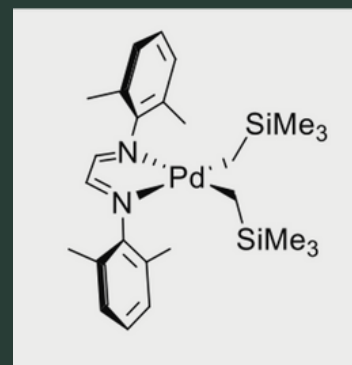


NEW PALLADIUM CATALYST¹: A MECHANISTIC STUDY



Chagunda, 2024

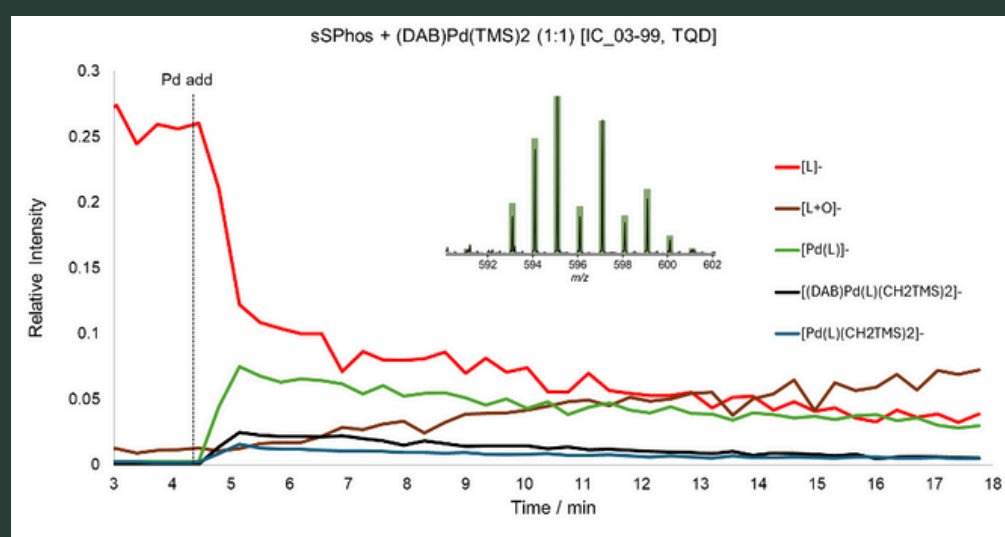
- What does its catalytic cycle look like?
 - How is it reacting?
 - What is the active species?



Studied via Mass Spectrometry



A mass spectrometer measures the exact weight of all charged species in a reaction



Compounds are identified by their behaviour and mass patterns



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SAMPLE PREPARATION

1 The Palladium catalyst is air-sensitive and needs to be stored in a nitrogen-filled chamber



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2 The reaction flask is kept under nitrogen to minimize oxygen contamination

3 Pressurized Sample Infusion is used to study the reaction in real time



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Results

- Forms desirable active species
- Works under mild reaction conditions
- Stable in storage
- Proposed the first two steps in catalytic cycle



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