

The purpose of this thesis is to perform an analysis of approaches to querying chemical databases and to validate or invalidate its results. Currently, there exists no work which would compare the performance and memory usage of the best performing approaches on the same data set. In this thesis, we address this lack of information and we create an un-biased benchmark of the most popular index building methods for subgraph querying of chemical databases. Also, we compare the results of such benchmark with the performance results of an SQL and a graph database.