

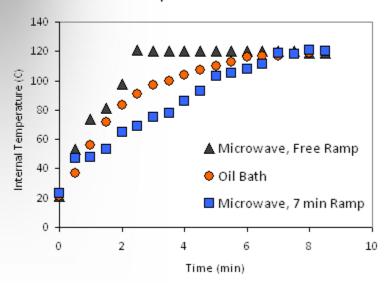
## **Demystifying Microwave Assistance in Homogeneous Catalysis**

Andrew W. Holland, Department of Chemistry, Idaho State University, Pocatello, ID, 83209-8023

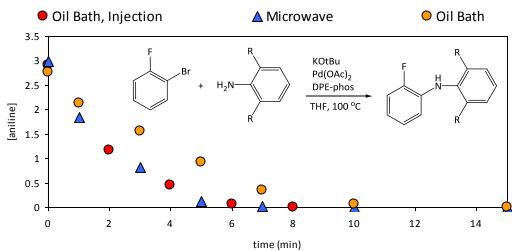
Microwave heating accelerates many chemical reactions, and we have studied the progress of example reactions over time to identify the source of this effect.

Many differences can be attributed to discrepancies in heating rates (below), which can be difficult to reproduce precisely.

## **Temperature Profiles**



## Injection Oil Bath Heating Compared to Oil Bath and Microwave



Application of alternative heating strategies such as injection heating can mimic the rapid heating of a microwave with a common oil bath, producing very similar overall results.