

Implementation of novel rapid and quantitative bioassays for water quality monitoring

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Challenge: screening of extremely complex mixtures

Ingredients



Toxic waste



Chemicals



Pharmaceuticals



Toxins



Complex mixtures



Environment

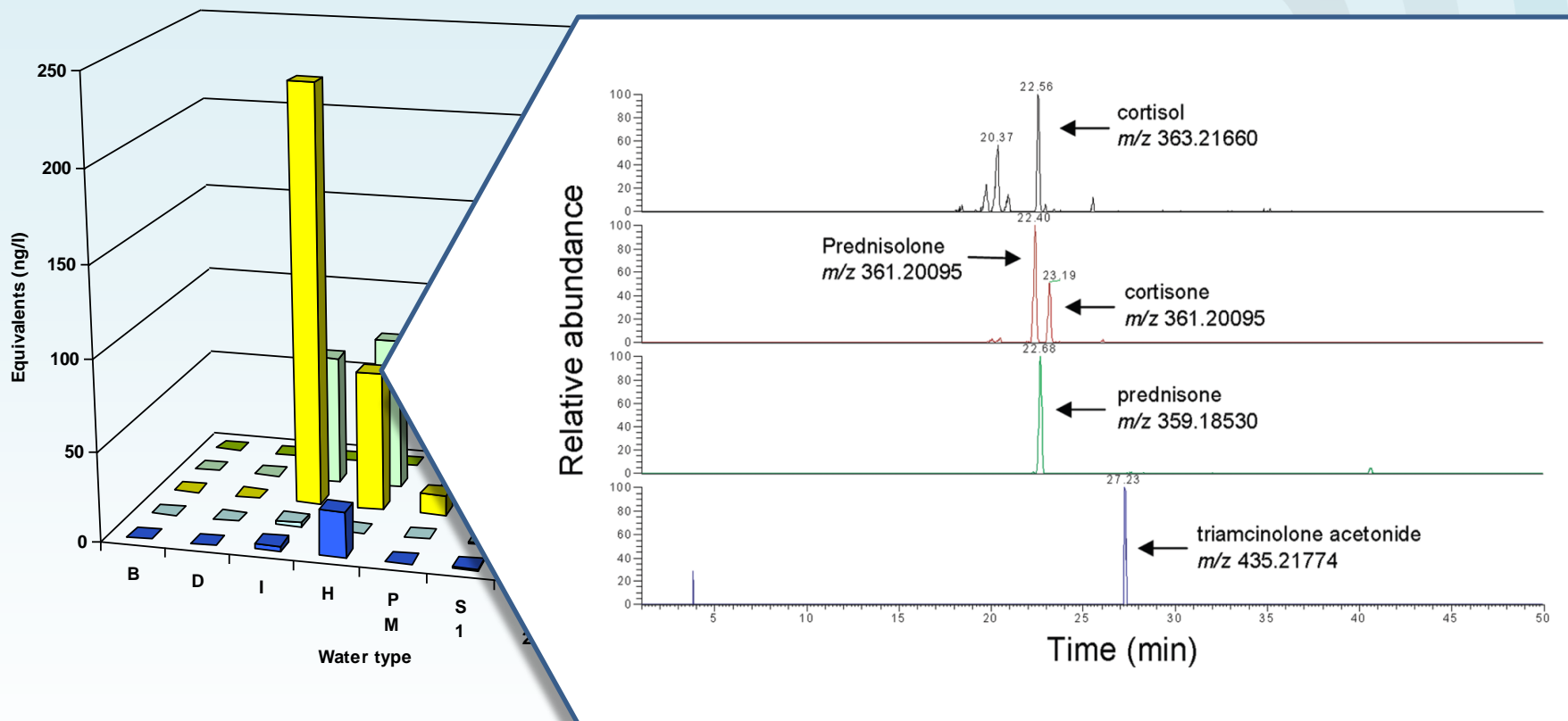
Food

How to assess hazards?

Panel of bioassays developed in Techneau

- ER CALUX (estrogens): estradiol, ethinylestradiol
- AR CALUX (androgens): testosterone, dihydrotestosterone
- PR CALUX (progestins): levonorgestrel
- GR CALUX (glucocorticoids): cortisone, hydrocortisone
- TR β CALUX (thyroids): T3, T4

Effect profile water samples with CALUX[®] cells



Selection assays:

- Priority effects & compound groups
- Overlapping chemical domains of assays: hot spots of activity?

4.1 Selection and validation

- Selection criteria
- Bioassay selection
- Automation
- Trigger values



4.2 Implementation for monitoring

- Regulatory acceptance
- Testing framework
- Introduction to water utilities
- Demonstration



Market application

CALUX® :chemical quantification coupled to hazard/effect

