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## Multicomponent reactions: development, scope, and applications

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*Document Version*

Publisher's PDF, also known as Version of record

*Publication date:*

2017

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Chandgude, A. (2017). *Multicomponent reactions: development, scope, and applications*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen.

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# Propositions

for the thesis

## Multicomponent Reactions: Development, Scope, and Applications

Ajay Chandgude

1. Multi-component reaction (MCR) is a promising synthetic methodology for the rapid and easy access to the scaffold with a great diversity.
2. The MCR has recently found broad acceptance in both drug discovery and in the organic industry (Chapter 1).
3. The Passerini reaction has high potential in scope, chirality, and application in vast areas (Chapter 2).
4. Passerini-tetrazole reaction (PT-3CR) work most efficiently in methanol: water (1:1) solvent system under sonication (Chapter 3).
5. N-hydroxamic acid is a very good acid component in the Passerini and Ugi reaction which forms  $\alpha$ -aminoxy amide and  $\alpha$ -hydrazino amides respectively (Chapter 4 and 5).
6. The Passerini 2-component reaction product can be easily converted to the Ugi 3-component reaction product by using  $\text{TiCl}_4$ -mediated direct amination reaction (Chapter 8).
7. If some reactions do not work nicely then don't forget to try microwave or sonication! Believe me, they are good fellows.
8. Learning magic during the Ph.D. research period is a good choice as it can be used not only in famelab, or talent shows but also in a chemistry symposium.
9. Our life is like the weather in the Netherlands, no one knows what is going to happen next minute. Be prepared as both bad and good time going to change soon.
10. It is not necessary to have a big solution for a big problem, but a smart one like our MCRs.
11. येषां न विद्या न तपो न दानं, ज्ञानं न शीलं न गुडों न धर्मः | ते मर्त् लोके भुवि भार् भूतः

मनुष्य रूपेड् ऋग्याश चरन्ति ||

A human without education, experience, giving heart, knowledge, character, patience, religion are burden on earth. They are like animal grazing in the form of human.