ANALYSIS OF SOLUBILITY PARAMETER MODELS FOR PHYTOCHEMICALS EXTRACTION FROM KACIP FATIMAH

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Abstract

Kacip Fatimah is a Malay traditional herb widely found in the East Asia region, especially Malaysia and its extract which are the phytochemicals, have been used as nutraceutical products globally due to their benefits. The objectives of this final year project are to develop a database containing the experimental solubility data for phytochemicals and solvents involved in Kacip Fatimah extraction process and to analyse the performance of the Hansen Solubility Parameters (HSPs) prediction models for Kacip Fatimah herbal systems. The methodology of this project is divided into four stages. In the first stage, the database preparation is developed and followed by the model calculations using both Marrero and Gani model and Stefanis model, in the second stage. The third stage is proceed with data analysis on the results calculated by the two model in previous stage. Based on the analysis in the third stage, the most preferable model is determined in the last stage which is the model selection stage. The model selected is recommended for further development for future study. Based on the results, the analysis show that Marrero and Gani model provide better prediction in comparison with the experimental solubility data obtained in the literature, in term of the solvents ranking compared to the Stefanis model. As a conclusion, the objectives are achieved which are to analyse the performance of the HSP prediction models for Kacip Fatimah herbal systems and it shows that the present model need further improvement, also the database for solvents – phytochemicals solubility have been developed.
ABSTRAK

REFERENCES


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