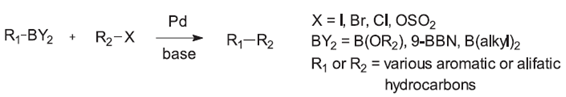
1. **Main title (font size 14, bold)**

(Main text, font size 12, normal) The cross-coupling reaction of alkenyl and aryl halides with organoborane derivatives in the presence of a palladium catalyst and a base, known as the Suzuki reaction, has often been carried out in an organic–aqueous mixed solvent. .

The general scheme for the Suzuki reaction is shown below where a carbon-carbon single bond is formed by coupling an [organoboron](https://en.wikipedia.org/wiki/Organoboron" \o "Organoboron) species (R1-BY2) with a [halide](https://en.wikipedia.org/wiki/Halide) (R2-X) using a [palladium](https://en.wikipedia.org/wiki/Palladium) catalyst and a [base](https://en.wikipedia.org/wiki/Base_(chemistry)).



**Scheme: 1.1** Generalscheme for the Suzuki reaction

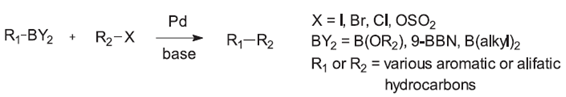
***1.1 Subtitle (Font size 14, bold, italic)***

(Main text, font size 12, normal) The [mechanism](https://en.wikipedia.org/wiki/Reaction_mechanism) of the Suzuki reaction is best viewed from the perspective of the palladium catalyst**1**. The first step is the [oxidative addition](https://en.wikipedia.org/wiki/Oxidative_addition) of palladium to the [halide](https://en.wikipedia.org/wiki/Halide) **2** to form the [organopalladium](https://en.wikipedia.org/wiki/Organopalladium" \o "Organopalladium) species . Reaction with base gives  [intermediate](https://en.wikipedia.org/wiki/Reaction_intermediate)  **4**, which via [transmetalation](https://en.wikipedia.org/wiki/Transmetalation" \o "Transmetalation)  with the boron[ate complex](https://en.wikipedia.org/wiki/Ate_complex) **6** (produced by reaction of the boronic acid **5** with base) forms the [organopalladium](https://en.wikipedia.org/wiki/Organopalladium" \o "Organopalladium) species **8**. [Reductive elimination](https://en.wikipedia.org/wiki/Reductive_elimination) of the desired product **9** restores the original palladium catalyst **1** which completes the [catalytic cycle](https://en.wikipedia.org/wiki/Catalytic_cycle).

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**Scheme: 1.1** Generalscheme for the Suzuki reaction

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**Conclusion:**

(100 to 150 words, Main text, font size 12, normal)

**Future plan:**

* (Based on this report, write 2 to 3 bullet points showing your dissertation work plan, font size 12, normal)
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* (Based on this report, write 2 to 3 bullet points showing your dissertation work plan, font size 12, normal)

**References:**

1. Author’s name, paper title, *journal name*, **year**, Vol. (Issue), pages.