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Profiling common types of research data and methods published by organic synthetic chemists at the University of Michigan



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Introduction

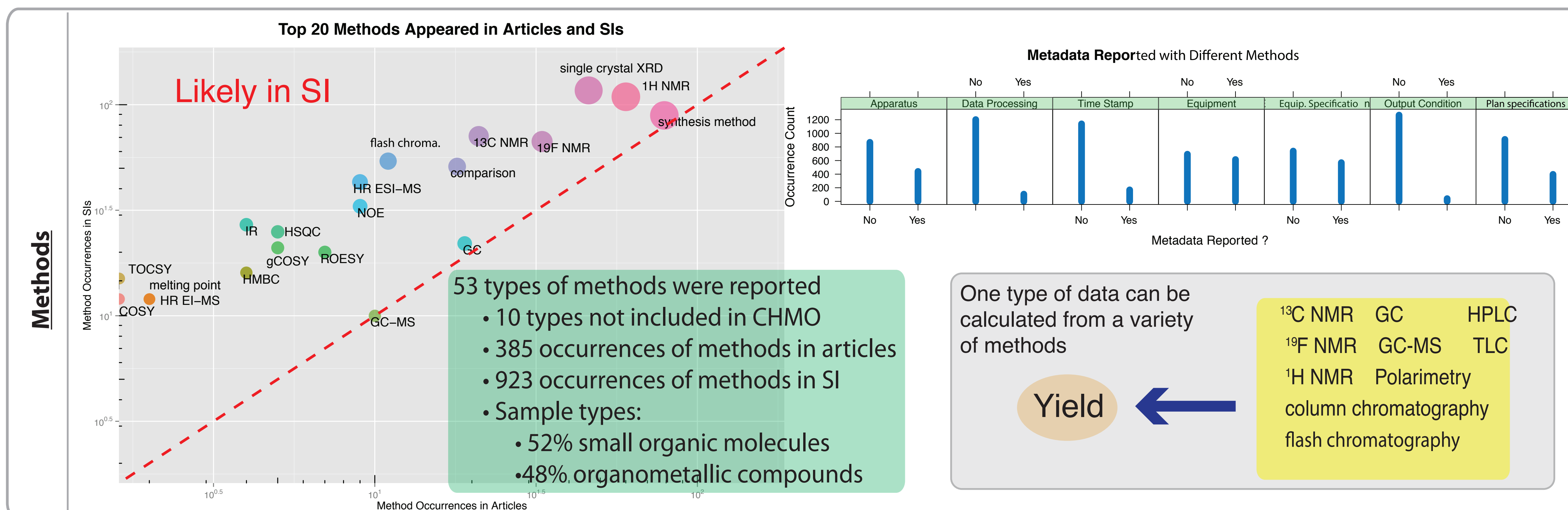
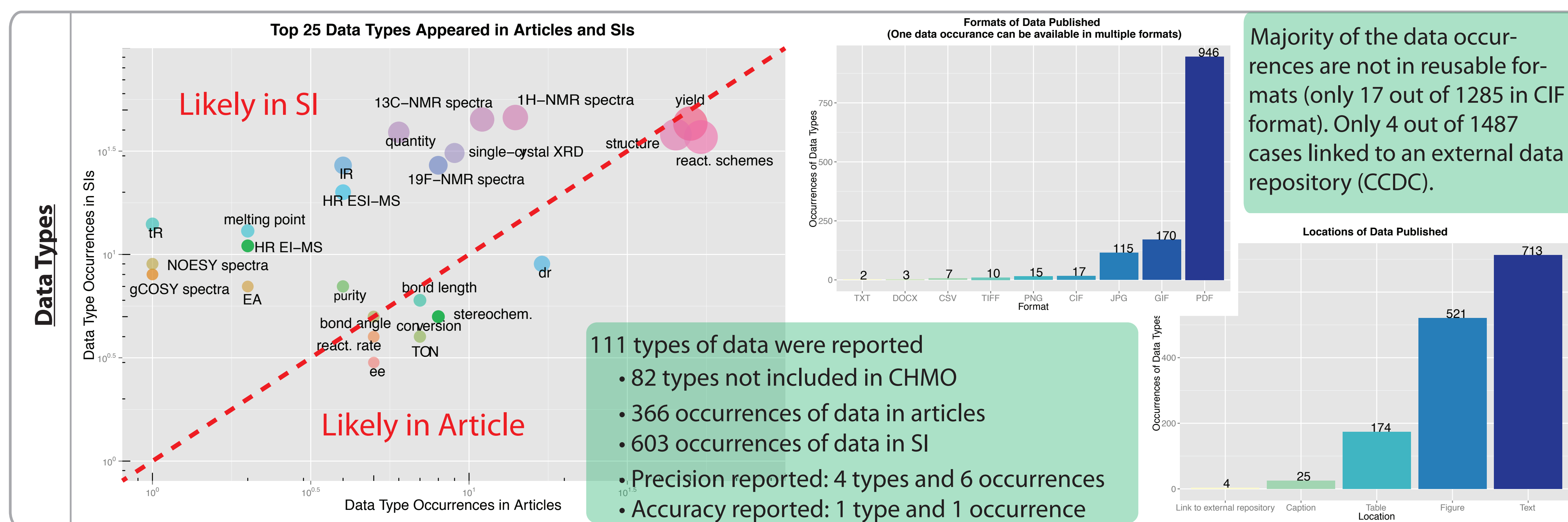
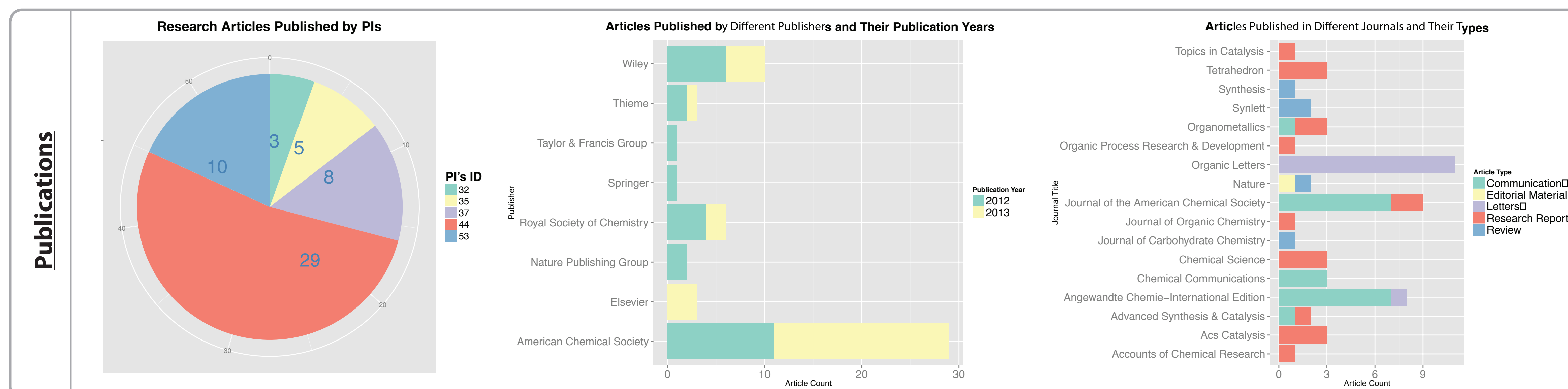
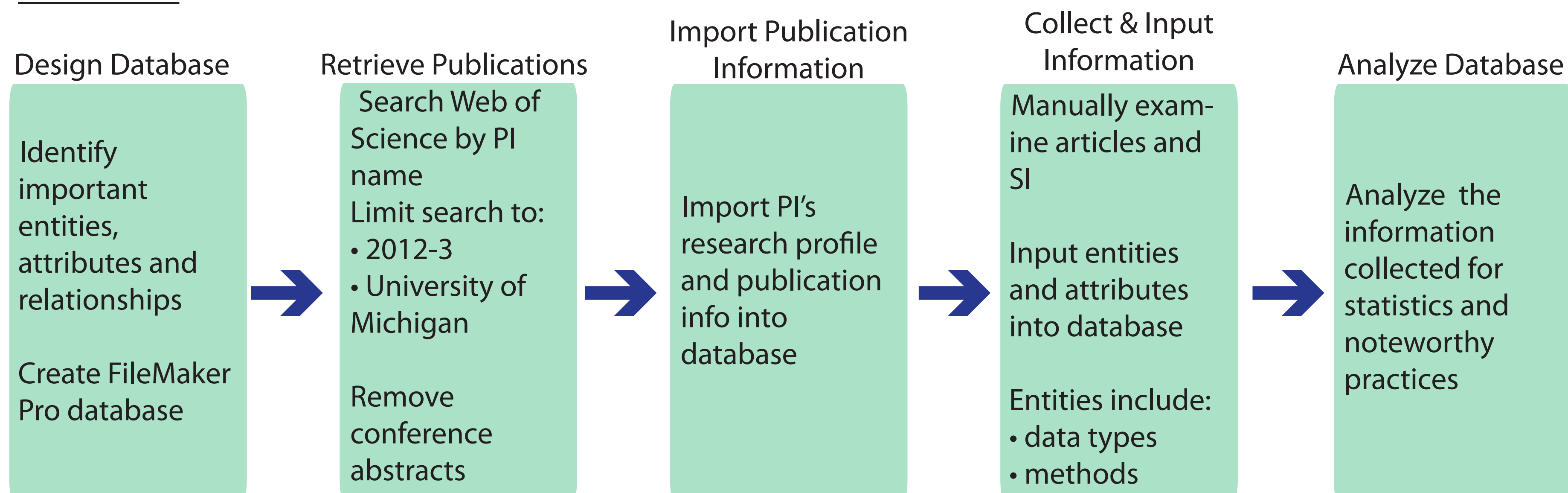
This project is aiming to create a **small scale landscape of research data and methods in organic synthetic chemistry research**. Publications from organic synthetic chemists at the University of Michigan have been examined to profile the common types of data and methods published in the research articles and supplemental information (SI). The resulting profiles of data and methods can be used to further efforts in the following areas for supporting data management and sharing.

