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Development of a new method to determine water content in hydrated matrix tablets of sodium alginate

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One of the methods used to determine water content is Karl-Fischer titration. The aim of this work was to determine the water content of particular matrix tablet's layer cutting the layers) has been invented. The tablets contained sodium alginate. In order to prepare the samples, a special device (that allow hydrating and subsequent cutting the layers) has been invented. The device contains a holder (to place a tablet) and a micrometric screw wchich allows moving up the tablet in the holder to the reguired height. The device with a tablet inside is placed in a beaker filled with water heated up to 37°C. After reaching a required timepoint (1; 2; 3 or 4 hours), the device is removed from the beaker. Each layer is cut with a spatula (slice of 1 mm) and weighted on analytical weight. After cutting a layer, a tablet is moved 1 mm up with a micrometric screw. In such a way 5 layers (of 1 mm each) are obtained. The samples are put into flasks and filled with metanol. Water content of the samples is determined by Karl-Fischer method. The results show the water migrates into the lower parts of the tablet during hydration, as it was detected both in external and internal layers at upon longer hydration. The presented method is the first that allows determination of water content in any layer of the hydrated matrix tablet.

Biography

Ewelina Juszczyk completed her pharmaceutical studies from Jagiellonian University in Krakow (Poland) at the age of 25 years. She has started her PhD studies at the same university and do research in a cooperation with University of Barcelona (Spain). She has already participated in some conferences, where gained some awards presenting results of her work.

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