

Evaluation of potential ecotoxicity of cefepime phototransformation products

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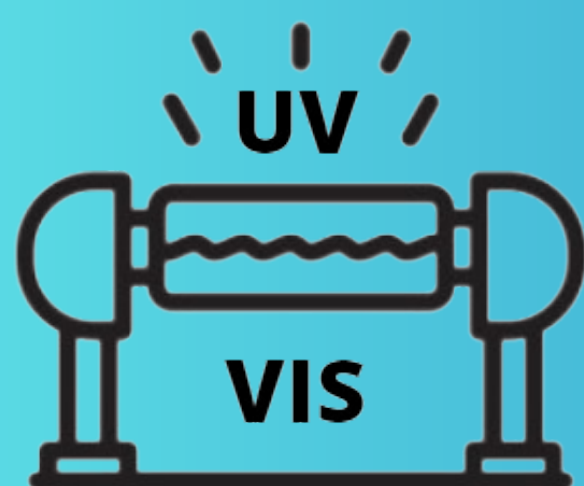
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Introduction

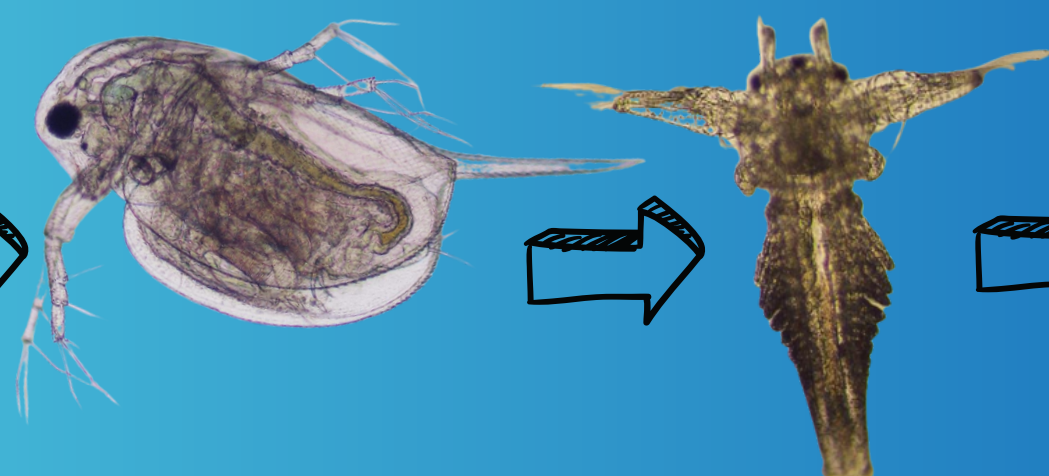
Drugs are an important problem of pollution of the aquatic environment. The presence of antibiotics in the environment can adversely affect the organisms living in it - leading to reproductive, metabolic or histopathological disorders. Drugs entering aquatic systems can remain unchanged or under the influence of various factors undergo degradation or transformation processes. One of these phenomena is the process of phototransformation as a result of which the resulting derivatives differ in physicochemical, pharmacological properties and toxicity from the parent compounds.

The purpose of this study was to evaluate the toxicity of phototransformation products of cefepime, a fourth-generation cefalosporin antibiotic, using the Daphnotoxikit F and Thamnotoxikit F microbiotests.

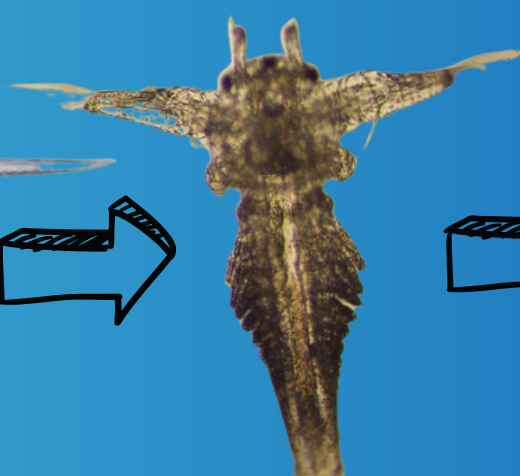
Methods



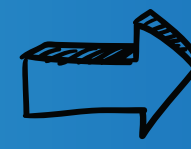
UV-VIS experiments



Daphnotoxikit F



Thamnotoxikit F



Data analysis

Conclusion

Data obtained during our preliminary studies indicate that mixtures of the parent compound and their photodegradation products are more toxic to the tested organisms than the parent compound.