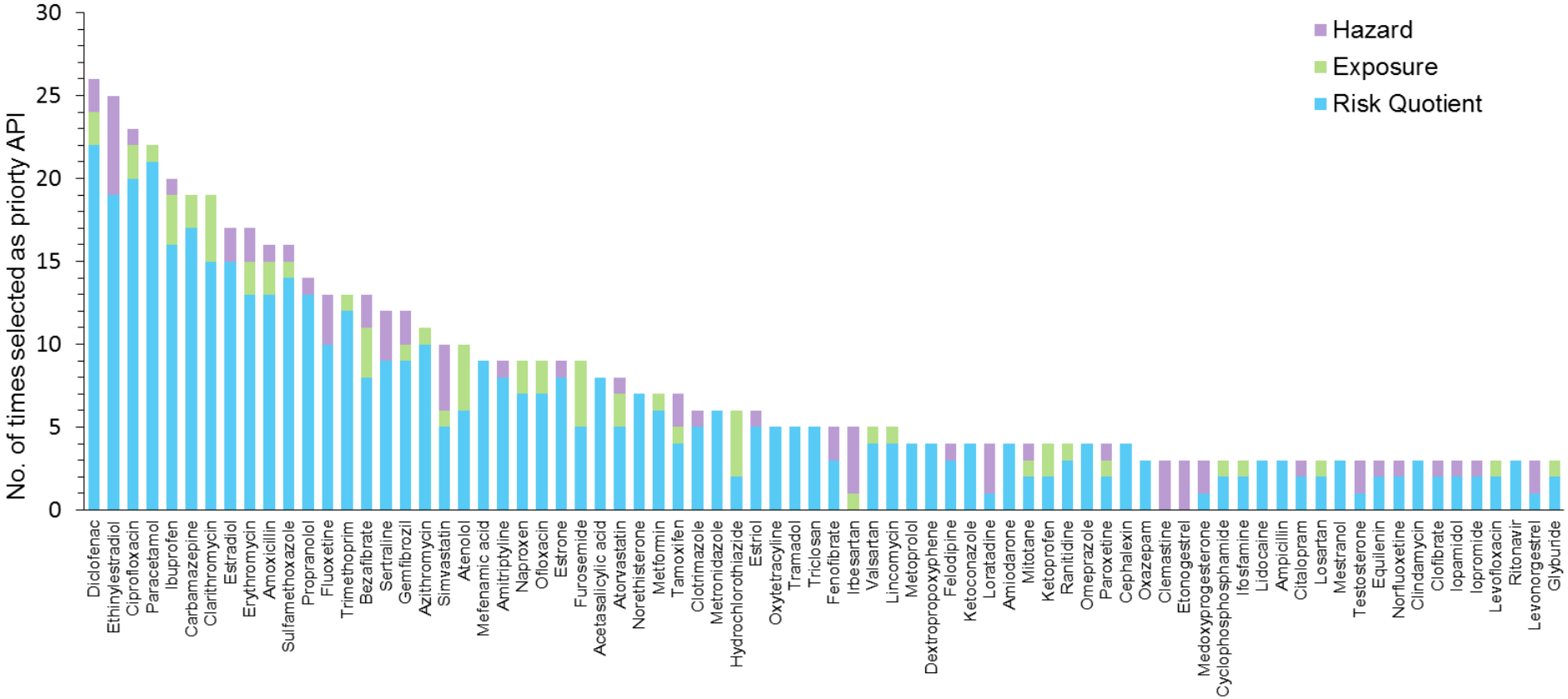
Compounds of most concern

Exercises to date



Burns et al. (In prep)

Pharmaceuticals that have been prioritised



Have we got the right substances?

- Existing methods not perfect
- Difficult to characterise emissions
- Real data difficult to get
- Parameters/assumptions/models used previously may be inappropriate

