The present database comprises references which report the results of high resolution molecular spectroscopic studies and also of some from related areas such as reaction dynamics, astronomy, atmospheric chemistry, plasma science, and ab initio calculations. High resolution means that the rotational structure is resolved, but the actual coverage of the data is somewhat broader. About 20,000 references published since early 1950’s are collected, and the acquisition of new publications will continuously be made to update the database from time to time. Each record in this database includes the following items such as the record identification number, the chemical formula of the molecule (or atom) under consideration, the title and the author(s) of the paper, the name of the journal where it was published, along with the volume number, page(s), and year, and a few key words. The users can retrieve any word(s) in these items and also derive a KWIC list. Some principal constants, the spectroscopic methods employed, and others worth mentioning, if any, will be added as image data of about 100 KB, which were derived by converting the original hand-written manuscripts. The database will be as large as 2 GB in total. The users may access the database through internet almost free of charge.