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## Bioanalytical Approaches in Assessing Transformation Products

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### **ABSTRACT**

Transformation products (TPs), including disinfection byproducts (DBPs) produced from halogenation of natural organic substances found in water, have been identified in disinfected waters at varying concentrations, depending on the source of the water. Normally for drinking water, the concentrations are very low, in the parts per trillion, but concentrations can be much higher in sewage treated waters. Methods for detecting these chemicals have improved over the past decade, but analytical chemistry methods generally lack the ability to detect new TPs and would work best if partnered with bioanalytical methods to evaluate genotoxicity, cytotoxicity and specific modes of action. The process of disinfection also destroys bioactive chemicals which can also be followed through bioanalytical assays. Bioanalytical tools are beginning to be used to monitor and assess production of bioactive products in water quality.

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