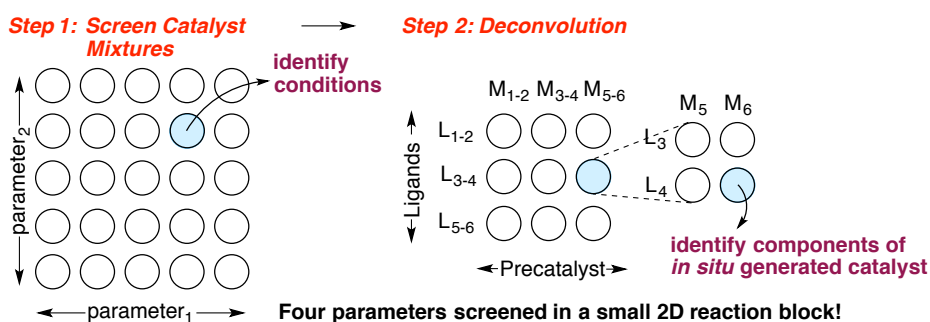


Harnessing Complex Mixtures for Catalyst Discovery

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In the classical approach to the development of homogeneous catalysts, chemists typically aim to minimize the number of components in the flask in order to avoid potential off-cycle intermediates and subsequent catalyst poisoning. Yet, life and its many complex catalytic reactions almost certainly arose from complex mixtures. *Do certain types of catalysis fare better in complex mixtures?* The talk will describe our efforts to generate, screen and deconvolute complex mixtures of catalysts, a technique that can dramatically reduce the number of reactions required to obtain a lead result if employed rationally.^[1] Mechanistic investigations into the “hits” obtained from this process are then leveraged to develop second-generation transformations and multicatalytic sequences.^[2,3] Finally, preliminary impressions about what types of catalysis work best in complex mixtures will be discussed.



References

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3. M. Dryzhakov, M. Hellal, E. Wolf, F. Falk, J. Moran, *J. Am. Chem. Soc.* **2015**, *137*, 9555.