ABSTRACT

This research was developed to enhance the process of teaching and learning chemistry by applying rule-based system. We try to derive rules how materials are combined and reacted together and implement it. The study emphasizes on formalizing and representing chemistry rules related to acid-base formation, combination of acids and bases to produce different salts and calculations concerning the mole concept are also intensively studied, implemented and evaluated.

The system will generate various acids and bases from a basis data set of atomic states. Then a data set consisting of many acid-base solution combinations, which can be used for preparing different salts, are generated. Different concentrations of acids and bases with related pH and pOH values will also be calculated. Being free of the tedious practical routines, virtual titration and the simulations process can be done on computer.

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