The Back-end was built on the single threaded Python asynchronous web framework Tornado exposed at /api/swathlib/upload/. The exposed end point has two HTTP methods enabled, GET for checking accessibility and, OP-TIONS and PUT for accepting user submission. Default setting allowed connection from all origins with the following headers *Origin*, X-Requested-With, Content-Type, Accept.

## 0.1 User Query Preprocessing

Upon receiving the query, SWATHLib would attempt to resolve any possible conflict of variable modifications by recursively generate all combination of them. For each combination, two modifications dictionaries would be generated, one for all static modifications in the combination, the other for all variable modifications in the combination.