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BioTransformation of Halogenated Flame Retardants

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Introduction

The objective of the Biotransformations in the Tropics, Temperate and Sub-arctic Environments REU is to compare decomposition of halogenated organic compounds in three different climates. Guangzhou in Southern China was the site of the tropics research. In conjunction with graduate students of South China University of Technology the biotransformation processes of anaerobic microbes on compounds were examined.

Suggestions for Future Investigation:
- Test nanoparticles on various contaminated sediment samples
- Detect subsequent de-halogenated compounds to see if BPA is a final product
- Test various acidic PH levels to find optimal conditions for dehalogenation
- Sequence the DNA of the surviving microbial community
- Assay potential costs of enforcing these various remediation techniques

Conclusion

Significant degradation suggests that there may be other sources of loss besides microbial activity. DNA analysis suggest the magnification of certain preexisting microbes in week five and shows the same microbial community among all soil samples that were 80 km apart.

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Literature Cited