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## Optimization of the release kinetics of bioactive compounds of encapsulated Olea europaea infusions

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A liquid infusion obtained by microwave assisted extractions method of Portuguese olive leaves (*Olea europaea*), with bioactivity potentials was encapsulated by calcium-alginate hydrogels containing starch of potato at three different concentrations (0.5, 1 and 1.5%). On face Central Composite Design (CCD) comprising of ten experimental runs with two replications at the central point was applied and second-order multinomial designs were obtained to characterize the experimental data. Hydrogel beads were assessed for encapsulation efficiency of TPC, TAA and FRAP (three responses) values within 60, 120 and 180 min extraction time. The optimized points, 1.5, 1.091 and 1.5% of starch concentrations within 98.537, 161.620 and 60 min extraction time were achieved respectively for TPC, TAA and FRAP responses. Strong correlation coefficient "0.905, 0.963 and 0.932" respectively between experimental and predicted values of TPC, TAA and FRAP values, as well as significant p value (<0.05) for the selected model and non-significant p value (<0.05) for lack of fit of all the responses, expressed the fitness of the model handling CCD for optimization of selected independent variables' effects on release kinetics of bioactive compounds of encapsulated infusions. Obtained results of regression coefficient for linear, interactive and quadratic modes of independent variables, presented various effects of them on each response. Among the observed p value for each mode, just linear modes of both independent variables as well as quadratic mode of starch concentration on TAA value, have indicated significant effects.

## Biography

Vahid Farzaneh has started his PhD in September 2013 under the PhD scholarship program entitled Erasmus Mundus funded by EC, at University of Algarve, Faculty of Science and Technology. He started his thesis entitled "Development of nutraceutical and pharmaceutical potentials of 10 selected Portuguese and 10 selected Iranian plants with medicinal properties for application in industries" at that time. He has published 3 papers in International journals (two are on Elsevier) and more than two national journals as well as two authored books (In Persian). Also he has one national patent and more than 10 papers presented in International and National conferences (In Persian).

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