What is new in the new package tclust 2.0?

1. The package is completely rewritten in C++ using *Rcpp* and *RcppArmadillo*. This will allow for future extensions of the package with methods and algorithms described in a number of recent papers by the Valladolid group (REFERENCES: )
2. New features of TCLUST:  
   1. A new initialization procedure of TCLUST. The target function is maximized by applying concentration steps whereas several random start configurations are needed in order to avoid ending trapped in local maxima. In the old procedure nstart random initializations and iter.max concentration steps are considered. In the new one a much large number (nstart) of initializations are performed, but only several, niter1, concentration steps are conducted. The most promising nkeep solutions are kept and then they are iterated to convergence, performing maximum of niter2 concentration steps. This significantly decreases the computational effort while not affecting the precision of the obtained solutions.
   2. The new initialization procedure is parallelized which makes it efficient in the case of very large data sets.
   3. The objective function which is maximized in the EM algorithm can be either the classification likelihood (HARD) or mixture likelihood (MIXT) with MIXT being a new option of the algorithm (REFERENCE: )
   4. The stability of the determinant constraint (which was already implemented in the package) is improved (REFERENCE: )
3. New features of TKMEANS: The improved initialization procedure described in 2.1 and 2.2 above is implemented also for TKMEANS.
4. New function rlg() for robust linear grouping (REFERENCE: ). The initialization procedure of this function follows the implementation in TCLUST as described in 2.1 and 2.2
5. New functions for simulation of contaminated data set for applying tclust() and rlg()
6. Several new data sets are added: pine, wholesale.