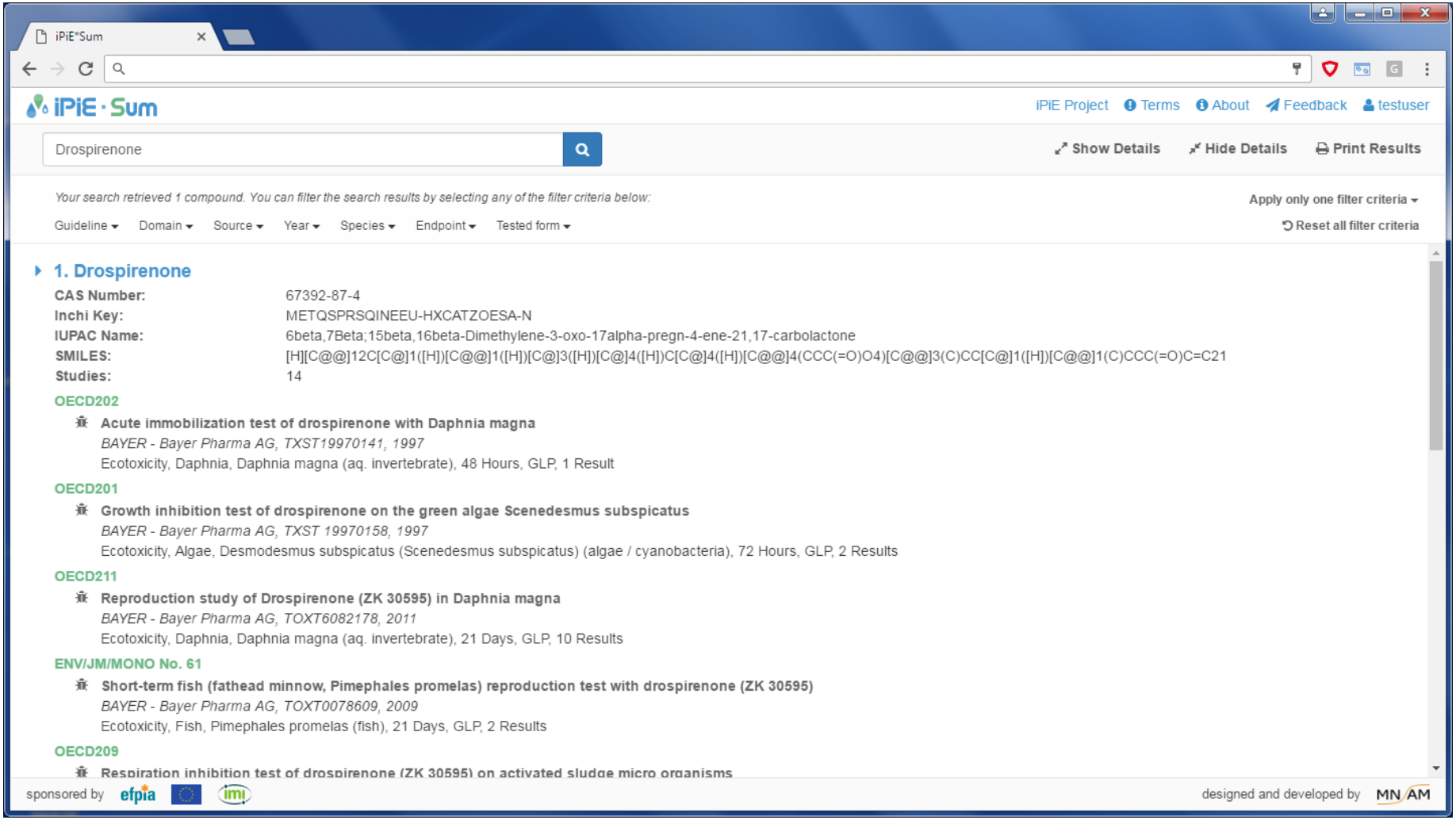

efpia


imi
innovative
medicines
initiative


iPiE


iPiE - SYS


iPiE - Sum


iPiE*Sum
iPiE · Sum
iPiE Project
Terms
About
Feedback
testuser
Drospirenone
Show Details
Hide Details
Print Results
Your search retrieved 1 compound. You can filter the search results by selecting any of the filter criteria below:
Apply only one filter criteria
Guideline
Domain
Source
Year
Species
Endpoint
Tested form
Reset all filter criteria
1. Drospirenone
CAS Number: 67392-87-4
Inchi Key: METQSPRSQINEEU-HXCATZOESA-N
IUPAC Name: 6beta,7Beta;15beta,16beta-Dimethylene-3-oxo-17alpha-pregn-4-ene-21,17-carbolactone
SMILES: [H][C@@]12C[C@]1([H])[C@@]1([H])[C@]3([H])[C@]4([H])C[C@]4([H])[C@@]4(CCC(=O)O4)[C@@]3(C)CC[C@]1([H])[C@@]1(C)CCC(=O)C=C21
Studies: 14
OECD202
Acute immobilization test of drospirenone with Daphnia magna
BAYER - Bayer Pharma AG, TXST19970141, 1997
Ecotoxicity, Daphnia, Daphnia magna (aq. invertebrate), 48 Hours, GLP, 1 Result
OECD201
Growth inhibition test of drospirenone on the green algae Scenedesmus subspicatus
BAYER - Bayer Pharma AG, TXST 19970158, 1997
Ecotoxicity, Algae, Desmodesmus subspicatus (Scenedesmus subspicatus) (algae / cyanobacteria), 72 Hours, GLP, 2 Results
OECD211
Reproduction study of Drospirenone (ZK 30595) in Daphnia magna
BAYER - Bayer Pharma AG, TOXT6082178, 2011
Ecotoxicity, Daphnia, Daphnia magna (aq. invertebrate), 21 Days, GLP, 10 Results
ENV/JM/MONO No. 61
Short-term fish (fathead minnow, Pimephales promelas) reproduction test with drospirenone (ZK 30595)
BAYER - Bayer Pharma AG, TOXT0078609, 2009
Ecotoxicity, Fish, Pimephales promelas (fish), 21 Days, GLP, 2 Results
OECD209
Respiration inhibition test of drospirenone (ZK 30595) on activated sludge micro organisms
sponsored by efpia imi
designed and developed by MN AM

Summary

- Around 84,000 chemicals used in commerce and many more formed in the environment
- We can’t look at everything everywhere
- Prioritisation methods are part of the solution
- Closer working of industry, regulatory bodies and research community essential to develop usable approaches

www.i-pie.org

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