

# A new spectrophotometric method for determination of 5-hydroxymethylfurfural in food products

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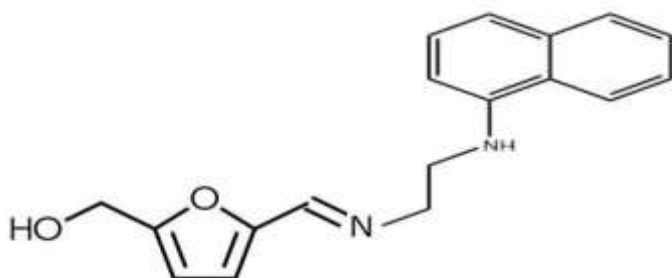
## Abstract

The determination of 5-hydroxymethylfurfural is a very important parameter to show the quality of honey and products containing this compound. The development of the new spectrophotometric method for the determination of HMF is based on derivatization of HMF using the compound N-naphthylethylenediamine dihydrochloride (NEDD). The reaction of HMF with NEDD forms a new product with pink colour, which is assumed to be an imine. The maximum absorption wavelength of this product is set at 500 nm. The reaction parameters of the method were optimised using the experiment design with Response Surface Design. The determined amount of HMF in the honey samples with the new method has given good results comparing it with the reference White method. Preliminary tests have shown good results for the possibility of application of the method using paper microfluidics and digital colorimetry for the determination of HMF.

## References

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## Figures



**Figure 1.** The assumed structure of the new product (imine).

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