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Design of pharmaceutical experiments using design expert® software

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Design Expert® software is a professional statistical tool used to create the experimental design, study the effects of different factors with the least possible number of trials and optimize the designed process through simultaneous selection of the desired level of each independent variable. Different statistical plans can be utilized as full factorial, response surface and mixture designs. Response surface is the most commonly used design in pharmaceutical research and it includes different sub-designs e.g. central composite and Box-Behnken. Before starting the experimental part, the studied factors and traced responses are loaded into the Design Expert® software to determine the number and compositions/conditions of the experimental trials. After finishing the experimental work, the obtained data are fed into the software to assign different desirability values to the conducted experimental trials. Consequently, we can select the optimum trial having the maximum desirability value to be subjected to further investigations.

Biography

Ibrahim Elsayed is an Associate Professor and Chair of Pharmaceutical Sciences department at Gulf Medical University, Ajman UAE. He has completed his PhD in Pharmaceutics and Industrial Pharmacy from Cairo University. He pursued his Graduation in Health-Professions Education from Gulf Medical University. He has published 16 research articles in reputed international journals like International Journal of Pharmaceutics, International Journal of Nanomedicine and Expert Opinion in Drug Delivery.

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