

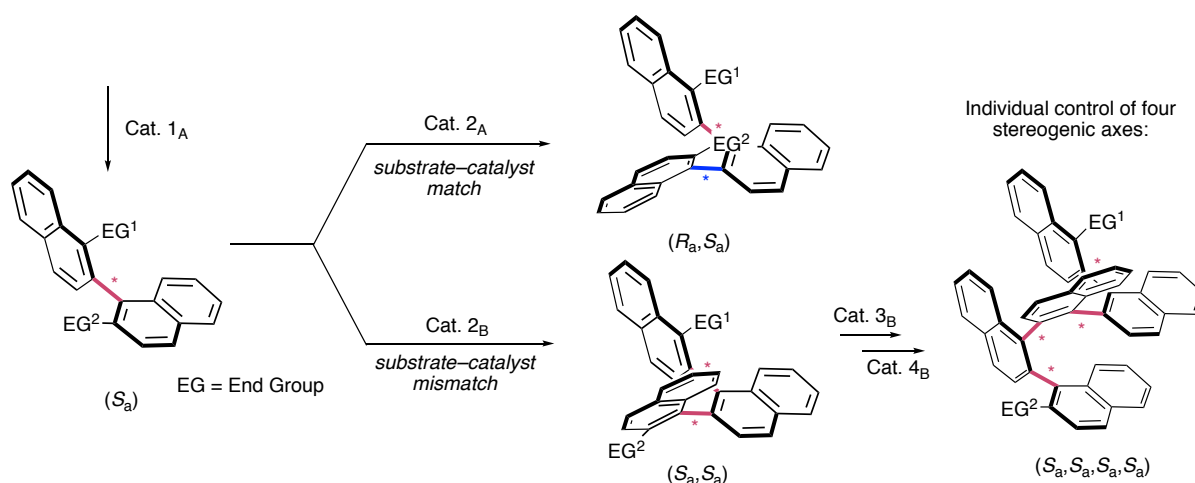
## Catalyst-Controlled Stereodivergent Synthesis of Atropisomeric Multiaxis Systems

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A well-defined spatial orientation of substituents in a molecular framework is an essential requirement for the synthesis of molecular systems with unique properties and applications. Due to their configurational stability, oligo-1,2-naphthylenes are particularly suitable to organize groups in space. A method that controls the configuration of each stereogenic axis is thus highly desirable.

The poster outlines our approach for the stereodivergent synthesis of atropisomeric multiaxis systems based on the sequential addition of a building block to an aromatic aldehyde precursor, followed by an in situ double oxidation and stereoselective arene-forming aldol condensation. In order to overcome the substrate bias to divert atropodiselectivity, efficient amine and ion-pairing catalysts that allow to individually control up to four stereogenic axes were identified.



[1] D. Lotter, M. Neuburger, M. Rickhaus, D. Häussinger, C. Sparr, *Angew. Chem. Int. Ed.* **2016**, *55*, 2920–2923.

[2] D. Lotter, A. Castrogiovanni, M. Neuburger, C. Sparr, *ACS Cent. Sci.* **2018**, *4*, 656–660