- Understanding what's currently shared and what else can be shared by organic synthetic chemists
- Exploring metadata standards and ontologies need
- Establishing best practices of (digital) research workflow

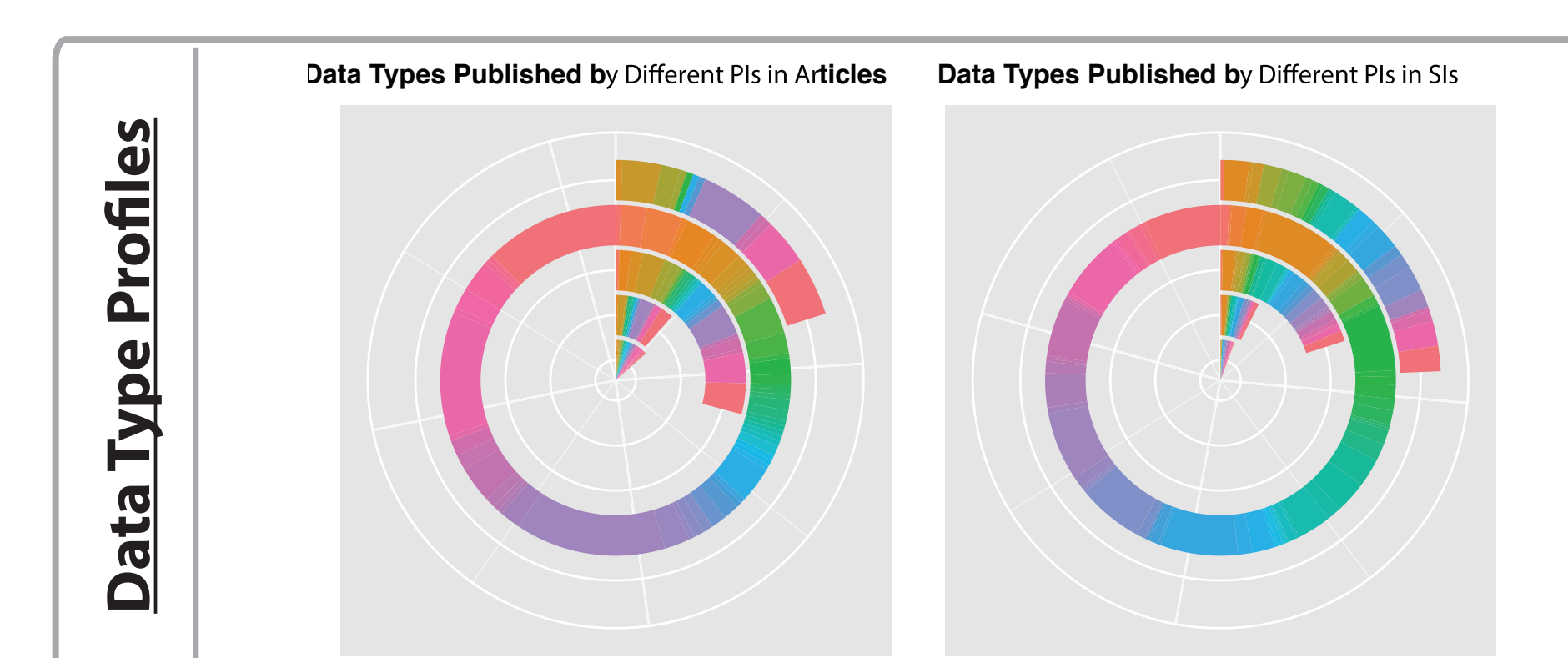
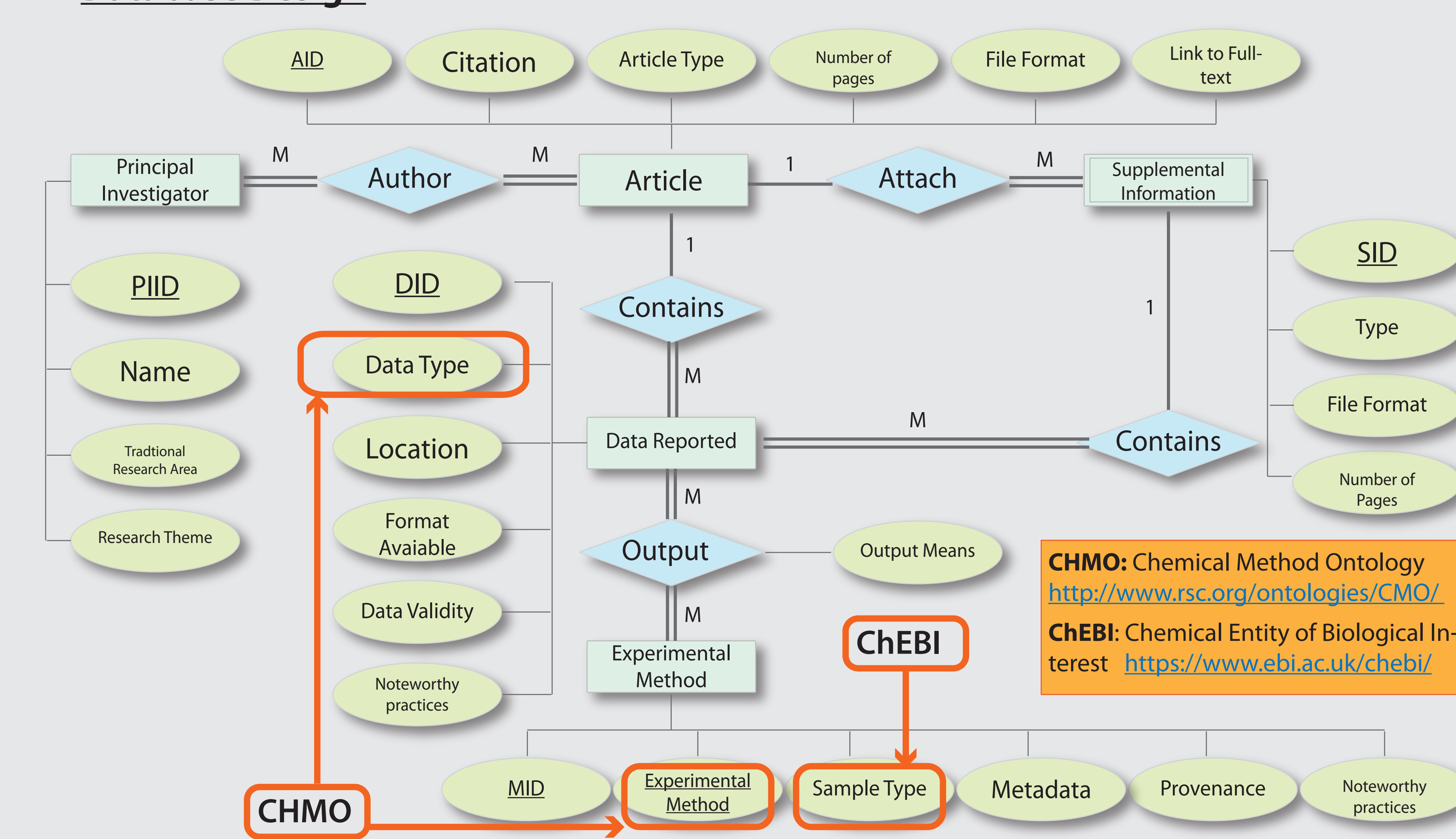
Research Questions

- What kinds of data and methods are presented in publications ?
- How and where are they reported ? How about metadata ?
- Are there shared practices among organic synthetic chemists ? If so, what are they ?

Methods



Database Design



Conclusions and Future Work

We have compiled lists of data types and methods that appeared in organic synthesis chemists' publications as well as their practices in data presentation and metadata inclusion. These results will be used for exploring needed metadata standards and enriching the existing ontologies. We will also use these results to design different approaches to work with different labs because their data type profile can vary significantly (see left). Next, we will apply this methodology to investigate other sub-disciplines of chemistry in order to build more data and research method profiles.